STATE OF OHIO
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS RESOURCES MANAGEMENT

In re the Matter of the Application of Antero	:	
Resources Corporation for Unit Operation	:	
	:	Application Date: April 19, 2016
<u>Mann Unit</u>	:	Revised: August 4, 2016
	:	

APPLICATION

Pursuant to Ohio Revised Code Section 1509.28, Antero Resources Corporation ("Antero"), hereby respectfully requests the Chief of the Ohio Department of Natural Resources' Division of Oil and Gas Resources Management ("Division") to issue an order authorizing Antero to operate the Unitized Formation and applicable land area in Monroe County, Ohio (hereinafter, the "Mann Unit") as a unit according to the Unit Plan attached hereto and as more fully described herein.

Antero Resources Corporation, is a Corporation organized under the laws of the State of Delaware. Antero has its principal office at 1615 Wynkoop Street, Denver, Colorado 80202 and local offices at 2335 State Route 821, Broughton Building #14, Marietta, OH 45750. Antero is an exploration and production company engaged in the exploration, development, and acquisition of natural gas, natural gas liquids and oil properties located in the Appalachian Basin and is registered in good standing as an "owner" with the Division.

Antero designates to receive service, and respectfully requests that all orders, correspondence, pleadings and documents from the Division and other persons concerning this filing be served upon, the following:

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I. LEGAL REQUIREMENTS

A. Legal Standard

Ohio Revised Code § 1509.28 requires the Chief of the Division to issue an order providing for the unit operation of a pool – or a part thereof – when the applicant shows that it is reasonably necessary to increase substantially the ultimate recovery of oil and gas, and the value of the estimated additional resource recovery from the unit's operations exceeds its additional costs. *See* Ohio Rev. Code § 1509.28(A). The Chief's order must be on terms and conditions that are just and reasonable and prescribe a plan for unit operations. *See* Ohio Rev. Code § 1509.28(A).

As is shown below and in the various attachments hereto, Antero makes this request for the purpose of substantially increasing the ultimate recovery of oil and natural gas, including related liquids, from the Unitized Formation, and to protect the correlative rights of unit owners, consistent with the public policy of Ohio to conserve and develop the state's natural resources and prevent waste.

B. Application Contents

Pursuant to the Ohio Department of Natural Resources, Division of Oil and Gas Resources Management's May 9, 2014 Unitization Application Guidelines, the following information must be contained within an application for unitization.

1. A cover letter requesting unitization.

   This document fulfills this purpose.

2. An affidavit attesting that the applicant is the owner (as defined in R.C. 1509.01(K)) of at least 65% of the land overlying the pool that is the subject of the unitization request.

   See Exhibit 4-E, Affidavit of Ownership

3. A summary of the request for unitization that includes all of the following information:

   - A statement describing the reasons why unitization is necessary;
   - A description of the plan for development of the unit;
   - An identification of the geologic formation(s) to be developed;
   - An estimate of the value of the recovery of oil and gas for each well proposed to be drilled in the unit area;
   - An estimate of the cost to drill and operate each well in the proposed unit;
   - A designated contact person for the applicant for communication purposes with the Division, including legal counsel for the applicant (if applicable).

See Section II of this Application, infra. In addition, company contacts are listed above. *See also* Exhibits 2, 3 and 4, respectively.

4. A list identifying all unleased mineral owners that includes the name, valid address, parcel number, and respective acreage of each unleased owner. If an unleased mineral owner is a corporation or other business entity, the name of a contact person within that corporation or business.

   See Exhibit A-3 to Unit Operating Agreement, attached to Exhibit 1, Unit Plan.

5. A list identifying all mineral owners in the unit, leased or unleased, that includes the name, valid address, parcel number, and respective acreage of each owner. If a mineral owner is a corporation or other business entity, the name of a contact person within that corporation or business.

   See Exhibit A-2 through A-5 to Unit Operating Agreement, attached to Exhibit 1, Unit Plan

6. A list identifying all working interest owners, committed or uncommitted, in the unit, leased or unleased, that includes the name, valid address, parcel number, and respective acreage of each owner. If a mineral owner is a corporation or other business entity, the name of a contact person within that corporation or business.

   See Exhibit A-4 to Unit Operating Agreement, attached to Exhibit 1, Unit Plan.

7. A map on a scale of 1”=1000’ that shows all of the following:

- The boundary of the proposed unit area;
- The proposed location of the well pad and wells to be drilled;
- The tracts of land within the unit area that are leased to the applicant, shown in yellow;
- The tracts of land within the unit area that are unleased, shown in red;
- The tracts of land within the unit area that are leased to other operators (i.e. uncommitted working interest owners), including an identification of the operators, shown in green;
- A five hundred foot boundary around each property in the unit that is not leased by the applicant or that is not subject to an agreement with the applicant;
- Identification of each tract within the unit area by parcel number.

See Exhibit 4-B, attached to this Application as part of Exhibit 4, as well as Exhibit A-1 attached to Unit Operating Agreement.

8. An aerial photograph on a scale of 1”=1000’ that shows all of the following:

- The boundary of the proposed unit area;
- The proposed location of the well pad and wells to be drilled;
- The tracts of land within the proposed unit area that are unleased;
- Identification of each tract within the unit area by parcel number.

See Exhibit 4-A, attached to this Application as part of Exhibit 4, as well as Exhibit A-1 attached to Unit Operating Agreement.

9. A gamma ray-density geophysical type log identifying the proposed geological formations to be produced.

   See Exhibit 2-B, attached to this Application as part of Exhibit 2.

10. A cross-section showing the applicable formations that the applicant is proposing to drill into and produce from in the unit area.

    See Exhibit 2-A, attached to this Application as part of Exhibit 2.

11. A map showing all existing units adjacent to the unit proposed in the application with an identification of any permitted, drilled, and/or producing wells in the existing units.

    See Exhibit 4-C, attached to this Application as part of Exhibit 4.

    If reserve calculations are based upon other existing wells in the vicinity of the proposed unit, an exhibit showing the locations of the well(s) to the proposed unit area and an identification of the wells by name and permit number.

    N/A

12. A statement in the form of an affidavit that gives a detailed account of the attempts to lease the unleased properties. The statement must include:

- The dates of all attempts;
- The person who was contacted, how contact was made, and by whom;
- Any joint venture or farmout proposal to another operator, if applicable.

    See Affidavit of Lease Efforts, attached to this Application as part of Exhibit 4.

13. A copy of a joint operating agreement for working interest partners, if applicable.

    A proposed Joint Operating Agreement is attached to Exhibit 1.

14. An affidavit attesting to the fact that the applicant holds a valid lease agreement for all of the acreage that the applicant claims to have under lease.

    See Affidavit of Lease, attached to this Application as part of Exhibit 4.

15. A copy of the executed working interest agreement for each committed working interest partner in the proposed unit.

    None.

16. Any additional information that the applicant determines is beneficial for the Chief to consider in support of their request

    See application, generally.

II. SUMMARY OF REQUEST FOR UNITIZATION

A. Project Description

The Mann Unit is located in Monroe County, Ohio, and consists of fifty-seventy (57) separate tracts of land. See Exhibits A-1 and A-2 of the Unit Plan (showing the plat and tract participations, respectively). The total land area in the Mann Unit is approximately 998.977 acres and, at the time of this Application, Antero has 99.083% of the unit acreage under lease. Antero thus has the right to drill on and produce from more than ninety-nine percent (99 %) of the unit area, well above the sixty-five percent (65%) threshold required by Ohio Revised Code § 1509.28.

As more specifically described herein, Antero seeks authority to drill and complete four (4) horizontal wells in the Utica/Point Pleasant Formation ("the Unitized Formation") from a single well pad to efficiently test, develop, and operate the Unitized Formation for oil, natural gas, and related liquids production. The "Unitized Formation" consists of the subsurface portion of the Unit Area (i.e., the lands shown on Exhibit A-2 and identified in Exhibit A-1 to the Unit Plan) at a depth located from fifty feet above the top of the Utica Shale to fifty feet below the base of the Point Pleasant formation, and frequently referred to as the Utica/Point Pleasant formation. The evidence presented in this Application establishes that the Unitized Formation is part of a pool and thus an appropriate subject of unit operation under Ohio Rev. Code § 1509.28.[1] Additionally, that evidence establishes that the Unitized Formation is likely to be reasonably uniformly distributed throughout the Unit Area – and thus that it is reasonable for the Unit Plan to allocate unit production and expenses to separately owned tracts on a surface acreage basis.[2]

B. Justification for Unitization

The evidence presented in this Application establishes that unit operations are reasonably necessary to increase substantially the ultimate recovery of oil and gas from the lands making up the Mann Unit. It also demonstrates that unitized operation protects the correlative rights of all

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[1] A "pool" is defined under Ohio law as "an underground reservoir containing a common accumulation of oil or gas, or both, but does not include a gas storage reservoir." Ohio Rev. Code § 1509.01(E). See also Geology testimony, Exhibit 2.

[2] *See* Exhibit 2.

of the owners within the proposed Unit, and serves to further Ohio's public policy to conserve and develop the State's natural resources and prevent waste of the same.

The proposed unit operations would be governed by the Unit Plan, attached to this Application as Exhibit 1. The Unit Plan allocates unit production and expenses based upon each tract's surface acreage participation in the unit.

The Unit Plan contemplates the drilling of four (4) horizontal wells from a single well pad, with laterals in length of approximately 10,113 – 11,727 feet. Antero estimates that the ultimate recovery from this unit development could be as much as 88.2 Bcfe from the Unitized Formation. Absent unit development contemplated in the unitized project, there would be no recovery. Avoiding tracts where Antero lacks adequate pooling authority by relying on shorter horizontal laterals to develop the Unitized Formation underlying the Mann Unit would prove uneconomical and would result in no development, stranding all of the estimated reserves, unlikely to ever be developed.[3]

The capital expense is $47.51 million for the unitized project. After the capital expenditures, the net present value of the proposed project is $11.98 million (these are net present values are after capital expenditures). There is no economic opportunity without unitization.[4] Thus, the economic benefits of unitization far outweigh the additional costs necessary for unit development.

For all of the foregoing reasons, as further supported by the various attached exhibits, affidavits and prepared testimony, Antero maintains that operation as a Unit is reasonably necessary to increase substantially the ultimate recovery of oil and gas and that the value of that additional recovery exceeds its additional cost, thereby meeting the statutory requirement for unitization under ORC § 1509.28. Operating the Mann Unit as proposed would be just and reasonable and would protect the correlative rights of all of the parties involved, as well as serve the state's public policy interests with respect to oil and gas development and conservation. Thus, Antero respectfully requests that the Chief authorize the Mann Unit as proposed.

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[3] *See* Reservoir Engineer Testimony, Exhibit 3.
[4] *Id. See*, in particular, Exhibit 3-A.

Respectfully submitted,

/s/ Katerina Milenkovski

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UNIT PLAN
MANN UNIT
MALAGA TOWNSHIP, MONROE COUNTY, OHIO

The following shall constitute the Plan for Unit Operations applicable to the Mann Unit, in Malaga Township, Monroe County, Ohio and having as its purpose the unitized management, operation and development of the Unitized Formation as herein defined, to advance the public welfare and promote conservation, to increase the ultimate recovery of oil, natural gas, and other substances therein, and to avoid waste and protect the correlative rights of the owners of interests therein.

ARTICLE 1: DEFINITIONS

As used in this Plan for Unit Operations:

Division refers to the Ohio Department of Natural Resources, Division of Oil and Gas Resources Management.

Effective Date is the time and date this Plan becomes effective as provided in Article 11.

Oil and Gas Rights are the rights to investigate, explore, prospect, drill, develop, market, transport, and operate within the Unit Area for the production of Unitized Substances, or to share in the production so obtained or the proceeds thereof, including without limitation the conducting of exploration, geologic and/or geophysical surveys by seismograph, core test, gravity and/or magnetic methods, the injecting of gas, water, air or other fluids into the Unitized Formation, the installation, operation and maintenance of monitoring facilities, the laying of pipelines, building of roads, tanks, power stations, telephone lines, and/or other structures.

Person is any individual, corporation, partnership, association, receiver, trustee, curator, executor, administrator, guardian, fiduciary, or other representative of any kind, any department, agency, or instrumentality of the state, or any governmental subdivision thereof, or any other entity capable of holding an interest in the Unitized Substances or Unitized Formation.

Plan means this Plan for Unit Operations, including, unless otherwise expressly mentioned, any and all attachments and exhibits hereto.

Royalty Interest means a right to or interest in any portion of the Unitized Substances or proceeds from the sale thereof other than a Working Interest.

Royalty Owner is a Person who owns a Royalty Interest.

Tract means the land identified by a tract number in Exhibit A-2 to the Unit Operating Agreement.

Tract Participation means the fractional interest shown on Exhibit A-2 to the Unit Operating Agreement for allocating Unitized Substances to a Tract.

Unit Area means the lands shown on the plat attached as Exhibit A-1 and identified on Exhibit A-2 to the Unit Operating Agreement, including also areas to which this Plan may be extended as herein provided.

Unit Equipment means all personal property, lease and well equipment, plants, and other facilities and equipment taken over or otherwise acquired for the unit account for use in Unit Operations.

Unit Expense means all cost, expense, investment and indebtedness incurred by Working Interest Owners or Unit Operator pursuant to this Plan and the Unit Operating Agreement for or on account of Unit Operations, but shall not include post-production costs attributable to Royalty Owner interests.

Unitized Formation means the subsurface portion of the Unit Area located from fifty

This instrument prepared by John Kevin West and Katerina E. Milenkovski, Steptoe & Johnson, PLLC, 41 S. High Street, Suite 2200, Columbus, Ohio 43215.

feet above the top of the Utica Shale to fifty feet below the base of the Point Pleasant formation.

Unit Operating Agreement means the modified A.A.P.L. Form 610-1989 Model Form Operating Agreement for the Mann Unit, which is attached hereto and incorporated herein by reference as if fully rewritten herein and to which all Working Interest owners are deemed to be parties; provided, however, that in the event two or more Working Interest Owners have agreed to a separate joint operating agreement relating to the supervision and conduct of unit operations contemplated herein, such operating agreement shall control. The Unit Operating Agreement contains provisions for credits and charges among Working Interest Owners for their respective investments in, and expenses for, Unit Operations, including a provision, if necessary, for carrying any Person unable or electing not to participate in Unit Operations. In addition, the Unit Operating Agreement also contains provisions relating to the supervision and conduct of Unit Operations and the manner in which Working Interest Owners may vote. The Unit Operating Agreement is hereby confirmed and by reference made a part of this Plan. In the event of a conflict between such agreements, the terms of the Unit Operating Agreement shall govern.

Unit Operations are all operations conducted pursuant to this Plan and the Unit Operating Agreement.

Unit Operator is the Person designated by Working Interest Owners under the Unit Operating Agreement to conduct Unit Operations.

Unit Participation is the sum of the interests obtained by multiplying the Working Interest of a Working Interest Owner in each Tract by the Tract Participation of such Tract.

Unitized Substances are all oil, gas, gaseous substances, sulfur, condensate, distillate, and all associated and constituent liquid or liquefiable hydrocarbons within or produced from the Unitized Formation.

Working Interest means an interest in Unitized Substances in the Unit Area by virtue of a lease, operating agreement, fee title, or otherwise, including a carried interest, the owner of which is obligated to pay, either in cash or out of production or otherwise, a portion of the Unit Expense; however, Oil and Gas Rights that are free of a lease or other instrument creating a Working Interest and whose owner, under an Order by the Chief, either chooses to be treated as a Working Interest Owner or who is awarded a working interest by such Order shall be regarded as a Working Interest to the extent of seven-eighths (7/8) thereof and a Royalty Interest to the extent of the remaining one-eighth (1/8) thereof. Upon reaching a Unitization Order's prescribed payout period on a specific well, the owner of a Working Interest free of a lease or other instrument and created by virtue of the Unitization Order shall receive monthly payments on net production revenue equal to seven-eighths (7/8) of the owner's Unit Participation, while continuing the one-eighth (1/8) Royalty Interest. A Royalty Interest created out of a Working Interest subsequent to the participation of, subscription to, ratification of, approval by, or consent to this Plan by the owner of such Working Interest shall continue to be subject to such Working Interest burdens and obligations that are stated in this Plan and the Unit Operating Agreement.

Working Interest Owner is a Person who owns a Working Interest.

ARTICLE 2: CREATION AND EFFECT OF UNIT

Oil and Gas Rights Unitized. All Royalty Interests and Working Interests in Oil and Gas Rights in and to the lands identified on Exhibits A-1 and A-2 to the Unit Operating Agreement are hereby unitized insofar as, and only insofar as, the respective Oil and Gas Rights pertain to the Unitized Formation, so that Unit Operations may be conducted with respect to the Unitized Formation as if the Unit Area had been included in a single lease executed by all Royalty Owners, as lessors, in favor of all Working Interest Owners, as lessees, and as if the lease contained all of the provisions of this Plan.

Personal Property Excepted. All lease and well equipment, materials, and other facilities heretofore or hereafter placed by any of the Working Interest Owners on the lands covered hereby shall be deemed to be and shall remain personal property belonging to, and may be removed by, Working Interest Owners with the prior consent of Unit Operator. The rights and interests therein, as among Working Interest Owners, are set forth in the Unit Operating Agreement.

Operations. If an order is issued granting Unit Operator the authority to conduct Unit Operations, the operations conducted pursuant to the order of the chief shall constitute a fulfillment of all the express or implied obligations of each lease or contract covering lands in the unit area to the extent of that compliance with such obligations cannot be had because of the order of the chief.

Continuation of Leases and Term Interests. Unit Operations conducted upon any part of the Unit Area or production of Unitized Substances from any part of the Unitized Formation, except for the purpose of determining payments to Royalty Owners, shall be considered as operations upon or production from each portion of each Tract, and such production or operations shall continue in effect each lease or term, mineral or Royalty Interest, as to all Tracts and formations covered or affected by this Plan just as if such Unit Operations had been conducted and a well had been drilled on and was producing from each portion of each Tract. It is agreed that each lease shall remain in full force and effect from the date of execution hereof until the Effective Date, and thereafter in accordance with its terms and this Plan.

Titles Unaffected by Unitization. Nothing herein shall be construed to result in any transfer of title to Oil and Gas Rights by any Person to any other Person or to Unit Operator.

Pre-existing Conditions in Unit Area. Working Interest Owners shall not be liable for or assume any obligation with respect to (i) the restoration or remediation of any condition associated with the Unit Area that existed prior to the Effective Date of this Plan, or (ii) the removal and/or plugging and abandonment of any wellbore, equipment, fixtures, facilities or other property located in, on or under the Unit Area prior to the Effective Date of this Plan. Working Interest Owners reserve the right to elect, but shall not have the obligation, to use for injection and/or operational purposes any nonproducing or abandoned wells or dry holes, and any other wells completed in the Unitized Formation.

ARTICLE 3: UNIT OPERATIONS

Unit Operator. Unit Operator shall have the exclusive right to conduct Unit Operations, which shall conform to the provisions of this Plan and the Unit Operating Agreement.

Unit Expenses. Except as otherwise provided in the Unit Operating Agreement, Unit Expenses shall be allocated to each Tract in the proportion that the surface acres of each Tract bears to the surface acres of the Unit Area, and shall be paid by the respective Working Interest Owners.

ARTICLE 4: TRACT PARTICIPATIONS

Tract Participations. The Tract Participation of each Tract is identified in Exhibit A-2 to the Unit Operating Agreement and shall be determined solely upon an acreage basis as the proportion that the Tract surface acreage bears to the total surface acreage of the Unit Area. The Tract Participation of each Tract has been calculated as follows: SURF ACE ACRES IN EACH TRACT DIVIDED BY THE TOTAL SURFACE ACRES WITHIN THE UNIT AREA. The Tract Participations as shown in Exhibit A-2 to the Unit Operating Agreement are accepted and approved as being fair and equitable.

ARTICLE 5: ALLOCATION OF UNITIZED SUBSTANCES

Allocation of Unitized Substances. All Unitized Substances produced and saved shall be allocated to the several Tracts in accordance with the respective Tract Participations effective during the period that the Unitized Substances were produced. The amount of Unitized Substances allocated to each Tract, regardless of whether the amount is more or less than the actual production of Unitized Substances from the well or wells, if any, on such Tract, shall be deemed for all purposes to have been produced from such Tract.

Distribution Within Tracts. The Unitized Substances allocated to each Tract or portion thereof shall be distributed among, or accounted for to, the Persons entitled to share in the production from such Tract or portion thereof in the same manner, in the same proportions, and upon the same conditions as they would have participated and shared in the production from such Tract, or in the proceeds thereof, had this Plan not been entered into, and with the same legal effect. If any Oil and Gas Rights in a Tract hereafter become divided and owned in severalty as to different parts of the Tract, the owners of the divided interests, in the absence of an agreement providing for a different division, shall share in the Unitized Substances allocated to the Tract, or in the proceeds thereof, in proportion to the surface acreage of their respective parts of the Tract. Any royalty or other payment which depends upon per well production or pipeline runs from a well or wells on a Tract shall, after the Effective Date, be determined by dividing the Unitized Substances allocated to the Tract by the number of wells on the Tract capable of producing Unitized Substances on the Effective Date.

ARTICLE 6: USE OR LOSS OF UNITIZED SUBSTANCES

Use of Unitized Substances. Working Interest Owners may use or consume Unitized Substances for Unit Operations, including but not limited to, the injection thereof into the Unitized Formation.

Royalty Payments. No royalty, overriding royalty, production, or other payments shall be payable on account of Unitized Substances used, lost, or consumed in Unit Operations.

ARTICLE 7: TITLES

Warranty and Indemnity. Each Person who, by acceptance of produced Unitized Substances or the proceeds from a sale thereof, may claim to own a Working Interest or Royalty Interest in and to any Tract or in the Unitized Substances allocated thereto, shall be deemed to have warranted its title to such interest, and, upon receipt of the Unitized Substances or the proceeds from a sale thereof to the credit of such interest, shall indemnify and hold harmless all other Persons in interest from any loss due to failure, in whole or in part, of its title to any such interest.

Production Where Title is in Dispute. If the title or right of any Person claiming the right to receive in kind all or any portion of the Unitized Substances allocated to a Tract is in dispute, Unit Operator at the direction of Working Interest Owners may: Require that the Person to whom such Unitized Substances are delivered or to whom the proceeds from a sale thereof are paid furnish security for the proper accounting therefor to the rightful owner or owners if the title or right of such Person fails in whole or in part; or withhold and market the portion of Unitized Substances with respect to which title or right is in dispute, and hold the proceeds thereof until such time as the title or right thereto is established by a final judgment of a court of competent jurisdiction or otherwise to the satisfaction of Working Interest Owners, whereupon the proceeds so held shall be paid to the Person rightfully entitled thereto.

Transfer of Title. Any conveyance of all or any part of any interest owned by any Person hereto with respect to any Tract shall be made expressly subject to this Plan. No change of title shall be binding upon Unit Operator, or upon any Person hereto other than the Person so transferring, until 7:00 a.m. on the first day of the calendar month next succeeding the date of receipt by Unit Operator of a certified copy of the recorded instrument evidencing such change in ownership.

ARTICLE 8: EASEMENTS, GRANTS, OR USE OF SURFACE

Grant of Easements. Subject to the terms and conditions of the various leases, Unit Operator shall have the right of ingress and egress along with the right to use as much of the surface of the land within the Unit Area as may be reasonably necessary for Unit Operations and the removal of Unitized Substances from the Unit Area.

Use of Water. Subject to the terms and conditions of the various leases, Unit Operator shall have and is hereby granted free use of water from the Unit Area for Unit Operations, except water from any well, lake, pond, or irrigation ditch of a Royalty Owner. Unit Operator may convert dry or abandoned wells in the Unit Area for use as water supply or disposal wells.

Surface Damages. Subject to the terms and conditions of the various leases, Working Interest Owners shall reimburse the owner for the market value prevailing in the area of growing crops, livestock, timber, fences, improvements, and structures on the Unit Area that are destroyed or damaged as a result of Unit Operations.

Unitized Property. Notwithstanding anything in this Article 8 to the contrary, and except where otherwise authorized by the Division, there shall be no Unit Operations conducted on the surface of any property located within the Unit, and there shall be no right of ingress and egress over and no right to use the surface waters of any surface lands located within the Unit, owned by an interest owner identified in Exhibit A-3 to the Unit Operating Agreement.

ARTICLE 9: CHANGE OF TITLE

Covenant Running with the Land. This Plan shall extend to, be binding upon, and inure to the benefit of, the respective heirs, devisees, legal representatives, successors, and assigns of the parties hereto, and shall constitute a covenant running with the lands, leases, and interests conveyed hereby.

Waiver of Rights of Partition. Each party to this Plan understands and acknowledges, and is hereby deemed to covenant and agree, that during the term of this Plan it will not resort to any action to, and shall not, partition Oil and Gas Rights, the Unit Area, the Unitized Formation, the Unitized Substances or the Unit Equipment, and to that extent waives the benefits of all laws authorizing such partition.

ARTICLE 10: RELATIONSHIPS OF PERSONS

No Partnership. All duties, obligations, and liabilities arising hereunder shall be several and not joint or collective. This Plan is not intended to and shall not be construed to create an association or trust, or to impose a partnership or fiduciary duty, obligation, or liability. Each Person affected hereby shall be individually responsible for its own obligations.

No Joint or Cooperative Refining, Sale or Marketing. This Plan is not intended and shall not be construed to provide, directly or indirectly, for any joint or cooperative refining, sale or marketing of Unitized Substances.

ARTICLE 11: EFFECTIVE DATE

Effective Date. This Plan shall become effective, and operations may commence hereunder, as of the date of an effective order approving this unit by the Division in accordance with the provisions of Ohio Revised Code Section 1509.28; provided, however, that Working Interest Owners may terminate this Plan in the event of a material modification by the Division of all or any part of this Plan or the Unit Operating Agreement in such order by filing a notice of termination with the Division within thirty (30) days of such order becoming final and no longer subject to further appeal. In the event a dispute arises or exists with respect to this Plan, the Unit Operating Agreement, or the order approving this unit issued by the Division, Unit Operator may, in its sole discretion, hold the revenues from the sale of Unitized Substances until such time as such dispute is resolved or, in the Unit Operator's opinion, it is appropriate to distribute such revenues.

ARTICLE 12: TERM

Term. This Plan, unless sooner terminated in the manner hereinafter provided, shall remain in effect for five (5) years from the Effective Date and as long thereafter as Unitized Substances are produced, or are capable of being produced, in paying quantities from the Unit Area without a cessation of more than ninety (90) consecutive days, or so long as other Unit Operations are conducted without a cessation of more than ninety (90) consecutive days, unless sooner terminated by Working Interest Owners owning a combined Unit Participation of fifty-one percent (51 %) or more whenever such Working Interest Owners determine that Unit Operations are no longer warranted. The date of any termination hereunder shall be known as the "Termination Date."

Effect of Termination. Upon termination of this Plan, the further development and operation of the Unitized Formation as a unit shall cease. Each oil and gas lease and other agreement covering lands within the Unit Area shall remain in force for one hundred eighty (180) days after the date on which this Plan terminates, and for such further period as is provided by the lease or other agreement. The relationships among owners of Oil and Gas Rights shall thereafter be governed by the terms and provisions of the leases and other instruments, not including this Plan, affecting the separate Tracts.

Certificate of Termination. Upon termination of this Plan, Unit Operator shall file with the Division and for record in the county or counties in which the land affected is located a certificate stating that this Plan has terminated and the Termination Date.

Salvaging Equipment Upon Termination. If not otherwise granted by the leases or other instruments affecting the separate Tracts, Working Interest Owners shall have a period of six (6) months after the Termination Date within which to salvage and remove Unit Equipment.

ARTICLE 13: APPROVAL

Original, Counterpart, or Other Instrument. An owner of Oil and Gas Rights or its agent may approve this Plan by signing the original, a counterpart thereof, or other instrument approving this Plan. The signing of any such instrument shall have the same effect as if all Persons had signed the same instrument.

Commitment of Interests to Unit. The approval of this Plan by a Person or their agent shall bind that Person and commit all interests owned or controlled by that Person as of the date of such approval, and additional interests thereafter acquired.

Joinder in Dual Capacity. Execution as herein provided by any Person, as either Working Interest Owner or a Royalty Owner, shall commit all interests owned or controlled by such Person as of the date of such execution and any additional interest thereafter acquired.

ARTICLE 14: MISCELLANEOUS

Determinations by Working Interest Owners. All decisions, determinations, or approvals by Working Interest Owners hereunder shall be made pursuant to the voting procedure of the Unit Operating Agreement unless otherwise provided herein.

Severability of Provisions. The provisions of this Plan are severable and if any section, sentence, clause or part thereof is held to be invalid for any reason, such invalidity shall not be construed to affect the validity of the remaining provisions of this Plan.

Laws and Regulations. This Plan shall be governed by and subject to the laws of the State of Ohio, to the valid rules, regulations, orders and permits of the Division, and to all other applicable federal, state, and municipal laws, rules, regulations, orders, and ordinances. Any change of the Unit Area or any amendment to this Plan or the Unit Operating Agreement shall be in accordance with Ohio law.

This instrument prepared by John Kevin West and Katerina E. Milenkovski, Steptoe & Johnson, PLLC, 41 S. High Street, Suite 2200, Columbus, Ohio 43215.

A.A.P.L. FORM 610 - 1989

MODEL FORM OPERATING AGREEMENT

OPERATING AGREEMENT

DATED

__________________ , _________ ,
Year

OPERATOR **Antero Resources Corporation**

CONTRACT AREA **See Exhibit "A" attached hereto for description of Contract Area**

COUNTY OF **Monroe** , STATE OF **Ohio**

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A.A.P.L. NO. 610 – 1989

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OPERATING AGREEMENT

THIS AGREEMENT, entered into by and between Antero Resources Corporation, hereinafter designated and referred to as "Operator," and the signatory party or parties other than Operator, sometimes hereinafter referred to individually as "Non-Operator," and collectively as "Non-Operators."

WITNESSETH:

WHEREAS, the parties to this agreement are owners of Oil and Gas Leases and/or Oil and Gas Interests in the land identified in Exhibit "A," and the parties hereto have reached an agreement to explore and develop these Leases and/or Oil and Gas Interests for the production of Oil and Gas to the extent and as hereinafter provided,

NOW, THEREFORE, it is agreed as follows:

ARTICLE I.
DEFINITIONS

As used in this agreement, the following words and terms shall have the meanings here ascribed to them:

A. The term "AFE" shall mean an Authority for Expenditure prepared by a party to this agreement for the purpose of estimating the costs to be incurred in conducting an operation hereunder.

B. The term "Completion" or "Complete" shall mean a single operation intended to complete a well as a producer of Oil and Gas in one or more Zones, including, but not limited to, the setting of production casing, perforating, well stimulation and production testing conducted in such operation.

C. The term "Contract Area" shall mean all of the lands, Oil and Gas Leases and/or Oil and Gas Interests intended to be Developed and operated for Oil and Gas purposes under this agreement. Such lands, Oil and Gas Leases and Oil and Gas Interests are described in Exhibit "A." **See also Article XVI.K.**

D. The term "Deepen"**, except as provided in Article I.X,** shall mean a single operation whereby a well is drilled to an objective Zone below the deepest Zone in which the well was previously drilled, or below the Deepest Zone proposed in the associated AFE, whichever is the lesser.

E. The terms "Drilling Party" and "Consenting Party" shall mean a party who agrees to join in and pay its share of the cost of any operation conducted under the provisions of this agreement.

F. The term "Drilling Unit" shall mean the area fixed for the drilling of one ~~well~~ **or more wells** by order or rule of any state or federal body having authority. If a Drilling Unit is not fixed by any such rule or order, a Drilling Unit shall be the drilling unit as established by the **Operator in its sole discretion so long as consistent with any restrictions in the Oil and Gas Leases or by applicable law.** ~~pattern of drilling in the Contract Area unless fixed by express agreement of the Drilling Parties.~~ **See also Article XVI.K.**

G. The term "Drillsite" shall mean the Oil and Gas Lease or Oil and Gas Interest on which a proposed well is to be located.

H. The term "Initial Well" shall mean the well required to be drilled by the parties hereto as provided in Article VI.A.

I. The term "Non-Consent Well" shall mean a well in which less than all parties have conducted an operation as provided in Article VI.B.2.

J. The terms "Non-Drilling Party" and "Non-Consenting Party" shall mean a party who elects not to participate in a proposed operation.

K. The term "Oil and Gas" shall mean oil, gas, casinghead gas, gas condensate, and/or all other liquid or gaseous hydrocarbons and other marketable substances produced therewith, unless an intent to limit the inclusiveness of this term is specifically stated.

L. The term "Oil and Gas Interests" or "Interests" shall mean unleased fee and mineral interests in Oil and Gas in tracts of land lying within the Contract Area which are owned by parties to this agreement.

M. The terms "Oil and Gas Lease," "Lease" and "Leasehold" shall mean the oil and gas leases or interests therein covering tracts of land lying within the Contract Area which are owned by the parties to this agreement.

N. The term "Plug Back"**, except as provided in Article I.Y,** shall mean a single operation whereby a deeper Zone is abandoned in order to attempt a Completion in a shallower Zone.

O. The term "Recompletion" or "Recomplete" shall mean an operation whereby a Completion in one Zone is abandoned in order to attempt a Completion in a different Zone within the existing wellbore.

P. The term "Rework" shall mean an operation conducted in the wellbore of a well after it is Completed to secure, restore, or improve production in a Zone which is currently open to production in the wellbore. Such operations include, but are not limited to, well stimulation operations but exclude any routine repair or maintenance work or drilling, Sidetracking, Deepening, Completing, Recompleting, or Plugging Back of a well.

Q. The term "Sidetrack"**, in the case of Vertical Wells,** shall mean the directional control and intentional deviation of a well from vertical so as to change the bottom hole location **and, in the case of Horizontal Wells (defined hereinafter), an operation by which a lateral wellbore is drilled off of the horizontal wellbore, in each case** unless done to straighten the hole or drill around junk in the hole **or** to overcome other mechanical difficulties.

R. The term "Zone" shall mean a stratum of earth containing or thought to contain a common accumulation of Oil and Gas separately producible from any other common accumulation of Oil and Gas.

S. The term "Lateral" shall mean that portion of a wellbore that deviates from approximate vertical orientation to approximate horizontal orientation and all wellbore beyond such deviation to Total Measured Depth.

T. The term "Vertical Well" shall mean any well other than a "Horizontal Well".

U. The term "Horizontal Well" shall mean a well containing a single Lateral in which the wellbore deviates at an angle of at least eighty degrees (80°) from true vertical and with a horizontal projection exceeding one hundred feet (100') measured from the initial point of penetration into a specific geological interval.

V. The term "Multi-lateral Well" shall mean a Horizontal Well which contains more than one Lateral.

W. The term "Total Measured Depth," when used in connection with a Multi-lateral or Horizontal Well, shall mean the distance from the surface of the ground to the terminus of the wellbore, as measured along the wellbore. Each Lateral taken together with the common vertical wellbore shall be considered a single wellbore and shall have a corresponding Total Measured Depth. When the proposed operation(s) is the drilling of, or operation on, a Multi-lateral or Horizontal Well, the term "depth" or "total depth" wherever used in the Agreement shall be deemed to read "Total Measured Depth" insofar as it applies to such well.

X. The term "Deepen" when used in conjunction with a Multi-lateral or Horizontal Well shall mean an operation whereby a lateral is drilled to a distance greater than the distance set out in the well proposal approved by the participating parties. This shall include reentry of a Vertical Well to convert the well to a Horizontal Well. See also Article XVI.E.2.

Y. For the purposes of this Agreement, as to a Multi-lateral or Horizontal Well, the term "Plug Back" shall mean an operation to test or complete the well at a stratigraphically shallower geological horizon in which the operation has been or is being completed and which is not within an existing Lateral.

Z. The term "affiliate" shall mean any Person that, directly or indirectly, through one or more intermediaries, Controls or is Controlled by, or is under common Control with, another Person.

AA. The term "Control" and its derivatives with respect to any Person shall means the possession, directly or indirectly, of the power, directly or indirectly, to direct or cause the direction of the management or policies of the controlled Person, whether through the ownership of equity interests in or voting rights attributable to the equity interests in such Person, by contract or agency, by the general partner of a Person that is a partnership, or otherwise.

BB. The term "Person" shall mean any individual, corporation, company, partnership, limited partnership, limited liability company, trust, estate, governmental authority or any other entity.

Unless the context otherwise clearly indicates, words used in the singular include the plural, the word "person" includes natural and artificial persons, the plural includes the singular, and any gender includes the masculine, feminine, and neuter.

ARTICLE II.
EXHIBITS

The following exhibits, as indicated below and attached hereto, are incorporated in and made a part hereof:

☒ A. Exhibit "A," shall include the following information:
- (1) Description of lands subject to this agreement,
- (2) Restrictions, if any, as to depths, formations, or substances,
- (3) Parties to agreement with addresses and telephone numbers for notice purposes,
- (4) Percentages or fractional interests of parties to this agreement,
- (5) Oil and Gas Leases and/or Oil and Gas Interests subject to this agreement.
- (6) Burdens on production.
- (7) Exhibit "A-1" - List of Contract Area
- (8) Exhibit "A-2" - Plat of Contract Area
- (9) Exhibit "A-3" - Unitized Parties

☒ B. Exhibit "B," Form of Lease.

☒ C. Exhibit "C," Accounting Procedure.

☒ D. Exhibit "D," Insurance.

☒ E. Exhibit "E," Gas Balancing Agreement.

☐ ~~F. Exhibit "F," Non-Discrimination and Certification of Non-Segregated Facilities.~~

☐ ~~G. Exhibit "G," Tax Partnership.~~

☒ F. Other: **Model Form Recording Supplement to Operating Agreement and Financing Agreement.**

If any provision of any exhibit, except Exhibits "E," / "F," ~~and "G,"~~ is inconsistent with any provision contained in the body of this agreement, the provisions in the body of this agreement shall prevail.

ARTICLE III.
INTERESTS OF PARTIES

A. Oil and Gas Interests:

If any party owns **or hereafter acquires** an Oil and Gas Interest in the Contract Area, that Interest shall be treated for all purposes of this agreement and during the term hereof as if it were covered by the form of Oil and Gas Lease attached hereto as Exhibit "B," and the owner thereof shall be deemed to own both royalty interest in such lease and the interest of the lessee thereunder.

B. Interests of Parties in Costs and Production:

Unless changed by other provisions, all costs and liabilities incurred in operations under this agreement shall be borne and paid, and all equipment and materials acquired in operations on the Contract Area shall be owned, by the parties as their interests are set forth in Exhibit "A." In the same manner, the parties shall also own all production of Oil and Gas from the Contract Area subject, however, to the payment of royalties and other burdens on production **subject to burdens of record** ~~as described hereafter~~.

~~Regardless of which party has contributed any Oil and Gas Lease or Oil and Gas Interest on which royalty or other burdens may be payable and except as otherwise expressly provided in this agreement, each party shall pay or deliver, or cause to be paid or delivered, all burdens on its share of the production from the Contract Area up to, but not in excess of the lowest sum of royalty plus overriding royalty of any Oil and Gas Lease in the Contract Area and shall indemnify, defend and hold the other parties free from any liability therefor.~~

~~Except as otherwise expressly provided in this agreement, if any party has contributed hereto any Lease or Interest which is burdened with any royalty, overriding royalty, production payment or other burden on production in excess of the amounts stipulated above, such party so burdened shall assume and alone bear all such excess obligations and shall indemnify, defend and hold the other parties hereto harmless from any and all claims attributable to such excess burden. However, so long as the Drilling Unit for the productive Zone(s) is identical with the Contract Area~~, Each party shall pay or deliver, or cause to be paid or delivered, all burdens on production from the Contract Area due under the terms of the Oil and Gas Lease(s) which such party has contributed to this agreement, and shall indemnify, defend and hold the other parties free from any liability therefor.

No party shall ever be responsible, ~~on a price basis higher than the price received by such party,~~ to any other party's lessor or royalty owner, and if such other party's lessor or royalty owner should demand and receive settlement on a higher price basis, the party contributing the affected Lease shall bear the additional royalty burden attributable to such higher price.

Nothing contained in this Article III.B. shall be deemed an assignment or cross-assignment of interests covered hereby, and in the event two or more parties contribute to this agreement jointly owned Leases, the parties' undivided interests in said Leaseholds shall be deemed separate leasehold interests for the purposes of this agreement.

C. Subsequently Created Interests:

If any party has contributed hereto a Lease or Interest that is burdened with an assignment of production given as security for the payment of money, or if, after the date of this agreement, any party creates an overriding royalty, production payment, net profits interest, assignment of production or other burden payable out of production attributable to its working interest hereunder, such burden shall be deemed a "Subsequently Created Interest." Further, if any party has contributed hereto a Lease or Interest burdened with an overriding royalty, production payment, net profits interests, or other burden payable out of production created prior to the date of this agreement, and such burden **is not recorded or is not referenced by another recorded instrument sufficient for notice purposes in the county records of the applicable county or** is not shown on Exhibit "A," such burden also shall be deemed a Subsequently Created Interest to the extent such burden causes the burdens on such party's Lease or Interest to exceed the amount stipulated in Article III.B. above.

The party whose interest is burdened with the Subsequently Created Interest (the "Burdened Party") shall assume and alone bear, pay and discharge the Subsequently Created Interest and shall indemnify, defend and hold harmless the other parties from and against any liability therefor. Further, if the Burdened Party fails to pay, when due, its share of expenses chargeable hereunder, all provisions of Article VII.B. shall be enforceable against the Subsequently Created Interest in the same manner as they are enforceable against the working interest of the Burdened Party. If the Burdened Party is required under this agreement to assign or relinquish to any other party, or parties, all or a portion of its working interest and/or the production attributable thereto, said other party, or parties, shall receive said assignment and/or production free and clear of said Subsequently Created Interest, and the Burdened Party shall indemnify, defend and hold harmless said other party, or parties, from any and all claims and demands for payment asserted by owners of the Subsequently Created Interest.

ARTICLE IV.
TITLES

A. Title Examination:

Title examination shall be made on the **wellbore path and** Drillsite of any proposed well prior to commencement of drilling operations and, **thereafter** if ~~a majority in interest of the Drilling Parties so requests or~~ Operator so elects, title examination shall be made on the entire Drilling Unit, or maximum anticipated Drilling Unit, of the well. The opinion will include the ownership of the working interest, minerals, royalty, overriding royalty and production payments under the applicable Leases. Each party, other than unleased mineral owner, contributing Leases and/or Oil and Gas Interests to be included in the Drillsite or Drilling Unit, if appropriate, shall furnish to Operator all abstracts (including federal lease status reports), title opinions, title papers and curative material in its possession free of charge. All such information not in the possession of or made available to Operator by the parties, but necessary for the examination of the title, shall be obtained by Operator. Operator shall cause title to be examined by attorneys on its staff or by outside attorneys. Copies of all title opinions shall be furnished to each Drilling Party. Costs incurred by Operator in procuring abstracts, fees paid ~~outside~~ attorneys **and field landmen and title specialists** for title examination (including preliminary, supplemental, shut-in royalty opinions and division order title opinions) and other direct charges as provided in Exhibit "C" shall be borne by the Drilling Parties in the proportion that the interest of each Drilling Party bears to the total interest of all Drilling Parties as such interests appear in Exhibit "A." Operator shall make no charge for services rendered by its staff attorneys or other personnel in the performance of the above functions~~.~~ **that exceeds prevailing rates in the area. Operator may use staff field landmen and title specialists for abstracting and staff attorneys for title examination if such personnel are employed specifically for this purpose and are billed at rates no higher than third party rates billed for similar services in the state where the services are rendered. Operator may also charge a reasonable digital abstracting fee per tract if Operator has imaged and indexed the county records in which the Contract Area is located.**

Each party shall be responsible for securing curative matter and pooling amendments or agreements required in connection with Leases or Oil and Gas Interests contributed by such party. Operator shall be responsible for the preparation and recording of pooling designations or declarations and communitization agreements as well as the conduct of hearings before governmental agencies for the securing of spacing or pooling orders or any other orders necessary or appropriate to the conduct of operations hereunder. This shall not prevent any party from appearing on its own behalf at such hearings. Costs incurred by Operator, including fees paid to outside attorneys, which are associated with hearings before governmental agencies, and which costs are necessary and proper for the activities contemplated under this agreement, shall be direct charges to the joint account and shall not be covered by the administrative overhead charges as provided in Exhibit "C."

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Operator shall make no charge for services rendered by its staff attorneys or other personnel in the performance of the above functions~~.~~**, except as provided herein.**

No well shall be drilled on the Contract Area until after (1) the title to the Drillsite / **and wellbore path have** ~~or Drilling Unit, if appropriate, has~~ been examined as above provided, and (2) the title has been approved by the examining attorney / **engaged or employed by the operator** or title has been accepted by ~~all of the Drilling Parties in such well.~~ **the Operator.**

B. Loss or Failure of Title:

1. Failure of Title: Should any Oil and Gas Interest or Oil and Gas Lease be lost through failure of title, which results in a reduction of interest from that shown on Exhibit "A," the party credited with contributing the affected Lease or Interest (including, if applicable, a successor in interest to such party) shall have ninety (90) days from final determination of title failure to acquire a new lease or other instrument curing the entirety of the title failure, which acquisition will not be subject to Article VIII.B., and failing to do so, this agreement, nevertheless, shall continue in force as to all remaining Oil and Gas Leases and Interests; and,

(a) The party credited with contributing the Oil and Gas Lease or Interest affected by the title failure (including, if applicable, a successor in interest to such party) shall bear alone the entire loss and it shall not be entitled to recover from Operator or the other parties any development or operating costs which it may have previously paid or incurred, but there shall be no additional liability on its part to the other parties hereto by reason of such title failure;

(b) There shall be no retroactive adjustment of expenses incurred or revenues received from the operation of the Lease or Interest which has failed, but the interests of the parties contained on Exhibit "A" shall be revised on an acreage basis, as of the time it is determined finally that title failure has occurred, so that the interest of the party whose Lease or Interest is affected by the title failure will thereafter be reduced in the Contract Area by the amount of the Lease or Interest failed;

(c) If the proportionate interest of the other parties hereto in any producing well previously drilled on the Contract Area is increased by reason of the title failure, the party who bore the costs incurred in connection with such well attributable to the Lease or Interest which has failed shall receive the proceeds attributable to the increase in such interest (less costs and burdens attributable thereto) until it has been reimbursed for unrecovered costs paid by it in connection with such well attributable to such failed Lease or Interest;

(d) Should any person not a party to this agreement, who is determined to be the owner of any Lease or Interest which has failed, pay in any manner any part of the cost of operation, development, or equipment, such amount shall be paid to the party or parties who bore the costs which are so refunded;

(e) Any liability to account to a person not a party to this agreement for prior production of Oil and Gas which arises by reason of title failure shall be borne severally by each party. other than an unleased mineral owner (including a predecessor to a current party) who received production for which such accounting is required based on the amount of such production received, and each such party shall severally indemnify, defend and hold harmless all other parties hereto for any such liability to account;

(f) No charge shall be made to the joint account for legal expenses, fees or salaries in connection with the defense of the Lease or Interest claimed to have failed, but if the party contributing such Lease or Interest hereto elects to defend its title it shall bear all expenses in connection therewith; and

(g) If any party is given credit on Exhibit "A" to a Lease or Interest which is limited solely to ownership of an interest in the wellbore of any well or wells and the production therefrom, such party's absence of interest in the remainder of the Contract Area shall be considered a Failure of Title as to such remaining Contract Area unless that absence of interest is reflected on Exhibit "A."

2. Loss by Non-Payment or Erroneous Payment of Amount Due: If, through mistake or oversight, any rental, shut-in well payment, minimum royalty or royalty payment, or other payment necessary to maintain all or a portion of an Oil and Gas Lease or interest is not paid or is erroneously paid, and as a result a Lease or Interest terminates, there shall be no monetary liability against the party who failed to make such payment. Unless the party who failed to make the required payment secures a new Lease or Interest covering the same interest within ninety (90) days from the discovery of the failure to make proper payment, which acquisition will not be subject to Article VIII.B., the interests of the parties reflected on Exhibit "A" shall be revised on an acreage basis, effective as of the date of termination of the Lease or Interest involved, and the party who failed to make proper payment will no longer be credited with an interest in the Contract Area on account of ownership of the Lease or Interest which has terminated. If the party who failed to make the required payment shall not have been fully reimbursed, at the time of the loss, from the proceeds of the sale of Oil and Gas attributable to the lost Lease or Interest, calculated on an acreage basis, for the development and operating costs previously paid on account of such Lease or Interest, it shall be reimbursed for unrecovered actual costs previously paid by it (but not for its share of the cost of any dry hole previously drilled or wells previously abandoned) from so much of the following as is necessary to effect reimbursement:

(a) Proceeds of Oil and Gas produced prior to termination of the Lease or Interest, less operating expenses and lease burdens chargeable hereunder to the person who failed to make payment, previously accrued to the credit of the lost Lease or Interest, on an acreage basis, up to the amount of unrecovered costs;

(b) Proceeds of Oil and Gas, less operating expenses and lease burdens chargeable hereunder to the person who failed to make payment, up to the amount of unrecovered costs attributable to that portion of Oil and Gas thereafter produced and marketed (excluding production from any wells thereafter drilled) which, in the absence of such Lease or Interest termination, would be attributable to the lost Lease or Interest on an acreage basis and which as a result of such Lease or Interest termination is credited to other parties, the proceeds of said portion of the Oil and Gas to be contributed by the other parties in proportion to their respective interests reflected on Exhibit "A"; and,

(c) Any monies, up to the amount of unrecovered costs, that may be paid by any party who is, or becomes, the owner of the Lease or Interest lost, for the privilege of participating in the Contract Area or becoming a party to this agreement.

~~3. Other Losses: All losses of Leases or Interests committed to this agreement, other than those set forth in Articles IV.B.1. and IV.B.2. above, shall be joint losses and shall be borne by all parties in proportion to their interests shown on Exhibit "A." This shall include but not be limited to the loss of any Lease or Interest through failure to develop or because express or implied covenants have not been performed (other than performance which requires only the payment of money), and the loss of any Lease by expiration at the end of its primary term if it is not renewed or extended. There shall be no readjustment of interests in the remaining portion of the Contract Area on account of any joint loss.~~

~~4. Curing Title: In the event of a Failure of Title under Article IV.B.1. or a loss of title under Article IV.B.2. above, any Lease or Interest acquired by any party hereto (other than the party whose interest has failed or was lost) during the ninety (90) day period provided by Article IV.B.1. and Article IV.B.2. above covering all or a portion of the interest that has failed or was lost shall be offered at cost to the party whose interest has failed or was lost, and the provisions of Article VIII.B. shall not apply to such acquisition.~~

ARTICLE V.
OPERATOR

A. Designation and Responsibilities of Operator:

Antero Resources Corporation shall be the Operator of the Contract Area, and shall conduct and direct and have full control of all operations on the Contract Area as permitted and required by, and within the limits of this agreement. In its performance of services hereunder for the Non-Operators, Operator shall be an independent contractor not subject to the control or direction of the Non-Operators except as to the type of operation to be undertaken in accordance with the election procedures contained in this agreement. Operator shall not be deemed, or hold itself out as, the agent of the Non-Operators with authority to bind them to any obligation or liability assumed or incurred by Operator as to any third party. Operator shall conduct its activities under this agreement as a reasonable prudent operator, in a good and workmanlike manner, with due diligence and dispatch, in accordance with good oilfield practice, and in compliance with applicable law and regulation, but in no event shall it have any liability as Operator to the other parties **, their officers, employees or agents,** for losses sustained or liabilities incurred except such as may result from gross negligence or willful misconduct. **Except as provided in Article VII.D.2, under no circumstances shall Operator be held liable to another party for punitive damages, consequential damages, loss of profits, or other indirect and unforeseen damages, either in law or equity.**

B. Resignation or Removal of Operator and Selection of Successor:

1. Resignation or Removal of Operator: Operator may resign at any time by giving written notice thereof to Non-Operators. If Operator terminates its legal existence, no longer owns an interest hereunder in the Contract Area, or is no longer capable of serving as Operator, Operator shall be deemed to have resigned without any action by Non-Operators, except the selection of a successor. Operator may be removed only for good cause by the affirmative vote of Non-Operators owning a majority interest based on ownership as shown on Exhibit "A" remaining after excluding the voting interest of Operator; such vote shall not be deemed effective until a written notice has been delivered to the Operator by a Non-Operator detailing the alleged default and Operator has failed to cure the default within thirty (30) days from its receipt of the notice or, if the default concerns an operation then being conducted, within forty-eight (48) hours of its receipt of the notice. ~~For purposes hereof, "good cause" shall mean not only gross negligence or willful misconduct but also the material breach of or inability to meet the standards of operation contained in Article V.A. or material failure or inability to perform its obligations under this agreement.~~

Subject to Article VII.D.1., such resignation or removal shall not become effective until 7:00 o'clock A.M. on the first day of the calendar month following the expiration of ninety (90) days after the giving of notice of resignation by Operator or action by the Non-Operators to remove Operator, unless a successor Operator has been selected and assumes the duties of Operator at an earlier date. Operator, after effective date of resignation or removal, shall be bound by the terms hereof as a Non-Operator. A change of a corporate name or structure of Operator or transfer of Operator's interest to any **affiliate,** single subsidiary, parent or successor corporation shall not be the basis for removal of Operator.

2. Selection of Successor Operator: Upon the resignation or removal of Operator under any provision of this agreement, a successor Operator shall be selected by the parties. The successor Operator shall be selected from the parties owning an interest in the Contract Area at the time such successor Operator is selected. The successor Operator shall be selected by the affirmative vote of two (2) or more parties owning a majority interest based on ownership as shown on Exhibit "A"; provided, however, if an Operator which has been removed or is deemed to have resigned **or any of its affiliates** fails to vote or votes only ~~to succeed itself,~~ **for itself or an affiliate,** the successor Operator shall be selected by the affirmative vote of the party or parties owning a majority interest based on ownership as shown on Exhibit "A" remaining after excluding the voting interest of the Operator that was removed or resigned **and its affiliates and, provided further, that the requirement for two (2) or more parties shall not apply in the event that two (2) or fewer parties are entitled to vote.** The former Operator shall promptly deliver to the successor Operator all records and data relating to the operations conducted by the former Operator to the extent such records and data are not already in the possession of the successor operator. Any cost of obtaining or copying the former Operator's records and data shall be charged to the joint account.

3. Effect of Bankruptcy: If Operator becomes insolvent, bankrupt or is placed in receivership, it shall be deemed to have resigned without any action by Non-Operators, except the selection of a successor. If a petition for relief under the federal bankruptcy laws is filed by or against Operator, and the removal of Operator is prevented by the **terms of the Bankruptcy Code or actions of the federal bankruptcy court, then, to the extent allowed by law,** ~~federal bankruptcy court,~~ all Non-Operators and Operator shall comprise an interim operating committee to serve until Operator has elected to reject or assume this agreement pursuant to the Bankruptcy Code, and an election to reject this agreement by Operator as a debtor in possession, or by a trustee in bankruptcy, shall be deemed a resignation as Operator without any action by Non-Operators, except the selection of a successor. During the period of time the operating committee controls operations, all actions shall require the approval of two (2) or more parties owning a majority interest based on ownership as shown on Exhibit "A." In the event there are only two (2) parties to this agreement, during the period of time the operating committee controls operations, a third party acceptable to Operator, Non-Operator and the federal bankruptcy court shall be selected as a member of the operating committee, and all actions shall require the approval of two (2) members of the operating committee without regard for their interest in the Contract Area based on Exhibit "A."

C. Employees and Contractors:

The number of employees or contractors used by Operator in conducting operations hereunder, their selection, and the hours of labor and the compensation for services performed shall be determined Operator, and all such employees or contractors shall be the employees or contractors of Operator.

D. Rights and Duties of Operator:

1. Competitive Rates and Use of Affiliates: All **operations conducted in** ~~wells drilled on~~ the Contract Area shall be ~~drilled~~ **conducted** on a competitive contract basis at the usual rates prevailing in the **state where the services were rendered** ~~area~~. If it so desires, Operator may employ its own tools and equipment in ~~the drilling of wells~~ **performing such operations**, but its charges therefor shall not exceed the prevailing rates in the **state where the services were rendered** ~~area and the rate of such charges shall be agreed upon by the parties in writing before drilling operations are commenced,~~ and such work shall be performed by Operator under the same terms and conditions as are customary and usual in the area in contracts of independent contractors who are doing work of a similar nature. All work performed or materials supplied by affiliates or related parties of Operator shall be performed or supplied at competitive rates, pursuant to written agreement, and in accordance with customs and standards prevailing in the industry.

2. Discharge of Joint Account Obligations: Except as herein otherwise specifically provided, Operator shall promptly pay and discharge expenses incurred in the development and operation of the Contract Area pursuant to this agreement and shall charge each of the parties hereto with their respective proportionate shares upon the expense basis provided in Exhibit "C." Operator shall keep an accurate record of the joint account hereunder, showing expenses incurred and charges and credits made and received.

3. Protection from Liens: Operator shall pay, or cause to be paid, as and when they become due and payable, all accounts

of contractors and suppliers and wages and salaries for services rendered or performed, and for materials supplied on, to or in respect of the Contract Area or any operations for the joint account thereof, and shall keep the Contract Area free from liens and encumbrances resulting therefrom except for those resulting from a bona fide dispute as to services rendered or materials supplied.

4. Custody of Funds: Operator shall hold for the account of the Non-Operators any funds of the Non-Operators advanced or paid to the Operator, either for the conduct of operations hereunder or as a result of the sale of production from the Contract Area, and such funds shall remain the funds of the Non-Operators on whose account they are advanced or paid until used for their intended purpose or otherwise delivered to the Non-Operators or applied toward the payment of debts as provided in Article VII.B. Nothing in this paragraph shall be construed to establish a fiduciary relationship between Operator and Non-Operators for any purpose other than to account for Non-Operator funds as herein specifically provided. Nothing in this paragraph shall require the maintenance by Operator of separate accounts for the funds of Non-Operators~~ unless the parties otherwise specifically agree~~.

5. Access to Contract Area and Records: Operator shall, except as otherwise provided herein, permit each / **Consenting Party** ~~Non-Operator~~ or its duly authorized representative, at the / **Consenting Party's** ~~Non-Operator's~~ sole risk and cost, full and free access at all reasonable times to all operations of every kind and character being conducted for the joint account on the Contract Area and to the records of operations conducted thereon or production therefrom, including Operator's books and records relating thereto. Such access rights shall not be exercised in a manner interfering with Operator's conduct of an operation hereunder and shall not obligate Operator to furnish any geologic or geophysical data of an interpretive nature unless the cost of preparation of such interpretive data was charged to the joint account. Operator will furnish to each / **Consenting Party** ~~Non-Operator~~ upon request copies of any and all reports and information obtained by Operator in connection with production and related items, including, without limitation, meter and chart reports, production purchaser statements, run tickets and monthly gauge reports, but excluding purchase contracts and pricing information to the extent not applicable to the production of the ~~Non-Operator~~ **Consenting Party** seeking the information. Any audit of Operator's records relating to amounts expended and the appropriateness of such expenditures shall be conducted in accordance with the audit protocol specified in Exhibit "C."

6. Filing and Furnishing Governmental Reports: Operator will file, and upon written request promptly furnish copies to each requesting / **Consenting Party** ~~Non-Operator~~ not in default of its payment obligations, all operational notices, reports or applications required to be filed by local, State, Federal or Indian agencies or authorities having jurisdiction over operations hereunder. Each ~~Non-Operator~~ **Consenting Party** shall provide to Operator on a timely basis all information necessary to Operator to make such filings.

7. Drilling and Testing Operations: The following provisions shall apply to each well drilled / **, Sidetracked, Deepened, Completed, Recompleted or Plugged Back** ~~hereunder, including but not limited to the Initial Well:~~

(a) Operator will promptly advise / **each Consenting Party** ~~Non-Operators~~ of the date on which the well is spudded, or the date on which drilling operations are commenced.

(b) Operator will send to / **each Consenting Party** ~~Non-Operators~~ such reports, test results and notices regarding the progress of operations on the well as the / **Consenting Parties** ~~Non-Operators~~ shall reasonably request, including, but not limited to, daily drilling reports, completion reports, and well logs.

~~(c) Operator shall adequately test all Zones encountered which may reasonably be expected to be capable of producing Oil and Gas in paying quantities as a result of examination of the electric log or any other logs or cores or tests conducted hereunder.~~

8. Cost Estimates: Upon request of any Consenting Party, Operator shall furnish estimates of current and cumulative costs incurred for the joint account at reasonable intervals during the conduct of any operation pursuant to this agreement. Operator shall not be held liable for errors in such estimates so long as the estimates are made in good faith.

9. Insurance: At all times while operations are conducted hereunder, Operator shall comply with the workers compensation law of the state where the operations are being conducted; provided, however, that Operator may be a self-insurer for liability under said compensation laws in which event the only charge that shall be made to the joint account shall be as provided in Exhibit "C." Operator shall also carry or provide insurance for the benefit of the joint account of the parties as outlined in Exhibit "D" attached hereto and made a part hereof. Operator shall require all contractors engaged in work on or for the Contract Area to comply with the workers compensation law of the state where the operations are being conducted and to maintain such other insurance as Operator may require.

In the event automobile liability insurance is specified in said Exhibit "D," or subsequently receives the approval of the parties, no direct charge shall be made by Operator for premiums paid for such insurance for Operator's automotive equipment.

ARTICLE VI.
DRILLING AND DEVELOPMENT

A. Initial Well:

Operator anticipates commencing the drilling of the Initial Well within one (1) years of the effective date of the Unitization Order issued by the appropriate regulatory committee,

and shall thereafter continue the drilling of the well with due diligence to **a depth sufficient in the Operator's reasonable opinion, to adequately test the Utica/Point Pleasant formation with the Initial Well.**

In the event a Party elects not to participate (a Non-Consenting Party) in the Initial Well proposed in the Contract Area pursuant to Article VI.A., upon the timely commencement of actual drilling operations on such Well, such Non-Consenting Party shall be deemed to have relinquished to the Consenting Parties, and the Consenting Parties shall own and be entitled to receive, in proportion to their respective interests, all of such Non-Consenting Party's interest in the well and share of production therefrom until the proceeds of the sale of such share, calculated at the well, or market value thereof if such share is not sold, (after deducting production taxes, excise taxes, royalty, overriding royalty and other interests not excepted by Article III.D. payable out of or measured by the production from such well accruing with respect to such interest until it reverts) shall equal the total of the following: (a) 500% of such Non-Consenting Party's share of the cost of any newly acquired surface equipment beyond the wellhead connections (including, but not limited to, stock tanks, separators, treaters, pumping equipment and piping), plus 500% of such Non-Consenting Party's share of the cost of operation of the well commencing with first production and continuing until such Non-Consenting Party's relinquished interest shall revert to it under other provisions of this Article, it being agreed that such Non-Consenting Party's share of such costs and equipment will be that interest which would have been chargeable to such Non-Consenting Party had it participated in the well from the beginning of the operations; and (b) 500% of that portion of the costs and expenses of drilling, testing and completing, after deducting any cash contributions received under Article III.C., and 500% of that portion of the cost of newly acquired equipment in the well (to and including wellhead connections), which would have been

chargeable to such Non-Consenting Party if it had participated therein.

B. Subsequent Operations:

The drilling of the Initial Well and the participation therein by all parties is obligatory, subject to Article VI.C.1. as to participation in Completion operations and Article VI.F. as to termination of operations and Article XI as to occurrence of force majeure.

B. Subsequent Operations:

1. Proposed Operations: If any party, except an unleased mineral owner, hereto should desire to drill any well on the Contract Area other than the Initial Well, or if any party should desire to Rework, Sidetrack, Deepen, Recomplete or Plug Back a dry hole or a well no longer capable of producing in paying quantities in which such party has not otherwise relinquished its interest in the proposed objective Zone under this agreement, the party desiring to drill, Rework, Sidetrack, Deepen, Recomplete or Plug Back such a well shall give written notice of the proposed operation to the parties who have not otherwise relinquished their interest in such objective Zone under this agreement and to all other parties in the case of a proposal for Sidetracking or Deepening, specifying the work to be performed, the location, proposed depth, objective Zone and the estimated cost of the operation. The parties to whom such a notice is delivered shall have thirty (30) days after receipt of the notice within which to notify the party proposing to do the work whether they elect to participate in the cost of the proposed operation. If a drilling rig is on location, notice of a proposal to Rework, Sidetrack, Recomplete, Plug Back or Deepen may be given by telephone and the response period shall be limited to forty-eight (48) hours, **inclusive** / ~~exclusive~~ of Saturday, Sunday and legal holidays. Failure of a party to whom such notice is delivered to reply within the period above fixed shall constitute an election by that party not to participate in the cost of the proposed operation. Any proposal by a party to conduct an operation conflicting with the operation initially proposed shall be delivered to all parties within the time and in the manner provided in Article VI.B.6. **No Party may elect to participate in any well proposed pursuant to this Agreement with less than its full and undivided working interest in the Contract Area.**

If all parties to whom such notice is delivered elect to participate in such a proposed operation, the parties shall be contractually committed to participate therein provided such operations are commenced within the time period hereafter set forth, and Operator shall, no later than ninety (90) days after expiration of the notice period of thirty (30) days (or as promptly as practicable after the expiration of the forty-eight (48) hour period when a drilling rig is on location, as the case may be), actually commence the proposed operation and thereafter complete it with due diligence at the risk and expense of the parties participating therein; provided, however, said commencement date may be extended upon written notice of same by Operator to the other parties, for a period of up to thirty (30) additional days if, in the sole opinion of Operator, such additional time is reasonably necessary to obtain permits from governmental authorities, surface rights (including rights-of-way) or appropriate drilling equipment, or to complete title examination or curative matter required for title approval or acceptance. If the actual operation has not been commenced within the time provided (including any extension thereof as specifically permitted herein or in the force majeure provisions of Article XI) and if any party hereto still desires to conduct said operation, written notice proposing same must be resubmitted to the other parties in accordance herewith as if no prior proposal had been made. Those parties that did not participate in the drilling of a well for which a proposal to Deepen or Sidetrack is made hereunder shall, if such parties desire to participate in the proposed Deepening or Sidetracking operation, reimburse the Drilling Parties in accordance with Article VI.B.4. in the event of a Deepening operation and in accordance with Article VI.B.5. in the event of a Sidetracking operation.

2. Operations by Less Than All Parties:

(a) Determination of Participation. If any party to whom such notice is delivered as provided in Article VI.B.1. or VI.C.1. (Option No. 2) elects not to participate in the proposed operation, then, in order to be entitled to the benefits of this Article, the Operator or parties giving the notice and such other parties as shall elect to participate in the operation shall, no later than ninety (90) days after the expiration of the notice period of thirty (30) days (or as promptly as practicable after the expiration of the forty-eight (48) hour period when a drilling rig is on location, as the case may be) actually commence the proposed operation ***** and complete it with due diligence. Operator shall perform all work for the account of the Consenting Parties; provided, however, if no drilling rig or other equipment is on location, and if Operator is a Non-Consenting Party, the Consenting Parties shall either: (i) request Operator to perform the work required by such proposed operation for the account of the Consenting Parties, or (ii) designate one of the Consenting Parties as Operator to perform such work. The rights and duties granted to and imposed upon the Operator under this agreement are granted to and imposed upon the party designated as Operator for an operation in which the original Operator is a Non-Consenting Party. Consenting Parties, when conducting operations on the Contract Area pursuant to this Article VI.B.2., shall comply with all terms and conditions of this agreement. ***Nothing contained herein shall prohibit Operator from actually commencing the proposed operation before the expiration of the notice period, nor shall such commencement affect in any way the validity of a party's election or deemed election.**

If less than all parties approve any proposed operation, the proposing party, immediately after the expiration of the applicable notice period, shall advise all Parties of the total interest of the parties approving such operation and its recommendation as to whether the Consenting Parties should proceed with the operation as proposed. Each Consenting Party, within forty-eight (48) hours (exclusive of Saturday, Sunday, and legal holidays) after delivery of such notice, shall advise the Operator of its desire to (i) limit participation to such party's interest as shown on Exhibit "A" or (ii) carry only its proportionate part (determined by dividing such party's interest in the Contract Area by the interests of all Consenting Parties in the Contract Area) of Non-Consenting Parties' interests, or (iii) carry its proportionate part (determined as provided in (ii)) of Non-Consenting Parties' interests together with all or a portion of its proportionate part of any Non-Consenting Parties' interests that any Consenting Party did not elect to take. Any interest of Non-Consenting Parties that is not carried by a Consenting Party shall be deemed to be carried by the party proposing the operation if such party does not withdraw its proposal. Failure to advise the proposing party within the time required shall be deemed an election under (i). In the event a drilling rig is on location, notice may be given by telephone, and the time permitted for such a response shall not exceed a total of forty-eight (48) hours (exclusive of Saturday, Sunday and legal holidays). The Operator party, at its election, may withdraw such proposal if there is less than 100% participation and shall notify all parties of such decision within ten (10) days, or within twenty-four (24) hours if a drilling rig is on location, following expiration of the applicable response period. If 100% subscription to the proposed operation is obtained, the proposing party shall promptly notify the Consenting Parties of their proportionate interests in the operation and the party serving as Operator shall commence such operation within the period provided in Article VI.B.1., subject to the same extension right as provided therein.

(b) Relinquishment of Interest for Non-Participation. The entire cost and risk of conducting such operations shall be borne by the Consenting Parties in the proportions they have elected to bear same under the terms of the preceding paragraph. Consenting Parties shall keep the leasehold estates involved in such operations free and clear of all liens and encumbrances of every kind created by or arising from the operations of the Consenting Parties. If such an operation results in a dry hole, then subject to Articles VI.B.6. and VI.E.3., the Consenting Parties shall plug and abandon the well and restore the surface location at their sole cost, risk and expense; provided, however, that those Non-Consenting Parties that participated in the drilling, Deepening or Sidetracking of the well shall remain liable for, and shall pay, their proportionate shares of the cost of plugging and abandoning the well and restoring the surface location insofar only as those costs were not increased by the subsequent operations of the Consenting Parties. If any well drilled, Reworked, Sidetracked, Deepened, Recompleted or Plugged Back under the provisions of this Article results in a well capable of producing Oil and/or Gas in paying quantities, the Consenting Parties shall Complete and equip the well to produce at their sole cost and risk, and the well shall then be turned over to Operator (if the Operator did not conduct the operation) and shall be operated by it at the expense and for the account of the Consenting Parties. Upon commencement of operations for the drilling, Reworking, Sidetracking, Recompleting, Deepening or Plugging Back of any such well by Consenting Parties in accordance with the provisions of this Article, each Non-Consenting Party shall be deemed to have relinquished to Consenting Parties, and the Consenting Parties shall own and be entitled to receive, in proportion to their respective interests, all of such Non-Consenting Party's interest in the well and share of production therefrom or, in the case of a Reworking, Sidetracking, Deepening, Recompleting or Plugging Back, or a Completion pursuant to Article VI.C.1. Option No. 2, all of such Non-Consenting Party's interest in the production obtained from the operation in which the Non-Consenting Party did not elect to participate. Such relinquishment shall be effective until the proceeds of the sale of such share, calculated at the well, or market value thereof if such share is not sold (after deducting applicable ad valorem, production, severance, and excise taxes, royalty, overriding royalty and other interests not excepted by Article III.C. payable out of or measured by the production from such well accruing with respect to such interest until it reverts), shall equal the total of the following:

(i) 500 % of each such Non-Consenting Party's share of the cost of any newly acquired surface equipment beyond the wellhead connections (including but not limited to stock tanks, separators, treaters, pumping equipment and piping), plus ~~100%~~ 5**00%** of each such Non-Consenting Party's share of the cost of operation of the well commencing with first production and continuing until each such Non-Consenting Party's relinquished interest shall revert to it under other provisions of this Article, it being agreed that each Non-Consenting Party's share of such costs and equipment will be that interest which would have been chargeable to such Non-Consenting Party had it participated in the well from the beginning of the operations; and

(ii) 500 % of (a) that portion of the costs and expenses of drilling, Reworking, Sidetracking, Deepening, Plugging Back, testing, Completing, and Recompleting, after deducting any cash contributions received under Article VIII.C., and of (b) that portion of the cost of newly acquired equipment in the well (to and including the wellhead connections), which would have been chargeable to such Non-Consenting Party if it had participated therein. See Article XVI.N for application of non-consent penalty for Non-Consenting Unleased Mineral Owner.

Notwithstanding anything to the contrary in this Article VI.B., if the well does not reach the deepest objective Zone described in the notice proposing the well for reasons other than the encountering of granite or practically impenetrable substance or other condition in the hole rendering further operations impracticable, Operator shall give notice thereof to each Non-Consenting Party who submitted or voted for an alternative proposal under Article VI.B.6. to drill the well to a shallower Zone than the deepest objective Zone proposed in the notice under which the well was drilled, and each such Non-Consenting Party shall have the option to participate in the initial proposed Completion of the well by paying its share of the cost of drilling the well to its actual depth, calculated in the manner provided in Article VI.B.4. (a). If any such Non-Consenting Party does not elect to participate in the first Completion proposed for such well, the relinquishment provisions of this Article VI.B.2. (b) shall apply to such party's interest.

(c) Reworking, Recompleting or Plugging Back. An election not to participate in the drilling, Sidetracking or Deepening of a well shall be deemed an election not to participate in any Reworking or Plugging Back operation proposed in such a well, or portion thereof, to which the initial non-consent election applied that is conducted at any time prior to full recovery by the Consenting Parties of the Non-Consenting Party's recoupment amount. Similarly, an election not to participate in the Completing or Recompleting of a well shall be deemed an election not to participate in any Reworking operation proposed in such a well, or portion thereof, to which the initial non-consent election applied that is conducted at any time prior to full recovery by the Consenting Parties of the Non-Consenting Party's recoupment amount. Any such Reworking, Recompleting or Plugging Back operation conducted during the recoupment period shall be deemed part of the cost of operation of said well and there shall be added to the sums to be recouped by the Consenting Parties **500** % of that portion of the costs of the Reworking, Recompleting or Plugging Back operation which would have been chargeable to such Non-Consenting Party had it participated therein. If such a Reworking, Recompleting or Plugging Back operation is proposed during such recoupment period, the provisions of this Article VI.B. shall be applicable as between said Consenting Parties in said well.

(d) Recoupment Matters. During the period of time Consenting Parties are entitled to receive Non-Consenting Party's share of production, or the proceeds therefrom, Consenting Parties shall be responsible for the payment of all ad valorem, production, severance, excise, gathering and other taxes, and all royalty, overriding royalty and other burdens applicable to Non-Consenting Party's share of production not excepted by Article III.C.

In the case of any Reworking, Sidetracking, Plugging Back, Recompleting or Deepening operation, the Consenting Parties shall be permitted to use, free of cost, all casing, tubing and other equipment in the well, but the ownership of all such equipment shall remain unchanged; and upon abandonment of a well after such Reworking, Sidetracking, Plugging Back, Recompleting or Deepening, the Consenting Parties shall account for all such equipment to the owners thereof, with each party receiving its proportionate part in kind or in value, less cost of salvage.

Within ninety (90) days after the completion of any operation under this Article, the party conducting the operations for the Consenting Parties shall furnish each Non-Consenting Party with an inventory of the equipment in and connected to the well, and an itemized statement of the cost of drilling, Sidetracking, Deepening, Plugging Back, testing, Completing, Recompleting, and equipping the well for production; or, at its option, the operating party, in lieu of an itemized statement of such costs of operation, may submit a detailed statement of monthly billings. Each month thereafter, during the time the Consenting Parties are being reimbursed as provided above, the party conducting the operations for the Consenting Parties shall furnish the Non-Consenting Parties with an itemized statement of all costs and liabilities incurred in the operation of the well, together with a statement of the quantity of Oil and Gas produced from it and the amount of proceeds realized from the sale of the well's working interest production during the preceding month. In determining the quantity of Oil and Gas produced during any month, Consenting Parties shall use industry accepted methods such as but not limited to metering or periodic well tests. Any amount realized from the sale or other disposition of equipment newly acquired in connection with any such operation which would have been owned by a Non-Consenting Party had it participated therein shall be credited against the total unreturned costs of the work done and of the equipment purchased in determining when the interest of such Non-Consenting Party shall revert to it as above provided; and if there is a credit balance, it shall be paid to such Non-Consenting Party.

If and when the Consenting Parties recover from a Non-Consenting Party's relinquished interest the amounts provided for above, the relinquished interests of such Non-Consenting Party shall automatically revert to it as of 7:00 a.m. on the **first day of the month** ~~day~~ following the day on which such recoupment occurs, and, from and after such reversion, such Non-Consenting Party shall own the same interest in such well, the material and equipment in or pertaining thereto, and the production therefrom as such Non-Consenting Party would have been entitled to had it participated in the drilling, Sidetracking, Reworking, Deepening, Recompleting or Plugging Back of said well. Thereafter, such Non-Consenting Party shall be charged with and shall pay its proportionate part of the further costs of the operation of said well in accordance with the terms of this agreement and Exhibit "C" attached hereto.

3. Stand-By Costs: When a well which has been drilled or Deepened has reached its authorized depth and all tests have been completed and the results thereof furnished to the parties, or when operations on the well have been otherwise terminated pursuant to Article VI.F., stand-by costs incurred pending response to a party's notice proposing a Reworking, Sidetracking, Deepening, Recompleting, Plugging Back or Completing operation in such a well (including the period required under Article VI.B.6. to resolve competing proposals) shall be charged and borne as part of the drilling or Deepening operation just completed. Stand-by costs subsequent to all parties responding, or expiration of the response time permitted, whichever first occurs, and prior to agreement as to the participating interests of all Consenting Parties pursuant to the terms of the second grammatical paragraph of Article VI.B.2. (a), shall be charged to and borne as part of the proposed operation, but if the proposal is subsequently withdrawn because of insufficient participation, such stand-by costs shall be allocated between the Consenting Parties in the proportion each Consenting Party's interest as shown on Exhibit "A" bears to the total interest as shown on Exhibit "A" of all Consenting Parties.

In the event that notice for a Sidetracking operation is given while the drilling rig to be utilized is on location, any party may request and receive up to five (5) additional days after expiration of the forty-eight hour response period specified in Article VI.B.1. within which to respond by paying for all stand-by costs and other costs incurred during such extended response period; Operator may require such party to pay the estimated stand-by time in advance as a condition to extending the response period. If more than one party elects to take such additional time to respond to the notice, standby costs shall be allocated between the parties taking additional time to respond on a day-to-day basis in the proportion each electing party's interest as shown on Exhibit "A" bears to the total interest as shown on Exhibit "A" of all the electing parties.

4. Deepening: If less than all parties elect to participate in a drilling, Sidetracking, or Deepening operation proposed pursuant to Article VI.B.1., the interest relinquished by the Non-Consenting Parties to the Consenting Parties under Article VI.B.2. shall relate only and be limited to the lesser of (i) the total depth actually drilled or (ii) the objective depth or Zone of which the parties were given notice under Article VI.B.1. ("Initial Objective"). **Except as provided in Article XVI.E.2, such** ~~Such~~ well shall not be Deepened beyond the Initial Objective without first complying with this Article to afford the Non-Consenting Parties the opportunity to participate in the Deepening operation.

In the event any Consenting Party desires to drill or Deepen a Non-Consent Well ~~to a depth below the Initial Objective~~, such party shall give notice thereof, complying with the requirements of Article VI.B.1., to all parties (including Non-Consenting Parties). Thereupon, Articles VI.B.1. and 2. shall apply and all parties receiving such notice shall have the right to participate or not participate in the Deepening of such well pursuant to said Articles VI.B.1. and 2. If a Deepening operation is approved pursuant to such provisions, and if any Non-Consenting Party elects to participate in the Deepening operation, such Non-Consenting party shall pay or make reimbursement (as the case may be) of the following costs and expenses.

(a) If the proposal to Deepen is made prior to the Completion of such well as a well capable of producing in paying quantities, such Non-Consenting Party shall pay (or reimburse Consenting Parties for, as the case may be) that share of costs and expenses incurred in connection with the drilling of said well from the surface to the Initial Objective which Non-Consenting Party would have paid had such Non-Consenting Party agreed to participate therein, plus the Non-Consenting Party's share of the cost of Deepening and of participating in any further operations on the well in accordance with the other provisions of this Agreement; provided, however, all costs for testing and Completion or attempted Completion of the well incurred by Consenting Parties prior to the point of actual operations to Deepen beyond the Initial Objective shall be for the sole account of Consenting Parties.

(b) If the proposal is made for a Non-Consent Well that has been previously Completed as a well capable of producing in paying quantities, but is no longer capable of producing in paying quantities, such Non-Consenting Party shall pay (or reimburse Consenting Parties for, as the case may be) its proportionate share of all costs of drilling, Completing, and equipping said well from the surface to the Initial Objective, calculated in the manner provided in paragraph (a) above, less those costs recouped by the Consenting Parties from the sale of production from the well. The Non-Consenting Party shall also pay its proportionate share of all costs of re-entering said well. The Non-Consenting Parties' proportionate part (based on the percentage of such well Non-Consenting Party would have owned had it previously participated in such Non-Consent Well) of the costs of salvable materials and equipment remaining in the hole and salvable surface equipment used in connection with such well shall be determined in accordance with Exhibit "C." If the Consenting Parties have recouped the cost of drilling, Completing, and equipping the well at the time such Deepening operation is conducted, then a Non-Consenting Party may participate in the Deepening of the well with no payment for costs incurred prior to re-entering the well for Deepening

The foregoing shall not imply a right of any Consenting Party to propose any Deepening for a Non-Consent Well prior to the drilling of such well to its Initial Objective without the consent of the other Consenting Parties as provided in Article VI.F.

5. Sidetracking: Any party having the right to participate in a proposed Sidetracking operation that does not own an interest in the affected wellbore at the time of the notice shall, upon electing to participate, tender to the wellbore owners its proportionate share (equal to its interest in the Sidetracking operation) of the value of that portion of the existing wellbore to be utilized as follows:

(a) If the proposal is for Sidetracking an existing dry hole, reimbursement shall be on the basis of the actual costs incurred in the initial drilling of the well down to the depth at which the Sidetracking operation is initiated.

(b) If the proposal is for Sidetracking a well which has previously produced, reimbursement shall be on the basis of such party's proportionate share of drilling and equipping costs incurred in the initial drilling of the well down to the depth at which the Sidetracking operation is conducted, calculated in the manner described in Article VI.B.4(b) above. Such party's proportionate share of the cost of the well's salvable materials and equipment down to the depth at which the Sidetracking operation is initiated shall be determined in accordance with the provisions of Exhibit "C."

6. Order of Preference of Operations. Except as otherwise specifically provided in this agreement, if any party desires to

propose the conduct of an operation that conflicts with a proposal that has been made by a party under this Article VI, such party shall have fifteen (15) days from delivery of the initial proposal, in the case of a proposal to drill a well or to perform an operation on a well where no drilling rig is on location, or twenty-four (24) hours, exclusive of Saturday, Sunday and legal holidays, from delivery of the initial proposal, if a drilling rig is on location for the well on which such operation is to be conducted, to deliver to all parties entitled to participate in the proposed operation such party's alternative proposal, such alternate proposal to contain the same information required to be included in the initial proposal. Each party receiving such proposals shall elect by delivery of notice to Operator within five (5) days after expiration of the proposal period, or within twenty-four (24) hours (exclusive of Saturday, Sunday and legal holidays) if a drilling rig is on location for the well that is the subject of the proposals, to participate in one of the competing proposals. Any party not electing within the time required shall be deemed not to have voted. The proposal receiving the vote of parties owning the largest aggregate percentage interest of the parties voting shall have priority over all other competing proposals; in the case of a tie vote, the initial proposal shall prevail. Operator shall deliver notice of such result to all parties entitled to participate in the operation within five (5) days after expiration of the election period (or within twenty-four (24) hours, exclusive of Saturday, Sunday and legal holidays, if a drilling rig is on location). Each party shall then have two (2) days (or twenty-four (24) hours if a rig is on location) from receipt of such notice to elect by delivery of notice to Operator to participate in such operation or to relinquish interest in the affected well pursuant to the provisions of Article VI.B.2.; failure by a party to deliver notice within such period shall be deemed an election <u>not</u> to participate in the prevailing proposal.

7. <u>Conformity to Spacing Pattern.</u> Notwithstanding the provisions of this Article VI.B.2., it is agreed that no wells shall be proposed to be drilled to or Completed in or produced from a Zone from which a well located elsewhere on the Contract Area is producing, unless such well conforms to the then-existing well spacing pattern for such Zone, or such well has been approved as an exception to the then-existing spacing pattern or zone by the appropriate regulatory agency.

8. <u>Paying Wells.</u> No party shall conduct any Reworking, Deepening, Plugging Back, Completion, Recompletion, or Sidetracking operation under this agreement with respect to any well then capable of producing in paying quantities except with the consent of all parties that have not relinquished interests in the well at the time of such operation.

C. Completion of Wells; Reworking and Plugging Back:

1. <u>Completion:</u> Without the consent of all parties, no well shall be drilled, Deepened or Sidetracked, except any well drilled, Deepened or Sidetracked pursuant to the provisions of Article VI.B.2. of this agreement. Consent to the drilling, Deepening or Sidetracking shall include:

☒ Option No. 1: ~~All~~ **For Horizontal Wells and Multi-Lateral Wells , all /** necessary expenditures for the drilling, Deepening, equipping of the well, including tankage and/or surface facilities. **See also Article XVI.E.**

☒ <u>Option No. 2:</u> ~~All~~ **For Vertical Wells, all /** necessary expenditures for the drilling, Deepening or Sidetracking and testing of the well. When such well has reached its authorized depth, and all logs, cores and other tests have been completed, and the results thereof furnished to the parties, Operator shall give immediate notice to the Non-Operators having the right to participate in a Completion attempt whether or not Operator recommends attempting to Complete the well, together with Operator's AFE for Completion costs if not previously provided. The parties receiving such notice shall have forty-eight (48) hours (exclusive of Saturday, Sunday and legal holidays) in which to elect by delivery of notice to Operator to participate in a recommended Completion attempt or to make a Completion proposal with an accompanying AFE. Operator shall deliver any such Completion proposal, or any Completion proposal conflicting with Operator's proposal, to the other parties entitled to participate in such Completion in accordance with the procedures specified in Article VI.B.6. Election to participate in a Completion attempt shall include consent to all necessary expenditures for the Completing and equipping of such well, including necessary tankage and/or surface facilities but excluding any stimulation operation not contained on the Completion AFE. Failure of any party receiving such notice to reply within the period above fixed shall constitute an election by that party <u>not</u> to participate in the cost of the Completion attempt; provided, that Article VI.B.6. shall control in the case of conflicting Completion proposals. If one or more, but less than all of the parties, elect to attempt a Completion, the provision of Article VI.B.2. hereof (the phrase "Reworking, Sidetracking, Deepening, Recompleting or Plugging Back" as contained in Article VI.B.2. shall be deemed to include "Completing") shall apply to the operations thereafter conducted by less than all parties; provided, however, that Article VI.B.2. shall apply separately to each separate Completion or Recompletion attempt undertaken hereunder, and an election to become a Non-Consenting Party as to one Completion or Recompletion attempt shall not prevent a party from becoming a Consenting Party in subsequent Completion or Recompletion attempts regardless whether the Consenting Parties as to earlier Completions or Recompletion have recouped their costs pursuant to Article VI.B.2.; provided further, that any recoupment of costs by a Consenting Party shall be made solely from the production attributable to the Zone in which the Completion attempt is made. Election by a previous Non-Consenting party to participate in a subsequent Completion or Recompletion attempt shall require such party to pay its proportionate share of the cost of salvable materials and equipment installed in the well pursuant to the previous Completion or Recompletion attempt, insofar and only insofar as such materials and equipment benefit the Zone in which such party participates in a Completion attempt. **See also Article XVI.E.**

2. <u>Rework, Recomplete or Plug Back:</u> No well shall be Reworked, Recompleted or Plugged Back except a well Reworked, Recompleted, or Plugged Back pursuant to the provisions of Article VI.B.2. of this agreement. Consent to the Reworking, Recompleting or Plugging Back of a well shall include all necessary expenditures in conducting such operations and Completing and equipping of said well, including necessary tankage and/or surface facilities.

D. Other Operations:

Operator shall not undertake any single project reasonably estimated to require an expenditure in excess of **<u>Two Hundred and Fifty Thousand</u>** Dollars ($ **<u>250,000.00</u>**) except in connection with the drilling, Sidetracking, Reworking, Deepening, Completing, Recompleting or Plugging Back of a well that has been previously authorized by or pursuant to this agreement; provided, however, that, in case of explosion, fire, flood or other sudden emergency, whether of the same or different nature, Operator may take such steps and incur such expenses as in its opinion are required to deal with the emergency to safeguard life and property but Operator, as promptly as possible, shall report the emergency to the other parties. If Operator prepares an AFE for its own use, Operator shall furnish any Non-Operator so requesting an information copy thereof for any single project costing in excess of **<u>Twp Hundred and Fifty Thousand</u>** Dollars (**<u>$250,000.00</u>**). Any party who has not relinquished its interest in a well shall have the right to propose that Operator perform repair work or undertake the installation of artificial lift equipment or ancillary production facilities such as salt water disposal wells or to conduct additional work with respect to a well drilled hereunder or other similar project (but not including the installation of gathering lines or other transportation or marketing facilities, the installation of which shall be governed by separate agreement between the parties) reasonably estimated to require an expenditure in excess of the amount first set forth above in this Article VI.D. (except in connection with an operation required to be proposed under Articles VI.B.1. or VI.C.1. Option No. 2, which shall be governed exclusively be those Articles). Operator shall deliver such proposal to all parties entitled to participate therein. If within thirty (30) days thereof Operator secures the written consent of any party or parties owning at least **80** % of the interests of the parties entitled to participate in such operation, each party having the right to participate in such project shall be bound by the terms of such proposal and shall be obligated to pay its proportionate share of the costs of the proposed project as if it had consented to such project pursuant to the terms of the proposal.

E. Abandonment of Wells:

1. Abandonment of Dry Holes: Except for any well drilled or Deepened pursuant to Article VI.B.2., any well which has been drilled or Deepened under the terms of this agreement and is proposed to be completed as a dry hole shall not be plugged and abandoned without the consent of all parties who participated in the costs of drilling the well. Should Operator, after diligent effort, be unable to contact any party, or should any party fail to reply within forty-eight (48) hours (exclusive of Saturday, Sunday and legal holidays) after delivery of notice of the proposal to plug and abandon such well, such party shall be deemed to have consented to the proposed abandonment. All such wells shall be plugged and abandoned in accordance with applicable regulations and at the cost, risk and expense of the parties who participated in the cost of drilling or Deepening such well. Any party who objects to plugging and abandoning such well by notice delivered to Operator within forty-eight (48) hours (exclusive of Saturday, Sunday and legal holidays) after delivery of notice of the proposed plugging shall take over the well as of the end of such forty-eight (48) hour notice period and conduct further operations in search of Oil and/or Gas subject to the provisions of Article VI.B.; failure of such party to provide proof reasonably satisfactory to Operator of its financial capability to conduct such operations or to take over the well within such period or thereafter to conduct operations on such well or plug and abandon such well shall entitle Operator to retain or take possession of the well and plug and abandon the well. The party taking over the well shall indemnify Operator (if Operator is an abandoning party) and the other abandoning parties against liability for any further operations conducted on such well except for the costs of plugging and abandoning the well and restoring the surface, for which the abandoning parties shall remain proportionately liable.

2. Abandonment of Wells That Have Produced: Except for any well in which a Non-Consent operation has been conducted hereunder for which the Consenting Parties have not been fully reimbursed as herein provided, any well which has been completed as a producer shall not be plugged and abandoned without the consent of all parties **who participated in the cost of drilling the well** /. If all parties consent to such abandonment, the well shall be plugged and abandoned in accordance with applicable regulations and at the cost, risk and expense of all the parties hereto. Failure of a party to reply within sixty (60) days of delivery of notice of proposed abandonment shall be deemed an election to consent to the proposal. If, within sixty (60) days after delivery of notice of the proposed abandonment of any well, all parties do not agree to the abandonment of such well, those wishing to continue its operation from the Zone then open to production shall be obligated to take over the well as of the expiration of the applicable notice period and shall indemnify Operator (if Operator is an abandoning party) and the other abandoning parties against liability for any further operations **with respect to the well, including the costs of plugging and abandoning the well and restoring the surface** / ~~on the well conducted by such parties~~. Failure of such party or parties to provide proof reasonably satisfactory to Operator of their financial capability to conduct such operations or to take over the well within the required period or thereafter to conduct operations on such well shall entitle operator to retain or take possession of such well and plug and abandon the well.

Parties taking over a well as provided herein shall tender to each of the other parties its proportionate share of the value of the well's salvable material and equipment, determined in accordance with the provisions of Exhibit "C," less the estimated cost of salvaging and the estimated cost of plugging and abandoning and restoring the surface; provided, however, that in the event the estimated plugging and abandoning and surface restoration costs and the estimated cost of salvaging are higher than the value of the well's salvable material and equipment, each of the abandoning parties shall tender to the parties continuing operations their proportionate shares of the estimated excess cost. Each abandoning party shall assign to the non-abandoning parties, without warranty, express or implied, as to title or as to quantity, or fitness for use of the equipment and material, all of its interest in the wellbore of the well and related equipment, together with its interest in the Leasehold insofar and only insofar as such Leasehold covers the right to obtain production from that wellbore in the Zone then open to production. If the interest of the abandoning party is or includes and Oil and Gas Interest, such party shall execute and deliver to the non-abandoning party or parties an oil and gas lease, limited to the wellbore and the Zone then open to production, for a term of one (1) year and so long thereafter as Oil and/or Gas is produced from the Zone covered thereby, such lease to be on the form attached as Exhibit "B." The assignments or leases so limited shall encompass the Drilling Unit upon which the well is located. The payments by, and the assignments or leases to, the assignees shall be in a ratio based upon the relationship of their respective percentage of participation in the Contract Area to the aggregate of the percentages of participation in the Contract Area of all assignees. There shall be no readjustment of interests in the remaining portions of the Contract Area.

Thereafter, abandoning parties shall have no further responsibility, liability, or interest in the operation of or production from the well in the Zone then open other than the royalties retained in any lease made under the terms of this Article. Upon request, Operator shall continue to operate the assigned well for the account of the non-abandoning parties at the rates and charges contemplated by this agreement, plus any additional cost and charges which may arise as the result of the separate ownership of the assigned well. Upon proposed abandonment of the producing Zone assigned or leased, the assignor or lessor shall then have the option to repurchase its prior interest in the well (using the same valuation formula) and participate in further operations therein subject to the provisions hereof.

3. Abandonment of Non-Consent Operations: The provisions of Article VI.E.1. or VI.E.2. above shall be applicable as between Consenting Parties in the event of the proposed abandonment of any well excepted from said Articles; provided, however, no well shall be permanently plugged and abandoned unless and until all parties having the right to conduct further operations therein have been notified of the proposed abandonment and afforded the opportunity to elect to take over the well in accordance with the provisions of this Article VI.E.; and provided further, that Non-Consenting Parties who own an interest in a portion of the well shall pay their proportionate shares of abandonment and surface restoration cost for such well as provided in Article VI.B.2.(b).

F. Termination of Operations:

Upon the commencement of an operation for the drilling, Reworking, Sidetracking, Plugging Back, Deepening, testing, Completion or plugging of a well, including but not limited to the Initial Well, such operation shall not be terminated without consent of parties bearing __80__% of the costs of such operation; provided, however, that in the event granite or other practically impenetrable substance or condition in the hole is encountered which renders further operations impractical, Operator may discontinue operations and give notice of such condition in the manner provided in Article VI.B.1, and the provisions of Article VI.B. or VI.E. shall thereafter apply to such operation, as appropriate.

G. Taking Production in Kind:

☒ **__Option No. 1__: Gas Balancing Agreement Attached**

Each party, other than an unleased mineral owner, shall take in kind or separately dispose of its proportionate share of all Oil and Gas produced from the Contract Area, exclusive of production which may be used in development and producing operations and in preparing and treating Oil and Gas for marketing purposes and production unavoidably lost. Any extra expenditure incurred in the taking in kind or separate disposition by any party of its proportionate share of the production shall be borne by such party. Any party taking its share of production in kind shall be required to pay for only its proportionate share of such part of Operator's surface facilities which it uses.

Each party shall execute such division orders and contracts as may be necessary for the sale of its interest in production from the Contract Area, and, except as provided in Article VII.B., shall be entitled to receive payment directly from the purchaser thereof for its share of all production.

If any party fails to make the arrangements necessary to take in kind or separately dispose of its proportionate share of the Oil produced from the Contract Area, Operator shall have the right, subject to the revocation at will by the party owning it, but not the obligation, to purchase such Oil or sell it to others at any time and from time to time, for the account of the non-taking party. Any such purchase or sale by Operator may be terminated by Operator upon at least ten (10) days written notice to the owner of said production and shall be subject always to the right of the owner of the production upon at least ten (10) days written notice to Operator to exercise at any time its right to take in kind, or separately dispose of, its share of all Oil not previously delivered to a purchaser. Any purchase or sale by Operator of any other party's share of Oil shall be only for such reasonable periods of time as are consistent with the minimum needs of the industry under the particular circumstances, but in no event for a period in excess of one (1) year.

Any such sale by Operator shall be in a manner commercially reasonable under the circumstances but Operator shall have no duty to share any existing market or to obtain a price equal to that received under any existing market. The sale or delivery by Operator of a non-taking party's share of Oil under the terms of any existing contract of Operator shall not give the non-taking party any interest in or make the non-taking party a party to said contract. No purchase shall be made by Operator without first giving the non-taking party at least ten (10) days written notice of such intended purchase and the price to be paid or the pricing basis to be used.

All parties shall give timely written notice to Operator of their Gas marketing arrangements for the following month, excluding price, and shall notify Operator immediately in the event of a change in such arrangements. Operator shall maintain records of all marketing arrangements, and of volumes actually sold or transported, which records shall be made available to Non-Operators upon reasonable request.

In the event one or more parties' separate disposition of its share of the Gas causes split-stream deliveries to separate pipelines and/or deliveries which on a day-to-day basis for any reason are not exactly equal to a party's respective proportionate share of total Gas sales to be allocated to it, the balancing or accounting between the parties shall be in accordance with any Gas balancing agreement between the parties hereto, whether such an agreement is attached as Exhibit "E" or is a separate agreement. Operator shall give notice to all parties of the first sales of Gas from any well under this agreement.

☐ ~~**Option No. 2: No Gas Balancing Agreement:**~~

~~Each party shall take in kind or separately dispose of its proportionate share of all Oil and Gas produced from the Contract Area, exclusive of production which may be used in development and producing operations and in preparing and treating Oil and Gas for marketing purposes and production unavoidably lost. Any extra expenditures incurred in the taking in kind or separate disposition by any party of its proportionate share of the production shall be borne by such party. Any party taking its share of production in kind shall be required to pay for only its proportionate share of such part of Operator's surface facilities which it uses.~~

~~Each party shall execute such division orders and contracts as may be necessary for the sale of its interest in production from the Contract Area, and, except as provided in Article VII.B., shall be entitled to receive payment directly from the purchaser thereof for its share of all production.~~

~~If any party fails to make the arrangements necessary to take in kind or separately dispose of its proportionate share of the Oil and/or Gas produced from the Contract Area, Operator shall have the right, subject to the revocation at will by the party owning it, but not the obligation, to purchase such Oil and/or Gas or sell it to others at any time and from time to time, for the account of the non-taking party. Any such purchase or sale by Operator may be terminated by Operator upon at least ten (10) days written notice to the owner of said production and shall be subject always to the right of the owner of the production upon at least ten (10) days written notice to Operator to exercise its right to take in kind, or separately dispose of, its share of all Oil and/or Gas not previously delivered to a purchaser; provided, however, that the effective date of any such revocation may be deferred at Operator's election for a period not to exceed ninety (90) days if Operator has committed such production to a purchase contract having a term extending beyond such ten (10) -day period. Any purchase or sale by Operator of any other party's share of Oil and/or Gas shall be only for such reasonable periods of time as are consistent with the minimum needs of the industry under the particular circumstances, but in no event for a period in excess of one (1) year.~~

~~Any such sale by Operator shall be in a manner commercially reasonable under the circumstances, but Operator shall have no duty to share any existing market or transportation arrangement or to obtain a price or transportation fee equal to that received under any existing market or transportation arrangement. The sale or delivery by Operator of a non-taking party's share of production under the terms of any existing contract of Operator shall not give the non-taking party any interest in or make the non-taking party a party to said contract. No purchase of Oil and Gas and no sale of Gas shall be made by Operator without first giving the non-taking party ten days written notice of such intended purchase or sale and the price to be paid or the pricing basis to be used. Operator shall give notice to all parties of the first sale of Gas from any well under this Agreement.~~

~~All parties shall give timely written notice to Operator of their Gas marketing arrangements for the following month, excluding price, and shall notify Operator immediately in the event of a change in such arrangements.~~

~~Operator shall maintain records of all marketing arrangements, and of volumes actually sold or transported, which records shall be made available to Non-Operators upon reasonable request.~~

ARTICLE VII.

EXPENDITURES AND LIABILITY OF PARTIES

A. Liability of Parties:

The liability of the parties shall be several, not joint or collective. Each party shall be responsible only for its obligations, and shall be liable only for its proportionate share of the costs of developing and operating the Contract Area. Accordingly, the liens granted among the parties in Article VII.B. are given to secure only the debts of each severally, and no party shall have any liability to third parties hereunder to satisfy the default of any other party in the payment of any expense or obligation hereunder. It is not the intention of the parties to create, nor shall this agreement be construed as creating, a mining or other partnership, joint venture, agency relationship or association, or to render the parties liable as partners, co-venturers, or principals. In their relations with each other under this agreement, the parties shall not be considered fiduciaries or to have established a confidential relationship but rather shall be free to act on an arm's-length basis in accordance with their own respective self-interest, subject, however, to the obligation of the parties to act in good faith in their dealings with each other with respect to activities hereunder.

B. Liens and Security Interests:

Each party, other than an unleased mineral owner, grants to the other parties hereto a lien upon any interest it now owns or hereafter acquires in Oil and Gas Leases and Oil and Gas Interests in the Contract Area, and a security interest and/or purchase money security interest in any interest it now owns or hereafter acquires in the personal property and fixtures on or used or obtained for use in connection therewith, to secure performance of all of its obligations under this agreement including but not limited to payment of expense, interest and fees, the proper disbursement of all monies paid hereunder, the assignment or relinquishment of interest in Oil and Gas Leases as required hereunder, and the proper performance of operations hereunder. Such lien and security interest granted by each party hereto shall include such party's leasehold interests, working interests, operating rights, and royalty and overriding royalty interests in the Contract Area now owned or hereafter acquired and in lands pooled or unitized therewith or otherwise becoming subject to this agreement, the Oil and Gas when extracted therefrom and equipment situated thereon or used or obtained for use in connection therewith (including, without limitation, all wells, tools, and tubular goods), and accounts (including, without limitation, accounts arising from gas imbalances or from the sale of Oil and/or Gas at the wellhead), contract rights, inventory and general intangibles relating thereto or arising therefrom, and all proceeds and products of the foregoing.

To perfect the lien and security agreement provided herein, each party hereto shall execute and acknowledge the recording supplement and/or any financing statement prepared and submitted by any party hereto in conjunction herewith or at any time following execution hereof, and Operator is authorized to file this agreement or the recording supplement executed herewith as a lien or mortgage in the applicable real estate records and as a financing statement with the proper officer under the Uniform Commercial Code in the state in which the Contract Area is situated and such other states as Operator shall deem appropriate to perfect the security interest granted hereunder. Any party may file this agreement, the recording supplement executed herewith, or such other documents as it deems necessary as a lien or mortgage in the applicable real estate records and/or a financing statement with the proper officer under the Uniform Commercial Code.

Each party represents and warrants to the other parties hereto that the lien and security interest granted by such party to the other parties shall be a first and prior lien, and each party hereby agrees to maintain the priority of said lien and security interest against all persons acquiring an interest in Oil and Gas Leases and Interests covered by this agreement by, through or under such party. All parties acquiring an interest in Oil and Gas Leases and Oil and Gas Interests covered by this agreement, whether by assignment, merger, mortgage, operation of law, or otherwise, shall be deemed to have taken subject to the lien and security interest granted by this Article VII.B. as to all obligations attributable to such interest hereunder whether or not such obligations arise before or after such interest is acquired.

To the extent that parties have a security interest under the Uniform Commercial Code of the state in which the Contract Area is situated, they shall be entitled to exercise the rights and remedies of a secured party under the Code. The bringing of a suit and the obtaining of judgment by a party for the secured indebtedness shall not be deemed an election of remedies or otherwise affect the lien rights or security interest as security for the payment thereof. In addition, upon default by any party in the payment of its share of expenses, interests or fees, or upon the improper use of funds by the Operator, the other parties shall have the right, without prejudice to other rights or remedies, to collect from the purchaser the proceeds from the sale of such defaulting party's share of Oil and Gas until the amount owed by such party, plus interest as provided in "Exhibit C," has been received, and shall have the right to offset the amount owed against the proceeds from the sale of such defaulting party's share of Oil and Gas. All purchasers of production may rely on a notification of default from the non-defaulting party or parties stating the amount due as a result of the default, and all parties waive any recourse available against purchasers for releasing production proceeds as provided in this paragraph.

If any party fails to pay its share of cost within one hundred twenty (120) days after rendition of a statement therefor by Operator, the non-defaulting parties, including Operator, shall upon request by Operator, pay the unpaid amount in the proportion that the interest of each such party bears to the interest of all such parties. The amount paid by each party so paying its share of the unpaid amount shall be secured by the liens and security rights described in Article VII.B., and each paying party may independently pursue any remedy available hereunder or otherwise.

If any party does not perform all of its obligations hereunder, and the failure to perform subjects such party to foreclosure or execution proceedings pursuant to the provisions of this agreement, to the extent allowed by governing law, the defaulting party waives any available right of redemption from and after the date of judgment, any required valuation or appraisement of the mortgaged or secured property prior to sale, any available right / **or moratorium** to stay execution or to require a marshaling of assets / **or sale in inverse order of alienation** and any required bond in the event a receiver is appointed. In addition, to the extent permitted by applicable law, each party hereby grants to the other parties a power of sale as to any property that is subject to the lien and security rights granted hereunder, such power to be exercised in the manner provided by applicable law or otherwise in a commercially reasonable manner and upon reasonable notice.

Each party agrees that the other parties shall be entitled to utilize the provisions of Oil and Gas lien law or other lien law of any state in which the Contract Area is situated to enforce the obligations of each party hereunder. Without limiting the generality of the foregoing, to the extent permitted by applicable law, Non-Operators agree that Operator may invoke or utilize the mechanics' or materialmen's lien law of the state in which the Contract Area is situated in order to secure the payment to Operator of any sum due hereunder for services performed or materials supplied by Operator.

C. Advances:

Operator, at its election, shall have the right from time to time to demand and receive from one or more of the other Parties, other than unleased mineral owners, payment in advance of their respective shares of the estimated amount of the expense to be incurred in operations hereunder during the next succeeding month, which right may be exercised only by submission to each such party of an itemized statement of such estimated expense, together with an invoice for its share thereof. Each such statement and invoice for the payment in advance of estimated expense shall be submitted on or before the 20th day of the next preceding month. Each party shall pay to Operator its proportionate share of such estimate within /~~fifteen (15)~~ **thirty (30)** after such estimate and invoice is received. If any party fails to pay its share of said estimate within said time, the amount due shall bear interest as provided in Exhibit "C" until paid. Proper adjustment shall be made monthly between advances and actual expense to the end that each party shall bear and pay its proportionate share of actual expenses incurred, and no more.

D. Defaults and Remedies:

If any party fails to discharge any financial obligation under this agreement, including without limitation the failure to make any advance under the preceding Article VII.C. or any other provision of this agreement, within the period required for such payment hereunder, then in addition to the remedies provided in Article VII.B. or elsewhere in this agreement, the remedies specified below shall be applicable. For purposes of this Article VII.D., all notices and elections shall be delivered only by Operator, except that Operator shall deliver any such notice and election requested by a non-defaulting Non-Operator, and when Operator is the party in default, the applicable notices and elections can be delivered by any Non-Operator. Election of any one or more of the following remedies shall not preclude the subsequent use of any other remedy specified below or otherwise available to a non-defaulting party.

1. Suspension of Rights: Any party may deliver to the party in default a Notice of Default, which shall specify the default, specify the action to be taken to cure the default, and specify that failure to take such action will result in the exercise of one or more of the remedies provided in this Article. If the default is not cured within thirty (30) days of the delivery of such Notice of Default, all of the rights of the defaulting party granted by this agreement may upon notice be suspended until the default is cured, without prejudice to the right of the non-defaulting party or parties to continue to enforce the obligations of the defaulting party previously accrued or thereafter accruing under this agreement. If Operator is the party in default, the Non-Operators shall have in addition the right, by vote of Non-Operators owning a majority in interest in the Contract Area after excluding the voting interest of Operator, to appoint a new Operator effective immediately. The rights of a defaulting party that may be suspended hereunder at the election of the non-defaulting parties shall include, without limitation, the right to receive information as to any operation conducted hereunder during the period of such default, the right to elect to participate in an operation proposed under Article VI.B. of this agreement, the right to participate in an operation being conducted under this agreement even if the party has previously elected to participate in such operation, and the right to receive proceeds of production from any well subject to this agreement.

2. Suit for Damages: Non-defaulting parties or Operator for the benefit of non-defaulting parties may sue (at joint account expense) to collect the amounts in default, plus interest accruing on the amounts recovered from the date of default until the date of collection at the rate specified in Exhibit "C" attached hereto. Nothing herein shall prevent any party from suing any defaulting party to collect consequential damages accruing to such party as a result of the default.

3. Deemed Non-Consent: The non-defaulting party may deliver a written Notice of Non-Consent Election to the defaulting party at any time after the expiration of the thirty-day cure period following delivery of the Notice of Default, in which event if the billing is for the drilling a new well or the Plugging Back, Sidetracking, Reworking or Deepening of a well which is to be or has been plugged as a dry hole, or for the Completion or Recompletion of any well, the defaulting party will be conclusively deemed to have elected not to participate in the operation and to be a Non-Consenting Party with respect thereto under Article VI.B. or VI.C., as the case may be, to the extent of the costs unpaid by such party, notwithstanding any election to participate theretofore made. If election is made to proceed under this provision, then the non-defaulting parties may not elect to sue for the unpaid amount pursuant to Article VII.D.2.

Until the delivery of such Notice of Non-Consent Election to the defaulting party, such party shall have the right to cure its default by paying its unpaid share of costs plus interest at the rate set forth in Exhibit "C," provided, however, such payment shall not prejudice the rights of the non-defaulting parties to pursue remedies for damages incurred by the non-defaulting parties as a result of the default. Any interest relinquished pursuant to this Article VII.D.3. shall be offered to the non-defaulting parties in proportion to their interests, and the non-defaulting parties electing to participate in the ownership of such interest shall be required to contribute their shares of the defaulted amount upon their election to participate therein.

4. Advance Payment: If a default is not cured within thirty (30) days of the delivery of a Notice of Default, Operator, or Non-Operators if Operator is the defaulting party, may thereafter require advance payment from the defaulting party of such defaulting party's anticipated share of any item of expense for which Operator, or Non-Operators, as the case may be, would be entitled to reimbursement under any provision of this agreement, whether or not such expense was the subject of the previous default. Such right includes, but is not limited to, the right to require advance payment for the estimated costs of drilling a well or Completion of a well as to which an election to participate in drilling or Completion has been made. If the defaulting party fails to pay the required advance payment, the non-defaulting parties may pursue any of the remedies provided in the Article VII.D. or any other default remedy provided elsewhere in this agreement. Any excess of funds advanced remaining when the operation is completed and all costs have been paid shall be promptly returned to the advancing party.

~~5. Costs and Attorneys' Fees: In the event any party is required to bring legal proceedings to enforce any financial obligation of a party hereunder, the prevailing party in such action shall be entitled to recover all court costs, costs of collection, and a reasonable attorney's fee, which the lien provided for herein shall also secure.~~

E. Rentals, Shut-in Well Payments and Minimum Royalties:

Rentals, shut-in well payments and minimum royalties which may be required under the terms of any lease shall be paid by the party or parties who subjected such lease to this agreement at its or their expense. In the event two or more parties own and have contributed interests in the same lease to this agreement, such parties may designate one of such parties to make said payments for and on behalf of all such parties. Any party may request, and shall be entitled to receive, proper evidence of all such payments. In the event of failure to make proper payment of any rental, shut-in well payment or minimum royalty through mistake or oversight where such payment is required to continue the lease in force, any loss which results from such non-payment shall be borne in accordance with the provisions of Article IV.B.2.

Operator shall notify Non-Operators of the anticipated completion of a shut-in well, or the shutting in or return to production of a producing well, at least five (5) days (excluding Saturday, Sunday, and legal holidays) prior to taking such action, or at the earliest opportunity permitted by circumstances, but assumes no liability for failure to do so. In the event of failure by Operator to so notify Non-Operators, the loss of any lease contributed hereto by Non-Operators for failure to make timely payments of any shut-in well payment shall be borne jointly by the parties hereto under the provisions of Article IV.B.3.

F. Taxes:

Beginning with the first calendar year after the effective date hereof, Operator shall render for ad valorem taxation all property subject to this agreement which by law should be rendered for such taxes and assessments, and it shall pay all such taxes assessed thereon before they become delinquent. Prior to the rendition date, each Non-Operator shall furnish Operator information as to burdens (to include, but not be limited to, royalties, overriding royalties and production payments) on Leases and Oil and Gas Interests contributed by such Non-Operator. If the assessed valuation of any Lease is reduced by reason of its being subject to outstanding excess royalties, overriding royalties or production payments, the reduction in ad valorem taxes resulting therefrom shall inure to the benefit of the owner or owners of such Lease, and Operator shall adjust the charge to such owner or owners so as to reflect the benefit of such reduction. If the ad valorem taxes are based in whole or in part upon separate valuations of each party's working interest, then notwithstanding anything to the contrary herein, charges to the joint account shall be made and paid by the parties hereto in accordance with the tax value generated by each party's working interest. Operator shall bill the other parties for their proportionate shares of all tax payments in the manner provided in Exhibit "C."

If Operator considers any tax assessment improper, Operator may, at its discretion, protest within the time and manner prescribed by law, and prosecute the protest to a final determination, unless all parties agree to abandon the protest prior to final determination. During the pendency of administrative or judicial proceedings, Operator may elect to pay, under protest, all such taxes and any interest and penalty. When any such protested assessment shall have been finally determined, Operator shall pay the tax for the joint account, together with any interest and penalty accrued, and the total cost shall then be assessed against the parties, and be paid by them, as provided in Exhibit "C."

Each party shall pay or cause to be paid all production, severance, excise, gathering and other taxes and assessments imposed upon or with respect to the production or handling of such party's share of Oil and Gas produced under the terms of this agreement.

ARTICLE VIII.
ACQUISITION, MAINTENANCE OR TRANSFER OF INTEREST

A. Surrender of Leases:

The Leases covered by this agreement, insofar as they embrace acreage in the Contract Area, shall not be surrendered in whole or in part unless all parties consent thereto~~.~~**; however, no consent shall be necessary to release a lease which has expired or otherwise terminated in accordance with its terms.**

~~However, should~~ **Should** / any party, other than an unleased mineral owner, desire to surrender its interest in any Lease or in any portion thereof, such party shall give written notice of the proposed surrender to all parties, and the parties to whom such notice is delivered shall have thirty (30) days after delivery of the notice within which to notify the party proposing the surrender whether they elect to consent thereto. Failure of a party to whom such notice is delivered to reply within said 30-day period shall constitute a consent to the surrender of the Leases described in the notice. If all parties do not agree or consent thereto, the party desiring to surrender shall assign, without express or implied warranty of title, all of its interest in such Lease, or portion thereof, and any well, material and equipment which may be located thereon and any rights in production thereafter secured, to the parties not consenting to such surrender. If the interest of the assigning party is or includes an Oil and Gas Interest, the assigning party shall execute and deliver to the party or parties not consenting to such surrender an oil and gas lease covering such Oil and Gas Interest for a term of one (1) year and so long thereafter as Oil and/or Gas is produced from the land covered thereby, such lease to be on the form attached hereto as Exhibit "B." Upon such assignment or lease, the assigning party shall be relieved from all obligations thereafter accruing, but not theretofore accrued, with respect to the interest assigned or leased and the operation of any well attributable thereto, and the assigning party shall have no further interest in the assigned or leased premises and its equipment and production other than the royalties retained in any lease made under the terms of this Article. The party assignee or lessee shall pay to the party assignor or lessor the reasonable salvage value of the latter's interest in any well's salvable materials and equipment attributable to the assigned or leased acreage. The value of all salvable materials and equipment shall be determined in accordance with the provisions of Exhibit "C," less the estimated cost of salvaging and the estimated cost of plugging and abandoning and restoring the surface. If such value is less than such costs, then the party assignor or lessor shall pay to the party assignee or lessee the amount of such deficit. If the assignment or lease is in favor of more than one party, the interest shall be shared by such parties in the proportions that the interest of each bears to the total interest of all such parties. If the interest of the parties to whom the assignment is to be made varies according to depth, then the interest assigned shall similarly reflect such variances.

Any assignment, lease or surrender made under this provision shall ~~not reduce or~~ change the assignor's, lessor's or surrendering party's interest ~~as it was immediately before the assignment, lease or surrender~~ in the balance of the Contract Area/ **pursuant to Article XVI.M**; and the acreage assigned, leased or surrendered, and subsequent operations thereon, shall ~~not~~ thereafter be subject to the terms and provisions of this agreement~~ but shall be deemed subject to an Operating Agreement in the form of this agreement~~.

~~**B. Renewal or Extension of Leases:**~~

~~If any party, other than an unleased mineral owner, secures a renewal or replacement of an Oil and Gas Lease or Interest subject to this agreement, then all other parties shall be notified promptly upon such acquisition or, in the case of a replacement Lease taken before expiration of an existing Lease, promptly upon expiration of the existing Lease. The parties notified shall have the right for a period of thirty (30) days following delivery of such notice in which to elect to participate in the ownership of the renewal or replacement Lease, insofar as such Lease affects lands within the Contract Area, by paying to the party who acquired it their proportionate shares of the acquisition cost allocated to that part of such Lease within the Contract Area, which shall be in proportion to the interest held at that time by the parties in the Contract Area. Each party who participates in the purchase of a renewal or replacement Lease shall be given an assignment of its proportionate interest therein by the acquiring party./~~ **, without warranty of title, except as to acts by, through or under the acquiring party.**

~~If some, but less than all, of the parties elect to participate in the purchase of a renewal or replacement Lease, it shall be owned by the parties who elect to participate therein, in a ratio based upon the relationship of their respective percentage of participation in the Contract Area to the aggregate of the percentages of participation in the Contract Area of all parties participating in the purchase of such renewal or replacement Lease. The acquisition of a renewal or replacement Lease by any or all of the parties hereto shall not cause a readjustment of the interests of the parties stated in Exhibit "A" /~~ **pursuant to Article XVI.L** ~~but and any renewal or replacement Lease in which less than all parties elect to participate shall not be subject to this agreement but shall be deemed subject to a separate Operating Agreement in the form of this agreement.~~

~~If the interests of the parties in the Contract Area vary according to depth, then their right to participate proportionately in~~

~~renewal or replacement Leases and their right to receive an assignment of interest shall also reflect such depth variances.~~

~~The provisions of this Article shall apply to renewal or replacement Leases whether they are for the entire interest covered by the expiring Lease or cover only a portion of its area or an interest therein. Any renewal or replacement Lease taken before the expiration of its predecessor Lease, or taken or contracted for or becoming effective within six (6) months after the expiration of the existing Lease, shall be subject to this provision so long as this agreement is in effect at the time of such acquisition or at the time the renewal or replacement Lease becomes effective; but any Lease taken or contracted for more than six (6) months after the expiration of an existing Lease shall not be deemed a renewal or replacement Lease and shall not be subject to the provisions of this agreement.~~

~~The provisions in this Article shall~~ **not** ~~/ also be applicable to extensions of Oil and Gas Leases.~~

C. Acreage or Cash Contributions:

While this agreement is in force, if any party contracts for a contribution of cash towards the drilling of a well or any other operation on the Contract Area, such contribution shall be paid to the party who conducted the drilling or other operation and shall be applied by it against the cost of such drilling or other operation. If the contribution be in the form of acreage, the party to whom the contribution is made shall promptly tender an assignment of the acreage, without warranty of title, to the Drilling Parties in the proportions said Drilling Parties shared the cost of drilling the well. Such acreage shall become a separate Contract Area and, to the extent possible, be governed by provisions identical to this agreement. Each party shall promptly notify all other parties of any acreage or cash contributions it may obtain in support of any well or any other operation on the Contract Area. The above provisions shall also be applicable to optional rights to earn acreage outside the Contract Area which are in support of well drilled inside Contract Area.

If any party contracts for any consideration relating to disposition of such party's share of substances produced hereunder, such consideration shall not be deemed a contribution as contemplated in this Article VIII.C.

D. Assignment; Maintenance of Uniform Interest:

~~For the purpose of maintaining uniformity of ownership in the Contract Area in the Oil and Gas Leases, Oil and Gas Interests, wells, equipment and production covered by this agreement no party shall sell, encumber, transfer or make other disposition of its interest in the Oil and Gas Leases and Oil and Gas Interests embraced within the Contract Area or in wells, equipment and production unless such disposition covers either:~~

~~1. the entire interest of the party in all Oil and Gas Leases, Oil and Gas Interests, wells, equipment and production; or~~

~~2. an equal undivided percent of the party's present interest in all Oil and Gas Leases, Oil and Gas Interests, wells, equipment and production in the Contract Area.~~

Any sale, encumbrance, transfer or other disposition made by any party affecting any of that party's interest in the contract area shall be made expressly subject to this agreement and shall be made without prejudice to the right of the other parties, and any transferee of an ownership interest in any Oil and Gas Lease or Interest shall be deemed a party to this agreement as to the interest conveyed from and after the effective date of the transfer of ownership; provided, however, that the other parties shall not be required to recognize any such sale, encumbrance, transfer or other disposition for any purpose hereunder until thirty (30) days after they have received a copy of the instrument of transfer or other satisfactory evidence thereof in writing from the transferor or transferee. No assignment or other disposition of interest by a party shall relieve such party of obligations previously incurred by such party hereunder with respect to the interest transferred, including without limitation the obligation of a party to pay all costs attributable to an operation conducted hereunder in which such party has agreed to participate prior to making such assignment, and the lien and security interest granted by Article VII.B. shall continue to burden the interest transferred to secure payment of any such obligations.

If, at any time the interest of any party is divided among and owned by four or more co-owners, Operator, at its discretion, may require such co-owners to appoint a single trustee or agent with full authority to receive notices, approve expenditures, receive billings for and approve and pay such party's share of the joint expenses, and to deal generally with, and with power to bind, the co-owners of such party's interest within the scope of the operations embraced in this agreement; however, all such co-owners shall have the right to enter into and execute all contracts or agreements for the disposition of their respective shares of the Oil and Gas produced from the Contract Area and they shall have the right to receive, separately, payment of the sale proceeds thereof.

E. Waiver of Rights to Partition:

If permitted by the laws of the state or states in which the property covered hereby is located, each party hereto owning an undivided interest in the Contract Area waives any and all rights it may have to partition and have set aside to it in severalty its undivided interest therein.

~~**F. Preferential Right to Purchase**~~

~~☐ (Optional: Check if applicable)~~

~~Should any party desire to sell all or any part of its interests under this agreement, or its rights and interests in the Contract Area, it shall promptly give written notice to the other parties, with full information concerning its proposed disposition, which shall include the name and address of the prospective transferee (who must be ready, willing and able to purchase), the purchase price, a legal description sufficient to identify the property, and all other terms of the offer. The other parties shall then have an optional prior right, for a period of ten (10) days after notice is delivered, to purchase for the stated consideration on the same terms and conditions the interest which the other party proposes to sell; and, if this optional right is exercised, the purchasing parties shall share the purchased interest in the proportions that the interest of each bears to the total interest of all purchasing parties. However, there shall be no preferential right to purchase in those cases where any party wishes to mortgage its interests, or to transfer title to its interest to its mortgagee in lieu of or pursuant to foreclosure of a mortgage of its interests, or to dispose of its interests by merger, reorganization, consolidation, or by sale of all or substantially all of its Oil and Gas assets to any party, or by transfer of its interests to a subsidiary or parent company or to a subsidiary of a parent company, or to any company in which such party owns a majority of the stock.~~

ARTICLE IX.
INTERNAL REVENUE CODE ELECTION

If, for federal income tax purposes, this agreement and the operations hereunder are regarded as a partnership, and if the parties have not otherwise agreed to form a tax partnership pursuant to Exhibit "G" or other agreement between them, each party thereby affected elects to be excluded from the application of all of the provisions of Subchapter "K," Chapter 1, Subtitle "A," of the Internal Revenue Code of 1986, as amended ("Code"), as permitted and authorized by Section 761 of the Code and the regulations promulgated thereunder. Operator is authorized and directed to execute on behalf of each party hereby affected such evidence of this election as may be required by the Secretary of the Treasury of the United States or the Federal Internal

Revenue Service, including specifically, but not by way of limitation, all of the returns, statements, and the data required by Treasury Regulation §1.761. Should there be any requirement that each party hereby affected give further evidence of this election, each such party shall execute such documents and furnish such other evidence as may be required by the Federal Internal Revenue Service or as may be necessary to evidence this election. No such party shall give any notices or take any other action inconsistent with the election made hereby. If any present or future income tax laws of the state or states in which the Contract Area is located or any future income tax laws of the United States contain provisions similar to those in Subchapter "K," Chapter 1, Subtitle "A," of the Code, under which an election similar to that provided by Section 761 of the Code is permitted, each party hereby affected shall make such election as may be permitted or required by such laws. In making the foregoing election, each such party states that the income derived by such party from operations hereunder can be adequately determined without the computation of partnership taxable income.

ARTICLE X.
CLAIMS AND LAWSUITS

Operator may settle any single uninsured third party damage claim or suit arising from operations hereunder if the expenditure does not exceed **Two Hundred and Fifty Thousand** Dollars ($**250,000.00**) and if the payment is in complete settlement of such claim or suit. If the amount required for settlement exceeds the above amount, the parties hereto shall assume and take over the further handling of the claim or suit, unless such authority is delegated to Operator. All costs and expenses of handling settling, or otherwise discharging such claim or suit shall be a the joint expense of the parties participating in the operation from which the claim or suit arises. If a claim is made against any party or if any party is sued on account of any matter arising from operations hereunder over which such individual has no control because of the rights given Operator by this agreement, such party shall immediately notify all other parties, and the claim or suit shall be treated as any other claim or suit involving operations hereunder.

ARTICLE XI.
FORCE MAJEURE

If any party is rendered unable, wholly or in part, by force majeure to carry out its obligations under this agreement, other than the obligation to indemnify or make money payments or furnish security, that party shall give to all other parties prompt written notice of the force majeure with reasonably full particulars concerning it; thereupon, the obligations of the party giving the notice, so far as they are affected by the force majeure, shall be suspended during, but no longer than, the continuance of the force majeure. The term "force majeure," as here employed, shall mean an act of God, strike, lockout, or other industrial disturbance, act of the public enemy, war, blockade, public riot, lightening, fire, storm, flood or other act of nature, explosion, governmental action, governmental delay, restraint or inaction, unavailability of equipment, and any other cause, whether of the kind specifically enumerated above or otherwise, which is not reasonably within the control of the party claiming suspension.

The affected party shall use all reasonable diligence to remove the force majeure situation as quickly as practicable. The requirement that any force majeure shall be remedied with all reasonable dispatch shall not require the settlement of strikes, lockouts, or other labor difficulty by the party involved, contrary to its wishes; how all such difficulties shall be handled shall be entirely within the discretion of the party concerned.

ARTICLE XII.
NOTICES

All notices authorized or required between the parties by any of the provisions of this agreement, unless otherwise specifically provided, shall be in writing and delivered in person or by United States mail, courier service, **electronic mail,** telegram, telex, telecopier or any other form of facsimile, postage or charges prepaid, and addressed to such parties at the addresses listed on Exhibit "A." All telephone or oral notices permitted by this agreement shall be confirmed immediately thereafter by written notice. The originating notice given under any provision hereof shall be deemed delivered only when received by the party to whom such notice is directed, and the time for such party to deliver any notice in response thereto shall run from the date the originating notice is received. "Receipt" for purposes of this agreement with respect to written notice delivered hereunder shall be actual delivery of the notice to the address of the party to be notified specified in accordance with this agreement, or to the telecopy, facsimile, **electronic mail** or telex machine of such party. The second or any responsive notice shall be deemed delivered when deposited in the United States mail or at the office of the courier or telegraph service, or upon transmittal by telex, **electronic mail,** telecopy or facsimile, or when personally delivered to the party to be notified, provided, that when response is required within 24 or 48 hours, such response shall be given orally or by telephone, telex, **electronic mail,** telecopy or other facsimile within such period. Each party shall have the right to change its address at any time, and from time to time, by giving written notice thereof to all other parties. If a party is not available to receive notice orally or by telephone when a party attempts to deliver a notice required to be delivered within 24 or 48 hours, the notice may be delivered in writing by any other method specified herein and shall be deemed delivered in the same manner provided above for any responsive notice.

ARTICLE XIII.
TERM OF AGREEMENT

This agreement shall remain in full force and effect as to the Oil and Gas Leases and/or Oil and Gas Interests subject hereto for the period of time selected below; provided, however, no party hereto shall ever be construed as having any right, title or interest in or to any Lease or Oil and Gas Interest contributed by any other party beyond the term of this agreement.

☐ ~~Option No. 1: So long as any of the Oil and Gas Leases subject to this agreement remain or are continued in force as to any part of the Contract Area, whether by production, extension, renewal or otherwise~~

☒ Option No. 2: In the event the well described in Article VI.A., or any subsequent well drilled under any provision of this agreement, results in the Completion of a well as a well capable of production of Oil and/or Gas in paying quantities, this agreement shall continue in force so long as any such well is capable of production, and for an additional period of **ninety (90)** days thereafter; provided, however, if, prior to the expiration of such additional period, one or more of the parties hereto are engaged in drilling, Reworking, Deepening, Sidetracking, Plugging Back, testing or attempting to Complete or Re-complete a well or wells hereunder, this agreement shall continue in force until such operations have been completed and if production results therefrom, this agreement shall continue in force as provided herein. In the event the well described in Article VI.A., or any subsequent well drilled hereunder, results in a dry hole, and no other well is capable of producing Oil and/or Gas from the Contract Area, this agreement shall terminate unless drilling, Deepening, Sidetracking, Completing, Recompleting, Plugging Back or Reworking operations are commenced within ____________**ninety (90)**___________ days from the date of abandonment of said well. "Abandonment" for such purposes shall mean either (i) a decision by all parties not to conduct any further operations on the well or (ii) the elapse of 180 days from the conduct of any operations on the well, whichever first occurs.

The termination of this agreement shall not relieve any party hereto from any expense, liability or other obligation or any remedy therefor which has accrued or attached prior to the date of such termination.

Upon termination of this agreement and the satisfaction of all obligations hereunder, in the event a memorandum of this Operating Agreement has been filed of record, Operator is authorized to file of record in all necessary recording offices a notice of termination, and each party hereto agrees to execute such a notice of termination as to Operator's interest, upon request of Operator, if Operator has satisfied all its financial obligations.

ARTICLE XIV.
COMPLIANCE WITH LAWS AND REGULATIONS

A. Laws, Regulations and Orders:

This agreement shall be subject to the applicable laws of the state in which the Contract Area is located, to the valid rules, regulations, and orders of any duly constituted regulatory body of said state; and to all other applicable federal, state, and local laws, ordinances, rules, regulations and orders.

B. Governing Law:

This agreement and all matters pertaining hereto, including but not limited to matters of performance, non-performance, breach, remedies, procedures, rights, duties, and interpretation or construction, shall be governed and determined by the law of the state in which the Contract Area is located. ~~If the Contract Area is in two or more states, the law of the state of ________________________ shall govern.~~

C. Regulatory Agencies:

Nothing herein contained shall grant, or be construed to grant, Operator the right or authority to waive or release any rights, privileges, or obligations which Non-Operators may have under federal or state laws or under rules, regulations or orders promulgated under such laws in reference to oil, gas and mineral operations, including the location, operation, or production of wells, on tracts offsetting or adjacent to the Contract Area.

With respect to the operations hereunder, Non-Operators agree to release Operator from any and all losses, damages, injuries, claims and causes of action arising out of, incident to or resulting directly or indirectly from Operator's interpretation or application of rules, rulings, regulations or orders of the Department of Energy or Federal Energy Regulatory Commission or predecessor or successor agencies to the extent such interpretation or application was made in good faith and does not constitute gross negligence. Each Non-Operator further agrees to reimburse Operator for such Non-Operator's share of production or any refund, fine, levy or other governmental sanction that Operator may be required to pay as a result of such an incorrect interpretation or application, together with interest and penalties thereon owing by Operator as a result of such incorrect interpretation or application.

ARTICLE XV.
MISCELLANEOUS

A. Execution:

This agreement shall be binding upon each Non-Operator, other than an unleased mineral owner, when this agreement or a counterpart thereof has been executed by such Non-Operator and Operator notwithstanding that this agreement is not then or thereafter executed by all of the parties to which it is tendered or which are listed on Exhibit "A" as owning an interest in the Contract Area or which own, in fact, an interest in the Contract Area. Operator may, however, by written notice to all Non-Operators who have become bound by this agreement as aforesaid, given at any time prior to the actual spud date of the Initial Well but in no event later than five days prior to the date specified in Article VI.A. for commencement of the Initial Well, terminate this agreement if Operator in its sole discretion determines that there is insufficient participation to justify commencement of drilling operations. In the event of such a termination by Operator, all further obligations of the parties hereunder shall cease as of such termination. In the event any Non-Operator has advanced or prepaid any share of drilling or other costs hereunder, all sums so advanced shall be returned to such Non-Operator without interest. In the event Operator proceeds with drilling operations for the Initial Well without the execution hereof by all persons listed on Exhibit "A" as having a current working interest in such well, Operator shall indemnify Non-Operators with respect to all costs incurred for the Initial Well which would have been charged to such person under this agreement if such person had executed the same and Operator shall receive all revenues which would have been received by such person under this agreement if such person had executed the same.

B. Successors and Assigns:

This agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective heirs, devisees, legal representatives, successors and assigns, and the terms hereof shall be deemed to run with the Leases or Interests included within the Contract Area.

C. Counterparts:

This instrument may be executed in any number of counterparts, each of which shall be considered an original for all purposes.

D. Severability:

For the purposes of assuming or rejecting this agreement as an executory contract pursuant to federal bankruptcy laws, this agreement shall not be severable, but rather must be assumed or rejected in its entirety, and the failure of any party to this agreement to comply with all of its financial obligations provided herein shall be a material default.

ARTICLE XVI.

OTHER PROVISIONS

A. Conflicts:

Notwithstanding anything herein contained to the contrary, it is understood and agreed that if there is any conflict between any part of or all of the terms and provisions of Article XVI and any other terms and provisions of this agreement, the terms and provisions of this Article XVI shall prevail and control.

B. Priority of Operations:

If at any time there is more than one operation proposed in connection with any well subject to this agreement and if the Consenting Parties do not agree on the sequence of proposed operations, such proposed operations shall be conducted in the following sequence:

First: **testing, coring or logging;**
Second: **completion attempts without plugging back in ascending order from deepest to shallowest depths;**
Third: **sidetracking in the order of least deviation from the original bottom hole location to the greatest deviation;**
Fourth: **deepening of a well below the authorized depth in descending order from shallowest to deepest depths;**
Fifth: **plugging back and completion attempts in ascending order from deepest to shallowest depths.**

C. Netting and Setoff:

Except for any payments related to charges on any joint interest billing that a Non-Operator has disputed in good faith, in the event that Non-Operator does not remit payment for any operating costs or charges assessable to Non-Operators and permitted under this Operating Agreement within forty five (45) days after the date payment is due, Operator is authorized to deduct such costs or charges, and to remit to such Non-Operators their respective net share of any proceeds attributable to the interest of such Non-Operators being received directly from any purchasers of production from the Contract Area. The foregoing provisions shall not diminish Operator's lien rights contained within this agreement.

D. Multiple Billing:

In no event shall Operator be required to make more than four billings for the entire interest credited to each Non-Operator on Exhibit "A". If any Non-Operator to this agreement disposes of any part or all of the interest credited to it on Exhibit "A", hereinafter referred to as "Selling Party," such Selling Party shall be solely responsible for billing its assignee or assignees and shall remain primarily liable to the other Parties for the interest or interests assigned until such time as Selling Party has (1) designated and qualified the assignees to receive the billing for its interest, (2) designated assignees have been approved and accepted by Operator, and (3) has furnished to Operator written notice of the conveyance and photocopy of the recorded assignments by which the transfer is made. The sale or other disposition of any interest in the leases covered by this agreement shall be made specifically subject to the provisions of this Article. Operator's approval shall not be unreasonably withheld.

E. Horizontal Wells:

1. Notwithstanding anything contained herein to the contrary, (i) the provisions of Article VI.C.I <u>Option No. 1</u> shall apply to any Horizontal Well or Multi-lateral Well proposed hereunder, and (ii) the provisions of Article VI.C.1. <u>Option No. 2</u> shall apply to all other wells proposed hereunder that are not expressly proposed as Horizontal Wells or Multi-lateral Wells. To be effective as a Horizontal Well Proposal, such proposal must include an AFE, the corresponding anticipated Unit and Contract Area size and dimensions within which the well will be drilled, and other accompanying documents that clearly indicate the well being proposed is a Horizontal Well or Multi-lateral Well . As to any possible conflicts that may arise during the completion phase of a Horizontal Well or Multi-lateral Well, priority shall be given first to a Lateral drain hole of the authorized depth, and then to objective formations in ascending order above the authorized depth, and then to objective formations in descending order below the authorized depth.

2. Operator shall have the right to cease drilling a Horizontal Well or Multi-lateral Well at any time, for any reason, and such Horizontal Well or Multi-lateral Well shall be deemed to have reached its objective depth so long as Operator has drilled such Horizontal Well or Multi-lateral Well to the objective formation and has drilled laterally in the objective formation for a distance which is at least equal to fifty percent (50%) of the length of the total horizontal drainhole displacement (displacement from true vertical) proposed for the operation. In like manner, Operator may continue drilling to extend a proposed lateral in a Horizontal Well or Multi-lateral Well up to 10% longer than the length proposed in the proposal approved by the Parties if in Operator's sole judgment, it would be reasonably prudent to do so.

F. Sidetracking:

Notwithstanding the provisions of Article VI.B(5), "Sidetracking", such paragraph shall not be applicable to operations in the lateral portion of a Horizontal Well or Multi-lateral Well. Drilling operations which are intended to recover penetration of the target interval which are conducted in a Horizontal Well or Multi-lateral Well shall be considered as included in the original proposed drilling operations.

G. Further Assurances:

In connection with this agreement, the parties agree to execute and deliver such additional documents and instruments and to perform such additional acts as may be necessary or appropriate to effectuate, carry out, and perform all the terms, provisions and conditions of this agreement. Without limiting the generality of the foregoing, the parties agree to execute and deliver to Operator one or more Recording Supplement to Operating Agreement and Financing Statement in the form of Exhibit "H" in recordable form, giving notice of the existence of this Operating Agreement, which Operator shall cause to be recorded in the county or counties in which any portion of the Contract Area is located.

H. Covenants Running with the Land:

The terms, provisions, covenants and conditions of this agreement shall be deemed to be covenants running with the lands, the lease or leases and leasehold estate covered hereby, and all of the terms, provisions, covenants and conditions of this agreement shall be binding upon and inure to the benefit of the parties hereto, their respective successors and assigns.

I. Headings:

All headings in this agreement are for reference purposes only and have no binding effect on the terms, conditions or provisions of this agreement.

J. Indemnity for Access to Contract Area:

Each Non-Operator shall indemnify and hold Operator harmless against any and all liability in excess of insurance coverage carried for the joint account for injury to each such Non-Operator's officers, employees and/or agents resulting from and in any way relating to such officers', employees', and/or agents' presence on the Contract Area. The Non-Operators indemnity to Operator shall also apply to any other person whose presence on the Contract Area is at the insistence of such Non-Operator.

K. Contract Area and Drilling Unit:

"Contract Area" shall mean a contiguous area in size and configuration as determined by the Operator in order to accommodate anticipated wells, wellbore paths and wellbore lengths located or to be located within the anticipated Drilling Unit. The Contract Area shall be, to the extent practicable, the same as the Drilling Unit, and shall include all Oil and Gas Leases and Oil and Gas Interests within the boundary of the Contract Area, and may include oil and gas leases or oil and gas interests not controlled or owned by the Parties to this Agreement or other interests which cannot be included in the Drilling Unit at the time the Drilling Unit is formed or created but are reasonably anticipated to be controlled or acquired by the Parties in the future. The Parties shall make good faith efforts to include otherwise stranded acreage in a Contract Area where reasonably practical.

L. Working Interest Adjustment:

Any recalculation or adjustment of the Parties' Exhibit "A" working interests pursuant to Articles VIII.A, VIII.B or XVI.M of this Agreement shall be recalculated or adjusted after written notice is provided to the affected party(ies) of such recalculation or adjustment of working interest. Such recalculation or adjustment shall be made effective as of the date of the lease surrender, renewal, acquisition and/or Contract Area / Drilling Unit Adjustment; provided, however, any such recalculation or adjustment to the Parties' working interests prior to the date of the first sale of production from such Drilling Unit shall be made effective as of the date first costs were incurred on and for such Drilling Unit.

This Article XVI.L shall not apply to loss or failure of title pursuant to Article IV.B of this Agreement.

M. Contract Area / Drilling Unit Adjustment:

It is recognized by the Parties that it may be prudent and/or necessary to enlarge or reduce the size of an existing Contract Area / Drilling Unit and/or include within an existing Contract Area / Drilling Unit acreage which was not initially included therein. Without the consent of the Parties, an existing Contract Area / Drilling Unit may not be enlarged or reduced in size. Such consent shall not be unreasonably withheld, delayed or conditioned. The party proposing such enlargement or reduction to an existing Contract Area / Drilling Unit shall notify the other party(ies) in writing, providing an explanation for the Contract Area / Drilling Unit modification proposal. To the extent a Contract Area / Drilling Unit is modified pursuant to this Agreement, the working interests of the Parties shall be recalculated in the manner set forth in Article XVI.L and a modified declaration of pooled unit shall be prepared and filed of record.

To the extent the Contract Area is modified pursuant to this Agreement, this Agreement shall be amended with revised Exhibits "A," "A-1," and "A-2" and a new Recording Supplement to Operating Agreement and Financing Agreement shall be prepared and filed of record.

This Article XVI.M shall not apply to the loss or failure of title pursuant to Article IV.B of this Agreement.

N. Non-Consent Penalty for Unleased Mineral Owners

In the event an unleased mineral owner elects not to participate in a well proposed in the Contract Area, upon timely commencement of actual drilling operations on such Well, such Non-Consenting Unleased Mineral Owner shall be deemed to have relinquished to the Consenting Parties, and the Consenting Parties shall own and be entitled to receive, in proportion to their respective interests, all of such Non-Consenting Unleased Mineral Owner's interest in the well and share of production therefrom. All of such Non-Consenting Party's Unleased Mineral Owner's interest in the production obtained from the operation in which the Non-Consenting Unleased Mineral Owner did not elect to participate shall be owned by the Consenting parties who will be entitled to receive, in proportion to their respective interests, all of such Non-Consenting Unleased Mineral Owner's interest. Such relinquishment shall be effective until the proceeds of the sale of such share, calculated at the well, or market value thereof if such share is not sold (after deducting applicable ad valorem, production, severance, and excise taxes, royalty, overriding royalty and other interests not excepted by Article III.C payable out of or measured by the production from such well accruing with respect to such interest until it reverts), shall equal the total of the following:

(i) ______200 % of each such Non-Consenting Unleased Mineral Owner's share of the cost of any newly acquired surface equipment beyond the wellhead connections (including but not limited to stock tanks, separators, treaters, pumping equipment and piping), plus ~~100%~~ 200% of each such Non-Consenting Mineral Owner's share of the cost of operation of the well commencing with first production and continuing until each such Non-Consenting Mineral Owner's relinquished interest shall revert to it under other provisions of this Article, it being agreed that each Non-Consenting Mineral Owner's share of such costs and equipment will be that interest which would have been chargeable to such Non-Consenting Mineral Owner had it participated in the well from the beginning of the operations; and

(ii) ______200 % of (a) that portion of the costs and expenses of drilling, Reworking, Sidetracking, Deepening, Plugging Back, testing, Completing, and Recompleting, after deducting any cash contributions received under Article VIII.C., and of (b) that portion of the cost of newly acquired equipment in the well (to and including the wellhead connections), which would have been chargeable to such Non-Consenting Mineral Owner if it had participated therein.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, this agreement shall be effective as of the ________ day of ______________________, ________.

Antero Resources Corporation, who has prepared and circulated this form for execution, represents and warrants that the form was printed from and, with the exception(s) listed below, is identical to the AAPL Form 610-1989 Model Form Operating Agreement, as published in computerized form by Forms On-A-Disk, Inc. No changes, alterations, or modifications, other than those made by strikethrough and/or insertion and that are clearly recognizable as changes. ~~in Articles ____________, have been made to the form.~~

OPERATOR

ATTEST OR WITNESS

Antero Resources Corporation

________________________ By: Brian A. Kuhn

Title: Senior Vice President - Land

________________________ Address: 1615 Wynkoop Street, Denver, Colorado 80202

NON-OPERATORS

ATTEST OR WITNESS

____

________________________ By: ________________________

Title: ________________________

________________________ Address: ________________________

ACKNOWLEDGMENT

STATE OF COLORADO)
) §
COUNTY OF DENVER)

On this, the ____ day of ______________, 20___, before me ______________________, the undersigned officer, personally appeared Brian A. Kuhn, who acknowledged himself to be the Senior Vice President - Land of **Antero Resources Corporation** an Delaware corporation, and that he as such Senior Vice President - Land, being authorized to do so, executed the foregoing instrument for the purpose therein contained by signing the name of the limited liability company by himself as Senior Vice President - Land.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission Expires: ____________________

Signature/Notary Public: ____________________

Name/Notary Public (print): __________________

STATE OF______________________________________)
) §
COUNTY OF___________________________________)

On this, the ____ day of ______________, 20____, before me ______________________, the undersigned officer, personally appeared_________________________________, known to me (or satisfactorily proven) to be the person(s) whose name(s) is/are subscribed to the within instrument, and acknowledged that he/she/they executed the same for purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission Expires: ____________________

Signature/Notary Public: ____________________

Name/Notary Public (print): __________________

EXHIBIT "A"

<u>LANDS SUBJECT TO CONTRACT</u>:

See attached Exhibit A-1
Monroe County, Ohio, containing 998.977 acres, more or less

<u>RESTRICTIONS AS TO DEPTHS, FORMATIONS AND SUBSTANCES</u>:

This agreement covers rights to the Unitized Formation, described as that portion of the Unit Area from fifty feet above the top of the Utica Shale to fifty feet below the base of the Point Pleasant Formation (as more particularly defined in Article 1 of the Unit Plan).

<u>INTERESTS OF THE PARTIES TO THIS AGREEMENT</u>:

OPERATOR	**WI**
Antero Resources Corporation	**99.083%**
Nancy Jo Galasso	**0.305%**
Richard A. Mann	**0.305%**
Penny L. Baxter	**0.305%**
Ronnie Gene Hill	**0.0001%**
	100.000%

<u>ADDRESSES OF PARTIES FOR NOTICE PURPOSES</u>:

Antero Resources Corporation
Attn: Vice President of Land
1615 Wynkoop Street
Denver, Colorado 80202

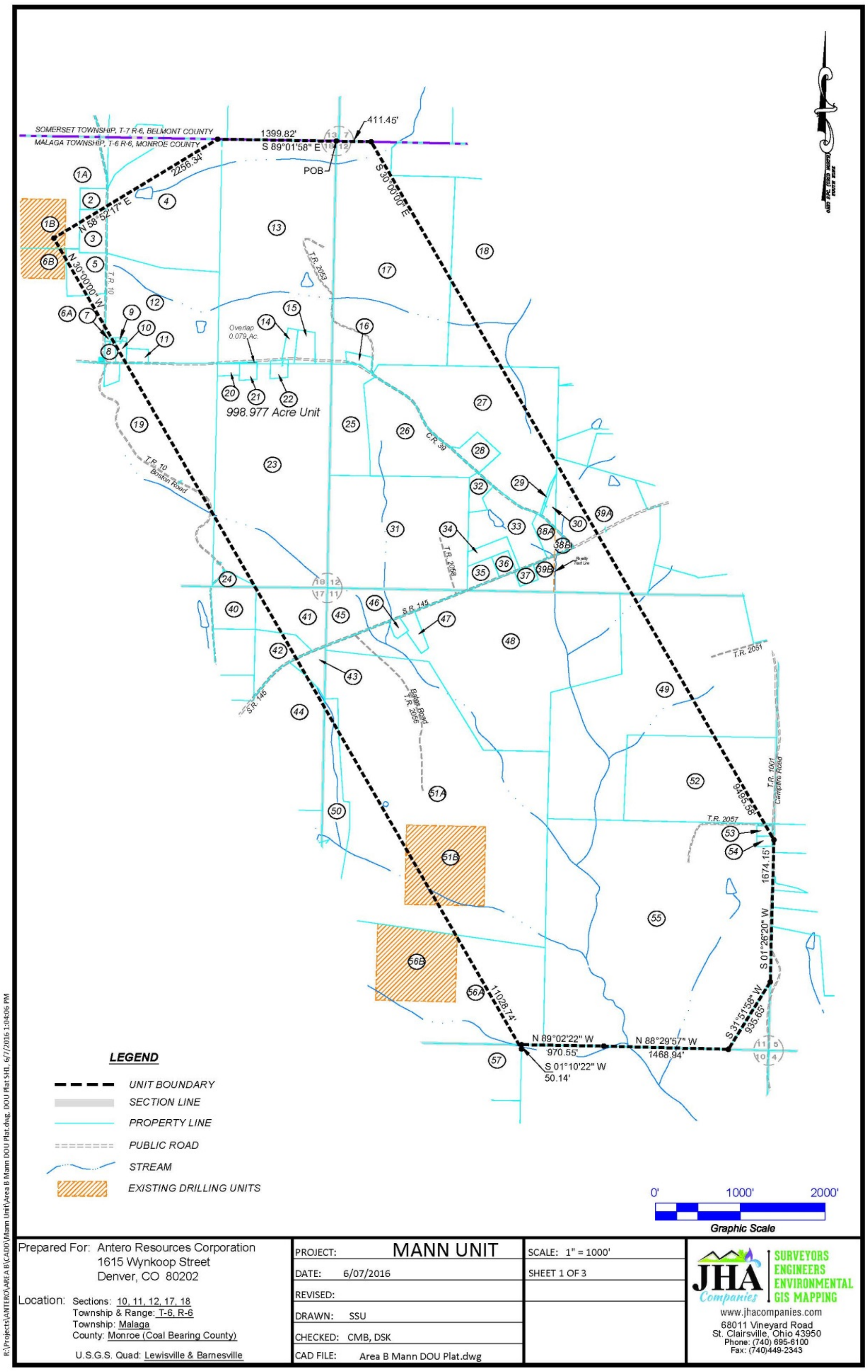
Nancy Jo Galasso
103 Dusk Court
Georgetown, Kentucky 40324

Richard A. Mann
415 Park Street
Barnesville, Ohio 43713

Penny L. Baxter
905 East Kinsey Street
Peoria, Illinois 61603

Ronnie Gene Hill
13301 Smoke Creek Avenue
Bakersfield, California 93314

EXHIBIT “A-1”



SOMERSET TOWNSHIP, T-7 R-6, BELMONT COUNTY
MALAGA TOWNSHIP, T-6 R-6, MONROE COUNTY
1399.82'
S 89°01'58" E
411.45'
POB
2256.34'
N 58°52'17" E
S 30°00'00" E
N 30°00'00" W
998.977 Acre Unit
Overlap 0.079 Ac.
T.R. 2053
T.R. 10
T.R. 10 Boston Road
C.R. 39
T.R. 2058
S.R. 145
S.R. 145
Baker Road T.R. 2056
T.R. 2057
T.R. 2051
T.R. 1001 Campbell Road
9455.58'
1674.15'
S 01°26'20" W
S 31°51'58" W
935.65'
11028.74'
N 89°02'22" W
970.55'
S 01°10'22" W
50.14'
N 88°29'57" W
1468.94'
LEGEND
UNIT BOUNDARY
SECTION LINE
PROPERTY LINE
PUBLIC ROAD
STREAM
EXISTING DRILLING UNITS
0'
1000'
2000'
Graphic Scale
Prepared For: Antero Resources Corporation
1615 Wynkoop Street
Denver, CO 80202
Location: Sections: 10, 11, 12, 17, 18
Township & Range: T-6, R-6
Township: Malaga
County: Monroe (Coal Bearing County)
U.S.G.S. Quad: Lewisville & Barnesville
PROJECT: MANN UNIT
DATE: 6/07/2016
REVISED:
DRAWN: SSU
CHECKED: CMB, DSK
CAD FILE: Area B Mann DOU Plat.dwg
SCALE: 1" = 1000'
SHEET 1 OF 3
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GIS MAPPING
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St. Clairsville, Ohio 43950
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Fax: (740)449-2343

PARCELS WITHIN THE MANN UNIT
(998.977 Acres)

Map No.	Unit Acreage	Parcel Number	Surface Owner	Deed Volume and Page	Deed Acreage	Calculated Acreage	Mineral Owner Name	Mineral Deed Volume and Page
1A	1.004	12-015016.0000	Anthony S. & Kimberly S. Milhoan	O.R. 84, P. 487	38.577	37.950	Same as Surface	
1B	0.399	12-015016.0000	Anthony S. & Kimberly S. Milhoan	O.R. 84, P. 487	0.399	0.399	Same as Surface	
2	0.037	12-015007.0000	Tower Assets Newco X, LLC	O.R. 214, P. 180	1.840	1.837	Same as Surface	
3	3.306	12-015003.0000	Anthony S. & Kimberly S. Milhoan	O.R. 63, P. 597	3.747	3.747	Same as Surface	
4	34.054	12-015009.0000	Larry L. & Linda S. Weiss	O.R. 35, P. 284 O.R. 144, P. 214	39.965	42.022	Same as Surface	
5	4.332	12-015024.0000	Jason D. Weiss & David D. Morris	O.R. 156, P. 381 O.R. 43, P. 483	5.493	5.495	Same as Surface	
6A	1.068	12-015017.0000	Daniel A. & Joyce A. Weiss David D. Morris	O.R. 167, P. 795 O.R. 43, 483	33.084	33.086	Same as Surface	
6B	0.067	12-015017.0000	Daniel A. & Joyce A. Weiss David D. Morris	O.R. 167, P. 795 O.R. 43, 483	0.067	0.067	Same as Surface	
7	0.042	12-015018.0000	Gregory T. & Annette R. Mercer	O.R. 224, P. 816	0.125	0.125	Same as Surface	
8	0.017	12-015008.0000	Gregory T. & Annette R. Mercer	O.R. 224, P. 816	0.751	0.748	Same as Surface	
9	0.125	12-015019.1000	Gregory T. & Annette R. Mercer	O.R. 224, P. 816	0.125	0.125	Same as Surface	
10	0.461	12-015019.0000	Gregory T. & Annette R. Mercer	O.R. 224, P. 816	0.749	0.747	Same as Surface	
11	0.991	12-015020.0000	Timothy M. & Tiffany M. Woodell	O.R. 224, P. 7	1.000	0.991	Same as Surface	
12	32.492	12-015002.0000	Thalia Kahrig & Shawn Crum	O.R. 55, P. 142	33.755	32.593	Same as Surface	
13	77.909	12-015015.0000	Steven M. & Susan J. Stimpert	O.R. 105, P. 369	76.758	77.909	Steven M. & Susan J. Stimpert Penny L. Baxter Nancy Jo Galasso Richard A. Mann	O.R. 105, P. 369 O.R. 185, P. 33
14	1.210	12-015006.0000	Wesley & Julie D. Feldner	O.R. 184, P. 496	1.218	1.210	Same as Surface	
15	1.987	12-015021.0000	Steven E. & Carol A. Perry	O.R. 279, P. 557	2.024	1.987	Same as Surface	
16	0.953	12-016021.0000	Ronald K. & Shirley E. Kirkbride	V. 160, P. 610	0.92	0.953	Same as Surface	
17	64.435	12-016020.0000	Steven M. & Susan J. Stimpert	O.R. 105, P. 369	78.30	76.168	Steven M. & Susan J. Stimpert Penny L. Baxter Nancy Jo Galasso Richard A. Mann	O.R. 105, P. 369 O.R. 185, P. 33
18	7.424	12-016004.0000	Michael H. & Kimberly J. Wagner	O.R. 173, P. 414	65.552	65.549	Same as Surface	
19	22.370	12-015001.0000	Steven A. Baker	O.R. 264, P. 170	236.140	238.876	Steven A. Baker James J. & Lois J. Baker	O.R. 264, P. 170 V. 162, P. 742
20	0.865	12-015011.0000	Dennis L. & Amy J. Carpenter	O.R. 183, P. 775	1.000	0.865	Same as Surface	
21	0.996	12-015012.0000	Dennis L. & Amy J. Carpenter*	O.R. 183, P. 775	1.000	0.996	Same as Surface	
22	0.994	12-015013.0000	Eric P. & Stacey D. Goddard	O.R. 238, P. 945	1.000	0.994	Same as Surface	
23	74.205	12-015005.0000	Kirtis L. Sloan	O.R. 44, P. 29	77.470	77.786	Same as Surface	
24	0.007	12-015025.0000	Donald W. & Joan E. Pack	O.R. 183, P. 752	1.214	1.214	Same as Surface	
25	13.225	12-016063.0000	Benjamin W. & Angela D. Cline	O.R. 195, P. 663	13.220	13.225	Same as Surface	
26	20.115	12-016022.0000	Corrine M. Billman	O.R. 282, P. 564	20.086	20.115	Same as Surface	
27	39.354	12-016059.0000	Wayne E. & Laura E. Cline	O.R. 162, P. 623	48.233	48.186	Same as Surface	
28	3.044	12-016054.0000	Michael J. & Adrienne E. Shelton	O.R. 250, P. 54	3.044	3.044	Same as Surface	
29	0.273	12-016057.1000	David R. & Trudy L. Cline	O.R. 70, P. 185	0.273	0.273	Same as Surface	
30	1.207	12-016057.0000	David R. & Trudy L. Cline	O.R. 70, P. 185	1.207	1.207	Same as Surface	
31	50.380	12-016023.0000	Douglas C. Stephen Alex J. Stephen, TOD	O.R. 19, P. 597 O.R. 296, P. 357	50.150	50.380	Same as Surface	
32	2.038	12-016051.0000	Johnny R. Thomas	V. 210, P. 517 O.R. 53, P. 665	2.036	2.038	Abby D. Poulton	V. 159, P. 1
33	10.960	12-016024.0000	Roman A. Schumacher	V. 176, P. 377 V. 190, P. 518	10.942	10.960	Abby D. Poulton	V. 159, P. 1
34	2.206	12-016025.1000	Anthony C. & Cindy J. Schumacher	V. 189, P. 798	2.210	2.206	Abby D. Poulton	V. 159, P. 1
35	2.141	12-016026.0000	Ricky A. Kinzy	O.R. 129, P. 483	2.140	2.141	Abby D. Poulton	V. 159, P. 1 V. 173, P. 547
36	1.244	12-016025.0000	Anthony C. & Cindy J. Schumacher	V. 186, P. 943	1.240	1.244	Anthony C. Schumacher	V. 177, P. 959
37	1.004	12-016052.0000	Douglas C. Stephen	O.R. 137, P. 502 O.R. 296, 357	1.003	1.004	Same as Surface	
38A	1.922	12-016049.0000	Tyler J. Kinzy	O.R. 194, P. 279	2.766	2.763	Abby D. Poulton	V. 184, P. 553
38B	0.841	12-016049.0000	Tyler J. Kinzy	O.R. 194, P. 279	2.766	2.763	Abby D. Poulton	V. 184, P. 553

*Map number 22 includes 0.079 acre overlap.

Prepared For: Antero Resources Corporation
1615 Wynkoop Street
Denver, CO 80202

Location: Sections: 10, 11, 12, 17, 18
Township & Range: T-6, R-6
Township: Malaga
County: Monroe (Coal Bearing County)
U.S.G.S. Quad: Lewisville & Barnesville

PROJECT: MANN UNIT
DATE: 6/07/2016
REVISED:
DRAWN: SSU
CHECKED: CMB, DSK
CAD FILE: Area B Mann DOU Plat.dwg

SCALE: N/S
SHEET 2 OF 3

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PARCELS WITHIN THE MANN UNIT
(998.977 Acres)

Map No.	Unit Acreage	Parcel Number	Surface Owner	Deed Volume and Page	Deed Acreage	Calculated Acreage	Mineral Owner Name	Mineral Deed Volume and Page
39A	15.227	12-016027.0000	Douglas C. Stephen	O.R. 164, P. 213	40.940	41.198	Same as Surface	
39B	4.017	12-016027.0000	Douglas C. Stephen	O.R. 164, P. 213	40.940	41.198	Same as Surface	
40	0.003	12-014004.0000	Todd J. & Niki L. Burkhart	O.R. 43, P. 857	5.923	5.942	Same as Surface	
41	9.694	12-014009.1000	Kirtis L. Sloan	O.R. 44, P. 29	19.330	85.836	Same as Surface	
42	1.142	12-014023.0000	Todd J. & Niki L. Burkhart	O.R. 136, P. 798	6.186	6.193	Same as Surface	
43	2.562	12-014015.0000	The Robinson Family Trust	O.R. 225, P. 549	2.750	2.817	Same as Surface	
44	0.322	12-014009.0000	Kirtis L. Sloan	O.R. 44, P. 29	68.35	85.836	Same as Surface	
45	12.945	12-017014.1000	Douglas C. Stephen	O.R. 296, P. 357	12.606	12.945	Same as Surface	
46	0.770	12-017010.0000	Dale E. Daugherty	V. 164, P. 364 O.R. 253, P. 205	0.630	0.770	Same as Surface	
47	1.697	12-017012.0000	Victor & Jewell Neville	O.R. 241, P. 297	1.683	1.697	Same as Surface	
48	81.011	12-017001.0000	Douglas C. Stephen Alex J. Stephen, TOD	O.R. 164, P. 213 O.R. 296, P. 357	81.266	81.011	Same as Surface	
49	55.857	12-017004.0000	Douglas C. Stephen Alex J. Stephen, TOD	O.R. 190, P. 532 O.R. 296, P. 357	95.75	99.021	Same as Surface	
50	0.897	12-017008.0000	Calera Real Estate, LLC A & K Gentile Properties, LLC	O.R. 262, P. 412 O.R. 263, P. 330	13.713	13.713	Calera Real Estate LLC A & K Gentile Properties, LLC Susan Murray Margie A. Hannahs, Thomas A. Sulsberger Richard A. Sulsberger	O.R. 262, P. 412 O.R. 263, P. 330 O.R. 65, P. 184
51A	106.316	12-017002.0000	Joseph G. & Loretta C. Bates	O.R. 222, P. 75	147.426	155.592	Same as Surface	
51B	17.036	12-017002.0000	Joseph G. & Loretta C. Bates	O.R. 222, P. 75	20.000	20.000	Same as Surface	
52	31.166	12-017007.0000	Lowell G. & Judy A. Thomas	O.R. 5, P. 527	40.000	41.048	Same as Surface	
53	0.394	12-017013.0000	Phyllis M. Krone, Shirley Habig, David Krone, Dianne Lewis	O.R. 192, P. 744	0.500	0.500	Same as Surface	
54	0.499	12-017011.0000	Phyllis M. Krone, Shirley Habig, David Krone, Dianne Lewis	O.R. 192, P. 744	0.500	0.500	Same as Surface	
55	157.532	12-017003.0000	Carl F., III & Lya Lynn Rousenberg	O.R. 74, P. 546	154.66	157.672	Same as Surface	
56A	18.163	12-017006.0000	Helen M. Strahl, Marilyn J. Koval Dixon Tina L. Harper	O.R. 133, P. 556	66.425	66.287	Same as Surface	
56B	0.006	12-017006.0000	Helen M. Strahl, Marilyn J. Koval Dixon Tina L. Harper	O.R. 133, P. 556	0.006	0.006	Same as Surface	
57	0.017	12-018008.0000	Helen M. Strahl, Marilyn J. Koval Dixon Tina L. Harper	O.R. 133, P. 556	29.000	26.065	Same as Surface	

R:\Projects\ANTERO\AREA B\CADD\Mann Unit\Area B Mann DOU Plat.dwg, DOU Plat SH3, 6/7/2016 1:04:14 PM

Prepared For: Antero Resources Corporation
1615 Wynkoop Street
Denver, CO 80202

Location: Sections: 10, 11, 12, 17, 18
Township & Range: T-6, R-6
Township: Malaga
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SCALE: N/S
SHEET 3 OF 3

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Fax: (740)449-2343

Exhibit A-2
All Mineral Interest Owners
Mann Unit

Tract	Current Mineral Owner	Leased/ Fee Yes or No	Current Mineral Owner Interest in tract	Total Acres in Unit	Current Mineral Owner Acres in Unit	Tract Participation	Antero Working Interest	Antero Unit Participation	Nancy Jo Galasso Working Interest	Nancy Jo Galasso Unit Participation	Richard A. Mann Working Interest	Richard A. Mann Unit Participation	Penny L. Baxter Working Interest	Penny L. Baxter Unit Participation	Ronnie Gene Hill Working Interest	Ronnie Gene Hill Unit Participation	Unleased Working Interest	Unleased Unit Participation	Parcel ID	Township	Current Mineral Owner Address
1A	Anthony S. & Kimberly S. Milhoan	Yes	100.000%	1.004	1.004	0.101%	100.000%	0.101%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015016.0000	Malaga	51800 Boston Road Jerusalem, OH 43747
1B	Anthony S. & Kimberly S. Milhoan	Yes	100.000%	0.399	0.399	0.040%	100.000%	0.040%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015016.0000	Malaga	51800 Boston Road Jerusalem, OH 43747
2	Tower Assets NewCo X, LLC.	Yes	100.000%	0.037	0.037	0.004%	100.000%	0.004%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015007.0000	Malaga	4091 Viscount Avenue Memphis, TN 38118 Attn: William Orgel
3	Anthony S. & Kimberly S. Milhoan	Yes	100.000%	3.306	3.306	0.331%	100.000%	0.331%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015003.0000	Malaga	52803 Boston Road Jerusalem, OH 43747
4	Larry L. & Linda S. Weiss	Yes	100.000%	34.054	34.054	3.409%	100.000%	3.409%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015009.0000	Malaga	52797 Boston Road Jerusalem, OH 43747
5	Jason D. Weiss	Yes	87.500%	4.332	3.7905	0.434%	100.000%	0.434%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015024.0000	Malaga	51507 State Route 800 Jerusalem, OH 43747
5	David D. Morris	Yes	12.500%		0.5415		100.000%		0.000%		0.000%		0.000%		0.000%		0.000%		12-015024.0000	Malaga	3582 Harper Ridge Road Woodsfield, OH 43793
6A	Daniel A. & Joyce A. Weiss	Yes	87.500%	1.068	0.9345	0.107%	100.000%	0.107%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015017.0000	Malaga	53105 Boston Road Jerusalem, OH 43747
6A	David D. Morris	Yes	12.500%		0.1335		100.000%		0.000%		0.000%		0.000%		0.000%		0.000%		12-015017.0000	Malaga	3582 Harper Ridge Road Woodsfield, OH 43793
6B	Daniel A. & Joyce A. Weiss	Yes	87.500%	0.067	0.059	0.007%	100.000%	0.007%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015017.0000	Malaga	53105 Boston Road Jerusalem, OH 43747
6B	David D. Morris	Yes	12.500%		0.008		100.000%		0.000%		0.000%		0.000%		0.000%		0.000%		12-015017.0000	Malaga	53105 Boston Road Jerusalem, OH 43747
7	Gregory T. & Annette R. Mercer	Yes	100.000%	0.042	0.042	0.004%	100.000%	0.004%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015018.0000	Malaga	35486 Harper Road Woodsfield, OH 43793
8	Gregory T. & Annette R. Mercer	Yes	100.000%	0.017	0.017	0.002%	100.000%	0.002%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015008.0000	Malaga	35486 Harper Road Woodsfield, OH 43793
9	Gregory T. & Annette R. Mercer	Yes	100.000%	0.125	0.125	0.013%	100.000%	0.013%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015019.1000	Malaga	35486 Harper Road Woodsfield, OH 43793
10	Gregory T. & Annette R. Mercer	Yes	100.000%	0.461	0.461	0.046%	100.000%	0.046%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015019.0000	Malaga	35486 Harper Road Woodsfield, OH 43793
11	Timothy M. & Tiffany M. Woodell	Yes	100.000%	0.991	0.991	0.099%	100.000%	0.099%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015020.0000	Malaga	35530 Harper Road Jerusalem, OH 43747
12	Thalia Kahrig	Yes	50.000%	32.492	16.246	3.253%	100.000%	3.253%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015002.0000	Malaga	50205 Crawford Road Woodsfield, OH 43793
12	Shawn Crum	Yes	50.000%		16.246		100.000%		0.000%	0.000%	0.000%		0.000%		0.000%		0.000%		12-015002.0000	Malaga	55415 County Road 92 Bealsville, OH 43716
13	Steven M. & Susan J.Stimpert	Yes	50.000%	77.909	38.9545	7.799%	93.750%	7.311%	2.083%	0.162%	2.083%	0.162%	2.083%	0.162%	0.000%	0.000%	0.000%	0.000%	12-015015.0000	Malaga	52800 Township Road 2053 Woodsfield, OH 43793
13	Nancy Jo Galasso	Yes	16.667%		12.9848		93.750%		2.083%		2.083%		2.083%		0.000%		0.000%		12-015015.0000	Malaga	103 Dusk Court Georgetown, KY 40324
13	Richard A. Mann	Yes	16.667%		12.9848		93.750%		2.083%		2.083%		2.083%		0.000%		0.000%		12-015015.0000	Malaga	415 Park Street Barnsville, OH 43713
13	Penny L. Baxter	Yes	16.667%		12.9848		93.750%		2.083%		2.083%		2.083%		0.000%		0.000%		12-015015.0000	Malaga	905 E. Kinsey Street Peoria, IL 61603
14	Wesley & Julie D. Feldner	Yes	100.000%	1.210	1.210	0.121%	93.750%	0.114%	2.083%	0.003%	2.083%	0.003%	2.083%	0.003%	0.000%	0.000%	0.000%	0.000%	12-015006.0000	Malaga	35808 Harper Ridge Road Woodsfield, OH 43793
15	Steven E. & Carol A. Perry	Yes	100.000%	1.987	1.987	0.199%	93.750%	0.186%	2.083%	0.004%	2.083%	0.004%	2.083%	0.004%	0.000%	0.000%	0.000%	0.000%	12-015021.0000	Malaga	35850 Harper Ridge Road Woodsfield, OH 43793
16	Ronald K. & Shirley E. Kirkbride	Yes	100.000%	0.953	0.953	0.095%	93.750%	0.089%	2.083%	0.002%	2.083%	0.002%	2.083%	0.002%	0.000%	0.000%	0.000%	0.000%	12-016021.0000	Malaga	36000 Haprper Road Jerusalem, OH 43747
17	Steven M. & Susan J. Stimpert	Yes	50.000%	64.435	32.218	6.450%	93.750%	6.047%	2.083%	0.134%	2.083%	0.134%	2.083%	0.134%	0.000%	0.000%	0.000%	0.000%	12-016020.0000	Malaga	52800 Township Road 2053 Woodsfield, OH 43793
17	Nancy Jo Galasso	Yes	16.667%		10.739		93.750%		2.083%		2.083%		2.083%		0.000%		0.000%		12-016020.0000	Malaga	103 Dusk Court Georgetown, KY 40324
17	Richard A. Mann	Yes	16.667%		10.739		93.750%		2.083%		2.083%		2.083%		0.000%		0.000%		12-016020.0000	Malaga	415 Park Street Barnesville, OH 43713

Exhibit A-2
All Mineral Interest Owners
Mann Unit

17	Penny L. Baxter	Yes	16.667%		10.739		93.750%		2.083%		2.083%		2.083%		0.000%		0.000%		12-016020.0000	Malaga	905 E. Kinsey Street Peoria, IL 61603
18	Michael H. & Kimberly J. Wagner	Yes	100.000%	7.424	7.424	0.743%	100.000%	0.743%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016004.0000	Malaga	111 East Marietta Street Woodsfield, OH 43793
19*	Steven A. Baker*	Yes	100.000%	22.370	22.370	2.239%	100.000%	2.239%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015001.0000	Malaga	45381 State Route 145 Lewisville, OH 43754
20	Dennis L. & Amy J. Carpenter	Yes	100.000%	0.865	0.865	0.087%	100.000%	0.087%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015011.0000	Malaga	35733 Harper Ridge Road Woodsfield, OH 43793
21	Dennis L. & Amy J. Carpenter	Yes	100.000%	0.996	0.996	0.100%	100.000%	0.100%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015012.0000	Malaga	35733 Harper Ridge Road Woodsfield, OH 43793
22	Eric P. & Stacey D. Goddard	Yes	100.000%	0.994	0.994	0.100%	100.000%	0.100%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015013.0000	Malaga	35801 Harper Ridge Road Woodsfield, OH 43793
23	Kirtis L. Sloan	Yes	100.000%	74.205	74.205	7.428%	100.000%	7.428%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015005.0000	Malaga	50515 State Route 145 Woodsfield, OH 43793
24	Donald W. & Joan E. Pack	Yes	100.000%	0.007	0.007	0.0007%	100.000%	0.0007%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-015025.0000	Malaga	52015 Boston Road Woodsfield, OH 43793
25	Benjamin W. & Angela D. Cline	Yes	100.000%	13.225	13.225	1.324%	100.000%	1.324%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016063.0000	Malaga	36019 Harper Ridge Road Woodsfield, OH 43793
26	Corrine M. Billman	Yes	100.000%	20.115	20.115	2.014%	100.000%	2.014%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016022.0000	Malaga	106 East Church Street Woodsfield, OH 43793
27	Wayne E. & Laura E. Cline	Yes	100.000%	39.354	39.354	3.939%	100.000%	3.939%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016059.0000	Malaga	36024 Harper Ridge Road Woodsfield, OH 43793
28	Michael J. & Adrienne E. Shelton	Yes	100.000%	3.044	3.044	0.305%	100.000%	0.305%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016054.0000	Malaga	36352 Harper Ridge Road Woodsfield, OH 43793
29	David R. & Trudy L. Cline	Yes	100.000%	0.273	0.273	0.027%	100.000%	0.027%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016057.1000	Malaga	36474 Harper Ridge Road Woodsfield, OH 43793
30	David R. & Trudy L. Cline	Yes	100.000%	1.207	1.207	0.121%	100.000%	0.121%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016057.0000	Malaga	36474 Harper Ridge Road Woodsfield, OH 43793
31	Douglas C. Stephen Alex J. Stephen, TOD	Yes	100.000%	50.380	50.380	5.043%	100.000%	5.043%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016023.0000	Malaga	35465 Harper Road Woodsfield, OH 43793
32	Abby D. Poulton	Yes	100.000%	2.038	2.038	0.204%	100.000%	0.204%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016051.0000	Malaga	4 Roundhill Ct. Aiken, SC 29803
33	Abby D. Poulton	Yes	100.000%	10.960	10.960	1.097%	100.000%	1.097%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016024.0000	Malaga	4 Roundhill Ct. Aiken, SC 29803
34	Abby D. Poulton	Yes	100.000%	2.206	2.206	0.221%	100.000%	0.221%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016025.1000	Malaga	4 Roundhill Ct. Aiken, SC 29803
35	Abby D. Poulton	Yes	100.000%	2.141	2.141	0.214%	100.000%	0.214%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016026.0000	Malaga	4 Roundhill Ct. Aiken, SC 29803
36	Anthony C. Schumacher	Yes	100.000%	1.244	1.244	0.125%	100.000%	0.125%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016025.0000	Malaga	50647 State Route 145 Woodsfield, OH 43793
37	Douglas C. Stephen	Yes	100.000%	1.004	1.004	0.101%	100.000%	0.101%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016052.0000	Malaga	35465 Harper Road Woodsfield, OH 43793
38A	Abby D. Poulton	Yes	100.000%	1.922	1.922	0.192%	100.000%	0.192%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016049.0000	Malaga	4 Roundhill Ct. Aiken, SC 29803
38B	Abby D. Poulton	Yes	100.000%	0.841	0.841	0.084%	100.000%	0.084%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016049.0000	Malaga	4 Roundhill Ct. Aiken, SC 29803
39A	Douglas C. Stephen	Yes	100.000%	15.227	15.227	1.524%	100.000%	1.524%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016027.0000	Malaga	35465 Harper Road Woodsfield, OH 43793
39B	Douglas C. Stephen	Yes	100.000%	4.017	4.017	0.402%	100.000%	0.402%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016027.0000	Malaga	35465 Harper Road Woodsfield, OH 43793
40	Todd J. & Niki L. Burkhart	Yes	100.000%	0.003	0.003	0.0003%	100.000%	0.0003%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-014004.0000	Malaga	50555 State Route 145 Woodsfield, OH 43793
41	Kirtis L. Sloan	Yes	100.000%	9.694	9.694	0.970%	100.000%	0.970%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-014009.1000	Malaga	50515 State Route 145 Woodsfield, OH 43793
42	Todd J. & Niki L. Burkhart	Yes	100.000%	1.142	1.142	0.114%	100.000%	0.114%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-014023.0000	Malaga	50555 State Route 145 Woodsfield, OH 43793
43	The Robinson Family Trust	Yes	100.000%	2.562	2.562	0.256%	100.000%	0.256%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-014015.0000	Malaga	50558 State Route 145 Woodsfield, OH 43793 Attn: Thomas L. & Judith E. Robinson
44	Kirtis L. Sloan	Yes	100.000%	0.322	0.322	0.032%	100.000%	0.032%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-014009.0000	Malaga	50515 State Route 145 Woodsfield, OH 43793

Exhibit A-2
All Mineral Interest Owners
Mann Unit

45	Douglas C. Stephen	Yes	100.000%	12.945	12.945	1.296%	100.000%	1.296%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017014.1000	Malaga	35465 Harper Road Woodsfield, OH 43793
46	Dale E. Daugherty	Yes	100.000%	0.770	0.770	0.077%	100.000%	0.077%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017010.0000	Malaga	50612 State Route 145 Woodsfield, OH 43793
47	Victor & Jewell Neville	Yes	100.000%	1.697	1.697	0.170%	100.000%	0.170%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017012.0000	Malaga	50622 State Route 145 Woodsfield, OH 43793
48	Douglas C. Stephen Alex J. Stephen, TOD	Yes	100.000%	81.011	81.011	8.109%	100.000%	8.109%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017001.0000	Malaga	35465 Harper Road Woodsfield, OH 43793
49	Douglas C. Stephen Alex J. Stephen, TOD	Yes	100.000%	55.857	55.857	5.591%	100.000%	5.591%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017004.0000	Malaga	35465 Harper Road Woodsfield, OH 43793
50	Calera Real Estate, LLC.	Yes	30.000%		0.269		100.000%		0.000%		0.000%		0.000%		0.000%		0.000%		12-017008.0000	Malaga	8063 Southern Blvd. Boardman, OH 44512 Attn: Anthony Gentile
50	A & K Gentile Properties, LLC.	Yes	20.000%		0.179		100.000%		0.000%		0.000%		0.000%		0.000%		0.000%		12-017008.0000	Malaga	101 Forest Creek Drive Struthers, OH 44471 Attn: Anthony Gentile
50	Richard A. Sulsberger	Yes	12.500%	0.897	0.112	0.090%	100.000%	0.090%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017008.0000	Malaga	46800 Yoho Road Woodsfield, OH 43793
50	Thomas A. Sulsberger	Yes	12.500%		0.112		100.000%		0.000%		0.000%		0.000%		0.000%		0.000%		12-017008.0000	Malaga	605 Harrison Ave. Cam bridge, OH 43725
50	Margie A. Hannahs	Yes	12.500%		0.112		100.000%		0.000%		0.000%		0.000%		0.000%		0.000%		12-017008.0000	Malaga	215 Henderson Street Barnesville, OH 43713
50	Susan Murray	Yes	12.500%		0.112		100.000%		0.000%		0.000%		0.000%		0.000%		0.000%		12-017008.0000	Malaga	4192 Sequoia Avenue Grove City, OH 43123
51A	Joseph G. & Loretta C. Bates	Yes	100.000%	106.316	106.316	10.642%	100.000%	10.642%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017002.0000	Malaga	51530 Bates Road Woodsfield, OH 43793
51B	Joseph G. & Loretta C. Bates	Yes	100.000%	17.036	17.036	1.705%	100.000%	1.705%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017002.0000	Malaga	51530 Bates Road Woodsfield, OH 43793
52	Lowell G. & Judy A. Thomas	Yes	100.000%	31.166	31.166	3.120%	100.000%	3.120%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017007.0000	Malaga	51683 Campfire Road Jerusalem, OH 43747
53	Phyllis M. Krone	Yes	25.000%		0.0985	0.010%	100.000%	0.010%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017013.0000	Malaga	51459 Campfire Road Jerusalem, OH 43747
53	Shirley Habig	Yes	25.000%	0.394	0.0985	0.010%	100.000%	0.010%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017013.0000	Malaga	51459 Campfire Road Jerusalem, OH 43747
53	Dianne Lewis	Yes	25.000%		0.0985	0.010%	100.000%	0.010%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017013.0000	Malaga	51459 Campfire Road Jerusalem, OH 43747
53	David Krone	Yes	25.000%		0.0985	0.010%	100.000%	0.010%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017013.0000	Malaga	101 S. Pickens ST Columbia, SC 29205
54	Phyllis M. Krone	Yes	25.000%		0.1248	0.012%	100.000%	0.012%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017011.0000	Malaga	51459 Campfire Road Jerusalem, OH 43747
54	Shirley Habig	Yes	25.000%	0.499	0.1248	0.012%	100.000%	0.012%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017011.0000	Malaga	51459 Campfire Road Jerusalem, OH 43747
54	Dianne Lewis	Yes	25.000%		0.1248	0.012%	100.000%	0.012%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017011.0000	Malaga	51459 Campfire Road Jerusalem, OH 43747
54	David Krone	Yes	25.000%		0.1248	0.012%	100.000%	0.012%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017011.0000	Malaga	51459 Campfire Road Jerusalem, OH 43747
55	Carl F. III., & Lya Lynn Rousenberg	Yes	100.000%	157.532	157.532	15.769%	100.000%	15.769%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017003.0000	Malaga	36829 Township Highway 2067 Jerusalem, OH 43747
56A	Helen M. Strahl	Yes	33.333%		6.054		100.000%		0.000%		0.000%		0.000%		0.000%		0.000%		12-017006.0000	Malaga	100 Sheffield Avenue Woodsfield, OH 43793
56A	Marilyn J. Koval Dixon	Yes	33.333%	18.163	6.054	1.818%	100.000%	1.818%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017006.0000	Malaga	51454 State Route 800 Jerusalem, OH 43747
56A	Tina L. Harper	Yes	33.333%		6.054		100.000%		0.000%		0.000%		0.000%		0.000%		0.000%		12-017006.0000	Malaga	137 Del Mar Stroll Newark, OH 43056-9211
56B	Helen M. Strahl	Yes	33.333%		0.002		90.000%		0.000%		0.000%		0.000%		10.000%		0.000%		12-017006.0000	Malaga	100 Sheffield Avenue Woodsfield, OH 43793
56B	Marilyn J. Koval Dixon	Yes	33.333%	0.006	0.002	0.001%	90.000%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	10.000%	0.0001%	0.000%	0.000%	12-017006.0000	Malaga	51454 State Route 800 Jerusalem, OH 43747
56B	Tina L. Harper	Yes	33.333%		0.002		90.000%		0.000%		0.000%		0.000%		10.000%		0.000%		12-017006.0000	Malaga	137 Del Mar Stroll Newark, OH 43056-9211
57	Helen M. Strahl	Yes	33.333%		0.006		100.000%		0.000%		0.000%		0.000%		0.000%		0.000%		12-018008.0000	Malaga	100 Sheffield Avenue Woodsfield, OH 43793

Exhibit A-2
All Mineral Interest Owners
Mann Unit

57	Marilyn J. Koval Dixon	Yes	33.333%	0.017	0.006	0.002%	100.000%	0.002%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-018008.0000	Malaga	51454 State Route 800 Jerusalem, OH 43747
57	Tina L. Harper	Yes	33.333%		0.006		100.000%		0.000%		0.000%		0.000%		0.000%		0.000%		12-018008.0000	Malaga	137 Del Mar Stroll Newark, OH 43056-9211
				998.977	998.977	**100.000%**		**99.083%**		**0.305%**		**0.305%**		**0.305%**		**0.0001%**		**0.000%**			
								100.000%													

*As it pertains to the Mann Unit, James Baker is the owner from the surface to 3500ft, Steven Baker is the owner from 3500ft and below, therefore, Steven Baker is only listed.

Exhibit A-3
Unleased Mineral Owners
Mann Unit

Tract	Current Mineral Owner	Leased/Fee Yes or No	Current Mineral Owner Interest in tract	Total Acres in Unit	Current Mineral Owner Acres in Unit	Tract Participation	Antero Working Interest	Antero Unit Participation	Nancy Jo Galasso Working Interest	Nancy Jo Galasso Unit Participation	Richard A. Mann Working Interest	Richard A. Mann Unit Participation	Penny L. Baxter Working Interest	Penny L. Baxter Unit Participation	Ronnie Gene Hill Working Interest	Ronnie Gene Hill Unit Participation	Unleased Working Interest	Unleased Unit Participation	Parcel ID	Township	Current Mineral Owner Address
	There are no longer any unleased mineral interests in the Mann Unit.																				

Exhibit A-4
Outstanding WI Parties
Mann Unit

Tract	Current Mineral Owner	Leased/Fee Yes or No	Current Mineral Owner Interest in tract	Total Acres in Unit	Current Mineral Owner Acres in Unit	Tract Participation	Antero Working Interest	Antero Unit Participation	Nancy Jo Galasso Working Interest	Nancy Jo Galasso Unit Participation	Richard A. Mann Working Interest	Richard A. Mann Unit Participation	Penny L. Baxter Working Interest	Penny L. Baxter Unit Participation	Ronnie Gene Hill Working Interest	Ronnie Gene Hill Unit Participation	Unleased Working Interest	Unleased Unit Participation	Parcel ID	Township	Current Mineral Owner Address
13	Steven M. & Susan J.Stimpert	Yes	50.000%	77.909	38.9545	7.799%	93.750%	7.311%	2.083%	0.162%	2.083%	0.162%	2.083%	0.162%	0.000%	0.000%	0.000%	0.000%	12-015015.0000	Malaga	52800 Township Road 2053 Woodsfield, OH 43793
13	Nancy Jo Galasso	Yes	16.667%		12.9848		93.750%		2.083%		2.083%		2.083%		0.000%		0.000%		12-015015.0000	Malaga	103 Dusk Court Georgetown, KY 40324
13	Richard A. Mann	Yes	16.667%		12.9848		93.750%		2.083%		2.083%		2.083%		0.000%		0.000%		12-015015.0000	Malaga	415 Park Street Barnsville, OH 43713
13	Penny L. Baxter	Yes	16.667%		12.9848		93.750%		2.083%		2.083%		2.083%		0.000%		0.000%		12-015015.0000	Malaga	905 E. Kinsey Street Peoria, IL 61603
14	Wesley & Julie D. Feldner	Yes	100.000%	1.210	1.210	0.121%	93.750%	0.114%	2.083%	0.003%	2.083%	0.003%	2.083%	0.003%	0.000%	0.000%	0.000%	0.000%	12-015006.0000	Malaga	35808 Harper Ridge Road Woodsfield, OH 43793
15	Steven E. & Carol A. Perry	Yes	100.000%	1.987	1.987	0.199%	93.750%	0.186%	2.083%	0.004%	2.083%	0.004%	2.083%	0.004%	0.000%	0.000%	0.000%	0.000%	12-015021.0000	Malaga	35850 Harper Ridge Road Woodsfield, OH 43793
16	Ronald K. & Shirley E. Kirkbride	Yes	100.000%	0.953	0.953	0.095%	93.750%	0.089%	2.083%	0.002%	2.083%	0.002%	2.083%	0.002%	0.000%	0.000%	0.000%	0.000%	12-016021.0000	Malaga	36000 Haprper Road Jerusalem, OH 43747
17	Steven M. & Susan J.Stimpert	Yes	50.000%	64.435	32.218	6.450%	93.750%	6.047%	2.083%	0.134%	2.083%	0.134%	2.083%	0.134%	0.000%	0.000%	0.000%	0.000%	12-016020.0000	Malaga	52800 Township Road 2053 Woodsfield, OH 43793
17	Nancy Jo Galasso	Yes	16.667%		10.739		93.750%		2.083%		2.083%		2.083%		0.000%		0.000%		12-016020.0000	Malaga	103 Dusk Court Georgetown, KY 40324
17	Richard A. Mann	Yes	16.667%		10.739		93.750%		2.083%		2.083%		2.083%		0.000%		0.000%		12-016020.0000	Malaga	415 Park Street Barnesville, OH 43713
17	Penny L. Baxter	Yes	16.667%		10.739		93.750%		2.083%		2.083%		2.083%		0.000%		0.000%		12-016020.0000	Malaga	905 E. Kinsey Street Peoria, IL 61603
56B	Helen M. Strahl	Yes	33.333%	0.006	0.002	0.001%	90.000%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	10.000%	0.0001%	0.000%	0.000%	12-017006.0000	Malaga	100 Sheffield Avenue Woodsfield, OH 43793
56B	Marilyn J. Koval Dixon	Yes	33.333%		0.002		90.000%		0.000%		0.000%		0.000%		10.000%		0.000%		12-017006.0000	Malaga	51454 State Route 800 Jerusalem, OH 43747
56B	Tina L. Harper	Yes	33.333%		0.002		90.000%		0.000%		0.000%		0.000%		10.000%		0.000%		12-017006.0000	Malaga	137 Del Mar Stroll Newark, OH 43056-9211
				146.500	**146.500**	**14.665%**		**13.748%**		**0.305%**		**0.305%**		**0.305%**		**0.0001%**		**0.000%**			
								14.665%													

Exhibit A-5
Non Conforming Leases
Mann Unit

Tract	Current Mineral Owner	Leased/Fee Yes or No	Current Mineral Owner Interest in tract	Total Acres in Unit	Current Mineral Owner Acres in Unit	Tract Participation	Antero Working Interest	Antero Unit Participation	Nancy Jo Galasso Working Interest	Nancy Jo Galasso Unit Participation	Richard A. Mann Working Interest	Richard A. Mann Unit Participation	Penny L. Baxter Working Interest	Penny L. Baxter Unit Participation	Ronnie Gene Hill Working Interest	Ronnie Gene Hill Unit Participation	Unleased Working Interest	Unleased Unit Participation	Parcel ID	Township	Current Mineral Owner Address
18	Michael H. & Kimberly J. Wagner	Yes	100.000%	7.424	7.424	0.743%	100.000%	0.743%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016004.0000	Malaga	111 East Marietta Street Woodsfield, OH 43793
31	Douglas C. Stephen Alex J. Stephen, TOD	Yes	100.000%	50.380	50.380	5.043%	100.000%	5.043%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016023.0000	Malaga	35465 Harper Road Woodsfield, OH 43793
36	Anthony C. Schumacher	Yes	100.000%	1.244	1.244	0.125%	100.000%	0.125%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016025.0000	Malaga	50647 State Route 145 Woodsfield, OH 43793
37	Douglas C. Stephen	Yes	100.000%	1.004	1.004	0.101%	100.000%	0.101%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016052.0000	Malaga	35465 Harper Road Woodsfield, OH 43793
39A	Douglas C. Stephen	Yes	100.000%	15.227	15.227	1.524%	100.000%	1.524%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016027.0000	Malaga	35465 Harper Road Woodsfield, OH 43793
39B	Douglas C. Stephen	Yes	100.000%	4.017	4.017	0.402%	100.000%	0.402%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-016027.0000	Malaga	35465 Harper Road Woodsfield, OH 43793
45	Douglas C. Stephen	Yes	100.000%	12.945	12.945	1.296%	100.000%	1.296%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017014.1000	Malaga	35465 Harper Road Woodsfield, OH 43793
47	Victor & Jewell Neville	Yes	100.000%	1.697	1.697	0.170%	100.000%	0.170%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017012.0000	Malaga	50622 State Route 145 Woodsfield, OH 43793
48	Douglas C. Stephen Alex J. Stephen, TOD	Yes	100.000%	81.011	81.011	8.109%	100.000%	8.109%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	12-017001.0000	Malaga	35465 Harper Road Woodsfield, OH 43793
				174.949	**174.949**	**16.770%**		**16.770%**		**0.000%**		**0.000%**		**0.000%**		**0.000%**		**0.000%**			
								16.770%													

Exhibit B

Oil and Gas Lease

THIS OIL AND GAS LEASE (hereinafter, "**Lease**") made and entered into on this **_____**day of **_____________ 2016**, by and between **________________________________,** whose address is **_______________________________________** (hereinafter, "**Lessor**") (collectively if there is more than one) and **ANTERO RESOURCES CORPORATION**, whose address is 1615 Wynkoop Street, Denver, Colorado 80202 (hereinafter, "**Lessee**").

GRANT OF LEASE

1) That the Lessor, for and in consideration of paid-up annual rentals commonly known as a signing cash bonus of **_______________** ($XXX.XX) for each net mineral acre covered by this Lease, paid by the Lessee (the "Bonus"), and of the royalties as provided, the covenants and agreements contained herein does hereby exclusively grant, convey, lease and let unto the Lessee, all of the oil, gas, liquid and gaseous hydrocarbons and their constituents and by-products thereof (together or any individual constituent thereof being referred to hereafter as "Oil and Gas"), in and under the Leased Premises, for the exclusive right to drill, explore, conduct seismic prospect, operate for, produce, remove and market Oil and Gas, and to otherwise conduct all such secondary, enhanced, or tertiary operations as may be required in the opinion of the Lessee and the right to transport, use and maintain, by pipelines or otherwise across and through said lands, Oil and Gas, water, brine or any other fluid or substances, only from formations underlying the Leased Premises and from other lands unitized or pooled therewith, and the right to enter thereon at all times and to occupy and use so much of the Leased Premises as is necessary or convenient for only the aforesaid purposes. Lessee shall act as a reasonable prudent operator exercising good faith in all of its activities with the Lessor. The above grant excludes any right to store gas, or inject any fluids or brine of any kind into the Leased Premises for any purpose of storage or disposal.

DESCRIPTION OF THE LAND INCLUDED IN THIS LEASE

2) The land included in this Lease, herein called the "Leased Premises" is identified as follows:

County	Township	Sec/Twp/Range	Acreage	Tax Number	Prior Deed Reference

OIL AND GAS ONLY

3) This Lease covers only Oil and Gas produced through a well bore. Thus, this Lease does not include and there is hereby excepted and reserved unto Lessor all the sulfur, coal, lignite, uranium and other fissionable material, geothermal energy, base and precious metals, rock, stone, gravel, and any other mineral substances (excepting those described above) presently owned by Lessor in, under, or upon the Leased Premises, together with right of ingress and egress and use of the Leased Premises by Lessor or its lessees or assignees for the purpose of exploration for and production and marketing of materials and minerals reserved hereby; provided, however, Lessor's right to develop the reserved minerals shall not interfere with the rights herein granted to Lessee.

NO STORAGE RIGHTS

4) Notwithstanding anything herein contained to the contrary, Lessee agrees the herein described Leased Premises shall not be used for the purpose of gas storage.

NO DISPOSAL AND/OR INJECTION WELLS

5) Lessee shall not use the Leased Premises for the permanent disposal of any drilled cuttings or residual wastes. No disposal or injection wells are permitted on the Leased Premises.

NO DELAY RENTAL

6) Lessor shall not receive any paid annual rentals since this is a paid-up in advance Lease.

TERMS

7)

A) This Lease shall continue in force and the rights granted hereunder shall be quietly enjoyed by the Lessee during the primary term of five (5) years from the Effective Date of the Lease ("Primary Term") and so long thereafter as Oil and Gas are produced on the Leased Premises or land contiguously pooled or unitized herewith, in paying quantities or for as long as Lessee is conducting Operations to explore, develop, and produce Oil and Gas.

B) If Lessee drills a well which is incapable of producing in paying quantities (hereinafter called "dry hole") on the Leased Premises or lands pooled or unitized therewith, or if all production (whether or not in paying quantities) permanently ceases from any cause, including a revision of Unit boundaries pursuant to the provisions of this lease or the action of any governmental authority, then in the event this lease is not otherwise being maintained in force it shall nevertheless remain in force if Lessee commences further Operations for reworking an existing well, drilling an additional well or, otherwise obtaining or restoring production on the Leased Premises or lands pooled or unitized therewith within 180 days after completion of Operations on such dry hole or within 180 days after such cessation of all production. If after the primary term this lease is not otherwise being maintained in force, but Lessee is then engaged in Operations, as defined below, then this lease shall remain in force so long as any one or more Operations are prosecuted with no interruption of more than 180 consecutive days. If any such Operations result in the production of Oil and Gas, this lease will remain in force for as long thereafter as there is production in paying quantities from the Leased Premises or lands pooled or unitized therewith.

C) Lessee is hereby given the option to extend by renewal the Primary Term of this Lease for one additional five (5) year period. This option may be exercised by Lessee at any time up to thirty (30) calendar days before the expiration of the original Primary Term by notifying Lessor in writing of Lessee's intent to exercise its option and simultaneously therewith paying to Lessor prior to the termination of the Primary Term a lease bonus in an amount equal to the original signing bonus of Five Thousand Dollars ($5,000.00) per net acre paid to Lessor by Lessee. Such payment shall be based upon the net acres that are covered by this Lease and are not otherwise being maintained by other provisions hereof. Should this option be exercised, it shall be considered for all purposes as though this Lease originally provided for a Primary Term of ten (10) years.

ROYALTY AND GAS MEASUREMENT

8) As royalties, Lessee covenants and agrees:

A) Oil. Lessee shall pay Lessor Twelve and one half Percent (20%) of the gross proceeds of all oil, other liquid hydrocarbons and by-products produced from or on the Leasehold Estate and sold by Lessee in an arms' length transaction. In the event that Lessee sells all or part of the oil and other liquid hydrocarbons produced from the Leasehold Estate to an Affiliated Entity, the value thereof shall be the highest price offered to Lessee through Lessee's bidding process for the sale of such oil.

B) Gas. Lessee shall pay Lessor Twenty Percent (20%) of the gross proceeds received by Lessee for all gas and other hydrocarbons and by-products produced from or on the Leasehold Estate and sold by Lessee in an arms length transaction of or through an Affiliated Entity on the sales or re-sales of such gas, the value thereof shall be the higher of (a) the sales price received by Lessee, or (b) the sale price received on all of the Affiliated Entity's sales of the aggregated production volumes, where such aggregated production volumes include production from the Leasehold Estate during applicable months of sales.

C) Market Enhancement Clause. It is agreed between the Lessor and Lessee that, notwithstanding any language herein to the contrary, all royalties for oil, gas or other production (including but not limited to natural gas liquids and/or condensate, such as ethane, propane and butane) accruing to the Lessor under this Lease shall be paid without deduction, directly or indirectly, for the costs or expenses of Lessee (or an Affiliate of Lessee) relating to producing, gathering, storing, separating, treating, dehydrating, compressing, processing, transporting, and marketing the oil, gas and other products produced hereunder; *provided, however*, Lessee may deduct from Lessor's royalties accruing under the Lease, Lessor's proportionate share of any cost or expense actually incurred and charged to Lessee by a third party that is not owned or controlled by Lessee and relating thereto on the express condition such costs or expenses are necessarily incurred to enhance the value of the oil, gas or other products, including transforming product into a marketable form, and in any such case, the computation of the Lessor's royalty shall include the additional consideration, if any, paid to Lessee as a result of any enhancement of the market value of such products.

D) When Royalties Must Be Paid: All royalties that may become due hereunder shall commence to be paid on the first well completed on the Leased Premises within one hundred-eighty (180) days after the first day of the month following the month during which any well is completed and commences production into a pipeline for sale of such production. On each subsequent well, royalty payments must commence within one hundred-twenty (120) days after the first day of the month following the month during which any well is completed and commences production into a pipeline for sale of such production. Thereafter, all royalties on oil shall be paid to the Lessor on or before the last day the second month following the month of production, and all royalties on gas shall be paid to Lessor on or before the last day of the third month following the month of production. Royalties not paid when due shall bear interest at the prime rate, plus five percent (5%) per annum. Lessor may withhold royalties without obligation to pay interest in the event of a *bona fide* dispute or a good faith question of royalty entitlement (either as to ownership or as to amount).

LESSOR'S INTEREST

9) Notwithstanding any other actual or constructive knowledge or notice thereof to Lessee, it successors or assigns, no change or division in the ownership of the Leased Premises or the royalties or other monies, or the right to receive the same, howsoever affected, shall be binding upon the then record owner of this Lease until thirty (30) days after there has been furnished to such record owner at his or its principal place of business by Lessor or Lessor's heirs, successors, or assigns, notice by certified mail of such change or division, supported by either originals or copies of the instruments which have been properly filed for record and which evidences such change or division, and of such court records and proceedings, transcript, or other documents as shall be necessary in the opinion of such record owner to establish the validity of such change or division. If any such change in ownership occurs by reason of the death of the Lessor, Lessee may nevertheless pay or tender such royalties or other moneys, or part thereof, to Lessor. Lessee shall not be bound by any change of the address of Lessor until furnished by certified mail with such documentation from Lessor as Lessee may reasonably require.

TOP LEASE/RIGHT OF FIRST REFUSAL

10) In the event Lessor chooses to grant any remaining rights reserved by Lessor under this Lease to any party other than Lessee, then before any such grant Lessor shall provide Lessee with a written notice by certified mail setting forth all terms and conditions of such other grant, or a true copy of any lease or other document reflecting such proposed grant. Lessee shall be afforded a period of thirty (30) calendar days following receipt of such written notice during which time Lessee may elect to exercise a right of first refusal to assume the obligations of lessee or grantee under such other proposed grant on the same terms and conditions contained therein. Should Lessee so elect, Lessee shall notify Lessor in writing within such thirty (30) day period and submit therewith any upfront payments or other consideration described in said proposal, along with a signed lease or grant documents accordingly. Lessor covenants that, during the term of this Lease and any extension thereof, Lessor will not execute any additional lease, top lease or successor

lease, with any third party, for the rights included in the terms of this Lease on the Leased Premises.

DEFINITIONS

11)

A) Division Order. Documents setting forth the proportional ownership of Lessor in Lease products.

B) Effective Date and Primary Term. This Lease shall become effective on the date that Lessee pays the Bonus in full, pursuant to Paragraph 59 of this Lease ("Effective Date"). Except as provided herein, this Lease shall remain in full force and effect for a period of five (5) years from the Effective Date.

C) Oil or Gas. The term "Oil" shall mean crude oil, condensate, and other liquid hydrocarbons separated from gas on the Leased Premises by a field-type separator or other comparable equipment. The term "Gas" shall mean all substances, whether similar or dissimilar, produced in a gaseous state, including without limitation, casinghead gas, coal bed methane gas (including coalbed gas, coal mine methane, methane gas, occluded gas and other naturally occurring gases contained in or produced from any coal seam or formation), gob gas, helium, carbon dioxide, and gaseous sulfur compounds.

AUDIT RIGHTS

12) Lessee further grants to Lessor or Lessor's designee the right, at Lessor's expense, to examine, audit, copy or inspect books, records and accounts of Lessee pertinent to the purpose of verifying the accuracy of the reports and statements furnished to the Lessor, and for checking the amount of payments lawfully due the Lessor under the terms of this agreement; however, such audit rights shall be limited to not more than one audit every twelve (12) months. In exercising this right, Lessor shall give reasonable notice to Lessee of its intended audit and such audit shall be conducted during normal business hours at the office of Lessee at the sole cost and expense of Lessor. In the event the audit reveals deficiencies in royalty payments that are in excess of ten percent (10%) of the total royalties paid to Lessor during the audit period, then Lessee shall bear the cost and expense of the audit, and all monies due shall be payable within thirty (30) days of the final determination of the amounts due, and that Lessor shall be allowed to perform, at Lessor's discretion, a follow-up audit within twelve months of the completion of the audit that revealed the excessive deficiencies.

METHOD OF PAYMENTS

13) All rents and royalties (except payment by gas in kind at the election of Lessor as may be provided herein) and any and all sums due hereunder from Lessee to Lessor shall be paid by one of the following methods:

A) By check or draft tendered directly from Lessee to Lessor at Lessor's address as stated in this Lease.

B) By direct deposit, depositing the payment to the credit of the Lessor in the bank and account number as provided in writing by Lessor to Lessee prior to such payment (which bank shall continue as depository for all sums payable hereunder until any subsequent written notice otherwise is provided by Lessor to Lessee). Any payment not timely made or not made in the correct amount shall not constitute a waiver by Lessor of any rights or remedies of Lessor under this Lease. A payment submitted electronically shall be considered timely paid if such payment is successfully transmitted to Lessor's account on or before the due date. A payment not submitted electronically shall be considered timely paid if delivered to the Lessor on or before the applicable due date or if deposited in a postpaid, properly addressed wrapper with a post office or official depository marked as so deposited by the United States postal service before the applicable due date.

EXISTING WELLS

14) Lessee shall give due regard to existing Oil and Gas wells, the wells operations, tanks, lines and equipment on the Leased Premises, regardless of the drilling date, and Lessee, in conducting its Operations hereunder, shall take such commercially reasonable precautions necessary to protect the use and operation of the Oil and Gas wells by Lessor or other Lessees. Lessor reserves all rights to any production from any existing Oil and Gas well.

COMMENCEMENT OF OPERATION

15) The term "Operations" as used in this Lease shall mean (a) the operations associated with producing Oil and Gas subsequent to drilling or (b) the constructing of a well site, drilling, fracturing, fracing, hydrofracing, completing, reworking, recompleting, deepening, plugging back or repairing of a well to obtain or re-establish production of Oil and Gas, conducted in good faith and with due diligence, whether on the Leased Premises or any lands unitized or contiguously pooled therewith. The term "Operations" shall not include conducting seismic or other similar testing, or the laying of pipeline across the Leased Premises. Commencement of Operations shall be defined as Lessee having secured a drilling permit from the State and further entering upon the Leased Premises or any lands unitized or contiguously pooled therewith with equipment necessary to conduct one or more of the Operations.

FORCE MAJEURE

16) Should Lessee be prevented by reason of Force Majeure from complying with any express or implied covenant of this Lease (except payment of money), from conducting Operations at the Leased Premises or any lands unitized or contiguously pooled therewith, then while so prevented, (a) that covenant will be suspended; (b) Lessee will not be liable for damages for failure to comply therewith; (c) this Lease will be extended so long as Lessee is prevented from conducting such Operations under or from producing Oil and Gas from the Leased Premises; and (d) the time while Lessee is so prevented from complying will not be considered a breach of the applicable covenants of this Leases and any applicable time limitations shall be extended for the period of such Force Majeure. For purposes of this Lease, "Force Majeure" shall mean any cause that is not within the control of Lessee, and which, even with the exercise of reasonable due diligence, Lessee could not have prevented. Examples of Force Majeure include, without limitation: legal and lawful strikes, lockouts or other industrial disturbances; sabotage, wars, blockades, insurrections and riots; epidemics; landslides, lightning, earthquakes, fires, storms, warnings of imminent storms, floods, washouts and other events of nature or the elements (exclusive of normal weather patterns); restraints of governments and people and civil disturbances; and legislative, governmental or judicial actions that are resisted in good faith and temporary or permanent regulatory restraints or prohibitions applicable to the entire oil and gas industry in the area. This paragraph is, however, in all things subject to the limitations of time during which this Lease may be continued in force by the payment of shut-in royalties. Notwithstanding the foregoing, this period of extension by reason of a Force Majeure shall be limited to a cumulative total of three (3) years.

SURFACE USE/SPUD FEE

17) Lessee shall pay Lessor an additional Twenty Thousand Dollars ($20,000.00) as consideration for each well pad(s) of ten (10) acres or less of disturbed land included in the Leased Premises. For each additional acre of disturbed land on the Leased Premises, or part thereof, Lessee shall pay Lessor an additional Six Thousand Dollars ($6,000.00) per acre. In no event shall a pad exceed thirty (30) acres on the Leased Premises, without the prior written consent of Lessor. Disturbed land shall include acreage for tanks, well pad(s), equipment, roadways and other operations servicing the wells covered by this Lease.

LOCATION APPROVAL

18) In order to minimize disruption of the Lessor's current or future use of the Leased Premises and to maintain the aesthetic value of the Leased Premises, in the opinion of the Lessor, and before Lessee commences surface disturbing operations, the final location of well pads, access roads, pipelines, canals, ditches, ponds, levees, dams, fences, telephone

and power lines, compressors, dehydration facilities, pits and waterlines shall be approved by the Lessor in writing. Said approval shall not be unreasonably withheld or delayed.

In any event, Lessee shall not drill a well or locate any portion of the drilling pad, road, gate, pipeline, tank battery, any phone, electric and data collection line or other surface disturbances within three hundred (300) feet of any structure or improvements located upon the Leased Premises without the prior written consent of the Lessor. Lessor's agreement shall not be unreasonably withheld, conditioned or delayed assuming the preceding standards are followed. For purpose of this paragraph, the three hundred (300) foot restriction contained herein, as it pertains to well pad, shall be measured from the edge of the well pad nearest to the structure in question, and not from the bore hole.

Without a separate written agreement between Lessor and Lessee, no roadways, pipelines, tank battery, utilities or other surface disturbances shall be located, constructed or maintained on the Leased Premises unless they are for the sole purpose of producing and transporting produced materials from the Leased Premises or lands contiguously pooled or unitized therewith.

NO COMPRESSOR OR PROCESSING

19) This Lease does not grant Lessee the right to construct central compression facilities on the Leased Premises other than those necessary and electrically powered for the production and transportation of products produced from the Leasehold or lands contiguously pooled or unitized therewith. Lessee agrees that the Leased Premises described herein will not be used as a central processing facility or storage area for equipment and materials. All pump jacks shall use an electric motor, where electric is reasonably available. Any motorized equipment that may remain on the Leased Premises after the drilling and fracing operations are completed shall be designed and installed utilizing means to minimize noise, including but not limited to, sound enclosures and barriers, and electrical motors if reasonably possible.

ROADWAYS

20) Any roadways constructed by or for Lessee shall not exceed twenty-five (25) feet in width for the actually traveled roadbed and following the existing contours of the surrounding surface, together with a reasonable width, not to exceed six (6) feet from either edge of the actually traveled roadbed for fills, shoulders, and crosses. Lessee shall maintain said roadways to the reasonable satisfaction of Lessor, which maintenance may include shaling, ditching, graveling, blading, installing and cleaning culverts, suppressing dust and spraying for noxious weeds. To the degree practicable, operations shall be designed and laid out to be concentrated in a single area so as to avoid unnecessary utilization of surface areas. To the degree practicable, pipelines and roadways are to be within the same corridor. Lessee shall make reasonable efforts to use existing logging and township roads.

PIPELINES/NO FOREIGN GAS

21)

A) The Lessee shall bury to a depth below forty-eight (48) inches all pipelines used to transport Oil and Gas, including water, brine or any other fluid or substances, produced from wells on the Leased Premises or lands contiguously pooled or unitized therewith. All pipelines shall be conspicuously marked by Lessee. If Lessee chooses to lay plastic lines, said lines shall be marked by a tracer wire for purposes of electronically locating such lines. This right may not be assigned to a utility company, pipeline company or anyone else who owns no interest in the Leased Premises or not otherwise contracted or affiliated with Lessee for the purpose of carrying out the rights and obligations under this Lease. No right is granted to piggyback or expand on this term of the Lease to install electric, telephone or data lines. Lessee shall allow Lessor unrestricted access to and crossing of the surface by equipment typically utilized in local agricultural and timbering activities, including but not limited to, tractors, plows, combines, harvesters, forwarders, loaded trucks and loaded trailers. Lessee shall "double ditch" all soil disturbances so that all topsoil will be replaced on the surface. The width of the graded subsurface pipeline right-of-way shall not exceed thirty (30) feet, with reasonable additional width required for construction, reclamation, repair and maintenance purposes. Lessee agrees that the location of any and all pipelines shall be subject to the terms of paragraph 18 herein, and in any case shall be subject to the prior consent of the Lessor, which consent shall not to be unreasonably withheld.

B) Unless Lessor and Lessee enter into a separate written agreement, any pipelines constructed pursuant to the terms of this Lease shall be limited to transporting Oil and Gas, including water, brine or any other fluid or substances, produced from wells on the Leased Premises or lands contiguously pooled or unitized therewith.

POOLED PRODUCTION UNIT LIMITED

22)

A) The production of Oil or Gas under the terms of this Lease will maintain this Lease beyond its primary term including any extensions thereto only as to that portion of the Leased Premises that is actually included within a Unit or Units that contains a well or wells then producing in paying quantities for so long as such well(s) are producing in paying quantities. A Unit shall mean a unit determined by a well spacing unit, a spacing order or other density requirements issued by ODNR's Mineral Resources Management (or other government entity with jurisdiction) for a particular well. In the absence of such order from the ODNR's Mineral Resources Management (or other government entity with jurisdiction), Lessee shall designate and file a "well plat production unit", which for the purpose of this Lease, shall contain only the acreage overlaying that portion of the target formation or pool under a well that a prudent operator would deem capable of being most efficiently drained by that well while utilizing the best production technology in common use at the time of drilling. Notwithstanding any density rules applicable to any well, however, no production unit or pooled acreage assigned to any well shall exceed the following unit acreage sizes:

(i) If the well is classified as a vertical Oil or Gas well, the maximum size of the pooled production unit shall be 40 contiguous acres, without the written consent of Lessor. The well shall be located in the center of the production unit to the extent practical, and such unit shall be of a square or rectangular shape consistent with state regulations.

(ii) If the well is classified as a horizontal Oil or Gas well drilled to any geologic formations containing a horizontal component of the drain hole in the target formation, whether Oil or Gas, then the maximum size of the pooled production unit shall not exceed 640 contiguous acres, except said pooled production unit may exceed 640 contiguous acres, but in no event larger than 1,000 contiguous acres, if the lateral extent of horizontal bore hole(s) in said formation shall extend beyond the boundary of a 640 contiguous acre unit and such that a reasonably prudent operator would expect that the entire acreage within such larger unit will be effectively and efficiently developed and drained from a central pad site location. The Unit shall, to the extent practical, parallel and be centered on the lateral boreholes to be drilled within the Unit, and such Unit shall be of a square or rectangular shape consistent with state regulations.

B) Any well drilled on said Unit whether or not the well(s) are located on the Leased Premises, shall, nevertheless be deemed to be located upon the Leased Premises within the meaning and for the provisions and covenants of this Lease to the same effect as if all the lands comprising said Unit were described in and subject to this Lease; and provided further that the Lessor agrees to accept that proportion of such royalties and shut-in payments, which the amount of Lessor's acreage placed in the unit or his/her/its royalty interests therein on the acreage basis, bears to the total acreage in the Unit. The Lessee shall effect such consolidation by executing a declaration of consolidation with the same formality as this Lease setting forth the lease or portions thereof consolidated and respective royalty distribution, and recording the same in the recorder's office at the courthouse in the county in which the Leased Premises are located and by mailing a copy thereof to the Lessor at the address hereinabove set forth unless the Lessee is furnished with another address. Lessee shall have the right to amend, alter, change, correct, or cancel any such consolidation Unit or amended consolidation Unit, in the sole opinion of the Lessee, the amended Unit would be beneficial in connection with the conservation and development of Oil and Gas, so long as such amendment satisfies the restrictions set forth above.

C) This Lease shall automatically terminate and be of no further force or effect as to any portion of the Leased Premises which is not included within a producing or drilling Unit at the expiration of the Primary Term, or any extension thereof, from which Oil and Gas are being produced in paying quantities from the geologic formations leased herein or Operations are being conducted in such Unit. Upon termination of this Lease, and Lessor's written request, as to any portion of the Leased Premises as provided in this paragraph, Lessee shall promptly deliver to Lessor a plat showing the designated Unit(s) around each well and a partial release containing a satisfactory description of the acreage not retained, suitable for recording.

REASONABLE DEVELOPMENT

23) If Oil and Gas is discovered on the Leased Premises, Lessee shall develop the Leased Premises as a reasonable and prudent operator and exercise due diligence in drilling such additional well or wells as may be necessary to fully develop the Leased Premises.

PUGH CLAUSE

24)

A) Horizontal Pugh Clause. Production from, or Operations conducted on, one Unit will not maintain this Lease in force as to any other acreage, outside the Unit and such production or Operations will maintain this Lease only as to the acreage within the Unit or Units upon which such production or Operations are being maintained or conducted. Upon expiration of the Primary Term or any extension thereof, in the event a portion or portions of the Leased Premises is pooled or unitized with other land so as to form a Unit or Units; Operations on, completion of a well upon, or production from such pooled Unit(s) will not maintain this Lease in force as to the land not included in such Unit or Units. However, this Lease may be maintained in force as to any land covered hereby and not included in such Unit or Units, in any manner that complies with this Lease's terms.

B) Vertical Pugh Clause. Despite anything to the contrary set forth elsewhere in this Lease, at the end of the Primary Term or any extension thereto, including continuous Operations, as to each Unit this Lease shall terminate as to all strata, depths, and horizons lying two hundred (200') feet below the stratigraphic equivalent of the base of the deepest formation from which production of Oil and Gas is being produced, or in the case of a shut-in well is capable of being produced in paying quantities.

C) Release of Acreage. Within thirty (30) days after termination of this Lease as to all or any portion of the Leased Premises, and after Lessor's written request, Lessee shall promptly deliver to Lessor and record with the county or counties in which the Leased Premises is located a partial release of the Lease containing a metes and bounds description (including a map) of the acreage and/or depths not retained and a plat showing the designated Unit(s).

SHUT-IN PAYMENT/LIMITATION

25) In the event all wells drilled on the Leased Premises or on land pooled or unitized hereunder are shut-in because Lessee is unable to market the production therefrom, or should production in paying quantities cease from all such wells, or should the Lessee desire to shut-in all such producing wells, the Lessee agrees to pay the Lessor, commencing on the date six (6) months from the beginning of the period with no production being sold, or the cessation of production, or the shutting-in of each producing well, a shut-in payment in the amount of fifty dollars ($50.00) per acre every six (6) months until the earlier of: production is marketed and sold off the Leased Premises, or such wells are plugged and abandoned according to law, or six (6) months after making the fourth (4) shut-in payment. Notwithstanding the making of such shut-in payments, Lessee shall be and remain under the continuing obligation to (a) use all reasonable efforts to find a market for said Gas and/or Oil and to commence or resume marketing the same when a market is available, (b) reasonably develop the Leased Premises as provided

in this Lease. Upon delivery of the shut-in payment as provided herein, the Lease will continue in force and effect while production is shut-in. It is understood and agreed that, in the sole discretion of the Lessor, this Lease may not be maintained in force for any continuous period of time longer than thirty (30) months, or a cumulative period of forty-eight (48) months after the expiration of the Primary Term hereof solely by the provision of this shut-in clause.

FIREWALLING AND MAINTENANCE

26) Dikes, firewalls or other methods of secondary containment must be constructed and maintained at all times around all tanks, separators and other receptacles so as to contain a volume of liquid equal to at least 1.25 times the total volume of such tanks, separators and other receptacles located within the boundaries of the firewall and comply with State of Ohio regulations. Lessee shall keep all tanks and other equipment at each well location painted, and shall keep the well site and all roads leading thereto free of all noxious weeds and debris.

PITS

27) Lessee shall have no right to dig any pits on the Leased Premises except with Lessor's prior written consent; provided, however, that Lessee may, without Lessor's consent, dig and use pits or impoundments for drilling and completion Operations if (a) such pits or impoundments conform to State of Ohio requirements, (b) each pit or impoundment is planned to be deep enough to allow at least thirty-six (36) inches of backfill over the liner after grading to the surrounding pre-drill contours, and (c) pits or impoundments are drained and all pit liners and pit contents are removed from the Leased Premises and disposed of at Lessee's cost within ninety(90) days (weather permitting) promptly after completion of Operations. Lessee shall immediately notify Lessor and the State of Ohio if any pit lining is torn, punctured, or otherwise breached, allowing any fluid contained in or designated to be contained in, a pit or impoundment to seep, leak or overflow through or around the liner.

FENCE CLAUSE

28) The Lessee shall promptly replace any barriers, including but not limited to fences and walls removed by Lessee during its Operations on the Leased Premises. Upon Lessor's written request, Lessee shall, at its sole cost and expense, design, install and maintain fencing around any well site(s), tank battery(ies), or facility(ies) installed on the Leased Premises by Lessee. All cattle guards and fences installed by Lessee shall be kept clean and in good repair and shall be capable of turning horses, sheep, goats, and cattle.

GATE CLAUSE

29) Upon the written request of Lessor, Lessee shall install, at its sole cost and expense, a gate at the entrance of any access road on the Leased Premises. Lessor shall be provided a key to the gate and allowed free use.

WATER DAMAGE

30) Lessee shall not be the cause of the diminution of the quality or quantity of Lessor's water supplies as set forth below (including but not limited to all supplies, wells, creeks, streams, ponds, and springs) for domestic and livestock use to be measured by testing Lessor's water supplies: (a) prior to the commencement of drilling the first well upon the Leased Premises (or within a drilling unit in which the Leased Premises is located within two thousand five-hundred (2,500) feet of any well bore); (b) at the completion of the drilling and completion of all wells upon the Leased Premises (or within a drilling unit in which the Leased Premises is located within two thousand five-hundred (2,500) feet of any well bore); and, (c) as deemed necessary by Lessor due to changes in water flow or quality, including but not limited to color, smell or taste. Should any of Lessor's water supply(ies) located within 2,500 feet of any well bore be diminished in quality or diminished in volume so as to violate maximum allowable concentration levels for constituents pursuant to federal or state drinking/water quality standards or be insufficient in volume for domestic household and/or livestock use as set forth below, Lessee shall take steps to restore water quality and quantity to its pre-existing condition (remediation)

at Lessee's cost and fully compensate Lessor for the damage caused thereby; provided, that initial baseline water quality data did not already show the existence of the constituent(s) above maximum allowable concentration levels for the constituent(s) pursuant to federal or state drinking/water quality standards and there is evidence of a clear diminution of volume of water produced by the water supply(ies) not attributable to natural fluctuations in quantity. Remediation of water quality shall be considered complete when testing shows the concentration(s) of the constituent(s) are at or below federal or state maximum allowable concentration levels. During the period of remediation, Lessee shall supply Lessor with an adequate supply of potable water at Lessee's cost consistent with Lessor's use of the damaged water supply prior to Lessee's Operation. Any diminution in the quality or quantity of the above described water supply(ies) , unless shown to have occurred more than 6 months after the drilling and completion of all wells upon the Leased Premises (or within a drilling unit in which the Leased Premises is located within two thousand five-hundred (2,500) feet an any well bore, will be presumed to be the result of Lessee's Operations unless Lessee can prove otherwise, with Lessee having the burden of proof by the preponderance of the evidence. Until Lessee can prove otherwise as to cause, Lessee shall provide the required replacement supply; beginning immediately upon Lessor's providing evidence to Lessee of the water quality and quantity condition causing concern. Testing of Lessor's water supply(ies) as set forth above shall be at Lessee's cost, and shall be conducted by an independent testing laboratory certified by the Ohio Environmental Protection Agency and/or the Ohio Department of Health. Lessor's water supply(ies) shall be tested for the parameters included on the attached water quality parameters list. Lessor shall be provided complete copies of any and all testing results and data and shall have full rights to contact the testing lab for inquiry and information.

NO USE OF WATER

31) Lessee shall not use water from Lessor's surface, subsurface, wells, ponds, lakes, springs, creeks or reservoirs ("Water") located on the Leased Premises without first obtaining the prior written consent of Lessor. Lessor and Lessee contemplate negotiations and agreement for the cost for onsite water usage but neither party is bound to offer to pay, or accept said offer, for any reason. Lessee shall be fully responsible for any material damage caused to Lessor's Water by any operations conducted pursuant to this Lease.

POWERLINES

32)

A) Overhead Lines: Lessee will consult with Lessor and with the independent power company supplying power to Lessee with respect to the location of overhead power lines prior to construction. Overhead power lines will be constructed so as to cause the least possible interference with Lessor's visual landscape and Lessor's existing and future use of the Leased Premises, and to the maximum extent possible overhead power lines will be constructed along fence lines or property lines. All overhead lines shall not hang lower than fourteen (14) feet above the terrain.

B) Buried Lines: All power lines constructed by Lessee downstream of the independent power company's meters shall be buried and all power line trenches shall be fully reclaimed and reseeded to the satisfaction of Lessor. For buried lines, Lessee shall pay Lessor a one-time payment of fifty dollars ($50.00) per rod (16.5 ft.) unless such power line is installed in the same ditch and the same time as the pipelines described herein, in which case there will be no duplication of payment. Any lines authorized under this paragraph shall be buried to a depth of at least forty-eight (48) inches below grade, and at a location consented to by Lessor, however such consent shall not be unreasonably withheld, conditioned or delayed.

HUNTER

33) Lessee agrees that its employees, agents, subcontractors, and independent contractors shall have no right to and are prohibited from firing any firearms, hunting or fishing, on the Leased Premises, without the written permission of the Lessor.

TIMBER REMOVAL

34) Lessee shall notify Lessor prior to the removal of any standing timber in a sufficiently timely manner, and in no event later than thirty (30) calendar days prior to any removal of timber, so as to allow Lessor to obtain an appraisal of such timber by a certified, professional forester. Lessor shall have the option to take payment from Lessee for said timber at the appraised value prior to its removal or to take possession of said timber after its removal by Lessee, or at the option of Lessor, the timber may be harvested by Lessor. If Lessor opts to take possession after Lessee removes any timber, Lessee shall cut and set aside logs so as to be accessible, exercising due care in cutting and handling said timber so as to preserve its market value. Lessee shall remove any uprooted stumps from the Leased Premises at Lessor's request. Upon Lessee giving Lessor the thirty (30) day notice, Lessor can exercise within said thirty (30) day period of time to remove the timber as necessary for Lessee's use of the Leased Premises.

CROP DAMAGE

35) Lessee shall plan surface operations in a manner that will reduce or minimize the intrusion to crop and timber fields. In the event that such intrusion cannot be avoided, Lessee shall compensate either Lessor or any tenant (but not both) for the damage at current market value for the projected yield at full maturity.

NO HAZARDOUS MATERIAL

36) Lessee shall not use, dispose, or release on the Leased Premises or to permit to be used, disposed of or released on the Leased Premises as a result of its operations, any substances (other than those Lessee has been licensed or permitted by applicable public authorities or governmental entities with jurisdiction to use on the Leased Premises) which are defined as a "hazardous material" or "toxic substance" or "solid waste" in applicable federal, state, or local laws, statutes or ordinances. Should any hazardous material, toxic substance or solid waste be released on the Leased Premises in quantities that would require Lessee to report such incident to any Federal, State or local authority, Lessee shall notify all appropriate governmental entities of such an event, and then immediately thereafter notify the Lessor.

RECLAMATION CLAUSE

37) Lessee shall restore the Leased Premises to as near as possible to its original condition within ninety (90) days after well completion or within thirty (30) days after any pipeline is installed, weather permitting; however, in the case of a multi-well pad location, within ninety (90) days after the completion of the final well completed from the pad location, weather permitting. Restoring the Leased Premises to its original condition shall include, but not be limited to, reseeding any areas that were kept in grass or pasture, or allowing the well site pad(s) and access road(s) to remain for normal and customary operational purposes. A well once commenced shall be completed and placed into production with due diligence. If at any time during the existence of a Lessee surface operation or at any time for one (1) year following the existence of a Lessee's surface operation, the soil should settle, wash or erode, causing a depression, and such depression cannot reasonably be attributed to any other cause than Lessee's operation, Lessee shall level such depression and smooth the surface to substantially the same level as existed before construction. Under such circumstances, at any time and from time to time while this Lease or any of its terms and provisions is in full force and effect, upon request of Lessor, Lessee agrees to correct, level and restore to the original ground level with topsoil or material specified by Lessor if such other material is of a lesser cost than topsoil, any further settlement of the soil that may occur following the previous filling or leveling of the same, by the Lessee so as to fully restore and maintain the surface of Lessor's property, and protect Lessor's property against erosion.

RESEEDING

38) All reseeding shall be done with suitable grasses selected by Lessor and during a planting period selected by Lessor. Reseeding shall be performed in a manner to place the Leased Premises in a condition that is as close as possible to its pre-drilling condition. In the absence of direction from the Lessor, no reseeding (except for barrow pits) will be required on any existing access roads. It shall be the duty of Lessee to insure that a growing ground cover is established upon the disturbed soils and Lessee shall reseed as

necessary to accomplish that duty, Lessee shall inspect disturbed areas at such times as Lessor shall reasonably request in order to determine the growth of ground cover and/or noxious weeds, and Lessee shall reseed ground cover and control noxious weeds from time to time to the extent necessary to accomplish its obligations hereunder.

SURFACE DAMAGE

39) Unless specifically otherwise set forth herein, Lessee will pay Lessor for all damages to the surface or subsurface of the Leased Premises as a result of Lessee's operations and/or exercise of any rights granted in this Lease at the value determined by a mutually agreeable third party, or in the event no such party can be agreed upon, a court of law. In all cases, Lessee agrees that it shall keep the Leased Premises in a neat and clean condition.

INSURANCE/HOLD HARMLESS

40)

A) Insurance: A company licensed by the Ohio Department of Commerce-Division of Insurance to do business within the State of Ohio shall underwrite all policies required by this paragraph. Provided, however, such insurance requirements maybe met by a combination of self-insurance, primary and excess insurance Policies. Lessee shall carry the following insurance with one or more insurance carriers at any and all times such party or person is on or about the Leased Premises or acting pursuant to this Lease in such amounts as from time to time reasonably required by Lessor. Lessee shall endeavor to assure that any person acting on Lessee's behalf under this lease shall carry substantially similar insurance:

i. Workers' Compensation and Employer's Liability Insurance

ii. Commercial General Liability and Umbrella Liability Insurance ($5,000,000.00 Minimum Coverage) which shall include liability coverage for sudden and accidental pollution incidents;

iii. Business auto and Umbrella Liability Insurance ($5,000,000.00 Minimum Coverage).

Upon Lessor's request, the Lessee shall cause Certificates of Insurance evidencing the above coverage to be provided promptly upon request to Lessor.

B) Indemnity: Lessee and its successors and assigns, shall defend, indemnify, release and hold harmless Lessor and Lessor's heirs, successors, representatives, agents and assigns ("Indemnitees"), from and against any and all claims, liabilities, judgments, fines, penalties, interests, demands and causes of action for injury (including death) or damages and losses to persons or property, including attorneys' fees and court costs, arising out of, incidental to or resulting from the operations conducted on the Leased Premises or caused by operations of the Lessee or Lessee's servants, agents, employees, guests, licensees, invitees or independent contractors, and each assignee of this Lease, or an interest holder therein, agrees to indemnify and hold harmless Indemnitees in the same manner provided above. Each assignee of the Lessee, or any interest therein, agrees to indemnify and hold harmless to the Indemnitees as if said assignee were party to this Lease when executed. The provisions of this paragraph shall survive the termination of this Lease.

NON DISTURBANCE

41) Lessee and its employees and authorized agents shall not disturb, use or travel upon any of the Leased Premises not being used in accordance with the terms of this Lease.

WARRANTY OF TITLE

42) Lessor hereby warrants and agrees to defend the title to the lands and interest described in Paragraph 1, but if the interest of Lessor covered by this Lease is expressly stated to be less than the entire fee or mineral estate, Lessor's warranty shall be limited to the interest so stated. Lessor further warrants that the Leased Premises are not subject to any valid

prior oil and gas leases. Lessee may purchase or lease the rights of any party claiming any interest in said land and exercise such rights as may be obtained thereby and Lessee shall not suffer any forfeiture nor incur any liability to Lessor by reason thereof. Lessee shall have the right at any time to pay for Lessor, any mortgage, taxes or other lien on said lands, in the event of default of payment by Lessor, and then be subrogated to the rights of the holder thereof. Any such payments made by Lessee for Lessor may be deducted from any amounts of money which may become due Lessor under this Lease.

SUBORDINATION

43) Lessee agrees and acknowledges that any unsubordinated pre-existing mortgage on the Leased Premises that covers Lessor's oil and gas rights may constitute a title defect, except to the extent cured by Ohio Codified Laws and if there does exist said title defect and the well or well bore is on or directly under the Leased Premises, or any lands unitized or contiguously pooled therewith, the title defect must be cured at Lessor's expense by Lessor obtaining a subordination of that mortgage.

BINDING ON SUCCESSORS AND ASSIGNS

44) This Lease and all of its terms, conditions, covenants and stipulations shall extend to and be binding on all heirs, personal representatives, successors and assigns of Lessor and Lessee.

ADDITIONAL DOCUMENTS

45) Lessor further agrees to sign such additional documents as may be reasonably requested by Lessee to perfect Lessee's title to the Oil and Gas leased herein, as described in paragraph 1, and such other documents relating to the sale of production as may be required by Lessee or others. Said obligation includes but is not limited to modifying or amending any legal descriptions to release acreage which does not have marketable title or correcting any inaccurate legal descriptions.

FUTURE MORTGAGES AND ENCUMBRANCES

46) Lessor may at any time, without providing notice to Lessee, mortgage Lessor's interest in all or any part of the Leased Premises, or grant any easement or other servitude, including but not limited to other leases, as Lessor deems necessary and appropriate, and which do not interfere with Lessee's rights herein.

CONDEMNATION

47) Any and all payments made by a Condemner on account of taking by eminent domain shall be the property of the Lessor, except a taking or diminishment of Lessee's interest in either the rights and privileges granted in the leasehold estate created hereby or the oil and gas reserves located within the Leased Premises, and in the event of such a taking or diminishment of Lessee's interests and/or rights, Lessee shall be entitled to its proportionate share of any payments, and shall further have a right of standing in any proceeding of Condemnation.

PARTIAL RELEASE

48) Lessee shall have the right at any time during this Lease to release from the lands covered hereby any lands subject to this Lease and thereby may be relieved of all obligations hereafter accruing to the acreage so released, provided that (a) Lessee may not release any portion of this Lease included in a pooled Unit so long as Operations are being conducted on such Unit, and (b) any such partial release must release all depths in and under the lands so released.

TERMINATION OF RECORD AND MEMORANDUM OF LEASE

49)

A) Upon termination of the Lease as to any portion of the Leased Premises, and Lessor's written request, Lessee shall promptly deliver to Lessor a release of the Lease as provided in Section __ above. In addition, Lessee shall peaceably surrender the Leased Premises to Lessor and remove any and all facilities, equipments and machinery from the site within ninety (90) days at Lessee's expense. Further, the affected land shall be reclaimed in accordance with the terms of this Lease.

B) This Lease shall not be recorded by either party hereto. Lessor and Lessee shall execute a Memorandum of Lease for recording which shall set forth the names and addresses of the parties hereto, the description of the Leased Premises, the term of this Lease and the rest of the provisions hereof shall be incorporated by reference. Lessee shall be entitled to immediately record the Memorandum of Lease in the applicable county records, *provided however*, that recording of the Memorandum of Lease shall not be deemed to be an acceptance by Lessee of this Lease unless and until Lessee pays the Bonus in full prior to the Payment Date, pursuant to Paragraph 59. If Lessee determines to its reasonable satisfaction after its title due diligence review that the Lessor does not have marketable title to the Leased Premises, or if Lessee does not pay the Bonus payment in full prior to the Payment Date for any reason, and upon Lessor's written request, then Lessee shall promptly release any recorded Memorandum of Lease it may have filed and this Lease shall terminate.

DEFAULT

50)

A) In addition to any incidents of default described throughout this Lease, the occurrence of any of the following constitutes a default hereunder:

i. If any creditor of Lessee and/or assigns shall take any action to execute on, garnish, or attach the assets of the Lessee covering the Leased Premises, or

ii. If a request or a petition for liquidation, reorganization, adjustment of debts, arrangement, or similar relief under the bankruptcy, insolvency or similar laws of the United States or any state or territory thereof or any foreign jurisdiction shall be filed by or against Lessee or any formal or informal proceeding for the reorganization, dissolution or liquidation of settlement of claims against, or winding up of affairs of the Lessee; or the garnishment, attachment, or taking by governmental authority of all of Lessee's collateral or other property.

B) Upon default by Lessee, Lessor shall be entitled to exercise any and all remedies available at law, in equity or otherwise, each such remedy being considered cumulative. No single exercise of any remedy set forth herein shall be deemed an election to forego any other remedy and any failure to pursue a remedy shall not prevent, restrict or otherwise modify its exercise subsequently.

SEVERABILITY

51) If any provision of this Lease is held invalid or unenforceable by any court of competent jurisdiction, the other provisions of this Lease will remain in full force and effect. Any provision of this Lease held invalid or unenforceable only in part or degree will remain in full force and effect to the extent not held invalid or unenforceable.

GOVERNING LAW

52) This Lease shall be governed and construed in accordance with the laws of the State of Ohio. Any and all disputes must be resolved, in a common pleas court located solely in the State of Ohio, and shall not be resolved by arbitration.

LESSER INTEREST

53) In case the Lessor owns a lesser interest in the Leased Premises than the entire or undivided fee simple interest therein, then the royalties, delay rentals and other payments herein provided for shall be paid to the Lessor in the proportion which such interest bears to the whole or undivided fee.

REPORTS AND DOCUMENTS

54) As required by law, Lessee shall notify Lessor of any judicial proceedings brought to the attention of Lessee affecting its possession under the Lease or the interest of Lessor in the Leased Premises.

AUTHORSHIP AND WAIVER

55) For the purpose of construction, interpretation and/or adjudication, it shall be deemed that Lessee and Lessor contributed equally to the drafting of this instrument. The failure of either party to enforce or exercise any provision of this Lease shall not constitute or be considered as a waiver of the provision in the future unless the same is expressed in writing and signed by the respective parties.

DOWER

56) In consideration of the execution of this Lease, Lessor hereby releases and relinquishes all Lessor's rights and expectancies of dower in the Lease.

ASSIGNMENT

57) Lessee, and any successor Lessee, shall have the right to assign and transfer the within Lease, in whole or in part.

NOTICE

58) If at any time after the execution of the Lease, it shall become necessary or convenient for one of the parties to serve any notice, demand or communication upon the other party, such notice, demand or communication shall be in writing signed by the party serving notice, sent by nationally recognized overnight carrier or registered or certified United States mail, return receipt requested and postage or other charges prepaid. Any such notice if intended for Lessor shall be addressed to the address set forth in the first paragraph of this Lease, and if intended for Lessee, the notice shall be addressed to the address set forth in the first paragraph of this Lease, or to such other address as either party may have furnished to the other in writing as a place for the service of notice. Any notice so sent shall be deemed to have been given/served as of the time it is deposited with the overnight carrier or in the United States mail.

BONUS PAYMENT

59) Upon execution of this Lease, Lessee shall pay a sum equal to $10 per net acre covered by this Lease. This Lease shall not be effective unless and until Lessee pays the balance of the bonus payment (the "Bonus") set forth in the Order of Payment executed by Lessor and Lessee in connection with this Lease, as adjusted according to the net mineral acres covered by this Lease as confirmed by Lessee's title review, to Lessor within one hundred and twenty (120) days of Lessor's execution of this Lease (the "Payment Date"), *provided however*, that if despite commercially reasonable efforts Lessee is unable to complete its title review within said 120 days due to overcrowding at the courthouse, Lessee may extend the Payment Date by an additional thirty (30) days. In the event Lessor does not receive the balance of the Bonus, as may be adjusted based on Lessee's title review, on or before the Payment Date, then this Lease shall automatically become null and void. Promptly after any termination, expiration or voiding of this Lease, Lessee shall provide Lessor with a copy of an appropriate release of the Memorandum of Lease and Lessor shall cause the same to be filed of record.

IN WITNESS WHEREOF, the Lessor(s) hereunto set their hand(s) on the day and year first above written.

LESSOR(S)	WITNESS
______________________________	______________________________
By: __________	Print: ____________________
______________________________	
By: ____________	

Exhibit B

ACKNOWLEDGMENT

STATE OF OHIO)
COUNTY OF ___________)

On the _______ day of ________________, 2014, before me, the undersigned officer, personally appeared ________________________________, known to me or satisfactorily proven to be the person(s) whose name(s) is/are subscribed to the within instrument, and acknowledged that he/she/they executed the same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

____
Notary Public

EXHIBIT " C "
ACCOUNTING PROCEDURE
JOINT OPERATIONS

I. GENERAL PROVISIONS

IF THE PARTIES FAIL TO SELECT EITHER ONE OF COMPETING "ALTERNATIVE" PROVISIONS, OR SELECT ALL THE COMPETING "ALTERNATIVE" PROVISIONS, ALTERNATIVE 1 IN EACH SUCH INSTANCE SHALL BE DEEMED TO HAVE BEEN ADOPTED BY THE PARTIES AS A RESULT OF ANY SUCH OMISSION OR DUPLICATE NOTATION.

IN THE EVENT THAT ANY "OPTIONAL" PROVISION OF THIS ACCOUNTING PROCEDURE IS NOT ADOPTED BY THE PARTIES TO THE AGREEMENT BY A TYPED, PRINTED OR HANDWRITTEN INDICATION, SUCH PROVISION SHALL NOT FORM A PART OF THIS ACCOUNTING PROCEDURE, AND NO INFERENCE SHALL BE MADE CONCERNING THE INTENT OF THE PARTIES IN SUCH EVENT.

1. DEFINITIONS

All terms used in this Accounting Procedure shall have the following meaning, unless otherwise expressly defined in the Agreement:

"Affiliate" means for a person, another person that controls, is controlled by, or is under common control with that person. In this definition, (a) control means the ownership by one person, directly or indirectly, of more than fifty percent (50%) of the voting securities of a corporation or, for other persons, the equivalent ownership interest (such as partnership interests), and (b) "person" means an individual, corporation, partnership, trust, estate, unincorporated organization, association, or other legal entity.

"Agreement" means the operating agreement, farmout agreement, or other contract between the Parties to which this Accounting Procedure is attached.

"Controllable Material" means Material that, at the time of acquisition or disposition by the Joint Account, as applicable, is so classified in the Material Classification Manual most recently recommended by the Council of Petroleum Accountants Societies (COPAS).

"Equalized Freight" means the procedure of charging transportation cost to the Joint Account based upon the distance from the nearest Railway Receiving Point to the property.

"Excluded Amount" means a specified excluded trucking amount most recently recommended by COPAS.

"Field Office" means a structure, or portion of a structure, whether a temporary or permanent installation, the primary function of which is to directly serve daily operation and maintenance activities of the Joint Property and which serves as a staging area for directly chargeable field personnel.

"First Level Supervision" means those employees whose primary function in Joint Operations is the direct oversight of the Operator's field employees and/or contract labor directly employed On-site in a field operating capacity. First Level Supervision functions may include, but are not limited to:

- Responsibility for field employees and contract labor engaged in activities that can include field operations, maintenance, construction, well remedial work, equipment movement and drilling
- Responsibility for day-to-day direct oversight of rig operations
- Responsibility for day-to-day direct oversight of construction operations
- Coordination of job priorities and approval of work procedures
- Responsibility for optimal resource utilization (equipment, Materials, personnel)
- Responsibility for meeting production and field operating expense targets
- Representation of the Parties in local matters involving community, vendors, regulatory agents and landowners, as an incidental part of the supervisor's operating responsibilities
- Responsibility for all emergency responses with field staff
- Responsibility for implementing safety and environmental practices
- Responsibility for field adherence to company policy
- Responsibility for employment decisions and performance appraisals for field personnel
- Oversight of sub-groups for field functions such as electrical, safety, environmental, telecommunications, which may have group or team leaders.

"Joint Account" means the account showing the charges paid and credits received in the conduct of the Joint Operations that are to be shared by the Parties, but does not include proceeds attributable to hydrocarbons and by-products produced under the Agreement.

"Joint Operations" means all operations necessary or proper for the exploration, appraisal, development, production, protection, maintenance, repair, abandonment, and restoration of the Joint Property.

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"Joint Property" means the real and personal property subject to the Agreement.

"Laws" means any laws, rules, regulations, decrees, and orders of the United States of America or any state thereof and all other governmental bodies, agencies, and other authorities having jurisdiction over or affecting the provisions contained in or the transactions contemplated by the Agreement or the Parties and their operations, whether such laws now exist or are hereafter amended, enacted, promulgated or issued.

"Material" means personal property, equipment, supplies, or consumables acquired or held for use by the Joint Property.

"Non-Operators" means the Parties to the Agreement other than the Operator.

"Offshore Facilities" means platforms, surface and subsea development and production systems, and other support systems such as oil and gas handling facilities, living quarters, offices, shops, cranes, electrical supply equipment and systems, fuel and water storage and piping, heliport, marine docking installations, communication facilities, navigation aids, and other similar facilities necessary in the conduct of offshore operations, all of which are located offshore.

"Off-site" means any location that is not considered On-site as defined in this Accounting Procedure.

"On-site" means on the Joint Property when in direct conduct of Joint Operations. The term "On-site" shall also include that portion of Offshore Facilities, Shore Base Facilities, fabrication yards, and staging areas from which Joint Operations are conducted, or other facilities that directly control equipment on the Joint Property, regardless of whether such facilities are owned by the Joint Account.

"Operator" means the Party designated pursuant to the Agreement to conduct the Joint Operations.

"Parties" means legal entities signatory to the Agreement or their successors and assigns. Parties shall be referred to individually as "Party."

"Participating Interest" means the percentage of the costs and risks of conducting an operation under the Agreement that a Party agrees, or is otherwise obligated, to pay and bear.

"Participating Party" means a Party that approves a proposed operation or otherwise agrees, or becomes liable, to pay and bear a share of the costs and risks of conducting an operation under the Agreement.

"Personal Expenses" means reimbursed costs for travel and temporary living expenses.

"Railway Receiving Point" means the railhead nearest the Joint Property for which freight rates are published, even though an actual railhead may not exist.

"Shore Base Facilities" means onshore support facilities that during Joint Operations provide such services to the Joint Property as a receiving and transshipment point for Materials; debarkation point for drilling and production personnel and services; communication, scheduling and dispatching center; and other associated functions serving the Joint Property.

"Supply Store" means a recognized source or common stock point for a given Material item.

"Technical Services" means services providing specific engineering, geoscience, or other professional skills, such as those performed by engineers, geologists, geophysicists, and technicians, required to handle specific operating conditions and problems for the benefit of Joint Operations; provided, however, Technical Services shall not include those functions specifically identified as overhead under the second paragraph of the introduction of Section III (*Overhead*). Technical Services may be provided by the Operator, Operator's Affiliate, Non-Operator, Non-Operator Affiliates, and/or third parties.

2. STATEMENTS AND BILLINGS

The Operator shall bill Non-Operators on or before the last day of the month for their proportionate share of the Joint Account for the preceding month. Such bills shall be accompanied by statements that identify the AFE (authority for expenditure), lease or facility, and all charges and credits summarized by appropriate categories of investment and expense. Controllable Material shall be separately identified and fully described in detail, or at the Operator's option, Controllable Material may be summarized by major Material classifications. Intangible drilling costs, audit adjustments, and unusual charges and credits shall be separately and clearly identified.

The Operator may make available to Non-Operators any statements and bills required under Section I.2 and/or Section I.3.A (*Advances and Payments by the Parties*) via email, electronic data interchange, internet websites or other equivalent electronic media in lieu of paper copies. The Operator shall provide the Non-Operators instructions and any necessary information to access and receive the statements and bills within the timeframes specified herein. A statement or billing shall be deemed as delivered twenty-four (24) hours (exclusive of weekends and holidays) after the Operator notifies the Non-Operator that the statement or billing is available on the website and/or sent via email or electronic data interchange transmission. Each Non-Operator individually shall elect to receive statements and billings electronically, if available from the Operator, or request paper copies. Such election may be changed upon thirty (30) days prior written notice to the Operator.

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3. ADVANCES AND PAYMENTS BY THE PARTIES

A. Unless otherwise provided for in the Agreement, the Operator may require the Non-Operators to advance their share of the estimated cash outlay for the succeeding month's operations within fifteen (15) days after receipt of the advance request or by the first day of the month for which the advance is required, whichever is later. The Operator shall adjust each monthly billing to reflect advances received from the Non-Operators for such month. If a refund is due, the Operator shall apply the amount to be refunded to the subsequent month's billing or advance, unless the Non-Operator sends the Operator a written request for a cash refund. The Operator shall remit the refund to the Non-Operator within fifteen (15) days of receipt of such written request.

B. Except as provided below, each Party shall pay its proportionate share of all bills in full within fifteen (15) days of receipt date. If payment is not made within such time, the unpaid balance shall bear interest compounded monthly at the prime rate published by the *Wall Street Journal* on the first day of each month the payment is delinquent, plus three percent (3%), per annum, or the maximum contract rate permitted by the applicable usury Laws governing the Joint Property, whichever is the lesser, plus attorney's fees, court costs, and other costs in connection with the collection of unpaid amounts. If the *Wall Street Journal* ceases to be published or discontinues publishing a prime rate, the unpaid balance shall bear interest compounded monthly at the prime rate published by the Federal Reserve plus three percent (3%), per annum. Interest shall begin accruing on the first day of the month in which the payment was due. Payment shall not be reduced or delayed as a result of inquiries or anticipated credits unless the Operator has agreed. Notwithstanding the foregoing, the Non-Operator may reduce payment, provided it furnishes documentation and explanation to the Operator at the time payment is made, to the extent such reduction is caused by:

(1) being billed at an incorrect working interest or Participating Interest that is higher than such Non-Operator's actual working interest or Participating Interest, as applicable; or
(2) being billed for a project or AFE requiring approval of the Parties under the Agreement that the Non-Operator has not approved or is not otherwise obligated to pay under the Agreement; or
(3) being billed for a property in which the Non-Operator no longer owns a working interest, provided the Non-Operator has furnished the Operator a copy of the recorded assignment or letter in-lieu. Notwithstanding the foregoing, the Non-Operator shall remain responsible for paying bills attributable to the interest it sold or transferred for any bills rendered during the thirty (30) day period following the Operator's receipt of such written notice; or
(4) charges outside the adjustment period, as provided in Section I.4 (*Adjustments*).

4. ADJUSTMENTS

A. Payment of any such bills shall not prejudice the right of any Party to protest or question the correctness thereof; however, all bills and statements, including payout statements, rendered during any calendar year shall conclusively be presumed to be true and correct, with respect only to expenditures, after twenty-four (24) months following the end of any such calendar year, unless within said period a Party takes specific detailed written exception thereto making a claim for adjustment. The Operator shall provide a response to all written exceptions, whether or not contained in an audit report, within the time periods prescribed in Section I.5 (*Expenditure Audits*).

B. All adjustments initiated by the Operator, except those described in items (1) through (4) of this Section I.4.B, are limited to the twenty-four (24) month period following the end of the calendar year in which the original charge appeared or should have appeared on the Operator's Joint Account statement or payout statement. Adjustments that may be made beyond the twenty-four (24) month period are limited to adjustments resulting from the following:

(1) a physical inventory of Controllable Material as provided for in Section V (*Inventories of Controllable Material*), or
(2) an offsetting entry (whether in whole or in part) that is the direct result of a specific joint interest audit exception granted by the Operator relating to another property, or
(3) a government/regulatory audit, or
(4) a working interest ownership or Participating Interest adjustment.

5. EXPENDITURE AUDITS

A. A Non-Operator, upon written notice to the Operator and all other Non-Operators, shall have the right to audit the Operator's accounts and records relating to the Joint Account within the twenty-four (24) month period following the end of such calendar year in which such bill was rendered; however, conducting an audit shall not extend the time for the taking of written exception to and the adjustment of accounts as provided for in Section I.4 (*Adjustments*). Any Party that is subject to payout accounting under the Agreement shall have the right to audit the accounts and records of the Party responsible for preparing the payout statements, or of the Party furnishing information to the Party responsible for preparing payout statements. Audits of payout accounts may include the volumes of hydrocarbons produced and saved and proceeds received for such hydrocarbons as they pertain to payout accounting required under the Agreement. Unless otherwise provided in the Agreement, audits of a payout account shall be conducted within the twenty-four (24) month period following the end of the calendar year in which the payout statement was rendered.

Where there are two or more Non-Operators, the Non-Operators shall make every reasonable effort to conduct a joint audit in a manner that will result in a minimum of inconvenience to the Operator. The Operator shall bear no portion of the Non-Operators' audit cost incurred under this paragraph unless agreed to by the Operator. The audits shall not be conducted more than once each year without prior approval of the Operator, except upon the resignation or removal of the Operator, and shall be made at the expense of

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those Non-Operators approving such audit.

The Non-Operator leading the audit (hereinafter “lead audit company”) shall issue the audit report within ninety (90) days after completion of the audit testing and analysis; however, the ninety (90) day time period shall not extend the twenty-four (24) month requirement for taking specific detailed written exception as required in Section I.4.A (*Adjustments*) above. All claims shall be supported with sufficient documentation.

A timely filed written exception or audit report containing written exceptions (hereinafter “written exceptions”) shall, with respect to the claims made therein, preclude the Operator from asserting a statute of limitations defense against such claims, and the Operator hereby waives its right to assert any statute of limitations defense against such claims for so long as any Non-Operator continues to comply with the deadlines for resolving exceptions provided in this Accounting Procedure. If the Non-Operators fail to comply with the additional deadlines in Section I.5.B or I.5.C, the Operator’s waiver of its rights to assert a statute of limitations defense against the claims brought by the Non-Operators shall lapse, and such claims shall then be subject to the applicable statute of limitations, provided that such waiver shall not lapse in the event that the Operator has failed to comply with the deadlines in Section I.5.B or I.5.C.

B. The Operator shall provide a written response to all exceptions in an audit report within one hundred eighty (180) days after Operator receives such report. Denied exceptions should be accompanied by a substantive response. If the Operator fails to provide substantive response to an exception within this one hundred eighty (180) day period, the Operator will owe interest on that exception or portion thereof, if ultimately granted, from the date it received the audit report. Interest shall be calculated using the rate set forth in Section I.3.B (*Advances and Payments by the Parties*).

C. The lead audit company shall reply to the Operator’s response to an audit report within ninety (90) days of receipt, and the Operator shall reply to the lead audit company’s follow-up response within ninety (90) days of receipt; provided, however, each Non-Operator shall have the right to represent itself if it disagrees with the lead audit company’s position or believes the lead audit company is not adequately fulfilling its duties. Unless otherwise provided for in Section I.5.E, if the Operator fails to provide substantive response to an exception within this ninety (90) day period, the Operator will owe interest on that exception or portion thereof, if ultimately granted, from the date it received the audit report. Interest shall be calculated using the rate set forth in Section I.3.B (*Advances and Payments by the Parties*).

D. If any Party fails to meet the deadlines in Sections I.5.B or I.5.C or if any audit issues are outstanding fifteen (15) months after Operator receives the audit report, the Operator or any Non-Operator participating in the audit has the right to call a resolution meeting, as set forth in this Section I.5.D or it may invoke the dispute resolution procedures included in the Agreement, if applicable. The meeting will require one month’s written notice to the Operator and all Non-Operators participating in the audit. The meeting shall be held at the Operator’s office or mutually agreed location, and shall be attended by representatives of the Parties with authority to resolve such outstanding issues. Any Party who fails to attend the resolution meeting shall be bound by any resolution reached at the meeting. The lead audit company will make good faith efforts to coordinate the response and positions of the Non-Operator participants throughout the resolution process; however, each Non-Operator shall have the right to represent itself. Attendees will make good faith efforts to resolve outstanding issues, and each Party will be required to present substantive information supporting its position. A resolution meeting may be held as often as agreed to by the Parties. Issues unresolved at one meeting may be discussed at subsequent meetings until each such issue is resolved.

If the Agreement contains no dispute resolution procedures and the audit issues cannot be resolved by negotiation, the dispute shall be submitted to mediation. In such event, promptly following one Party’s written request for mediation, the Parties to the dispute shall choose a mutually acceptable mediator and share the costs of mediation services equally. The Parties shall each have present at the mediation at least one individual who has the authority to settle the dispute. The Parties shall make reasonable efforts to ensure that the mediation commences within sixty (60) days of the date of the mediation request. Notwithstanding the above, any Party may file a lawsuit or complaint (1) if the Parties are unable after reasonable efforts, to commence mediation within sixty (60) days of the date of the mediation request, (2) for statute of limitations reasons, or (3) to seek a preliminary injunction or other provisional judicial relief, if in its sole judgment an injunction or other provisional relief is necessary to avoid irreparable damage or to preserve the status quo. Despite such action, the Parties shall continue to try to resolve the dispute by mediation.

E. ☑ ***(Optional Provision – Forfeiture Penalties)***
If the Non-Operators fail to meet the deadline in Section I.5.C, any unresolved exceptions that were not addressed by the Non-Operators within one (1) year following receipt of the last substantive response of the Operator shall be deemed to have been withdrawn by the Non-Operators. If the Operator fails to meet the deadlines in Section I.5.B or I.5.C, any unresolved exceptions that were not addressed by the Operator within one (1) year following receipt of the audit report or receipt of the last substantive response of the Non-Operators, whichever is later, shall be deemed to have been granted by the Operator and adjustments shall be made, without interest, to the Joint Account.

6. APPROVAL BY PARTIES

A. GENERAL MATTERS

Where an approval or other agreement of the Parties or Non-Operators is expressly required under other Sections of this Accounting Procedure and if the Agreement to which this Accounting Procedure is attached contains no contrary provisions in regard thereto, the

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Operator shall notify all Non-Operators of the Operator's proposal and the agreement or approval of a majority in interest of the Non-Operators shall be controlling on all Non-Operators.

This Section I.6.A applies to specific situations of limited duration where a Party proposes to change the accounting for charges from that prescribed in this Accounting Procedure. This provision does not apply to amendments to this Accounting Procedure, which are covered by Section I.6.B.

B. AMENDMENTS

If the Agreement to which this Accounting Procedure is attached contains no contrary provisions in regard thereto, this Accounting Procedure can be amended by an affirmative vote of ________two________ (___2___) or more Parties, one of which is the Operator, having a combined working interest of at least ______fifty_______ percent (__50__%), which approval shall be binding on all Parties, provided, however, approval of at least one (1) Non-Operator shall be required.

C. AFFILIATES

For the purpose of administering the voting procedures of Sections I.6.A and I.6.B, if Parties to this Agreement are Affiliates of each other, then such Affiliates shall be combined and treated as a single Party having the combined working interest or Participating Interest of such Affiliates.

For the purposes of administering the voting procedures in Section I.6.A, if a Non-Operator is an Affiliate of the Operator, votes under Section I.6.A shall require the majority in interest of the Non-Operator(s) after excluding the interest of the Operator's Affiliate.

II. DIRECT CHARGES

The Operator shall charge the Joint Account with the following items:

1. RENTALS AND ROYALTIES

Lease rentals and royalties paid by the Operator, on behalf of all Parties, for the Joint Operations.

2. LABOR

A. Salaries and wages, including incentive compensation programs as set forth in COPAS MFI-37 ("Chargeability of Incentive Compensation Programs"), for:

(1) Operator's field employees directly employed On-site in the conduct of Joint Operations,

(2) Operator's employees directly employed on Shore Base Facilities, Offshore Facilities, or other facilities serving the Joint Property if such costs are not charged under Section II.6 (*Equipment and Facilities Furnished by Operator*) or are not a function covered under Section III (*Overhead*),

(3) Operator's employees providing First Level Supervision,

(4) Operator's employees providing On-site Technical Services for the Joint Property if such charges are excluded from the overhead rates in Section III (*Overhead*),

(5) Operator's employees providing Off-site Technical Services for the Joint Property if such charges are excluded from the overhead rates in Section III (*Overhead*).

Charges for the Operator's employees identified in Section II.2.A may be made based on the employee's actual salaries and wages, or in lieu thereof, a day rate representing the Operator's average salaries and wages of the employee's specific job category.

Charges for personnel chargeable under this Section II.2.A who are foreign nationals shall not exceed comparable compensation paid to an equivalent U.S. employee pursuant to this Section II.2, unless otherwise approved by the Parties pursuant to Section I.6.A (*General Matters*).

B. Operator's cost of holiday, vacation, sickness, and disability benefits, and other customary allowances paid to employees whose salaries and wages are chargeable to the Joint Account under Section II.2.A, excluding severance payments or other termination allowances. Such costs under this Section II.2.B may be charged on a "when and as-paid basis" or by "percentage assessment" on the amount of salaries and wages chargeable to the Joint Account under Section II.2.A. If percentage assessment is used, the rate shall be based on the Operator's cost experience.

C. Expenditures or contributions made pursuant to assessments imposed by governmental authority that are applicable to costs chargeable to the Joint Account under Sections II.2.A and B.

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D. Personal Expenses of personnel whose salaries and wages are chargeable to the Joint Account under Section II.2.A when the expenses are incurred in connection with directly chargeable activities.

E. Reasonable relocation costs incurred in transferring to the Joint Property personnel whose salaries and wages are chargeable to the Joint Account under Section II.2.A. Notwithstanding the foregoing, relocation costs that result from reorganization or merger of a Party, or that are for the primary benefit of the Operator, shall not be chargeable to the Joint Account. Extraordinary relocation costs, such as those incurred as a result of transfers from remote locations, such as Alaska or overseas, shall not be charged to the Joint Account unless approved by the Parties pursuant to Section I.6.A (*General Matters*).

F. Training costs as specified in COPAS MFI-35 ("Charging of Training Costs to the Joint Account") for personnel whose salaries and wages are chargeable under Section II.2.A. This training charge shall include the wages, salaries, training course cost, and Personal Expenses incurred during the training session. The training cost shall be charged or allocated to the property or properties directly benefiting from the training. The cost of the training course shall not exceed prevailing commercial rates, where such rates are available.

G. Operator's current cost of established plans for employee benefits, as described in COPAS MFI-27 ("Employee Benefits Chargeable to Joint Operations and Subject to Percentage Limitation"), applicable to the Operator's labor costs chargeable to the Joint Account under Sections II.2.A and B based on the Operator's actual cost not to exceed the employee benefits limitation percentage most recently recommended by COPAS.

H. Award payments to employees, in accordance with COPAS MFI-49 ("Awards to Employees and Contractors") for personnel whose salaries and wages are chargeable under Section II.2.A.

3. MATERIAL

Material purchased or furnished by the Operator for use on the Joint Property in the conduct of Joint Operations as provided under Section IV (Material *Purchases, Transfers, and Dispositions*). Only such Material shall be purchased for or transferred to the Joint Property as may be required for immediate use or is reasonably practical and consistent with efficient and economical operations. The accumulation of surplus stocks shall be avoided.

4. TRANSPORTATION

A. Transportation of the Operator's, Operator's Affiliate's, or contractor's personnel necessary for Joint Operations.

B. Transportation of Material between the Joint Property and another property, or from the Operator's warehouse or other storage point to the Joint Property, shall be charged to the receiving property using one of the methods listed below. Transportation of Material from the Joint Property to the Operator's warehouse or other storage point shall be paid for by the Joint Property using one of the methods listed below:

(1) If the actual trucking charge is less than or equal to the Excluded Amount the Operator may charge actual trucking cost or a theoretical charge from the Railway Receiving Point to the Joint Property. The basis for the theoretical charge is the per hundred weight charge plus fuel surcharges from the Railway Receiving Point to the Joint Property. The Operator shall consistently apply the selected alternative.

(2) If the actual trucking charge is greater than the Excluded Amount, the Operator shall charge Equalized Freight. Accessorial charges such as loading and unloading costs, split pick-up costs, detention, call out charges, and permit fees shall be charged directly to the Joint Property and shall not be included when calculating the Equalized Freight.

5. SERVICES

The cost of contract services, equipment, and utilities used in the conduct of Joint Operations, except for contract services, equipment, and utilities covered by Section III (*Overhead*), or Section II.7 (*Affiliates*), or excluded under Section II.9 (*Legal Expense*). Awards paid to contractors shall be chargeable pursuant to COPAS MFI-49 ("Awards to Employees and Contractors").

The costs of third party Technical Services are chargeable to the extent excluded from the overhead rates under Section III (*Overhead*).

6. EQUIPMENT AND FACILITIES FURNISHED BY OPERATOR

In the absence of a separately negotiated agreement, equipment and facilities furnished by the Operator will be charged as follows:

A. The Operator shall charge the Joint Account for use of Operator-owned equipment and facilities, including but not limited to production facilities, Shore Base Facilities, Offshore Facilities, and Field Offices, at rates commensurate with the costs of ownership and operation. The cost of Field Offices shall be chargeable to the extent the Field Offices provide direct service to personnel who are chargeable pursuant to Section II.2.A (*Labor*). Such rates may include labor, maintenance, repairs, other operating expense, insurance, taxes, depreciation using straight line depreciation method, and interest on gross investment less accumulated depreciation not to exceed _____twelve_____ percent (____12____%) per annum; provided, however, depreciation shall not be charged when the

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equipment and facilities investment have been fully depreciated. The rate may include an element of the estimated cost for abandonment, reclamation, and dismantlement. Such rates shall not exceed the average commercial rates currently prevailing in the immediate area of the Joint Property.

B. In lieu of charges in Section II.6.A above, the Operator may elect to use average commercial rates prevailing in the immediate area of the Joint Property, less twenty percent (20%). If equipment and facilities are charged under this Section II.6.B, the Operator shall adequately document and support commercial rates and shall periodically review and update the rate and the supporting documentation. For automotive equipment, the Operator may elect to use rates published by the Petroleum Motor Transport Association (PMTA) or such other organization recognized by COPAS as the official source of rates.

7. AFFILIATES

A. Charges for an Affiliate's goods and/or services used in operations requiring an AFE or other authorization from the Non-Operators may be made without the approval of the Parties provided (i) the Affiliate is identified and the Affiliate goods and services are specifically detailed in the approved AFE or other authorization, and (ii) the total costs for such Affiliate's goods and services billed to such individual project do not exceed $_100,000.00________ If the total costs for an Affiliate's goods and services charged to such individual project are not specifically detailed in the approved AFE or authorization or exceed such amount, charges for such Affiliate shall require approval of the Parties, pursuant to Section I.6.A (*General Matters*).

B. For an Affiliate's goods and/or services used in operations not requiring an AFE or other authorization from the Non-Operators, charges for such Affiliate's goods and services shall require approval of the Parties, pursuant to Section I.6.A (*General Matters*), if the charges exceed $_50,000.00_________ in a given calendar year.

C. The cost of the Affiliate's goods or services shall not exceed average commercial rates prevailing in the area of the Joint Property, unless the Operator obtains the Non-Operators' approval of such rates. The Operator shall adequately document and support commercial rates and shall periodically review and update the rate and the supporting documentation; provided, however, documentation of commercial rates shall not be required if the Operator obtains Non-Operator approval of its Affiliate's rates or charges prior to billing Non-Operators for such Affiliate's goods and services. Notwithstanding the foregoing, direct charges for Affiliate-owned communication facilities or systems shall be made pursuant to Section II.12 (*Communications*).

If the Parties fail to designate an amount in Sections II.7.A or II.7.B, in each instance the amount deemed adopted by the Parties as a result of such omission shall be the amount established as the Operator's expenditure limitation in the Agreement. If the Agreement does not contain an Operator's expenditure limitation, the amount deemed adopted by the Parties as a result of such omission shall be zero dollars ($ 0.00).

8. DAMAGES AND LOSSES TO JOINT PROPERTY

All costs or expenses necessary for the repair or replacement of Joint Property resulting from damages or losses incurred, except to the extent such damages or losses result from a Party's or Parties' gross negligence or willful misconduct, in which case such Party or Parties shall be solely liable.

The Operator shall furnish the Non-Operator written notice of damages or losses incurred as soon as practicable after a report has been received by the Operator.

9. LEGAL EXPENSE

Recording fees and costs of handling, settling, or otherwise discharging litigation, claims, and liens incurred in or resulting from operations under the Agreement, or necessary to protect or recover the Joint Property, to the extent permitted under the Agreement. Costs of the Operator's or Affiliate's legal staff or outside attorneys, including fees and expenses, are not chargeable unless approved by the Parties pursuant to Section I.6.A (*General Matters*) or otherwise provided for in the Agreement.

Notwithstanding the foregoing paragraph, costs for procuring abstracts, fees paid to outside attorneys for title examinations (including preliminary, supplemental, shut-in royalty opinions, division order title opinions), and curative work shall be chargeable to the extent permitted as a direct charge in the Agreement.

10. TAXES AND PERMITS

All taxes and permitting fees of every kind and nature, assessed or levied upon or in connection with the Joint Property, or the production therefrom, and which have been paid by the Operator for the benefit of the Parties, including penalties and interest, except to the extent the penalties and interest result from the Operator's gross negligence or willful misconduct.

If ad valorem taxes paid by the Operator are based in whole or in part upon separate valuations of each Party's working interest, then notwithstanding any contrary provisions, the charges to the Parties will be made in accordance with the tax value generated by each Party's working interest.

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Costs of tax consultants or advisors, the Operator's employees, or Operator's Affiliate employees in matters regarding ad valorem or other tax matters, are not permitted as direct charges unless approved by the Parties pursuant to Section I.6.A (*General Matters*).

Charges to the Joint Account resulting from sales/use tax audits, including extrapolated amounts and penalties and interest, are permitted, provided the Non-Operator shall be allowed to review the invoices and other underlying source documents which served as the basis for tax charges and to determine that the correct amount of taxes were charged to the Joint Account. If the Non-Operator is not permitted to review such documentation, the sales/use tax amount shall not be directly charged unless the Operator can conclusively document the amount owed by the Joint Account.

11. INSURANCE

Net premiums paid for insurance required to be carried for Joint Operations for the protection of the Parties. If Joint Operations are conducted at locations where the Operator acts as self-insurer in regard to its worker's compensation and employer's liability insurance obligation, the Operator shall charge the Joint Account manual rates for the risk assumed in its self-insurance program as regulated by the jurisdiction governing the Joint Property. In the case of offshore operations in federal waters, the manual rates of the adjacent state shall be used for personnel performing work On-site, and such rates shall be adjusted for offshore operations by the U.S. Longshoreman and Harbor Workers (USL&H) or Jones Act surcharge, as appropriate.

12. COMMUNICATIONS

Costs of acquiring, leasing, installing, operating, repairing, and maintaining communication facilities or systems, including satellite, radio and microwave facilities, between the Joint Property and the Operator's office(s) directly responsible for field operations in accordance with the provisions of COPAS MFI-44 ("Field Computer and Communication Systems"). If the communications facilities or systems serving the Joint Property are Operator-owned, charges to the Joint Account shall be made as provided in Section II.6 (*Equipment and Facilities Furnished by Operator*). If the communication facilities or systems serving the Joint Property are owned by the Operator's Affiliate, charges to the Joint Account shall not exceed average commercial rates prevailing in the area of the Joint Property. The Operator shall adequately document and support commercial rates and shall periodically review and update the rate and the supporting documentation.

13. ECOLOGICAL, ENVIRONMENTAL, AND SAFETY

Costs incurred for Technical Services and drafting to comply with ecological, environmental and safety Laws or standards recommended by Occupational Safety and Health Administration (OSHA) or other regulatory authorities. All other labor and functions incurred for ecological, environmental and safety matters, including management, administration, and permitting, shall be covered by Sections II.2 (*Labor*), II.5 (*Services*), or Section III (*Overhead*), as applicable.

Costs to provide or have available pollution containment and removal equipment plus actual costs of control and cleanup and resulting responsibilities of oil and other spills as well as discharges from permitted outfalls as required by applicable Laws, or other pollution containment and removal equipment deemed appropriate by the Operator for prudent operations, are directly chargeable.

14. ABANDONMENT AND RECLAMATION

Costs incurred for abandonment and reclamation of the Joint Property, including costs required by lease agreements or by Laws.

15. OTHER EXPENDITURES

Any other expenditure not covered or dealt with in the foregoing provisions of this Section II (*Direct Charges*), or in Section III (*Overhead*) and which is of direct benefit to the Joint Property and is incurred by the Operator in the necessary and proper conduct of the Joint Operations. Charges made under this Section II.15 shall require approval of the Parties, pursuant to Section I.6.A (*General Matters*).

III. OVERHEAD

As compensation for costs not specifically identified as chargeable to the Joint Account pursuant to Section II (*Direct Charges*), the Operator shall charge the Joint Account in accordance with this Section III.

Functions included in the overhead rates regardless of whether performed by the Operator, Operator's Affiliates or third parties and regardless of location, shall include, but not be limited to, costs and expenses of:

- warehousing, other than for warehouses that are jointly owned under this Agreement
- design and drafting (except when allowed as a direct charge under Sections II.13, III.1.A(ii), and III.2, Option B)
- inventory costs not chargeable under Section V (*Inventories of Controllable Material*)
- procurement
- administration
- accounting and auditing
- gas dispatching and gas chart integration

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- human resources
- management
- supervision not directly charged under Section II.2 (*Labor*)
- legal services not directly chargeable under Section II.9 (*Legal Expense*)
- taxation, other than those costs identified as directly chargeable under Section II.10 (*Taxes and Permits*)
- preparation and monitoring of permits and certifications; preparing regulatory reports; appearances before or meetings with governmental agencies or other authorities having jurisdiction over the Joint Property, other than On-site inspections; reviewing, interpreting, or submitting comments on or lobbying with respect to Laws or proposed Laws.

Overhead charges shall include the salaries or wages plus applicable payroll burdens, benefits, and Personal Expenses of personnel performing overhead functions, as well as office and other related expenses of overhead functions.

1. OVERHEAD—DRILLING AND PRODUCING OPERATIONS

As compensation for costs incurred but not chargeable under Section II (*Direct Charges*) and not covered by other provisions of this Section III, the Operator shall charge on either:

☑ **(Alternative 1)** Fixed Rate Basis, Section III.1.B.
☐

A. TECHNICAL SERVICES

(i) Except as otherwise provided in Section II.13 (*Ecological Environmental, and Safety*) and Section III.2 (*Overhead – Major Construction and Catastrophe*), or by approval of the Parties pursuant to Section I.6.A (*General Matters*), the salaries, wages, related payroll burdens and benefits, and Personal Expenses for **On-site** Technical Services, including third party Technical Services:

☑ **(Alternative 1 – Direct)** shall be charged **direct** to the Joint Account.

☐

(ii) Except as otherwise provided in Section II.13 (*Ecological, Environmental, and Safety*) and Section III.2 (*Overhead – Major Construction and Catastrophe*), or by approval of the Parties pursuant to Section I.6.A (*General Matters*), the salaries, wages, related payroll burdens and benefits, and Personal Expenses for **Off-site** Technical Services, including third party Technical Services:

☐

☐

☑ **(Alternative 3 – Drilling Direct)** shall be charged **direct** to the Joint Account, **only** to the extent such Technical Services are directly attributable to drilling, redrilling, deepening, or sidetracking operations, through completion, temporary abandonment, or abandonment if a dry hole. Off-site Technical Services for all other operations, including workover, recompletion, abandonment of producing wells, and the construction or expansion of fixed assets not covered by Section III.2 (*Overhead - Major Construction and Catastrophe*) shall be covered by the overhead rates.

Notwithstanding anything to the contrary in this Section III, Technical Services provided by Operator's Affiliates are subject to limitations set forth in Section II.7 (*Affiliates*). Charges for Technical personnel performing non-technical work shall not be governed by this Section III.1.A, but instead governed by other provisions of this Accounting Procedure relating to the type of work being performed.

B. OVERHEAD—FIXED RATE BASIS

(1) The Operator shall charge the Joint Account at the following rates per well per month:

Drilling Well Rate per month $11,000 (prorated for less than a full month)

Producing Well Rate per month $ 1,100

(2) Application of Overhead—Drilling Well Rate shall be as follows:

(a) Charges for onshore drilling wells shall begin on the spud date and terminate on the date the drilling and/or completion equipment used on the well is released, whichever occurs later. Charges for offshore and inland waters drilling wells shall begin on the date the drilling or completion equipment arrives on location and terminate on the date the drilling or completion equipment moves off location, or is released, whichever occurs first. No charge shall be made during suspension of drilling and/or completion operations for fifteen (15) or more consecutive calendar days.

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(b) Charges for any well undergoing any type of workover, recompletion, and/or abandonment for a period of five (5) or more consecutive work–days shall be made at the Drilling Well Rate. Such charges shall be applied for the period from date operations, with rig or other units used in operations, commence through date of rig or other unit release, except that no charges shall be made during suspension of operations for fifteen (15) or more consecutive calendar days.

(3) Application of Overhead—Producing Well Rate shall be as follows:

(a) An active well that is produced, injected into for recovery or disposal, or used to obtain water supply to support operations for any portion of the month shall be considered as a one-well charge for the entire month.

(b) Each active completion in a multi-completed well shall be considered as a one-well charge provided each completion is considered a separate well by the governing regulatory authority.

(c) A one-well charge shall be made for the month in which plugging and abandonment operations are completed on any well, unless the Drilling Well Rate applies, as provided in Sections III.1.B.(2)(a) or (b). This one-well charge shall be made whether or not the well has produced.

(d) An active gas well shut in because of overproduction or failure of a purchaser, processor, or transporter to take production shall be considered as a one-well charge provided the gas well is directly connected to a permanent sales outlet.

(e) Any well not meeting the criteria set forth in Sections III.1.B.(3) (a), (b), (c), or (d) shall not qualify for a producing overhead charge.

(4) The well rates shall be adjusted on the first day of April each year following the effective date of the Agreement; provided, however, if this Accounting Procedure is attached to or otherwise governing the payout accounting under a farmout agreement, the rates shall be adjusted on the first day of April each year following the effective date of such farmout agreement. The adjustment shall be computed by applying the adjustment factor most recently published by COPAS. The adjusted rates shall be the initial or amended rates agreed to by the Parties increased or decreased by the adjustment factor described herein, for each year from the effective date of such rates, in accordance with COPAS MFI-47 (“Adjustment of Overhead Rates”).

C.

2. OVERHEAD—MAJOR CONSTRUCTION AND CATASTROPHE

To compensate the Operator for overhead costs incurred in connection with a Major Construction project or Catastrophe, the Operator shall either negotiate a rate prior to the beginning of the project, or shall charge the Joint Account for overhead based on the following rates for any Major Construction project in excess of the Operator’s expenditure limit under the Agreement, or for any Catastrophe regardless of the amount. If the Agreement to which this Accounting Procedure is attached does not contain an expenditure limit, Major Construction Overhead shall be assessed for any single Major Construction project costing in excess of $100,000 gross.

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Major Construction shall mean the construction and installation of fixed assets, the expansion of fixed assets, and any other project clearly discernible as a fixed asset required for the development and operation of the Joint Property, or in the dismantlement, abandonment, removal, and restoration of platforms, production equipment, and other operating facilities.

Catastrophe is defined as a sudden calamitous event bringing damage, loss, or destruction to property or the environment, such as an oil spill, blowout, explosion, fire, storm, hurricane, or other disaster. The overhead rate shall be applied to those costs necessary to restore the Joint Property to the equivalent condition that existed prior to the event.

A. If the Operator absorbs the engineering, design and drafting costs related to the project:

(1) ____4_____% of total costs if such costs are less than $100,000; plus

(2) ____3_____% of total costs in excess of $100,000 but less than $1,000,000; plus

(3) ____2_____% of total costs in excess of $1,000,000.

B. If the Operator charges engineering, design and drafting costs related to the project directly to the Joint Account:

(1) ____4_____% of total costs if such costs are less than $100,000; plus

(2) ____3_____% of total costs in excess of $100,000 but less than $1,000,000; plus

(3) ____2_____% of total costs in excess of $1,000,000.

Total cost shall mean the gross cost of any one project. For the purpose of this paragraph, the component parts of a single Major Construction project shall not be treated separately, and the cost of drilling and workover wells and purchasing and installing pumping units and downhole artificial lift equipment shall be excluded. For Catastrophes, the rates shall be applied to all costs associated with each single occurrence or event.

On each project, the Operator shall advise the Non-Operator(s) in advance which of the above options shall apply.

For the purposes of calculating Catastrophe Overhead, the cost of drilling relief wells, substitute wells, or conducting other well operations directly resulting from the catastrophic event shall be included. Expenditures to which these rates apply shall not be reduced by salvage or insurance recoveries. Expenditures that qualify for Major Construction or Catastrophe Overhead shall not qualify for overhead under any other overhead provisions.

In the event of any conflict between the provisions of this Section III.2 and the provisions of Sections II.2 (*Labor*), II.5 (*Services*), or II.7 (*Affiliates*), the provisions of this Section III.2 shall govern.

3. AMENDMENT OF OVERHEAD RATES

The overhead rates provided for in this Section III may be amended from time to time if, in practice, the rates are found to be insufficient or excessive, in accordance with the provisions of Section I.6.B (*Amendments*).

IV. MATERIAL PURCHASES, TRANSFERS, AND DISPOSITIONS

The Operator is responsible for Joint Account Material and shall make proper and timely charges and credits for direct purchases, transfers, and dispositions. The Operator shall provide all Material for use in the conduct of Joint Operations; however, Material may be supplied by the Non-Operators, at the Operator's option. Material furnished by any Party shall be furnished without any express or implied warranties as to quality, fitness for use, or any other matter.

1. DIRECT PURCHASES

Direct purchases shall be charged to the Joint Account at the price paid by the Operator after deduction of all discounts received. The Operator shall make good faith efforts to take discounts offered by suppliers, but shall not be liable for failure to take discounts except to the extent such failure was the result of the Operator's gross negligence or willful misconduct. A direct purchase shall be deemed to occur when an agreement is made between an Operator and a third party for the acquisition of Material for a specific well site or location. Material provided by the Operator under "vendor stocking programs," where the initial use is for a Joint Property and title of the Material does not pass from the manufacturer, distributor, or agent until usage, is considered a direct purchase. If Material is found to be defective or is returned to the manufacturer, distributor, or agent for any other reason, credit shall be passed to the Joint Account within sixty (60) days after the Operator has received adjustment from the manufacturer, distributor, or agent.

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2. TRANSFERS

A transfer is determined to occur when the Operator (i) furnishes Material from a storage facility or from another operated property, (ii) has assumed liability for the storage costs and changes in value, and (iii) has previously secured and held title to the transferred Material. Similarly, the removal of Material from the Joint Property to a storage facility or to another operated property is also considered a transfer; provided, however, Material that is moved from the Joint Property to a storage location for safe-keeping pending disposition may remain charged to the Joint Account and is not considered a transfer. Material shall be disposed of in accordance with Section IV.3 (*Disposition of Surplus*) and the Agreement to which this Accounting Procedure is attached.

A. PRICING

The value of Material transferred to/from the Joint Property should generally reflect the market value on the date of physical transfer. Regardless of the pricing method used, the Operator shall make available to the Non-Operators sufficient documentation to verify the Material valuation. When higher than specification grade or size tubulars are used in the conduct of Joint Operations, the Operator shall charge the Joint Account at the equivalent price for well design specification tubulars, unless such higher specification grade or sized tubulars are approved by the Parties pursuant to Section I.6.A (*General Matters*). Transfers of new Material will be priced using one of the following pricing methods; provided, however, the Operator shall use consistent pricing methods, and not alternate between methods for the purpose of choosing the method most favorable to the Operator for a specific transfer:

(1) Using published prices in effect on date of movement as adjusted by the appropriate COPAS Historical Price Multiplier (HPM) or prices provided by the COPAS Computerized Equipment Pricing System (CEPS).

(a) For oil country tubulars and line pipe, the published price shall be based upon eastern mill carload base prices (Houston, Texas, for special end) adjusted as of date of movement, plus transportation cost as defined in Section IV.2.B (*Freight*).

(b) For other Material, the published price shall be the published list price in effect at date of movement, as listed by a Supply Store nearest the Joint Property where like Material is normally available, or point of manufacture plus transportation costs as defined in Section IV.2.B (*Freight*).

(2) Based on a price quotation from a vendor that reflects a current realistic acquisition cost.

(3) Based on the amount paid by the Operator for like Material in the vicinity of the Joint Property within the previous twelve (12) months from the date of physical transfer.

(4) As agreed to by the Participating Parties for Material being transferred to the Joint Property, and by the Parties owning the Material for Material being transferred from the Joint Property.

B. FREIGHT

Transportation costs shall be added to the Material transfer price using the method prescribed by the COPAS Computerized Equipment Pricing System (CEPS). If not using CEPS, transportation costs shall be calculated as follows:

(1) Transportation costs for oil country tubulars and line pipe shall be calculated using the distance from eastern mill to the Railway Receiving Point based on the carload weight basis as recommended by the COPAS MFI-38 (“Material Pricing Manual”) and other COPAS MFIs in effect at the time of the transfer.

(2) Transportation costs for special mill items shall be calculated from that mill's shipping point to the Railway Receiving Point. For transportation costs from other than eastern mills, the 30,000-pound interstate truck rate shall be used. Transportation costs for macaroni tubing shall be calculated based on the interstate truck rate per weight of tubing transferred to the Railway Receiving Point.

(3) Transportation costs for special end tubular goods shall be calculated using the interstate truck rate from Houston, Texas, to the Railway Receiving Point.

(4) Transportation costs for Material other than that described in Sections IV.2.B.(1) through (3), shall be calculated from the Supply Store or point of manufacture, whichever is appropriate, to the Railway Receiving Point

Regardless of whether using CEPS or manually calculating transportation costs, transportation costs from the Railway Receiving Point to the Joint Property are in addition to the foregoing, and may be charged to the Joint Account based on actual costs incurred. All transportation costs are subject to Equalized Freight as provided in Section II.4 (*Transportation*) of this Accounting Procedure.

C. TAXES

Sales and use taxes shall be added to the Material transfer price using either the method contained in the COPAS Computerized Equipment Pricing System (CEPS) or the applicable tax rate in effect for the Joint Property at the time and place of transfer. In either case, the Joint Account shall be charged or credited at the rate that would have governed had the Material been a direct purchase.

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D. CONDITION

(1) Condition "A" – New and unused Material in sound and serviceable condition shall be charged at one hundred percent (100%) of the price as determined in Sections IV.2.A (*Pricing*), IV.2.B (*Freight*), and IV.2.C (*Taxes*). Material transferred from the Joint Property that was not placed in service shall be credited as charged without gain or loss; provided, however, any unused Material that was charged to the Joint Account through a direct purchase will be credited to the Joint Account at the original cost paid less restocking fees charged by the vendor. New and unused Material transferred from the Joint Property may be credited at a price other than the price originally charged to the Joint Account provided such price is approved by the Parties owning such Material, pursuant to Section I.6.A (*General Matters*). All refurbishing costs required or necessary to return the Material to original condition or to correct handling, transportation, or other damages will be borne by the divesting property. The Joint Account is responsible for Material preparation, handling, and transportation costs for new and unused Material charged to the Joint Property either through a direct purchase or transfer. Any preparation costs incurred, including any internal or external coating and wrapping, will be credited on new Material provided these services were not repeated for such Material for the receiving property.

(2) Condition "B" – Used Material in sound and serviceable condition and suitable for reuse without reconditioning shall be priced by multiplying the price determined in Sections IV.2.A (*Pricing*), IV.2.B (*Freight*), and IV.2.C (*Taxes*) by seventy-five percent (75%).

Except as provided in Section IV.2.D(3), all reconditioning costs required to return the Material to Condition "B" or to correct handling, transportation or other damages will be borne by the divesting property.

If the Material was originally charged to the Joint Account as used Material and placed in service for the Joint Property, the Material will be credited at the price determined in Sections IV.2.A (*Pricing*), IV.2.B (*Freight*), and IV.2.C (*Taxes*) multiplied by sixty-five percent (65%).

Unless otherwise agreed to by the Parties that paid for such Material, used Material transferred from the Joint Property that was not placed in service on the property shall be credited as charged without gain or loss.

(3) Condition "C" – Material that is not in sound and serviceable condition and not suitable for its original function until after reconditioning shall be priced by multiplying the price determined in Sections IV.2.A (*Pricing*), IV.2.B (*Freight*), and IV.2.C (*Taxes*) by fifty percent (50%).

The cost of reconditioning may be charged to the receiving property to the extent Condition "C" value, plus cost of reconditioning, does not exceed Condition "B" value.

(4) Condition "D" – Material that (i) is no longer suitable for its original purpose but useable for some other purpose, (ii) is obsolete, or (iii) does not meet original specifications but still has value and can be used in other applications as a substitute for items with different specifications, is considered Condition "D" Material. Casing, tubing, or drill pipe used as line pipe shall be priced as Grade A and B seamless line pipe of comparable size and weight. Used casing, tubing, or drill pipe utilized as line pipe shall be priced at used line pipe prices. Casing, tubing, or drill pipe used as higher pressure service lines than standard line pipe, e.g., power oil lines, shall be priced under normal pricing procedures for casing, tubing, or drill pipe. Upset tubular goods shall be priced on a non-upset basis. For other items, the price used should result in the Joint Account being charged or credited with the value of the service rendered or use of the Material, or as agreed to by the Parties pursuant to Section 1.6.A (*General Matters*).

(5) Condition "E" – Junk shall be priced at prevailing scrap value prices.

E. OTHER PRICING PROVISIONS

(1) Preparation Costs

Subject to Section II (*Direct Charges*) and Section III (*Overhead*) of this Accounting Procedure, costs incurred by the Operator in making Material serviceable including inspection, third party surveillance services, and other similar services will be charged to the Joint Account at prices which reflect the Operator's actual costs of the services. Documentation must be provided to the Non-Operators upon request to support the cost of service. New coating and/or wrapping shall be considered a component of the Materials and priced in accordance with Sections IV.1 (*Direct Purchases*) or IV.2.A (*Pricing*), as applicable. No charges or credits shall be made for used coating or wrapping. Charges and credits for inspections shall be made in accordance with COPAS MFI-38 ("Material Pricing Manual").

(2) Loading and Unloading Costs

Loading and unloading costs related to the movement of the Material to the Joint Property shall be charged in accordance with the methods specified in COPAS MFI-38 ("Material Pricing Manual").

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3. DISPOSITION OF SURPLUS

Surplus Material is that Material, whether new or used, that is no longer required for Joint Operations. The Operator may purchase, but shall be under no obligation to purchase, the interest of the Non-Operators in surplus Material.

Dispositions for the purpose of this procedure are considered to be the relinquishment of title of the Material from the Joint Property to either a third party, a Non-Operator, or to the Operator. To avoid the accumulation of surplus Material, the Operator should make good faith efforts to dispose of surplus within twelve (12) months through buy/sale agreements, trade, sale to a third party, division in kind, or other dispositions as agreed to by the Parties.

Disposal of surplus Materials shall be made in accordance with the terms of the Agreement to which this Accounting Procedure is attached. If the Agreement contains no provisions governing disposal of surplus Material, the following terms shall apply:

- The Operator may, through a sale to an unrelated third party or entity, dispose of surplus Material having a gross sale value that is less than or equal to the Operator's expenditure limit as set forth in the Agreement to which this Accounting Procedure is attached without the prior approval of the Parties owning such Material.

- If the gross sale value exceeds the Agreement expenditure limit, the disposal must be agreed to by the Parties owning such Material.

- Operator may purchase surplus Condition "A" or "B" Material without approval of the Parties owning such Material, based on the pricing methods set forth in Section IV.2 (*Transfers*).

- Operator may purchase Condition "C" Material without prior approval of the Parties owning such Material if the value of the Materials, based on the pricing methods set forth in Section IV.2 (*Transfers*), is less than or equal to the Operator's expenditure limitation set forth in the Agreement. The Operator shall provide documentation supporting the classification of the Material as Condition C.

- Operator may dispose of Condition "D" or "E" Material under procedures normally utilized by Operator without prior approval of the Parties owning such Material.

4. SPECIAL PRICING PROVISIONS

A. PREMIUM PRICING

Whenever Material is available only at inflated prices due to national emergencies, strikes, government imposed foreign trade restrictions, or other unusual causes over which the Operator has no control, for direct purchase the Operator may charge the Joint Account for the required Material at the Operator's actual cost incurred in providing such Material, making it suitable for use, and moving it to the Joint Property. Material transferred or disposed of during premium pricing situations shall be valued in accordance with Section IV.2 (*Transfers*) or Section IV.3 (*Disposition of Surplus*), as applicable.

B. SHOP-MADE ITEMS

Items fabricated by the Operator's employees, or by contract laborers under the direction of the Operator, shall be priced using the value of the Material used to construct the item plus the cost of labor to fabricate the item. If the Material is from the Operator's scrap or junk account, the Material shall be priced at either twenty-five percent (25%) of the current price as determined in Section IV.2.A (*Pricing*) or scrap value, whichever is higher. In no event shall the amount charged exceed the value of the item commensurate with its use.

C. MILL REJECTS

Mill rejects purchased as "limited service" casing or tubing shall be priced at eighty percent (80%) of K-55/J-55 price as determined in Section IV.2 (*Transfers*). Line pipe converted to casing or tubing with casing or tubing couplings attached shall be priced as K-55/J-55 casing or tubing at the nearest size and weight.

V. INVENTORIES OF CONTROLLABLE MATERIAL

The Operator shall maintain records of Controllable Material charged to the Joint Account, with sufficient detail to perform physical inventories.

Adjustments to the Joint Account by the Operator resulting from a physical inventory of Controllable Material shall be made within twelve (12) months following the taking of the inventory or receipt of Non-Operator inventory report. Charges and credits for overages or shortages will be valued for the Joint Account in accordance with Section IV.2 (*Transfers*) and shall be based on the Condition "B" prices in effect on the date of physical inventory unless the inventorying Parties can provide sufficient evidence another Material condition applies.

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1. DIRECTED INVENTORIES

Physical inventories shall be performed by the Operator upon written request of a majority in working interests of the Non-Operators (hereinafter, "directed inventory"); provided, however, the Operator shall not be required to perform directed inventories more frequently than once every five (5) years. Directed inventories shall be commenced within one hundred eighty (180) days after the Operator receives written notice that a majority in interest of the Non-Operators has requested the inventory. All Parties shall be governed by the results of any directed inventory.

Expenses of directed inventories will be borne by the Joint Account; provided, however, costs associated with any post-report follow-up work in settling the inventory will be absorbed by the Party incurring such costs. The Operator is expected to exercise judgment in keeping expenses within reasonable limits. Any anticipated disproportionate or extraordinary costs should be discussed and agreed upon prior to commencement of the inventory. Expenses of directed inventories may include the following:

A. A per diem rate for each inventory person, representative of actual salaries, wages, and payroll burdens and benefits of the personnel performing the inventory or a rate agreed to by the Parties pursuant to Section I.6.A (*General Matters*). The per diem rate shall also be applied to a reasonable number of days for pre-inventory work and report preparation.

B. Actual transportation costs and Personal Expenses for the inventory team.

C. Reasonable charges for report preparation and distribution to the Non-Operators.

2. NON-DIRECTED INVENTORIES

A. OPERATOR INVENTORIES

Physical inventories that are not requested by the Non-Operators may be performed by the Operator, at the Operator's discretion. The expenses of conducting such Operator-initiated inventories shall not be charged to the Joint Account.

B. NON-OPERATOR INVENTORIES

Subject to the terms of the Agreement to which this Accounting Procedure is attached, the Non-Operators may conduct a physical inventory at reasonable times at their sole cost and risk after giving the Operator at least ninety (90) days prior written notice. The Non-Operator inventory report shall be furnished to the Operator in writing within ninety (90) days of completing the inventory fieldwork.

C. SPECIAL INVENTORIES

The expense of conducting inventories other than those described in Sections V.1 (*Directed Inventories*), V.2.A (*Operator Inventories*), or V.2.B (*Non-Operator Inventories*), shall be charged to the Party requesting such inventory; provided, however, inventories required due to a change of Operator shall be charged to the Joint Account in the same manner as described in Section V.1 (*Directed Inventories*).

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EXHIBIT "D"

The Operator shall carry insurance for the benefit of the joint account covering Operator's operations upon the Unit Area subject to the Operating Agreement to which this Exhibit "D" is attached as follows:

(a) Workers' Compensation Insurance in compliance with the worker's compensation laws of the state in which the operation is being performed.

(b) Employers Liability Insurance on bodily injury of not less than $500,000 for accidental injuries per accident and $500,000 each employee for bodily injury by disease subject to a $500,000 policy limit for bodily injury by disease.

(c) Comprehensive General Liability Insurance with a single combined limit of $5,000,000 for each occurrence for bodily injury and property damage.

(d) Automobile Public Liability and Property Damage Insurance with a single combined limit of $1,000,000 each occurrence for bodily injury and property damage.

The Operator shall require its contractors and subcontractors working or performing services upon the Unit Area subject to the Operating Agreement to which this Exhibit "D" is attached to comply with the worker's compensation laws of the state in which the operation is being performed and to carry such other insurance and in such amounts as the Operator shall deem necessary.

EXHIBIT "E"

GAS BALANCING AGREEMENT

1. <u>Ownership of Gas Production.</u>

a. It is the intent of the Parties that each Party shall have the right to take in kind and separately dispose of its proportionate share of gas (including casinghead gas) produced from each formation in each well located on acreage (the "Contract Area") covered by the Operating Agreement to which this Exhibit is attached.

b. Operator shall control the gas production and be responsible for administering the provisions of this Agreement and shall make reasonable efforts to deliver or cause to be delivered gas to the Parties' gas purchasers as may be required in order to balance the accounts of the Parties in accordance with the provisions contained in this Agreement. For purposes of this Agreement, Operator shall maintain production accounts of the Parties based upon the number of MMBtu's actually contained in the gas produced from a particular formation in a well and delivered at the outlet of lease equipment for each Party's account, regardless of whether sales of the gas are made on a wet or dry basis. All references in this Agreement to quantity or volume shall refer to the number of MMBtu's contained in the gas stream. Toward this end, Operator shall periodically determine or cause to be determined the Btu content of gas produced from each formation in each well on a consistent basis and under standard conditions pursuant to any method customarily used in the industry.

2. <u>Balancing of Production Accounts.</u>

a. Any time a Party, or such Party's purchaser, is not taking or marketing its full share of gas produced from a particular formation in a well (a "Non-Marketing Party"), the remaining Parties (the "Marketing Parties") shall have the right, but not the obligation, to produce, take, sell, and deliver for the marketing Parties' accounts, in addition to the full share of gas to which the Marketing Parties are otherwise entitled, all or any portion of the gas attributable to a Non-Marketing Party. (Gas attributable to a Non-Marketing Party, taken by a Marketing Party, is referred to in this Agreement as "Overproduction"). If there is more than one Marketing Party taking gas attributable to a Non-Marketing Party, each Marketing Party shall be entitled to take a Non-Marketing Party's gas in the ratio that the Marketing Party's interest in production bears to the total interest in production of all Marketing Parties. However, unless approved by all Parties, no Party shall be entitled to take more than 300% of its full share of gas for any given month.

b. A Party that has not taken its proportionate share of gas produced from any formation in a well ("Underproduced Party") shall be credited with gas in storage equal to its share of gas produced but not taken, less its share of gas used in lease operations, vented or lost (the "Underproduction"). The Underproduced Party, upon giving timely written notice to Operator, shall be entitled, on a monthly basis beginning the month following receipt of notice, to produce, take, sell, and deliver, in addition to the full share of gas to which such Party is otherwise entitled, a quantity of gas ("Make-up Gas") equal to twenty-five percent (25%) of the total share of gas attributable to all Parties having cumulative Overproduction (individually called "Overproduced Party"). The Make-up Gas shall be credited against the Underproduced Party's accrued Underproduction in order of accrual. Notwithstanding the foregoing and subject to subsection (e) below: (i) an Overproduced Party shall never be obligated to reduce its takes to less than fifty (50%) of the quantity to which the Party is otherwise entitled; and, (ii) an Underproduced Party shall never be allowed to make up Underproduction during the months of November, December, January, February, and March.

c. If there is more than one Underproduced Party desiring Make-up Gas, each Underproduced Party shall be entitled to Make-up Gas in the ratio that the Party's interest in production bears to the total interest in production of all Parties then desiring Make-up Gas. Any portion of the Make-up Gas to which an Underproduced Party is entitled and which is not taken by the Underproduced Party may be taken by any other Underproduced Parties.

d. If there is more than one Overproduced Party required to furnish Make-up Gas, each Overproduced Party shall furnish Make-up Gas in the ratio that the Party's interest in production bears to the total interest in production of all Parties then required to furnish Make-up Gas. Except as provided in (e) below, each Overproduced Party in any formation in a well shall be entitled, on a monthly basis, to take its full share of current production less its share of the Make-up Gas then being produced from the particular formation in the well in which it is overproduced.

e. If Operator, in good faith, believes an Overproduced Party has recovered one hundred percent (100%) of that Overproduced Party's share of the recoverable reserves from a particular formation in a well, that Overproduced Party, upon being notified in writing of that fact by Operator, shall cease taking gas from the formation in the well and the remaining Parties shall be entitled to take one hundred percent (100%) of the production until the accounts of the Parties are balanced. Thereafter, the Overproduced Party shall again have the right to take its share of the remaining production, if any, in accordance with the provisions in this Agreement. Notwithstanding anything to the contrary, after an Overproduced Party has recovered one hundred percent (100%) of its full share of the recoverable reserves, as determined by Operator from a particular formation in a well, the Overproduced Party may continue to produce if the continued production is (i) necessary for lease maintenance purposes, or (ii) permitted by all Parties who have not produced one hundred percent (100%) of their recoverable reserves from the formation in the well.

3. <u>In Kind or Cash Balancing Upon Depletion.</u>

a. If gas production from a particular formation in a well ceases and no attempt is made to restore production within 180 days, Operator shall have the right, at any time after the date the well last produced gas from that formation, to distribute a statement of net unrecouped Underproduction and Overproduction and the months and years in which the unrecouped production accrued (the "Final Accounting").

b. Each Overproduced Party shall, within 60 days after receipt of such statement, remit to Operator for disbursement to the Underproduced Parties, a sum of money (which sum shall not include interest) equal to the amount actually received or constructively received, under subparagraph (e) below, by Overproduced Party for sales during the month(s) of Overproduction, calculated in order of accrual, less applicable taxes, royalties, and reasonable costs of marketing and transporting the gas for which the Overproduced Party was actually paid. The remittance shall be based on the number of MMBtu's of Overproduction and shall be accompanied by a statement showing the volumes and prices for each month with accrued unrecouped Overproduction. If Make-up Gas is delivered it shall be supplied from sources determined solely by the Overproduced Party.

c. Within 60 days of receipt of any remittance by Operator from an Overproduced Party, Operator shall disburse those funds to the Underproduced Party(ies) in accordance with the Final Accounting. Operator assumes no liability with respect to any payment unless the payment is attributable to Operator's overproduction; it being the intent of the parties that each Overproduced Party shall be solely responsible for reimbursing each Underproduced Party in accordance with the provisions of this Agreement. If any Party fails to pay any sum due under the terms of this Agreement after demand by the Operator, the Operator may turn responsibility for the collection of that sum to the Party or Parties to whom it is owed, and Operator shall have no further responsibility for collection.

d. In determining the amount of Overproduction for which settlement is due, production taken during any month by an Underproduced Party in excess of the Underproduced Party's share shall be treated as Make-up and shall be applied to reduce prior deficits in the order of accrual of those deficits.

e. An Overproduced Party that took gas in kind for its own use, sold gas to an affiliate, or otherwise disposed of gas in other than a cash sale shall pay for that gas at market value at the time it was produced, even if the Overproduced Party sold the gas to an affiliate at a price greater or lesser than market value.

f. If any refunds are later required by any governmental authority, each Party shall be accountable for its respective share of any refunds, as finally balanced.

4. <u>Deliverability Tests.</u>

At the request of any party, Operator may produce the entire well stream for a deliverability test not to exceed 36 hours in duration (or such longer period of time as may be mutually agreed upon by the Parties) if required under the requesting party's gas sales or transportation contract.

5. <u>Nominations</u>

Each Party shall, on a monthly basis, give Operator sufficient time and data either to nominate the Party's respective share of gas to the transporting pipeline(s) or, if Operator is not nominating the Party's gas, to inform Operator of the manner in which to dispatch the Party's gas. Except as and to the extent caused by Operator's gross negligence or willful misconduct, Operator shall not be responsible for any fees and/or penalties associated with imbalances charged by any pipeline to any Underproduced or Overproduced Parties.

6. <u>Statements</u>.

On or before the 25th day of the calendar month following the calendar month of production, each Party taking gas shall furnish or cause to be furnished to Operator a statement of gas taken, expressed in terms of MMBtu's. If actual volume information sufficient to prepare the statement is not made available to the taking Party in sufficient time to prepare it, the taking Party shall nevertheless furnish a statement of its good faith estimate of the volumes taken. Within 90 days of the receipt of all statements, Operator shall furnish each Party a statement of the gas balance among the Parties, including the total quantity of gas produced from each formation in each well, the portion used in operations, vented or lost, and the total quantity delivered for each Party's account. Any error or discrepancy in Operator's monthly statement shall be promptly reported to Operator and Operator shall make a proper adjustment within 90 days after final determination of the correct quantities involved; provided, however, if no errors or discrepancies are reported to Operator within 90 days from the date of any statement, the statement shall be conclusively deemed to be correct. Additionally, within 90 days from the end of each calendar year, Non-operators shall furnish Operator, for the sole purpose of establishing records sufficient to verify cash balancing values, a statement reflecting amounts actually received or constructively received under paragraph 3.(e), on a monthly basis, for the calendar year preceding the immediately concluded calendar year. Operator may prohibit a Party from producing gas for its account during any month when the Party is delinquent in furnishing the monthly or annual statements.

7. Payment of Taxes.

Each Party taking gas shall pay or cause to be paid any and all production, severance, utility, sales, excise, or other taxes due on that gas.

8. Operating Expenses.

The operating expenses are to be borne in the manner provided in the Operating Agreement, regardless of whether all Parties are selling or using gas or whether the sale and use of each are in proportion to their respective interests in the gas.

9. Overproducing Allowable.

Each Party shall give Operator sufficient time and data to enable Operator to make appropriate nominations, forecasts and/or filings with the regulatory bodies having jurisdiction to establish allowables. Each Party shall at all times regulate its takes and deliveries from the Contract Area so that the well(s) subject to this Agreement shall not curtailed and/or shut-in for overproducing the assigned allowable production by the regulatory body having jurisdiction.

10. Payment of Leasehold Burdens.

At all times while gas is produced from the Contract Area each Party agrees to make appropriate settlement of all royalties, overriding royalties and other payments out of or in lieu of production for which a party is responsible, just as if the Party were taking or delivering to a purchaser the Party's full share, and the Party's full share only, of the gas production, exclusive of gas used in operations, vented or lost. Each Party agrees to indemnify and hold each other Party harmless from any and all claims relating to the payment of leasehold burdens.

11. Application of Agreement.

The provisions of this Agreement shall be separately applicable and shall constitute a separate agreement with respect to gas produced from each formation in each well located on the Contract Area.

12. Term.

This Agreement shall terminate when gas production under the Operating Agreement permanently ceases and the accounts of the parties are finally settled in accordance with its provisions.

13. Operator's Liability.

Except as otherwise provided in this Agreement, Operator is authorized to administer the provisions of this Agreement, but shall have no liability to the other Parties for losses sustained or liability incurred which arise out of or in connection with the performance of Operator's duties (including Operator's negligence) except as may result from Operator's gross negligence or willful misconduct.

14. Audits.

Any Underproduced Party shall have the right for a period of 120 days after receipt of payment pursuant to a Final Accounting and after giving written notice to all Parties, to audit an Overproduced Party's accounts and receipts relating to a payment. Any Overproduced Party shall have the right for a period of 180 days after tender of payment for unrecouped volumes and on giving written notice to all Parties, to audit an Underproduced Party's records as to volumes. The Party conducting the audit shall bear the costs of the audit. Additionally, Operator shall have the right for a period of 180 days after receipt of an annual statement from a Non-operator, under paragraph 6 after giving written notice, to audit the affected Non-operator's accounts and records relating to a payment. The costs of the audit shall be borne by the joint accounts.

~~**15. Operator's Fees.**~~

~~Operator shall charge the joint account $ 400 per formation in each well, per month, for each month during which Operator maintains accounts for a well in a formation~~.

16. Liquefiable Hydrocarbons Not Covered Under Agreement.

The Parties shall share proportionately in and own all liquid hydrocarbons recovered with the gas by lease equipment, in accordance with their respective interests.

Nothing in this Gas Balancing Agreement shall cause the Operator to produce a well or reservoir at higher than maximum allowable rates which might have been established by a regulatory authority.

17. Conflict.

If there is a conflict between the terms of this Agreement and the terms of any gas sales contract entered into by any Party covering the Contract Area, the terms of this Agreement shall govern.

EXHIBIT "F"

NONDISCRIMINATION: In Performance of this contract, Operator shall not engage in any conduct or practice which violates any applicable law, order or regulation prohibiting discrimination against any person by reason of his race, religion, color, sex, national origin or age. The Operator further agrees to comply fully with the non-discrimination provision of Section 202, Executive Order No. 11246 (30 FR 12139) as amended, which are hereby included in this contract by reference.

EXHIBIT “H”

Model Form Recording Supplement to Operating Agreement and Financing Statement

(4 pages to follow)

MODEL FORM RECORDING SUPPLEMENT TO

OPERATING AGREEMENT AND FINANCING STATEMENT

THIS AGREEMENT, entered into by and between Antero Resources Corporation, hereinafter referred to as "Operator," and the signatory party or parties other than Operator, hereinafter referred to individually as "Non-Operator," and collectively as "Non-Operators."

WHEREAS, the parties to this agreement are owners of Oil and Gas Leases and/or Oil and Gas Interests in the land identified in Exhibit "A" (said land, Leases and Interests being hereinafter called the "Contract Area"), and in any instance in which the Leases or Interests of a party are not of record, the record owner and the party hereto that owns the interest or rights therein are reflected on Exhibit "A";

WHEREAS, the parties hereto have executed an Operating Agreement dated ______________________ (herein the "Operating Agreement"), covering the Contract Area for the purpose of exploring and developing such lands, Leases and Interests for Oil and Gas; and

WHEREAS, the parties hereto have executed this agreement for the purpose of imparting notice to all persons of the rights and obligations of the parties under the Operating Agreement and for the further purpose of perfecting those rights capable of perfection.

NOW, THEREFORE, in consideration of the mutual rights and obligations of the parties hereto, it is agreed as follows:

1. This agreement supplements the Operating Agreement, which Agreement in its entirety is incorporated herein by reference, and all terms used herein shall have the meaning ascribed to them in the Operating Agreement.

2. The parties do hereby agree that:

A. The Oil and Gas Leases and/or Oil and Gas Interests of the parties comprising the Contract Area shall be subject to and burdened with the terms and provisions of this agreement and the Operating Agreement, and the parties do hereby commit such Leases and Interests to the performance thereof.

B. The exploration and development of the Contract Area for Oil and Gas shall be governed by the terms and provisions of the Operating Agreement, as supplemented by this agreement.

C. All costs and liabilities incurred in operations under this agreement and the Operating Agreement shall be borne and paid, and all equipment and materials acquired in operations on the Contract Area shall be owned, by the parties hereto, as provided in the Operating Agreement.

D. Regardless of the record title ownership to the Oil and Gas Leases and/or Oil and Gas Interests identified on Exhibit "A," all production of Oil and Gas from the Contract Area shall be owned by the parties as provided in the Operating Agreement; provided nothing contained in this agreement shall be deemed an assignment or cross-assignment of interests covered hereby.

E. Each party shall pay or deliver, or cause to be paid or delivered, all burdens on its share of the production from the Contract Area as provided in the Operating Agreement.

F. An overriding royalty, production payment, net profits interest or other burden payable out of production hereafter created, assignments of production given as security for the payment of money and those overriding royalties, production payments and other burdens payable out of production heretofore created and defined as Subsequently Created Interests in the Operating Agreement shall be (i) borne solely by the party whose interest is burdened therewith, (ii) subject to suspension if a party is required to assign or relinquish to another party an interest which is subject to such burden, and (iii) subject to the lien and security interest hereinafter provided if the party subject to such burden fails to pay its share of expenses chargeable hereunder and under the Operating Agreement, all upon the terms and provisions and in the times and manner provided by the Operating Agreement.

G. The Oil and Gas Leases and/or Oil and Gas Interests which are subject hereto may not be assigned or transferred except in accordance with those terms, provisions and restrictions in the Operating Agreement regulating such transfers. This agreement and the Operating Agreement shall be binding upon and shall inure to the benefit of the parties hereto, and their respective heirs, devisees, legal representatives, and assigns, and the terms hereof shall be deemed to run with the leases or interests included within the lease Contract Area.

H. The parties shall have the right to acquire an interest in renewal, extension and replacement leases, leases proposed to be surrendered, wells proposed to be abandoned, and interests to be relinquished as a result of non-participation in subsequent operations, all in accordance with the terms and provisions of the Operating Agreement.

I. The rights and obligations of the parties and the adjustment of interests among them in the event of a failure or loss of title, each party's right to propose operations, obligations with respect to participation in operations on the Contract Area and the consequences of a failure to participate in operations, the rights and obligations of the parties regarding the marketing of production, and the rights and remedies of the parties for failure to comply with financial obligations shall be as provided in the Operating Agreement.

J. Each party's interest under this agreement and under the Operating Agreement shall be subject to relinquishment for its failure to participate in subsequent operations and each party's share of production and costs shall be reallocated on the basis of such relinquishment, all upon the terms and provisions provided in the Operating Agreement.

K. All other matters with respect to exploration and development of the Contract Area and the ownership and transfer of the Oil and Gas Leases and/or Oil and Gas Interest therein shall be governed by the terms and provisions of the Operating Agreement.

3. The parties hereby grant reciprocal liens and security interests as follows:

A. Each party grants to the other parties hereto a lien upon any interest it now owns or hereafter acquires in Oil and Gas Leases and Oil and Gas Interests in the Contract Area, and a security interest and/or purchase money security interest in any interest it now owns or hereafter acquires in the personal property and fixtures on or used or obtained for use in connection therewith, to secure performance of all of its obligations under this agreement and the Operating Agreement including but not limited to payment of expense, interest and fees, the proper disbursement of all monies paid under this agreement and the Operating Agreement, the assignment or relinquishment of interest in Oil and Gas Leases as required under this agreement and the Operating Agreement, and the proper performance of operations under this agreement and the Operating Agreement. Such lien and security interest granted by each party hereto shall include such party's leasehold interests, working interests, operating rights, and royalty and overriding royalty interests in the Contract Area now owned or hereafter acquired and in lands pooled or unitized therewith or otherwise becoming subject to this agreement and the Operating Agreement, the Oil and Gas when extracted therefrom and equipment situated thereon or used or obtained for use in connection therewith (including, without limitation, all wells, tools, and tubular goods), and accounts (including, without limitation, accounts arising from the sale of production at the wellhead), contract rights, inventory and general intangibles relating thereto or arising therefrom, and all proceeds and products of the foregoing.

B. Each party represents and warrants to the other parties hereto that the lien and security interest granted by such party to the other parties shall be a first and prior lien, and each party hereby agrees to maintain the priority of said lien and security interest against all persons acquiring an interest in Oil and Gas Leases and Interests covered by this agreement and the Operating Agreement by, through or under such party. All parties acquiring an interest in Oil and Gas Leases and Oil and Gas Interests covered by this agreement and the Operating Agreement, whether by assignment, merger, mortgage, operation of law, or otherwise, shall be deemed to have taken subject to the lien and security interest granted by the Operating Agreement and this instrument as to all obligations attributable to such interest under this agreement and the Operating Agreement whether or not such obligations arise before or after such interest is acquired.

C. To the extent that the parties have a security interest under the Uniform Commercial Code of the state in which the Contract Area is situated, they shall be entitled to exercise the rights and remedies of a secured party under the Code. The bringing of a suit and the obtaining of judgment by a party for the secured indebtedness shall not be deemed an election of remedies or otherwise affect the lien rights or security interest as security for the payment thereof. In addition, upon default by any party in the payment of its share of expenses, interest or fees, or upon the improper use of funds by the Operator, the other parties shall have the right, without prejudice to other rights or remedies, to collect from the purchaser the proceeds from the sale of such defaulting party's share of Oil and Gas until the amount owed by such party, plus interest, has been received, and shall have the right to offset the amount owed against the proceeds from the sale of such defaulting party's share of Oil and Gas. All purchasers of production may rely on a notification of default from the non-defaulting party or parties stating the amount due as a result of the default, and all parties waive any recourse available against purchasers for releasing production proceeds as provided in this paragraph.

D. If any party fails to pay its share of expenses within one hundred-twenty (120) days after rendition of a statement therefor by Operator the non-defaulting parties, including Operator, shall, upon request by Operator, pay the unpaid amount in the proportion that the interest of each such party bears to the interest of all such parties. The amount paid by each party so paying its share of the unpaid amount shall be secured by the liens and security rights described in this paragraph 3 and in the Operating Agreement, and each paying party may independently pursue any remedy available under the Operating Agreement or otherwise.

E. If any party does not perform all of its obligations under this agreement or the Operating Agreement, and the failure to perform subjects such party to foreclosure or execution proceedings pursuant to the provisions of this agreement or the Operating Agreement, to the extent allowed by governing law, the defaulting party waives any available right of redemption from and after the date of judgment, any required valuation or appraisement of the mortgaged or secured property prior to sale, any available right to stay execution or to require a marshalling of assets and any required bond in the event a receiver is appointed. In addition, to the extent permitted by applicable law, each party hereby grants to the other parties a power of sale as to any property that is subject to the lien and security rights granted hereunder or under the Operating Agreement, such power to be exercised in the manner provided by applicable law or otherwise in a commercially reasonable manner and upon reasonable notice.

F. The lien and security interest granted in this paragraph 3 supplements identical rights granted under the Operating Agreement.

G. To the extent permitted by applicable law, Non-Operators agree that Operator may invoke or utilize the mechanics' or materialmen's lien law of the state in which the Contract Area is situated in order to secure the payment to Operator of any sum due under this agreement and the Operating Agreement for services performed or materials supplied by Operator.

H. The above described security will be financed at the wellhead of the well or wells located on the Contract Area and this Recording Supplement may be filed in the land records in the County or Parish in which the Contract Area is located, and as a financing statement in all recording offices required under the Uniform Commercial Code or other applicable state statutes to perfect the above-described security interest, and any party hereto may file a continuation statement as necessary under the Uniform Commercial Code, or other state laws.

4. This agreement shall be effective as of the date of the Operating Agreement as above recited. Upon termination of this agreement and the Operating Agreement and the satisfaction of all obligations thereunder, Operator is authorized to file of record in all necessary recording offices a notice of termination, and each party hereto agrees to execute such a notice of termination as to Operator's interest, upon the request of Operator, if Operator has complied with all of its financial obligations.

5. This agreement and the Operating Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective heirs, devisees, legal representatives, successors and assigns. No sale, encumbrance, transfer or other disposition shall be made by any party of any interest in the Leases or Interests subject hereto except as expressly permitted under the Operating Agreement and, if permitted, shall be made expressly subject to this agreement and the Operating Agreement and without prejudice to the rights of the other parties. If the transfer is permitted, the assignee of an ownership interest in any Oil and Gas Lease shall be deemed a party to this agreement and the Operating Agreement as to the interest assigned from and after the effective date of the transfer of ownership; provided, however, that the other parties shall not be required to recognize any such sale, encumbrance, transfer or other disposition for any purpose hereunder until thirty (30) days after they have received a copy of the instrument of transfer or other satisfactory evidence thereof in writing from the transferor or transferee. No assignment or other disposition of interest by a party shall relieve such party of obligations previously incurred by such party under this agreement or the Operating Agreement with respect to the interest transferred, including without limitation the obligation of a party to pay all costs attributable to an operation conducted under this agreement and the Operating Agreement in which such party has agreed to participate prior to making such assignment, and the lien and security interest granted by Article VII.B. of the Operating Agreement and hereby shall continue to burden the interest transferred to secure payment of any such obligations.

6. In the event of a conflict between the terms and provisions of this agreement and the terms and provisions of the Operating Agreement, then, as between the parties, the terms and provisions of the Operating Agreement shall control.

7. This agreement shall be binding upon each Non-Operator when this agreement or a counterpart thereof has been executed by such Non-Operator and Operator notwithstanding that this agreement is not then or thereafter executed by all of the parties to which it is tendered or which are listed on Exhibit "A" as owning an interest in the Contract Area or which own, in fact, an interest in the Contract Area. In the event that any provision herein is illegal or unenforceable, the remaining provisions shall not be affected, and shall be enforced as if the illegal or unenforceable provision did not appear herein.

8. Other provisions.

Antero Resources Corporation __________, who has prepared and circulated this form for execution, represents and warrants that the form was printed from and, with the exception(s) listed below, is identical to the AAPL Form 610RS-1989 Model Form Recording Supplement to Operating Agreement and Financing Statement, as published in computerized form by Forms On-A-Disk, Inc. No changes, alterations, or modifications, other than those made by strikethrough and/or insertion and that are clearly recognizable as changes in Articles ________________________________, have been made to the form.

IN WITNESS WHEREOF, this agreement shall be effective as of the _______ day of ____________________________________, *year:* ________,

ATTEST OR WITNESS:

OPERATOR

Antero Resources Corporation

____

______________________________ By: Brian A. Kuhn

Type or Print Name

Title: Senior Vice President

______________________________ Date: ______________________________

Address: 1615 Wynkoop, Denver, CO 80202

ATTEST OR WITNESS:

NON-OPERATORS

____

____

______________________________ By: ______________________________

Type or Print Name

Title: ______________________________

______________________________ Date: ______________________________

Address: ______________________________

ATTEST OR WITNESS:

____

____

______________________________ By: ______________________________

Type or Print Name

Title: ______________________________

______________________________ Date: ______________________________

Address: ______________________________

ATTEST OR WITNESS:

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______________________________ By: ______________________________

Type or Print Name

Title: ______________________________

______________________________ Date: ______________________________

Address: ______________________________

ATTEST OR WITNESS:

____

____

______________________________ By: ______________________________

Type or Print Name

Title: ______________________________

______________________________ Date: ______________________________

Address: ______________________________

ACKNOWLEDGEMENT

STATE OF COLORADO §
§
COUNTY OF DENVER §

The foregoing instrument was acknowledged before me this ____ day of ______________, 2016, by Brian A. Kuhn, Senior Vice President, Land of Antero Resources Corporation, a Delaware corporation, on behalf of said corporation.

WITNESS my hand and seal.

____
NOTARY PUBLIC

My Commission expires:

____

STATE OF _______________ §
§
COUNTY OF_____________ §

The foregoing instrument was acknowledged before me this ______ day of _______________, 2016, by ____________________________, ____ of ____.

WITNESS my hand and seal.

____
NOTARY PUBLIC

My Commission expires:

____

STATE OF _______________ §
§
COUNTY OF_____________ §

The foregoing instrument was acknowledged before me this ______ day of _______________, 2016, by ____________________________, ____ of ____.

WITNESS my hand and seal.

____
NOTARY PUBLIC

My Commission expires:

____

STATE OF OHIO
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS RESOURCES MANAGEMENT

In re the Matter of the Application of Antero	:	
Resources Corporation for Unit Operation	:	
	:	Application Date: April 19, 2016
	:	Supplement Date: August 2, 2016
Mann Unit	:	

PREPARED TESTIMONY OF JASON ELIASSEN
ON BEHALF OF ANTERO RESOURCES CORPORATION

Attorneys for Applicant,
Antero Resources Corporation

PREPARED DIRECT TESTIMONY OF JASON ELIASSEN

INTRODUCTION

Q1. Please introduce yourself to the Division.

A1. My name is Jason Eliassen. I am a Geologic Supervisor for Antero Resources Corporation. Our offices are located at 1615 Wynkoop Street, Denver, Colorado 80202.

Q2. What is your educational background?

A2. I obtained a Bachelor's of Arts degree in Geology from Western State College, with a Minor in Mathematics in 2002.

Q3. Would you briefly describe your professional experience?

A3. I joined Antero Resources Corporation in October of 2003. I started out as a Geologic Technician and eventually moved into a more operational based role. I've worked on projects in the Fort Worth, Arkoma, Piceance, and Appalachia Basins. I have extensive shale experience focused on development and operations and have helped plan and drill several hundred shale wells in the Barnett, Woodford, and Marcellus Shales. I have also previously testified in front of the Oklahoma Corporation Commission Oil and Gas Division for Pooling and Location Exception hearings. I have spent the past 9 months working the Utica/Point Pleasant Formation operations and development.

Q4. What do you do as a Geologic Supervisor for Antero?

A4. My responsibilities include geology operations and development planning of the Utica/Point Pleasant Formation. I am involved in all phases of Utica/Point Pleasant Formation resource development.

Q5. **What goes into the Utica/Point Pleasant Formation development process?**

A5. The development process starts by identifying the optimum horizontal wellbore azimuth based on multiple data types like microseismic, geophysical and electric logs, and core data. The preferred azimuth direction is based on how the target formation will behave when hydraulically fractured during the completion process. Once I have deciphered the optimum wellbore azimuth, I begin looking for viable surface locations to construct well pads. The horizontal wells are then planned to originate from these surface locations and are planned to be drilled on very specific dates based on a variety of different factors. It is ideal to find well pads that are suitable for multi-well development because this minimizes surface impact and makes the drilling and completion process more efficient. Once the well pad locations have been negotiated with the surface owners, I coordinate with licensed surveyors and our internal regulatory department to secure well permits. I also work with directional planning consultants to create suitable wellbore plans, or directional plans, which allow us to drill horizontally, sometimes over 10,000 feet. Finally, I communicate with the drilling consultants and contractors on the well pad location to successfully drill the lateral wellbore in the targeted stratigraphic interval (i.e. "geosteer" the well). In addition, I do detailed structure and isopach mapping.

Q6. What is the purpose of your testimony today?

A6. I am testifying in support of the *Application of Antero Resources* *__Corporation__* *for Unit Operation* (the "Application"), filed by Antero on April 19, 2016, with respect to the Mann Unit, consisting of fifty-seven (57) separate tracts of land totaling approximately 998.977 acres in Monroe County, Ohio. My testimony will show that the Unitized Formation described in the Application is part of a pool and thus an appropriate subject of unitization. Additionally, my testimony will support the Unit Plan's allocation of unit production and expenses to separately owned tracts on a surface-acreage basis, based on the unit area's nearly uniform thickness and substantially identical geological characteristics throughout.

UNITIZED FORMATION IS PART OF A POOL.

Q7. To begin, would you tell me what a "pool" is?

A7. A pool is generally understood to be an area of geologically consistent reservoir properties such as thickness, porosity, resistivity, and rock type that share an accumulation of hydrocarbons. This is consistent with the Ohio statutory definition defining a pool as "an underground reservoir containing a common accumulation of oil or gas, or both, but does not include a gas storage reservoir."

Q8. How is the Unitized Formation defined for the Mann Unit?

A8. It is defined as the subsurface portion of the Mann Unit at a depth from fifty (50) feet above the top of the Utica Shale, to fifty (50) feet below the base of the Point Pleasant Formation, believed to be approximately 8,710 feet subsurface to 9,030 feet subsurface True Vertical Depth ("TVD") from ground.

Q9. Do you have an opinion on whether or not the Unitized Formation contemplated by the Mann Unit constitutes a pool or part of a pool?

A9. Yes. It is my opinion, based on my education and professional experience, that the Unitized Formation is part of a pool.

Q10. Why?

A10. Antero believes the Utica Shale and Point Pleasant Formation are both part of the same pool. We will drill a target zone in the Point Pleasant Formation, but believe our hydraulic fracturing operations will go through the Point Pleasant Formation and into the Utica Shale. Based on our geologic understanding of the Utica Shale and Point Pleasant Formation, the main reservoir is the Point Pleasant Formation. That is from where most of the hydrocarbons are produced. However, we have seen natural fracturing, porosity, and oil/gas accumulation in cores taken from the Utica Shale, and believe that our hydraulically created fractures may penetrate and drain a small portion of that formation.

Q11. What data sources did you use in determining the geologic features of the Mann Unit?

A11. I used wireline logs from surrounding wells, cores from the Miley 5H Pilot well, and microseismic data from the Keylor Unit.

Q12. Did you prepare any exhibits to support your opinion?

A12. Attachment 2, Exhibit 2 is a map of southeastern Ohio showing the area where the Mann Unit is being proposed, highlighted in blue. Attachment 2, Exhibit 1 is a west-east stratigraphic cross-section of three key wells surrounding the Mann Unit, the Miley 5H Pilot, the ET Rubel 1 Pilot, and Stutzman 1-14 Pilot (see Attachment 2, Exhibit 2 for location of the cross section wells). The log data displayed are gamma ray in track 1 and resistivity in track 2. As particularly seen on this exhibit the log data show that the Utica/Point Pleasant Formation does not change within or across the proposed Mann Unit; the stratigraphy is regionally very consistent. Geologic properties, like thickness and resistivity, are constant throughout the Mann Unit.

Q13. How does this data support your opinion that the Mann Unit should be consid-

ered a part of a pool?

A13. The log data demonstrate that formation thickness remains relatively constant across the unit. Porosity and resistivity will be relatively uniform, and the thermal maturity of the rock, which applies to BTU and liquids content, is the same across the unit. Based on the foregoing, in my professional opinion, the area within the proposed Mann Unit boundary is all one geologic unit, or part of the same pool.

Q14. Is your opinion based on your education and professional experience?

A14. Yes.

Q15. And is this a commonly accepted method of analysis in your profession for determining whether a pool or part of a pool exists?

A15. Yes.

ALLOCATION METHODOLOGY

Q16. Production and expenses are allocated to the separate tracts in the Mann Unit under the Unit Plan on a surface-acreage basis. Do you have an opinion on whether that allocation method is appropriate, given your education and professional experience?

A16. I do. In my opinion, surface allocation is the appropriate method.

Q17. Why?

A17. The relative thickness and reservoir quality of the Utica/Point Pleasant Formation is expected to be consistent across the Mann Unit. There are no substantial variations expected across the proposed unit and therefore there is no geologic reason to allocate production using a method other than surface acreage.

Q18. In your experience, is this a common method for allocating production and expenses?

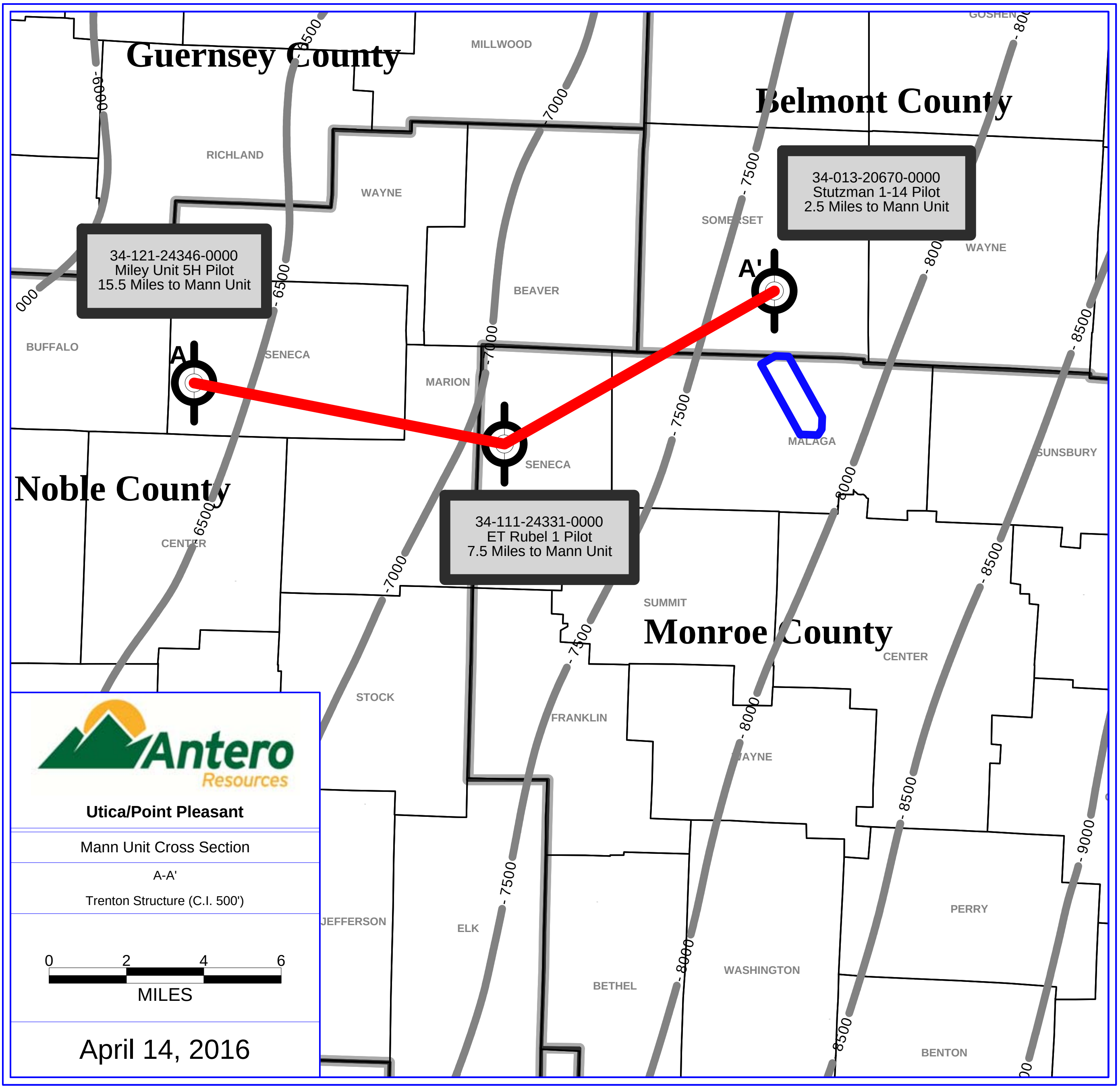
A18. Yes.

Q19. Have you seen this allocation method used in other shale basins?

A19. Yes. Antero has used this method on all of the units that we have drilled in Ohio to date. To my knowledge, similar methods for pooling are used in Colorado and Oklahoma.

Q20. Does this conclude your testimony?

A20. Yes.



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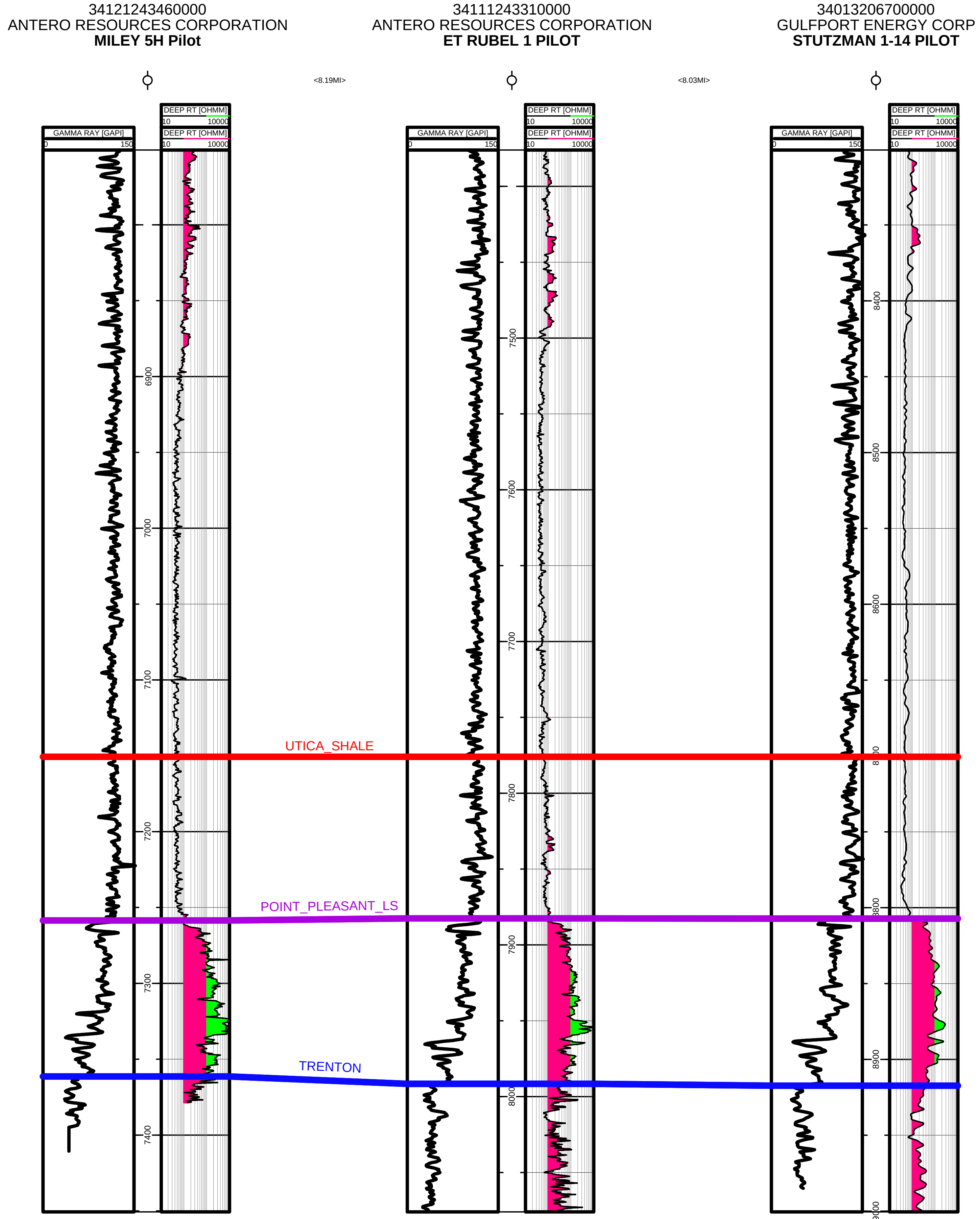


Antero Resources

Antero Resources Corporation

Appalachian Basin - Utica Shale

West-East Stratigraphic Cross Section

Mann Unit Offset Cross Section

Flattened on Utica Shale Top
Gamma Ray Log (0-150 API)
Resistivity Logs (10-10,000 OHMM)

April 14,2016 2:15 PM

STATE OF OHIO
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS RESOURCES MANAGEMENT

In re the Matter of the Application of Antero	:	
Resources Corporation for Unit Operation	:	
	:	Application Date: January 20, 2016
<u>Mann Unit</u>	:	Update: August 4, 2016
	:	

PREPARED TESTIMONY OF ROBERT PETERSEN
ON BEHALF OF ANTERO RESOURCES CORPORATION

EXHIBIT 3

Q1. What is your name and business address?

A1. My name is Robert Petersen. I am a Reservoir Engineer with Antero Resources Corporation. My business address is 1615 Wynkoop Street, Denver, Colorado 80202

Q2. Can you please describe your educational background?

A2. I hold Bachelor's of Science degrees in both Mathematics and Physics from Montana State University Bozeman and a Master's of Science degree in Petroleum Engineering from The University of Texas Austin.

Q3. Describe your professional experience.

A3. I have approximately seven years of experience working in oil and gas development and exploration, four of which as a reservoir engineer focused on unconventional natural gas field development in the Appalachian basin. I am in my second year at Antero Resources as a Reservoir Engineer working the Appalachian Basin. Prior to working for Antero Resources, I worked for Chevron Corporation in multiple disciplines including reservoir simulation, enhanced oil recovery, reserves and reservoir engineering. The most recent two years at Chevron were devoted to Appalachian Basin asset development & reservoir engineering whereas the previous three consisted of technical consulting on a variety of domestic and international oil and gas projects.

Q4. Are you a member of any professional associations?

A4. I have been a member of the Society of Petroleum Engineers for nine years in Colorado, Pennsylvania and Texas.

Q5. What does being a Reservoir Engineer entail?

A5. As a Reservoir Engineer at Antero Resources, I am responsible for quantifying hydrocarbon volumes in the Utica/Point Pleasant and Marcellus Shale formations. This work is utilized in reserve/resource estimation, opportunity assessment and development optimization activities. In addition, I coordinate data gathering activities such as well testing, PVT analysis and pressure/temperature measurements; all of which are performed in order to better understand the reservoir and forecast well performance more accurately. Some of the tools I use to estimate reserves include decline curve analysis, rate transient analysis, reservoir modeling/simulation, and volumetric calculations.

Q6. With regard to the Mann Unit, have you made an estimate of the production you

EXHIBIT 3

anticipate from the proposed unit's operations?

A6. Yes, it is estimated that if the Mann Unit was developed by drilling four laterals as proposed, 998.977 acres would be effectively developed and 88.2 Bcfe would be recovered. The calculations are summarized in Exhibit 3-A.

Q7. How did you make the estimates?

A7. Using well offset well production data, data from analogous shale plays, decline curve analysis and reservoir modeling/simulation, type curves for dry gas wells in the Utica/Point Pleasant Shale were generated. The reserves applied to the wells in the Mann Unit have been estimated based on these type curves. This methodology used to forecast is recognized by the majority of North American unconventional shale play operators and industry accepted assumptions and practices were adhered to.

Q7. If the Mann Unit as proposed were not granted, have you estimated the production that could be recovered?

A7. Yes, if we were not able to unitize the Mann Unit, Antero Resources would not be able to drill any of the laterals. This is due to the reduction in lateral length which would render all proposed laterals un-economic. The stimulated lateral length reduction is a result of the inability to trespass on acreage for which we do not possess rights of development and "stand-off" requirements. The net result of non-unitization would be a total loss of all 88.2 Bcfe of potential reserves as no economic wells could be drilled.

Q8. In your professional opinion, would it be economic to develop the Mann Unit using traditional vertical drilling?

A8. No, vertical well drilling is more applicable in a thicker, more permeable productive interval. Horizontal drilling in conjunction with multi-stage hydraulic fracturing is necessary in tight shale formations such as the Utica/Point Pleasant. This technology has the effect of increasing the surface area exposed to the formation and in turn provides more conduits by which the hydrocarbons can be drained. Without horizontal drilling and stimulation, the permeability is too low to produce sufficient quantities of hydrocarbons to economically justify the expense of drilling.

Q9. Summarize what your calculations show and the differences between unitized vs non-unitized development?

A9. The results of my calculations are summarized in Exhibit 3-A. In the unitized development plan, we would develop 998.977 acres of the Utica/Point Pleasant by drilling four wells greater than 10,000' in length, or 44,331' stimulated lateral in total. Without unitization, we would not drill any wells due to the reduction in lateral length rendering the opportunity un-economic. The difference between the unitized and non-unitized case therefore reduces to the unitized case where we would produce from four laterals requiring a total of $47.51 million of capital investment and anticipate approximately 88.2 Bcfe of total natural gas production.

Q10. Is the increase in production associated with unitization solely due to drilling the non consenting parcels?

A10. No, the increased production is not solely attributable to production associated with those parcels, but rather the impact the reserves loss associated with these parcels has on development economics which would result in no wells being drilled at all if the Mann Unit was not unitized. Without unitization, the leased parties who would like to participate in the Mann Unit will receive no revenue from oil and gas development. These mineral owners have willingly entered into leases which allow for the production of oil and gas from their property.

Q11. Do you believe that the proposed unit operations are reasonably necessary to increase substantially the ultimate recovery of oil and gas from the unit area?

A11. Absolutely. Without unitization, none of the estimated 88.2 Bcfe of reserves associated with the wells would be produced. I believe that the proposed unitization of the Mann Unit is necessary to be protective of the correlative rights of all mineral owners within the unit, while effectively and prudently maximizing recovery of hydrocarbons.

Q12. Would you walk us through your economic evaluation, beginning with your estimate of the anticipated revenue stream from the Mann Unit development?

A12. During the reserve estimation process, a production profile, which is proportional to the stimulated lateral length, was generated to estimate produced volumes over time for each well. This, along with a specific pricing scenario, is essential in generating revenues attributable to a well or a project. I have estimated capital requirements based on each well's lateral length. Each well assumes the same operating expense model and pricing. Once I have anticipated future volumes generated for each well, I discount the revenue on an annual basis in order to generate a net present value and return for the project.

Q13. What price scenario did you use?

A13. For preparation of economics, average five year strip pricing was used reflective of current market conditions. NYMEX pricing for gas was assumed to be $2.77/MMBTU.

Q14. What about anticipated capital and operating expenses?

A14. Capital and operating expenses were incorporated in my analysis. The total estimated capital is based on the capital costs for both the drilling and completion process. The basis for this estimate comes from recent costs we have experienced and incurred in our Utica drilling program. Our operations group calculates a cost for various lateral lengths which are scaled based on the respective lateral length of each well in the Mann Unit. The operating expenses are based on operating experience we have from similar operating areas in West Virginia and Ohio. I look at total operating costs allocated to each well. The costs are then categorized as a fixed or variable cost. Operating costs incorporated in this analysis are both fixed and variable cost estimates and are summarized in Exhibit 3-B – Cost to Operate.

Q15. Did you consider whether a different, smaller unit could be developed by locating the well pad somewhere else?

A15. Yes, however there was not a feasible solution for alternative development. Other potential locations were ruled out due to ownership, topography, culture, and setback from dwelling requirements that made it difficult to locate an alternative pad site that would be suitable to develop all of the minerals. By drilling the Mann Unit as proposed, we maximize efficiency, minimize surface disturbance, and therefore this is the most sensible decision operationally, environmentally, and economically.

Q16. Based on this information and your professional judgment, does the value of the estimated additional recovery of hydrocarbons from the unitized project exceed its estimated costs?

A16. Yes. The capital expense is $47.51 million for the unitized project. After the capital expenditures, the net present value of the proposed project is $11.98 million (these are net present values are after capital expenditures). There is no economic opportunity without unitization.

Q17. Does this conclude your testimony at this time?

A17. Yes.

Exhibit 3-A - Antero Mann Unit Unitization Reserve Calculations

Unitized Mann Unit (Optimum Development)					
Well Name	Completed Lateral Length (feet)	Gross Capital ($MM)	Net PV10 ($MM)	Gross Residue Gas (Bcf)	Gross Reserves (Bcfe)
Mann Unit 1H	10,951	$ 11.78	$ 2.93	21.8	21.8
Mann Unit 2H	11,540	$ 12.22	$ 3.22	23.0	23.0
Mann Unit 3H	11,727	$ 12.36	$ 3.32	23.3	23.3
Mann Unit 4H	10,113	$ 11.15	$ 2.51	20.1	20.1
Total Mann Unit	44,331	$ 47.51	$ 11.98	88.2	88.2

Non-Unitized Mann Unit (Stranded Reserves Associated with Stand-off)					
Well Name	Completed Lateral Length (feet)	Gross Capital ($MM)	Net PV10 ($MM)	Gross Residue Gas (Bcf)	Gross Reserves (Bcfe)
Mann Unit 1H (Un-Economic)	*1,828*	*$ 4.95*	*$ (1.99)*	*3.5*	*3.5*
Mann Unit 2H (Un-Economic)	-	*$ -*	*$ -*	-	-
Mann Unit 3H (Un-Economic)	-	*$ -*	*$ -*	-	-
Mann Unit 4H (Un-Economic)	-	*$ -*	*$ -*	-	-
Total Mann Unit	-	$ -	$ -	-	-

Difference					
Well Name	Completed	Gross Capital	Net PV10	Gross Residue	Gross Reserves
Mann Unit 1H	10,951	$ 11.78	$ 2.93	21.8	21.8
Mann Unit 2H	11,540	$ 12.22	$ 3.22	23.0	23.0
Mann Unit 3H	11,727	$ 12.36	$ 3.32	23.3	23.3
Mann Unit 4H	10,113	$ 11.15	$ 2.51	20.1	20.1
Total Mann Unit	44,331	$ 47.51	$ 11.98	88.2	88.2

Pricing Assumptions

Flat Pricing (Based on 3/31/16 Strip)		2016+
NYMEX Gas Pricing ($/MMBTU)	$	2.77

Exhibit 3-B - Mann Unit Cost to Operate

Per Well Operating Cost Estimate	M$/Year	M$/Month
Lease Operating Expenses	$ 121	$ 10
Gathering/Compression	$ 926	$ 77
Average Estimated Operating Costs (Per Well, 5 Year Average)	$ 1,047	$ 87

*Subsequent years would decrease, as the majority of these costs are dependent on production volumes

STATE OF OHIO
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS RESOURCES MANAGEMENT

In re the Matter of the Application of Antero	:	
Resources Corporation for Unit Operation	:	
	:	Application Date: January 20, 2016
	:	Update: August 4, 2016
<u>Mann Unit</u>	:	

PREPARED TESTIMONY OF SPENCER BOOTH

ON BEHALF OF ANTERO RESOURCES CORPORATION

EXHIBIT 4

INTRODUCTION.

Q1. Please introduce yourself to the Division.

A1. My name is Spencer Booth. I am a Senior Staff Landman for Antero Resources Corporation ("Antero") and am based in its Denver, Colorado office.

Q2. What is your educational background?

A2. I graduated from the University of Oklahoma in 2007 with a Bachelor's degree from the College of Business in Energy Management, and a minor in Finance.

Q3. Would you briefly describe your professional experience?

A3. From August of 2007 to April of 2012, I worked as a Land Negotiator for Encana Oil and Gas (USA) Inc. in Denver, Colorado, in the Paradox, Piceance and Denver Julesburg Basins. In April of 2012, I joined Antero Resources Corporation and began working its Marcellus Shale asset in West Virginia through November of 2015, and was then reassigned to work Antero's Utica Shale asset in Ohio.

Q4. What do you do as a Senior Staff Landman for Antero?

A4. As a Senior Staff Landman I am responsible for the development, supervision, negotiation, drafting, and management of our field brokers, lease acquisitions, title and curative matters, trade agreements, joint ventures, purchase and sale agreements, joint operating agreements and other binding agreements pertaining to Antero's Utica Shale asset. I am also responsible for overseeing our unitization efforts, specifically those with regard to the subject unit.

Q5. Are you a member of any professional associations?

A5. I am a member of the American Association of Professional Landmen and the Denver Association of Petroleum Landmen.

Q6. What is the purpose of your testimony today?

A6. I am testifying in support of the *Application of Antero Resources Corporation for Unit Operation* (the "Application"), with respect to the Mann Unit. The Unit consists of 57 separate tracts of land, totaling 998.977 acres more or less in Monroe County, Ohio. In

EXHIBIT 4

particular, I will describe the efforts made by Antero to put the Mann Unit together and the Unit Plan that Antero is proposing.

EFFORTS MADE BY ANTERO TO LEASE UNIT TRACTS.

Q7. The Application submitted by Antero indicates that it owns the oil and gas rights to approximately 99.083% of the proposed Mann Unit, right?

A7. Yes. Antero now holds leases for approximately 99.083% of the unit. That's reflected on Exhibit A-2 to the Unit Operating Agreement.

Q8. Would you describe how Antero acquired those rights?

A8. Antero acquired those rights through a combination of acquiring leases from other operators and acquiring leases from unleased landowners within the Mann Unit.

Q9. Are there other operators in the Mann Unit?

A9. There are no other operators holding interests in the Mann Unit.

Q10. Are there other owners of working interests within the Mann Unit?

A10. Yes. There are a few parties with minor working interests. They are listed in Exhibit A-4 of the Unit Operating Agreement.

Q11. Is there any unleased acreage in the Mann Unit?

A11. No.

Q12. Do all of the Antero leases conform to the proposed Mann Unit?

A12. No. There are several tract in the Mann Unit that is under lease to Antero, and as shown on Exhibit A-5 of the Unit Operating Agreement – but whose leases containing a non-conforming pooling provision that limits the size of a voluntary unit that can be formed. Those nonconforming Tracts total 174.949 acres, or 16.77% of the unit.

UNIT PLAN PROVISIONS.

Q16. Would you describe generally the development plan for the Mann Unit?

A16. Antero plans to develop the Mann Unit from a single well pad from which we intend to drill four horizontal wells. The laterals are projected to be approximately 10'000 to

EXHIBIT 4

almost 12,000’ in length.

Q17. Does Antero have a specific timeline for drilling the wells in the Mann Unit?

A17. Antero intends to begin drilling in the Mann Unit in January of 2017.

Q19. Are you familiar with the Unit Plan proposed by Antero for the Mann Unit?

A19. Yes. The Unit Plan proposed by Antero is attached to the Application and consists of an initial document that establishes the non-operating relationship between the parties in the unit, and an operating agreement and related exhibits that establish how the unit is going to be explored, developed and produced.

Q20. Turning first to the body of the Unit Plan, marked as Attachment 1 to the Application. Would you describe briefly what it does?

A20. Yes. The general intent of the Unit Plan is to effectively combine the oil and gas rights and interests in the Mann Unit in a uniform manner so that they can be developed as though each of the tracts were covered by a single lease.

Q21. Are all of the oil and gas rights in the proposed unit combined?

A21. No. The Unit Plan only unitizes the oil and gas rights in and related to the Unitized Formation.

Q22. How would production from the Mann Unit be allocated?

A22. On a surface-acreage basis. Under the Unit Plan, every tract is assigned a tract participation percentage based on surface acreage, as shown on Exhibit A-2 to the Unit Operating Agreement. The Unit Plan allocates production based on that tract participation.

Q23. Would you go through an example from Exhibit A-2 to the Unit Operating Agreement to illustrate what you mean?

A23. Yes. If you look at Tract 4 on Exhibit A-2 to the Unit Operating Agreement, you will see that it has 34.054 acres lying within the boundary limits of the Unit, which is a 998.977 acre production unit. Under the Unit Plan, Tract 4 would therefore be allocated 3.409% of the production from the Unit.

EXHIBIT 4

Q24. Is this the way production would be allocated to the tract covered by the Non-Conforming Lease or an unleased mineral interest?

A24. Yes.

Q25. In your experience, is this an unusual way to allocate production in a unit?

A25. No, this is the customary method for allocating production in a unit.

Q26. How are unit expenses allocated?

A26. Like production in the unit, generally on a surface-acreage basis. The Unit Plan provides that expenses, unless otherwise allocated in the Unit Operating Agreement, will be allocated to each tract of land within the unit in the proportion that the surface acres of each tract bears to the surface acres of the entire unit.

Q27. Who pays the unit expenses?

A27. According to the terms of the proposed Unit Plan, the working interest owners.

Q28. Do the royalty owners pay any part of the unit expenses?

A28. No, unless the terms and conditions of the royalty owner's oil and gas lease dictate otherwise.

Q29. Let's turn to the Unit Operating Agreement. It appears to be based upon A.A.P.L. Form 610 – Model Form Operating Agreement, is that correct?

A29. Yes. We typically use a modified version of the 1989. The Form 610, together with its exhibits, is a commonly used form in the industry and is frequently modified to fit the needs of the parties and circumstances.

Q30. Would it be fair to say, then, that you are familiar with the custom and usage of the Form 610 and other similar agreements in the industry?

A30. Yes.

Q31. Turning to the Unit Operating Agreement in particular, does it address how unit expenses are determined and paid?

A31. Yes. Article III of the Unit Operating Agreement provides that all costs and liabilities

EXHIBIT 4

incurred in operations shall be borne and paid proportionately by the working interest owners, according to their Unit Participation percentages. Those percentages can be found in Exhibit A-2 to the Unit Operating Agreement. Moreover, the Unit Operating Agreement has attached to it an accounting procedure identified as Exhibit C that offers greater details regarding how unit expenses are determined and paid.

Q32. That's commonly referred to as the COPAS?

A32. Yes, it stands for the Council of Petroleum Accountants Societies, Inc. and is a commonly used form in the industry.

Q33. Based upon your education and professional experience, do you view the terms of Exhibit C as reasonable?

A33. Yes. The terms as presented in Exhibit C are commonly accepted amongst operators and clearly set forth definitions, processes, timelines, etc., so that all parties can fully understand and agree as to those costs and accounting procedures associated with the activity of drilling and producing oil and natural gas wells and units.

Q34. Will there be in-kind contributions made by owners in the unit area for unit operations, such as contributions of equipment?

A34. No.

Q35. Are there times when a working interest owner in the unit chooses not to – or cannot – pay their allocated share of the unit expenses?

A35. Yes, such a situation is not uncommon in the industry. The agreements allow working interest owners the flexibility to decline to participate in an operation that they either cannot afford or believe is not likely to be profitable. The remaining parties can then proceed at their own risk and expense.

Q36. Generally, how is the working interest accounted for when an owner chooses not participate in an operation?

A36. A working interest owner who cannot or chooses not to participate in an operation is considered a non-consenting party. If the remaining working interest owners decide to proceed with the operation, the consenting parties bear the full cost and expense of the

EXHIBIT 4

operations. A non-consenting party is deemed to have relinquished its interest in that operation until the well revenues pay out the costs that would have been attributed to that party, plus a prescribed risk penalty or non-consent penalty.

Q37. Can a working interest owner choose to go non-consent in the initial well in the Mann Unit?

A37. Under the terms of Article VI of the Unit Operating Agreement a party can choose not to participate in the unit's initial well. Article VI provides that such a party shall be deemed to have relinquished its working interest to the other parties in the unit, with a back-in provision and risk factor of 500%.

Q38. Does the Unit Operating Agreement treat the initial well and subsequent operations differently in terms of going non-consent?

A38. The initial well and subsequent operations are both subject to a back-provision and risk factor of 500%. .

Q39. Where are the risk factors for subsequent operations set out in the Unit Operating Agreement?

A39. They are set out in Article VI.B of the Unit Operating Agreement.

Q40. Are the percentages included in the Unit Operating Agreement unusual?

A40. No, not for joint operating agreements used in horizontal drilling programs. Because of the significant costs associated with drilling horizontally in the Utica/Point Pleasant and because the Utica / Point Pleasant is an unconventional play, it is common for companies to incorporate into their joint operating agreements a risk factor that is proportionate to the substantial financial commitment, and these percentages are sometimes higher than those contained in the Unit Operating Agreement.

Q41. But if a working interest owner still has a royalty interest in the unit, that royalty interest would remain in place and be paid?

A41. Yes. That royalty interest would still be paid.

Q42. How are decisions made regarding unit operations?

EXHIBIT 4

A42. The Unit Operating Agreement designates Antero as the Unit Operator, with full operational authority for the supervision and conduct of operations in the unit.

Q43. I believe you've already described generally the documents in Exhibits A and C to the Unit Operating Agreement. Let's turn therefore to Exhibit B of the Unit Operating Agreement. What is it?

A43. Exhibit B is a standard oil and gas lease form that is attached to the joint operating agreement to govern any unleased interests owned by the parties. Article III.A of the Unit Operating Agreement provides that if any party owns or acquires an oil and gas interest in the Contract Area, then that interest shall be treated for all purposes of the Unit Operating Agreement as if it were covered by the form of lease attached as Exhibit "B."

Q44. Does this oil and gas lease contain standard provisions that Antero uses in connection with its operations in Ohio?

A44. Yes.

Q45. Moving on to Exhibit D of the Unit Operating Agreement, would you describe what it is?

A45. Yes, Exhibit D is the insurance exhibit to the joint operating agreement. It sets forth coverage amounts and limitations, and the insurance terms for operations conducted under the Unit Operating Agreement.

Q46. Would you next describe to the Division Exhibit E of the Unit Operating Agreement?

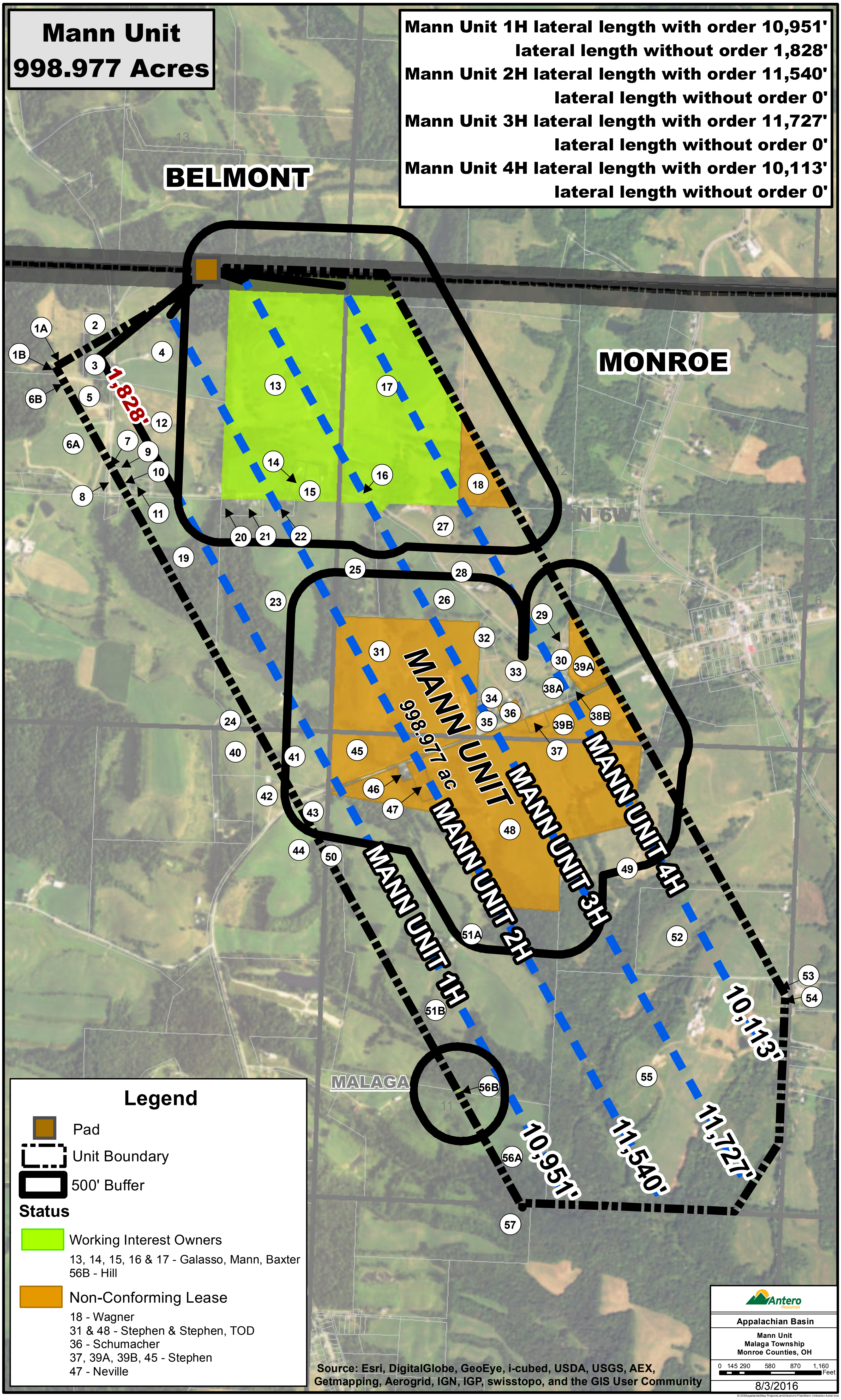
A46. Yes. Exhibit E is the Gas Balancing Agreement, which further details the rights and obligations of the parties with respect to marketing and selling any production from the Contract Area.

Q47. In your professional opinion, given your education and experience, are the terms of the Unit Plan, including the terms of the exhibits just discussed, just and reasonable?

A47. Yes.

Q48. Does this conclude your testimony?

A48. Yes.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lateral length without order 1,828'
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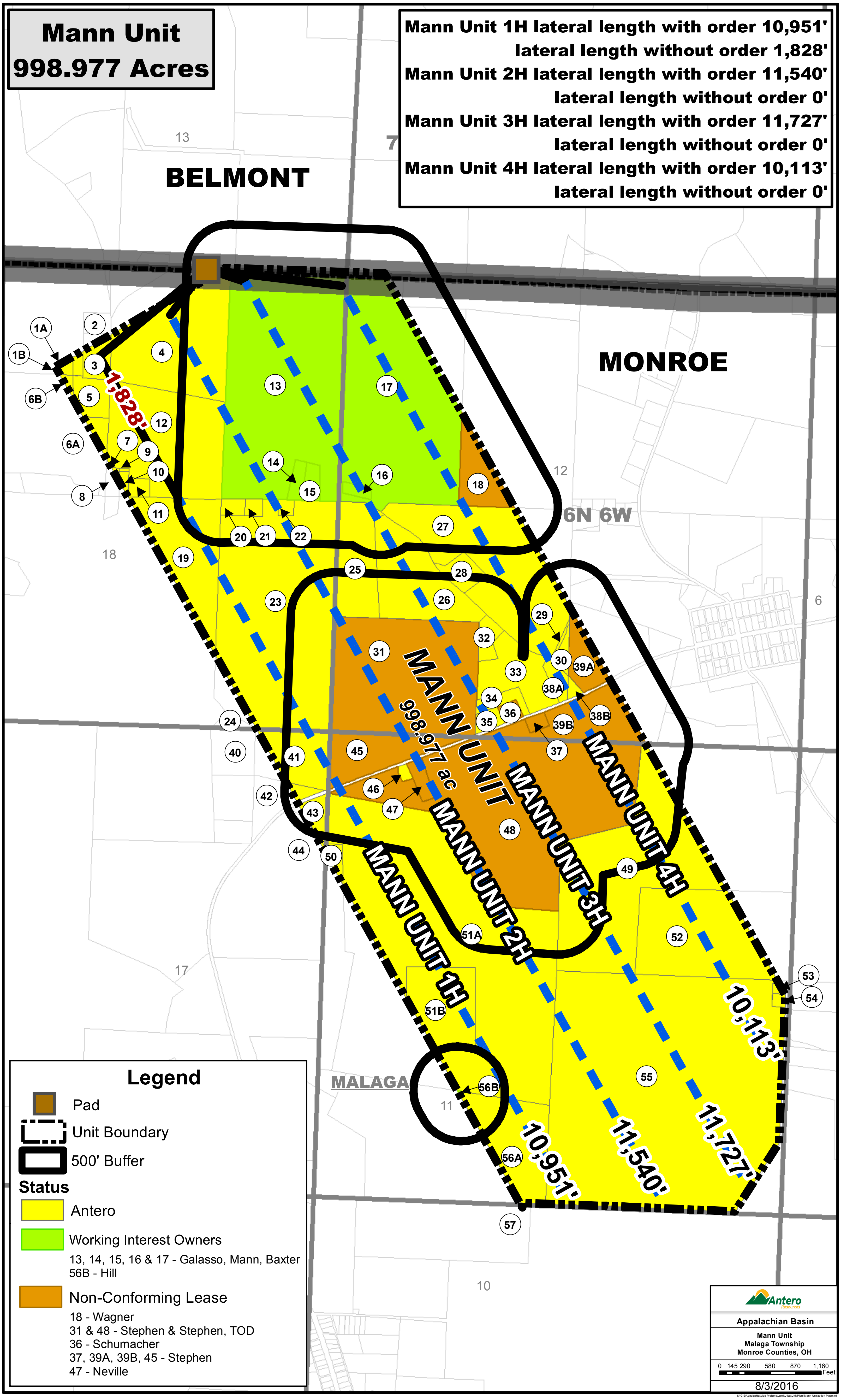
MANN UNIT 3H
MANN UNIT 4H
10,951'
11,540'
11,727'
10,113'
Legend
Pad
Unit Boundary
500' Buffer
Status
Working Interest Owners
13, 14, 15, 16 & 17 - Galasso, Mann, Baxter
56B - Hill
Non-Conforming Lease
18 - Wagner
31 & 48 - Stephen & Stephen, TOD
36 - Schumacher
37, 39A, 39B, 45 - Stephen
47 - Neville
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
Antero Resources
Appalachian Basin
Mann Unit
Malaga Township
Monroe Counties, OH
0 145 290 580 870 1,160 Feet
8/3/2016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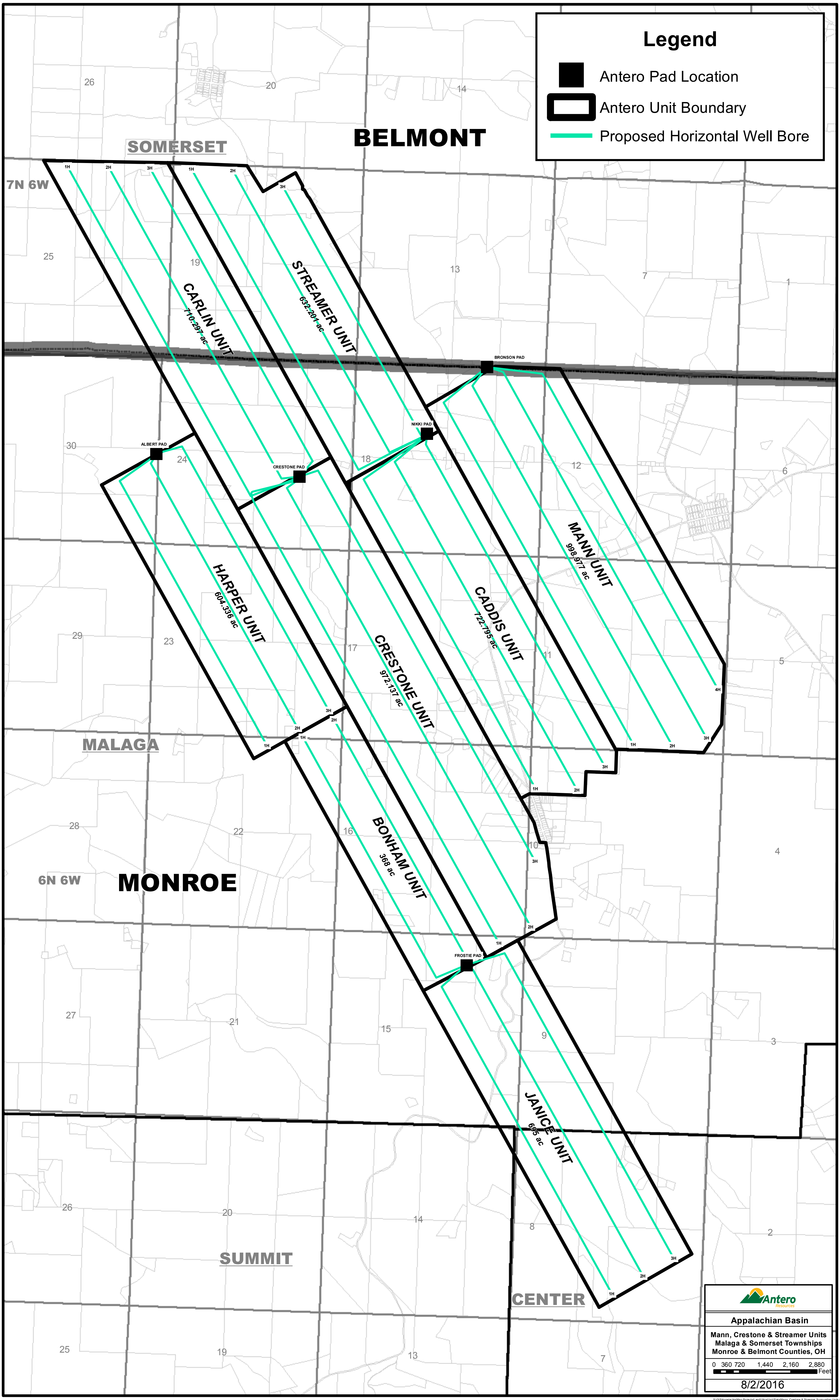
Feet
8/3/2016


Legend
Antero Pad Location
Antero Unit Boundary
Proposed Horizontal Well Bore
BELMONT
SOMERSET
7N 6W
CARLIN UNIT
710.297 ac
STREAMER UNIT
632.201 ac
BRONSON PAD
NIKKI PAD
ALBERT PAD
CRESTONE PAD
MANN UNIT
998.977 ac
CADDIS UNIT
722.795 ac
HARPER UNIT
604.336 ac
CRESTONE UNIT
972.137 ac
MALAGA
BONHAM UNIT
368 ac
6N 6W
MONROE
FROSTIE PAD
JANICE UNIT
695 ac
SUMMIT
CENTER
Antero Resources
Appalachian Basin
Mann, Crestone & Streamer Units
Malaga & Somerset Townships
Monroe & Belmont Counties, OH
0 360 720 1,440 2,160 2,880
Feet
8/2/2016

STATE OF OHIO
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS RESOURCES MANAGEMENT

In re the Matter of the Application of Antero	:	
Resources Corporation for Unit Operation	:	
	:	Application Date: April 19, 2016
Mann Unit	:	Supplemental Date: August 1, 2016

AFFIDAVIT OF NON-CONFORMING LEASE AND NON-CONSENTING WORKING INTEREST EFFORTS

I, Spencer Booth, being first duly cautioned and sworn, do hereby depose and state as follows:

1. My name is Spencer Booth and I am a Senior Staff Landman with Antero Resources Corporation (the "Applicant"). My day-to-day responsibilities include managing field land brokers, negotiating lease acquisitions, and handling title matters for the Applicant's operations in the Utica Shale.

2. As a result of my job responsibilities, I have personal knowledge of the matters set forth in this affidavit, including the attachment hereto, and the following information is true to the best of Affiant's knowledge and belief.

3. Tracts 18, 31, 36, 37, 39A, 39B, 45, 47, and 48 either lack a mechanism to voluntarily consolidate the leased premises within the proposed Mann Unit or contain a provision granting pooling of the leased premises, but is limited to a certain acreage size that will not conform with the proposed 998.977 acres contained within the Applicant's Mann Unit (a "Non-Conforming Lease").

4. The Applicant has made diligent efforts to obtain a lease modification of all Non-Conforming Leases that would permit the Applicant to voluntarily consolidate the Non-Conforming Leases into the Mann Unit. Those efforts are documented in the attached chart and include making in-person visits, telephone calls, email correspondence and mail correspondence.

5. Tracts 13, 14, 15, 16, 17, and 56B are owned in whole or in part by various outstanding working interest owners.

6. The Applicant has reached an agreement or made a diligent effort to locate, acquire or negotiate mutually acceptable terms that would permit the Applicant to voluntarily include the outstanding working interest owned by the subject parties in tracts 13, 14, 15, 16, 17, and 56B in the Mann Unit. These efforts are documented in the attached chart and include telephone calls and written correspondence.

Further Affiant sayeth naught.

Dated this 1st day of August, 2016.

Spencer Booth
Senior Staff Landman
Antero Resources Corporation

ACKNOWLEDGEMENT

STATE OF COLORADO)
) SS
COUNTY OF DENVER)

The foregoing instrument was sworn to before me, a Notary Public in and for the State of Colorado, and subscribed in my presence this 1st day of August, 2016, by Spencer Booth, known to me or satisfactorily proven to be the Affiant in the foregoing instrument, who acknowledged the above statements to be true as Affiant verily believes.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission Expires:

7/8/2020

Shelby Marie Joh
Notary Public

Shelby Marie Johnson
Printed Name of Notary

(S E A L)

SHELBY MARIE JOHNSON
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20164026060
MY COMMISSION EXPIRES JULY 8, 2020

Tract	Owner	Parcel	Net Acres	Phone Number
13 14 15 16 17	**Nancy Jo Galasso (Assignment of Working Interest)**	**12-015015.0000 12-015006.0000 12-015021.0000 12-016021.0000 12-016020.0000**	**3.052**	**502-868-5388**
Date	Comments			
8/19/2015	During consent to pool negotiations. Richard Yoss of Yoss law office inquired about any possible interest in acquiring the working interest to Vasanth Ananth of Turner Oil & Gas.			
8/19/2012	Vasanth Ananth, Turner Oil & Gas, sent inquiry from Richard Yoss, Yoss law office to Rick Allen, Turner Oil & Gas. Based on the Unit configuration, no negotiations occurred for acquisition of working interest.			
1/12/2016	Richard Yoss of Yoss law office inquired about any possible interest in acquiring the working interest to Vasanth Ananth of Turner Oil & Gas.			
1/12/2016	Vasanth Ananth, Turner Oil & Gas, sent inquiry from Richard Yoss, Yoss law office to Rick Allen, Turner Oil & Gas. Based on the Unit configuration, no negotiations occurred for acquisition of working interest.			
4/11/2016	Based on previous Unit reconfigurations and this tract falling out of the unit boundaries. No further action was taken to acquire. A new Unit configuration dated 4/11/2016 puts this interest back in the Unit. Negotiations will resume and have the interest acquired in the weeks or months ahead.			
4/21/2016	Travis Spain, Turner Oil & Gas, sent Richard Yoss, Yoss Law Office, counsel for Mrs. Galasso, proposed offer and assignment documents for review.			
5/18/2016	Travis Spain, Turner Oil & Gas, sent Richard Yoss, e-mail requesting status update.			
6/2/2016	Travis Spain, Turner Oil & Gas, sent Richard Yoss, e-mail requesting status update.			
6/3/2016	Richard Yoss, e-mailed Travis Spain, indicating he had completed his review of the proposal, he is advising his client to sign them and return. This issue should be resolved in the days ahead.			
7/25/2016	Received executed documents from Nancy Jo Galasso. The documents were not correctly executed, signed in wrong locations. A new document packet is being generated and will be sent to Mrs. Galasso.			
13 14 15 16 17	**Richard A. Mann (Assignment of Working Interest)**	**12-015015.0000 12-015006.0000 12-015021.0000 12-016021.0000 12-016020.0000**	**3.052**	**740-510-0140**
Date	Comments			
8/19/2015	During consent to pool negotiations. Richard Yoss of Yoss law office inquired about any possible interest in acquiring the working interest to Vasanth Ananth of Turner Oil & Gas.			
8/19/2012	Vasanth Ananth, Turner Oil & Gas, sent inquiry from Richard Yoss, Yoss law office to Rick Allen, Turner Oil & Gas. Based on the Unit configuration, no negotiations occurred for acquisition of working interest.			
1/12/2016	Richard Yoss of Yoss law office inquired about any possible interest in acquiring the working interest to Vasanth Ananth of Turner Oil & Gas.			
1/12/2016	Vasanth Ananth, Turner Oil & Gas, sent inquiry from Richard Yoss, Yoss law office to Rick Allen, Turner Oil & Gas. Based on the Unit configuration, no negotiations occurred for acquisition of working interest.			
4/11/2016	Based on previous Unit reconfigurations and this tract falling out of the unit boundaries. No further action was taken to acquire. A new Unit configuration dated 4/11/2016 puts this interest back in the Unit. Negotiations will resume and have the interest acquired in the weeks or months ahead.			
4/21/2016	Travis Spain, Turner Oil & Gas, sent Richard Yoss, Yoss Law Office, counsel for Mr. Mann, proposed offer and assignment documents for review.			
5/18/2016	Travis Spain, Turner Oil & Gas, sent Richard Yoss, e-mail requesting status update.			
6/2/2016	Travis Spain, Turner Oil & Gas, sent Richard Yoss, e-mail requesting status update.			
6/3/2016	Richard Yoss, e-mailed Travis Spain, indicating he had completed his review of the proposal, he is advising his client to sign them and return. This issue should be resolved in the days ahead.			
7/25/2016	Received executed documents from Richard A. Mann. The documents were not correctly executed, signed in wrong locations. A new document packet is being generated and will be sent to Mr. Mann.			

13 14 15 16 17	**Penny L. Baxter (Assignment of Working Interest)**	**12-015015.0000 12-015006.0000 12-015021.0000 12-016021.0000 12-016020.0000**	**3.052**	**868-671-3111**
Date	Comments			
8/19/2015	During consent to pool negotiations. Richard Yoss of Yoss law office inquired about any possible interest in acquiring the working interest to Vasanth Ananth of Turner Oil & Gas.			
8/19/2012	Vasanth Ananth, Turner Oil & Gas, sent inquiry from Richard Yoss, Yoss law office to Rick Allen, Turner Oil & Gas. Based on the Unit configuration, no negotiations occurred for acquisition of working interest.			
1/12/2016	Richard Yoss of Yoss law office inquired about any possible interest in acquiring the working interest to Vasanth Ananth of Turner Oil & Gas.			
1/12/2016	Vasanth Ananth, Turner Oil & Gas, sent inquiry from Richard Yoss, Yoss law office to Rick Allen, Turner Oil & Gas. Based on the Unit configuration, no negotiations occurred for acquisition of working interest.			
4/11/2016	Based on previous Unit reconfigurations and this tract falling out of the unit boundaries. No further action was taken to acquire. A new Unit configuration dated 4/11/2016 puts this interest back in the Unit. Negotiations will resume and have the interest acquired in the weeks or months ahead.			
4/21/2016	Travis Spain, Turner Oil & Gas, sent Richard Yoss, Yoss Law Office, counsel for Mrs. Baxter, proposed offer and assignment documents for review.			
5/18/2016	Travis Spain, Turner Oil & Gas, sent Richard Yoss, e-mail requesting status update.			
6/2/2016	Travis Spain, Turner Oil & Gas, sent Richard Yoss, e-mail requesting status update.			
6/3/2016	Richard Yoss, e-mailed Travis Spain, indicating he had completed his review of the proposal, he is advising his client to sign them and return. This issue should be resolved in the days ahead.			
7/25/2016	Received executed documents from Penny L. Baxter. The documents were not correctly executed, signed in wrong locations. A new document packet is being generated and will be sent to Mrs. Baxter.			
18	**Michael H. & Kimberly J. Wagner (Non-Conforming Lease)**	**12-016004.0000**	**7.424**	**740-472-2070**
Date	Comments			
6/3/2016	Antero resources acquired interest in this tract from Gulfport. The base lease contains inadequate pooling language. John Nunez, Turner Oil & Gas, obtained all supporting documents required to generate a pooling amendment. John Nunez sent amendment assignment to Mike Maclay, Turner Oil & Gas, locate and contact Mr. & Mrs. Wagner. Begin negotiations and obtain the required amendment.			
6/6/2016	Mike Maclay, Turner Oil & Gas, met with Mrs. Wagner at her residence. Mr. Maclay explained why an amendment is needed. Mrs. Wagner stated she would talk with her husband Michael about the information. Meeting scheduled for Wednesday June 8th at 8:00pm.			
6/8/2016	Mike Maclay, Turner Oil & Gas, met with Mr. & Mrs. Wagner, discussed the document package. Mr. & Mrs. Wagner indicated they will eventually be sending them to an attorney for review.			
6/15/2016	Mike Maclay, Turner Oil & Gas, met with Mrs. Wagner, conducted further discussions about the documents.			
6/21/2016	Mike Maclay, Turner Oil & Gas, called and spoke with Mr. Wagner in an attempt to obtain an update on the document review. Mr. Wagner said he has been too busy to review the documents.			
6/25/2016	Mike Maclay, Turner Oil & Gas, called and spoke with Mr. Wagner in an attempt to obtain an update on the document review. Mr. Wagner still had not completed the review or sent the documents to an attorney for review.			
7/8/2016	Mike Maclay, Turner Oil & Gas, met with Mrs. Wagner, conducted further discussions about the documents. Mrs. Wagner informed Mr. Maclay she had mailed the documents to her attorney for review.			
7/26/2016	Bryan Stack, Turner Oil & Gas, spoke with Mr. Wagner. Mr. Wagner had questions about the unit size and the notice letter from ODNR. Mr. Stack addressed Mr. Wagners questions. Documents are with the Wagners attorney for review and no feedback from their counsel has been received to date.			

31* 37 39A 39B 45 48*	**Douglas C. Stephen *Tracts 31 & 48 -include-TOD Alex J. Stephen (Non-Conforming Lease)**	**12-016023.0000 12-016052.0000 12-016027.0000 12-016027.0000 12-017014.1000 12-017001.0000**	**50.380 1.004 15.227 4.017 12.945 81.011**	**740-472-2411**

Date	Comments
7/23/2015	Rick Allen, Turner Oil and Gas, met with Douglas Stephen at Mr. Stephen's Seamless Guttering business in Malaga, Ohio. Mr. Stephen would not agree to sign ratification/pooling modification. Mr. Stephen requested, an increase in the financial consideration offered by Antero, Pugh clauses, release of deep rights (below Utica), and no surface usage language be added to ratification. Mr. Stephen also refused to sign oil and gas lease for the 1 acre tract that is open of record. Antero counter offered Mr. Stephen's proposal and he declined to accept.
8/10/2015	Rick Allen, Turner Oil and Gas, spoke with Mr. Stephen on the phone and explained Antero had agreed to his request. Rick Allen ask MR. Stephen when he could meet with him to get the agreement signed and Mr. Stephen stated " this is a step in the right direction, but he was not ready to sign." Mr. Stephen indicated that he wanted ARTI into an ORRI that Weiss Drilling owned on the 65 acre farm, to move forward with signing the agreement.
9/9/2015	Rick Allen, Turner Oil and Gas, met with Douglas Stephen at Mr. Stephen's Seamless Guttering business in Malaga, Ohio. Rick Allen informed that Weiss Drilling had agreed to his request associated with the ORRI and provided the needed agreement to Mr. Stephen. Mr. Stephen indicated that he was agreeable to sign the agreement as long as the agreement language checked out with his attorney. Mr. Stephen indicated he would get back in touch once his attorney was finished with the review.
9/25/2015	Rick Allen, Turner Oil and Gas, called Mr. Stephen and per the answering machine he was out of state hunting and would not return until 10/26/2015.
10/26/2015	Rick Allen, Turner Oil and Gas, spoke on the phone with Mr. Stephen and asked Stephen for an update on the review of the provided agreements. Mr. Stephen advised to contact his attorney, Tim Pettorini with Critchfield Critchfield and Johnson, Wooster Ohio.
10/27/2015	Rick Allen, Turner Oil and Gas, sent all needed agreements to Tim Pettorini to ensure he would have everything he needed to complete his review.
11/5/2015	Rick Allen, Turner Oil and Gas, sent a follow up email to Tim Pettorini, since Pettorini had never replied to the email sent on 10/27/2015.
11/9/2015	Tim Pettorini emailed Rick Allen and informed him to contact Douglas Stephen directly, as he had been advised of his rights pertaining to the agreements and he would be in contact with Rick Allen by the end of the week.
11/10/2015	Rick Allen, Turner Oil and Gas, spoke on the phone with Mr. Stephen and asked when would be a good time to get the needed agreements signed. Mr. Stephen stated that he and his attorney did not feel comfortable with the Assignment of ORRI language, and his attorney would send Rick Allen revised language.
11/23/2015	Tim Petorini emailed Rick Allen the revised Assignment of ORRI language.
11/25/2015	Rick Allen, Turner Oil and Gas, spoke on the phone with Mr. Stephen to discuss the progress of the negotiations. Mr. Stephen advised Rick Allen that the Assignment of ORRI was no longer an issue, but he would need gross proceeds language for all the HBP leases in order to sign said agreement.
11/28/2015	Rick Allen, Turner Oil and Gas, spoke on the phone with Mr. Stephen and informed Mr. Stephen that his request of gross proceeds language was approved. Rick Allen asked Mr. Stephen when he would be available to execute said agreement, and Mr. Stephen replied "We are getting closer" and he would get back with him at a later date.
12/3/2015	Rick Allen, Turner Oil and Gas, sent a follow up email to Tim Pettorini to check the status of the negotiations and remind Mr. Pettorini that Antero has deadlines with the current rig schedule, so time was of the essence.
12/22/2015	Rick Allen, Turner Oil and Gas, met with Douglas Stephen, Tim Pettorini, and Benjamin Fraifogl at the Seamless Guttering business in Malaga, Ohio. Mr. Stephen would not agree to sign ratification/pooling modification/lease. Mr. Stephen requested additional consideration for the pooling modifications, but Mr. Stephen would not provide terms that would be acceptable to get the agreement completed. Tim Pettorini challenged the validity of the leases in question and stated fair consideration for the needed pooling modifications would be additional bonus and additional royalty, but would not provide a number to get the deal closed. Rick Allen informed both Mr. Stephen and Tim Pettorini that Antero had already agreed to additional consideration in numerous forms, so Antero would not be willing to agree to any additional requests for the deal at hand.
12/29/2015	Lana Austin, with Roetzel Law Firm sent a legal memo written by J. Benjamin Fraifogl that challenged the leases in question. Rick Allen provided said document to Spencer Booth Landman, Antero Resources.

1/11/2016	Tim Petorini called Rick Allen and informed him that he had changed law firms and his legal assistant would send his new contact information. Tim also stated that he was aware that the oil and gas market was changing, so he was not certain that it would take an additional consideration to complete the deal. Rick Allen informed Tim Pettorini that moving forward Spencer Booth, Antero Resources Landman, would be taking over any future negotiations in regards to the Douglas Stephen issues.			
4/25/2016	Spencer Booth, Antero Resources Corporation, presented an offer for Mr. Stephen to Tim Petorini, which included a two year term amendment, with a two year extension option for the same consideration.			
5/24/2016	Spencer Booth, Antero Resources, sent e-mail to Tim Petorini requesting status update to offer presented.			
6/1/2016	Spencer Booth, Antero Resources, sent e-mail to Tim Petorini requesting status update to offer presented.			
6/28/2016	Spencer Booth, Antero Resources, called Tim Petorini, left voicemail requesting a call back to discuss the outstanding issues with Mr. Stephen.			
7/14/2016	Rick Allen, Turner Oil & Gas, called and spoke with Mr. Stephens. A verbal offer was presented for the purchase of this interest. Mr. Stephen requested time to think about it and requested Rick Allen call him back at a later date.			
36	**Anthony C. Schumacher (Non-Conforming Lease)**	**12-016025.0000**	**1.244**	**740-472-0515**
Date	Comments			
4/8/2016	John Nunez, Turner Oil & Gas identified a consent to pool amendment is required. Submitted information internally at Turner Oil & Gas to start generating the required documents.			
5/10/2016	Bryan Stack, Turner Oil & Gas spoke to Cindy and was told that her father-in-law is in poor health. She Asked that he call back in a few weeks.			
5/24/2016	Bryan Stack, Turner Oil & Gas called and left messages. Calls were not returned.			
5/31/2016	Bryan Stack, Turner Oil & Gas, spoke with Mrs. Schumacher, she indicated they have had a death in the family and are tied up in family matters, they have not reviewed the amendment and requested a follow up in a week or so.			
6/10/2016	Bryan Stack, Turner Oil & Gas, called Mr. Schumacher, no answer, left voicemail.			
6/17/2016	Bryan Stack, Turner Oil & Gas, called Mr. Schumacher, no answer, left voicemail.			
7/7/2016	Bryan Stack, Turner Oil & Gas, stopped at the property. Mr. Schumacher informed Mr. Stack he did not have time to discuss this issue at the present time and he would call Mr. Stack in a week.			
7/15/2016	Bryan Stack, Turner Oil and Gas called Mr. Schumacher, no answer, left message.			
7/22/2016	Bryan Stack, Turner Oil and Gas called Mr. Schumacher, no answer, left message.			
7/26/2016	Bryan Stack, Turner Oil and Gas called and spoke with Mr. Schumacher. Mr. Schumacher informed Mr. Stack he is leaving on vacation and will not return until mid August and requested a follow up then.			
47	**Victor & Jewell Neville (Non-Conforming Lease)**	**12-017012.0000**	**1.697**	**740-472-1319**
Date	Comments			
3/31/2016	John Nunez, Turner Oil & Gas identified a consent to pool amendment is required. Submitted information internally at Turner Oil & Gas to start generating the required documents.			
4/21/2016	Rick Allen, Sr., Turner Oil & Gas talked with the son of lessor and left number for Lessor to use for a return call.			
4/25/2016	Rick Allen, Sr., Turner Oil & Gas talked to Victor Neville and mailed a packet to him. Lessor notified Rick Allen, Sr., that he will call once he has had a chance to review.			
5/31/2016	Rick Allen, Sr., called the Neville residence, no answer, left voicemail to please return call. Attempts to contact will continue.			
6/6/2016	Rick Allen, Sr., Turner Oil & Gas called the Neville residence. No answer, left voice mail.			
6/6/2016	Mr. Neville called Rick Allen, Sr., stated he and his wife would like to meet on 6/8/2016, time to be decided. Mr. Neville indicated he would call Mr. Allen back on 6/7/2016 with a time to meet at Mrs. Neville's shop in Woodsfield, OH.			
6/8/2016	Rick Allen, Sr., met with Mr. & Mrs. Neville, discussed the document packet and the reason this is required. Mr. & Mrs. Neville indicated they will review.			
6/12/2016	Rick Allen, Sr., called and talked with Mr. Neville, Mr. Neville indicated he did not think the financial compensation was enough based on input from others and is not ready to sign.			
6/28/2016	Victor Neville, called Rick Allen, Sr., Mr. Neville presented a counter to the offer being presented by Antero Resources. Mr. Allen informed Mr. Neville he would inform the appropriate parties of the counter offer.			
6/28/2016	Rick Allen, Sr., called Mr. Neville with a counter off to his previous counter offer. Mr. Neville indicated he would think about it.			
6/30/2016	Victor Neville, called Rick Allen, Sr., Mr Neville informed Mr. Allen he is declining the offer being presented by Antero Resources and is not going to sign.			

56B	Ronnie G. Hill (Partial Assignment of WI)	12-017006.0000	0.0006	661-589-2470
Date	Comments			
12/7/2015	Mike Maclay, Turner Oil & Gas, called Mr. Hill's home at 661-589-2470 and left a message			
12/8/2015	Mike Maclay, Turner Oil & Gas, prepared and mailed assignment documents via certified mail to 13301 Smoke Creek Ave., Bakersfield, CA 93314			
12/8/2015	Mike Maclay, Turner Oil & Gas, called Mr. Hill's home at 661-589-2470 and left a message			
12/11/2015	Mike Maclay, Turner Oil & Gas, called Mr. Hill's home at 661-589-2470 and left a message			
12/15/2015	Mike Maclay, Turner Oil & Gas, called Mr. Hill's home at 661-589-2470 and left a message			
12/21/2015	Mike Maclay, Turner Oil & Gas, called Mr. Hill's home at 661-589-2470 and left a message			
12/30/2015	Mike Maclay, Turner Oil & Gas, called Mr. Hill's home at 661-589-2470 and left a message			
1/4/2016	Mike Maclay, Turner Oil & Gas, prepared and mailed letter via certified mail requesting status update to 13301 Smoke Creek Ave., Bakersfield, CA 93314			
1/11/2016	Mike Maclay, Turner Oil & Gas, talked to Ronnie Hill said he would consider assigning his interest, wanted to know exactly how much of an ORRI he was to get and roughly how much money would it pay him, presented rough estimate of royalty forecast.			
1/15/2016	Mike Maclay, Turner Oil & Gas, called Mr. Hill's home at 661-589-2470 and left a message			
1/21/2016	Mike Maclay, Turner Oil & Gas, called Mr. Hill's home at 661-589-2470 and left a message			
2/2/2016	Mike Maclay, Turner Oil & Gas, called Mr. Hill's home at 661-589-2470 and left a message			
2/6/2016	Mr. Hill called Mike Maclay of Turner Oil & Gas, stated he never received the documents, Mike Maclay told him that he signed the Certified Mail Receipt for the documents sent to him, Mr. Hill he then said that he must have mailed it back.			
4/15/2016	John Nunez, Turner Oil & Gas called Mr. Hill at 661-589-2470. No answer, left voicemail.			
6/3/2016	John Nunez, Turner Oil & Gas, sent personal introduction letter to Mr. Hill, providing all of his contact information, and letting him know he would like to start talks directly with Mr. Hill, generating a mutually beneficial outcome for Mr. Hill and Antero Resources.			
6/6/2016	John Nunez, Turner Oil & Gas, sent Mr. Hill, by FedEx, assignment documents, with delivery receipt requested. Attempts to contact Mr. Hill will continue in an effort to resolve this issue in the weeks and months ahead.			
6/20/2016	Rod Hinton, Turner Oil & Gas, dispatched a friend who lives in Bakersfield, CA., to door knock on Mr. Hill's residence. 6/21/2016 contact was established and set up a meeting for the evening of 6/22/2016.			
6/22/2016	Mrs. Hill, contacted Rod Hinton, Turner Oil & Gas and informed Mr. Hinton they would not be able to meet as previously planned. Mr. Hinton informed Mrs. Hill he would follow up with her at a later time.			
6/27/2016	Rod Hinton, Turner Oil & Gas, contacted Judy Kay Hill, wife of Ronnie G. Hill on 6/24/2016. She informed Rod Hinton that they were looking for an attorney to review everything in regards to their interest in the property. Mrs. Hill also stated that they were dealing with the death of their grandson, and that they were not focused any possible dealings with Antero at the time being, and they would contact me when they were ready.			
7/26/2016	Bryan Stack, Turner Oil & Gas, called Mr. Hill, no answer, left message.			

STATE OF OHIO
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS RESOURCES MANAGEMENT

In re the Matter of the Application of Antero Resources Corporation for Unit Operation :

Application Date: April 19, 2016
Supplemental Date: August 1, 2016

Mann Unit

LEASE AFFIDAVIT

I, Spencer Booth, being first duly cautioned and sworn, do hereby depose and state as follows:

1. Affiant, Spencer Booth, is employed by Antero Resources Corporation (the "Applicant") as a Senior Staff Landman. Affiant's job responsibilities include managing field land brokers, negotiating lease acquisitions, and handling title matters for the Applicant's operations in the Utica Shale.

2. As a result of his job responsibilities, Affiant has personal knowledge of the matters set forth in this affidavit and the following information is true to the best of Affiant's knowledge and belief.

3. Pursuant to Ohio Revised Code § 1509.28, the Applicant is filing herewith an application with the Chief of the Division of Oil and Gas Resources Management requesting an order authorizing the Applicant to operate the Unitized Formation and applicable land area, identified as the Mann Unit, according to the Unit Plan attached thereto (the "Application") (as those terms are used and defined therein). The Mann Unit is located in Monroe County, Ohio, and consists of fifty-seven (57) separate tracts of land covering approximately 998.977 acres.

4. To the best of Affiant's knowledge and belief, the Applicant holds a valid lease agreement for all of the acreage that the Applicant claims to have under lease in the Mann Unit, as outlined on Exhibit A-2 of the Unit Operating Agreement attached to the Application.

Further Affiant sayeth naught.

Dated this 1st day of August, 2016.

Spencer Booth, Affiant
Senior Staff Landman
Antero Resources Corporation

ACKNOWLEDGEMENT

STATE OF COLORADO)
) SS
COUNTY OF DENVER)

The foregoing instrument was sworn to before me, a Notary Public in and for the State of Colorado, and subscribed in my presence this 13t day of August, 2016, by Spencer Booth, known to me or satisfactorily proven to be the Affiant in the foregoing instrument, who acknowledged the above statements to be true as Affiant verily believes.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission Expires:
7/8/2020

Shelby M Jo
Notary Public

Shelby Marie Johnson
Printed Name of Notary

(S E A L)

SHELBY MARIE JOHNSON
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20164026060
MY COMMISSION EXPIRES JULY 8, 2020

STATE OF OHIO
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS RESOURCES MANAGEMENT

In re the Matter of the Application of Antero Resources Corporation for Unit Operation	:	
	:	Application Date: April 19, 2016
Mann Unit	:	Supplemental Date: August 1, 2016
	:	

AFFIDAVIT OF OWNERSHIP

I, Spencer Booth, being first duly cautioned and sworn, do hereby depose and state as follows:

1. Affiant, Spencer Booth, is employed by Antero Resources Corporation ("Antero") as a Senior Staff Landman. Affiant's job responsibilities include managing field land brokers, negotiating lease acquisitions, and handling title matters for Antero's operations in the Utica Shale.

2. Pursuant to Ohio Revised Code §1509.28, the Applicant has filed an application with the Chief of the Division of Oil and Gas Resources Management requesting an order authorizing Applicant to operate the Unitized Formation and applicable land area, identified as the Mann Unit, according to the Unit Plan attached thereto (the "Application") (as those terms are used and defined therein). The Mann Unit is located in Monroe County, Ohio, and consists of approximately fifty-seven (57) separate tracts of land covering approximately 998.977 acres.

3. As of the Application Date set forth above, the Applicant is the owner, as that term is defined in Ohio Revised Code §1509.01 (K), of at least 65% of the land overlying the Unitized Formation, as outlined in Exhibit A attached hereto.

Further Affiant sayeth naught.

Dated this 1st day of August, 2016.

Spencer Booth, Affiant
Senior Staff Landman
Antero Resources Corporation

ACKNOWLEDGEMENT

STATE OF COLORADO)
) SS
COUNTY OF DENVER)

The foregoing instrument was sworn to before me, a Notary Public in and for the State of Colorado, and subscribed in my presence this 1st day of August, 2016, by Spencer Booth, known to me or satisfactorily proven to be the Affiant in the foregoing instrument, who acknowledged the above statements to be true as Affiant verily believes.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission Expires:
7/8/2020

Shelby Marie Johnson
Notary Public
Shelby Marie Johnson
Printed Name of Notary

(S E A L)
SHELBY MARIE JOHNSON
NOTARY PUBLIC
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NOTARY ID 20164026060
MY COMMISSION EXPIRES JULY 8, 2020