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

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| In re the Matter of the Application of Antero Resources Corporation for Unit Operation | : | |
| | : | Application Date: June 9, 2014 |
| Loraditch Unit | : | |

## 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 "Loraditch 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 exploitation, 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 September 13, 2013 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 5.

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* prefiled testimony of Brandon Binford, Hal Hogsett, and Sloane Ford, attached as Exhibits 2, 3 and 4, respectfully.

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 1-A.3 to Unit Agreement, attached to this Application as Exhibit 1.

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 1-A.1 to Unit Agreement, attached to this Application as Exhibit 1.

6. A list identifying all uncommitted working interest 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.

Not Applicable.

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 and blue;
- 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-A, attached to this Application as part of Exhibit 4.

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

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.

*See* Exhibit 2-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* Exhibit 4-D, attached to this Application as part of Exhibit 4.

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

*See* Exhibit 6. Note that this joint operating agreement has not been finalized or agreed to by Antero's working interest partners. Also, please note that Antero does not propose that this joint operating agreement govern Antero's relationship with the unleased parties that will be unitized through this application; Antero has proposed several lease or lease-like options that would govern its relationship with those parties.

## II. SUMMARY OF REQUEST FOR UNITIZATION

### A. Project Description

The Loraditch Unit is located in Monroe County, Ohio, and consists of forty-nine (49) separate tracts of land. See Exhibits 1-A.1 and 1-A.2 of the Unit Agreement (showing the tract participations and plat, respectively). The total land area in the Loraditch Unit is approximately 663.259 acres and, at the time of this Application, Antero, together with Eclipse Resources I, LP, Eclipse Resources – Ohio, LLC, and Gulfport Energy Corporation, has the right to drill on and produce from approximately 659.424 acres[1] of the proposed unit – i.e., 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 6 horizontal wells in the Utica/Point Pleasant Formation ("the Unitized Formation") from a single well pad located on the South border of the unit 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 1-A.2 and identified in Exhibit 1-A.1 to the Unit Agreement) 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.[2] 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 Agreement to allocate unit production and expenses to separately owned tracts on a surface acreage basis.[3]

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[1] Antero Resources Corporation, as Operator, is authorized to file this application on behalf of Eclipse Resources I, LP, Eclipse Resources – Ohio, LLC and Gulfport Energy Corporation, who all own a minority working interest in the Loraditch Unit.

[2] 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.

[3] *See* Exhibit 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 Loraditch Unit. It also demonstrates that unitized operation protects the correlative rights of all 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 Unit Agreement contemplates the drilling of six (6) horizontal wells from a single well pad, with laterals in length of approximately 9,611 feet. Antero estimates that the ultimate recovery from this unit development could be as much as 106.5 Bcfe from the Unitized Formation. Absent unit development contemplated in the unitized project, the recovery would be substantially less: First, the evidence shows that it is unlikely that vertical development of the unit would ever take place because it is likely to be uneconomic – resulting in potentially no resource recovery from portions of the Unitized Formation. Second, avoiding unleased tracts by relying on shorter horizontal laterals to develop the Unitized Formation underlying the Loraditch Unit would result in a substantially lower ultimate recovery of oil and gas, as it would strand approximately 31.1 Bcfe of the total estimated reserves, unlikely to ever be developed.[4] Antero estimates that the ultimate recovery of reserves will increase by approximately 41% from 75.4 Bcfe to 106.5 Bcfe if the unit is developed utilizing the proposed unit development.[5]

The capital expense associated with developing the unitized project is $85.5 million, as compared to $67.4 million for the non-unitized project. The value of hydrocarbons expected to be recovered from the proposed unit is $95.3 million as compared to $62.1 million that could be recovered without unit operations. In other words, for an additional $18.1 million in capital expenditure, Antero could recover hydrocarbons valued at more than $33.2 million.[6] Thus, the economic benefits of unitization far outweigh the additional costs necessary for unit development.

C. Unitized Operations

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

The proposed unit operations would be governed by the Unit Agreement, attached to this Application as Exhibit 1. The Unit Agreement allocates unit production and expenses based upon each tract's surface acreage participation in the unit. The Unit Agreement also offers those parties who have not voluntarily entered into a lease agreement by the date of the hearing on this application two options:

(1) Leasing at $6,200 per acre plus an 18% royalty [High Bonus Option] of the oil and gas produced from any well drilled pursuant to the Order, free and clear of all costs, expenses and risks incurred in connection with the drilling and completing any such well; provided that such royalty shall be payable only as to the proportionate amount the acreage placed into the unit bears to the total acreage in the unit; or

(2) Leasing at $5,500 per acre plus a 20% royalty [High Royalty Option] of the oil and gas produced from any well drilled pursuant to the Order, free and clear of all costs, expenses and risks incurred in connection with the drilling and completing any such well; provided that such royalty shall be payable only as to the proportionate amount the acreage placed into the unit bears to the total acreage in the unit.

The two options provided represent the current market value of leasing in this unit, which was determined by looking at open market transactions over the past year within the unit.[7] These options would allow Antero to develop this unit as planned and in the most efficient way possible, thus avoiding waste of natural resources that would otherwise be stranded. Allowing Antero to fully develop this Unit as planned would afford those parties who have leased their mineral interests and who want to participate in the unit the benefit of their bargain, and would also provide the unleased mineral owners with fair compensation for the inclusion and development of their minerals. Therefore, both options are "just and reasonable" as required by the statute.

The interest relinquished under either of the above options would be limited in depth and time as to the unitized formations and the term of the Unitization Order. Moreover, there would be no surface operations authorized unless specifically agreed to by Antero and the unleased owner. If an unleased party does not make a selection within the 30 day timeframe, the Unit

[7] *See* Landman Testimony, Exhibit 4.

Agreement would have the Chief's Unitization Order treat the unleased party as if it had selected the High Bonus Option. Finally, where the Unit Agreement conflicts with any Unitization Order issued by the Chief, the Unitization Order shall control and govern the operations within the Unit.

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 Loraditch 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 Loraditch Unit as proposed.

Respectfully submitted,

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STEPTOE & JOHNSON PLLC
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Attorneys for Applicant,
Antero Resources Corporation

# EXHIBIT 1

# UNIT AGREEMENT

## LORADITCH UNIT
## SENECA TOWNSHIP
## MONROE COUNTY, OHIO

**THIS AGREEMENT**, entered into as of June 9, 2014, by the parties subscribing, ratifying, approving, consenting to, or bound to the original of this instrument, a counterpart thereof, or other instrument agreeing to become a party hereto; and by those parties participating as a result of an order issued by the Division of Oil and Gas Resources Management ("Division") pursuant to Ohio Revised Code Section 1509.28.

**W I T N E S S E T H:**

**WHEREAS**, in the interest of the public welfare and to promote conservation and increase the ultimate recovery of oil, natural gas, and other substances from the Loraditch Unit, in Seneca Township, Monroe County, Ohio, and to avoid waste and protect the correlative rights of the owners of interests therein, it is deemed necessary and desirable to enter into and approve this Agreement to create and establish a unit comprising the Unit Area under the applicable laws of the State of Ohio to unitize the Oil and Gas Rights in and to the Unitized Formation in order to conduct Unit Operations as herein provided; and,

**WHEREAS**, this Agreement allocates responsibility for the supervision and conduct of Unit Operations, and responsibility for the payment of Unit Expenses, to Working Interest Owners based upon each owner's pro rata interest in the unit acreage;

**NOW THEREFORE**, in consideration of the premises and of the mutual agreements herein contained, it is agreed and approved as follows:

## ARTICLE 1: DEFINITIONS

As used in this Agreement:

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

**High Bonus Lease Option** means the option afforded by the Chief's Unitization Order to those Persons who were unleased as of the hearing on this Unit Application to enter into a lease providing a $6,200/acre bonus and an 18% royalty, governed by the terms of the form lease attached hereto as Exhibit B.

**High Royalty Lease Option** means the option afforded by the Chief's Unitization Order to those Persons who were unleased as of the hearing on this Unit Application to enter into a lease providing a $5,500/acre bonus and a 20% royalty, governed by the terms of the form lease attached hereto as Exhibit B.

**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.

**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 in the Unit. Royalty Owners include those Persons who obtained their Royalty Interest by selecting either the High Bonus Lease Option or the High Royalty Lease Option pursuant to the Unitization Order of the Commission, or who failed to make a selection within the allotted time and were thus deemed to have selected the High Bonus Lease Option.



EXHIBIT 1

**Tract** means the land identified by a tract number in Exhibit 1-A.1 attached hereto.

**Tract Participation** means the fractional interest shown on Exhibit 1-A.1 attached hereto for allocating Unitized Substances to a Tract.

**Unit** means the Loraditch Unit, located in Seneca Township, Monroe County, Ohio.

**Unit Area** means the lands shown on the plat attached as Exhibit 1-A.2 and identified on Exhibit 1-A.1, including also areas to which this Agreement 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 Agreement and any Unit Operating Agreement governing the Working Interest Owners, 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 feet above the top of the Utica Shale (at an approximate depth of 7,995 feet) to fifty feet below the base of the Point Pleasant formation (at an approximate depth of 8,100 feet).

**Unit Operations** are all operations conducted pursuant to this Agreement

**Unit Operator** means Antero Resources Corporation.

**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.

**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 1-A.1 and 1-A.2 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 Agreement. As between Working Interest Owners, the terms of individual Unit Operating Agreements supersede the terms of this Unit Agreement where the terms conflict.

**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 individual Unit Operating Agreements executed by the Working Interest Owners.

**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 Unit Agreement 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 Agreement.

**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 Agreement, 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 Agreement. 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 Agreement and any Unit Operating Agreements.

**Unit Expenses.** Except as otherwise provided in a Unit Operating Agreement governing the rights and obligations of Working Interest Parties, 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. Unit Expenses shall be determined in accordance with the Council of Petroleum Accountants Societies Accounting Procedure for Joint Operations ("COPAS"), attached hereto as Exhibit C.

## ARTICLE 4: TRACT PARTICIPATIONS

**Tract Participations.** The Tract Participation of each Tract is identified in Exhibit 1-A.1 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: SURFACE ACRES IN EACH TRACT DIVIDED BY THE TOTAL SURFACE ACRES WITHIN THE UNIT AREA. The Tract Participations as shown in Exhibit A-1 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 Agreement 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; however, if any Tract has no well thereon capable of producing Unitized Substances on the Effective Date, the Tract shall, for the purpose of this determination, be deemed to have one (1) such well thereon.

## 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 Agreement. 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 separate agreement or by the Division, there shall be no Unit Operations conducted on the surface of any property located within the Loraditch 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 Loraditch Unit, owned by an interest owner identified in Exhibit 1-A.3.

## ARTICLE 9: CHANGE OF TITLE

**Covenant Running with the Land**. This Agreement 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 Agreement understands and acknowledges, and is hereby deemed to covenant and agree, that during the term of this Agreement 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 Agreement 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 Agreement 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 Agreement 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 Agreement in the event of a material modification by the Division of all or any part of this 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 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 Agreement, unless sooner terminated in the manner hereinafter provided, shall remain in effect for one (1) year 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 one hundred eighty (180) consecutive days, or so long as other Unit Operations are conducted without a cessation of more than one hundred eighty (180) 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 Agreement, 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 180 days after the date on which this Agreement 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 Agreement, affecting the separate Tracts.

**Certificate of Termination**. Upon termination of this Agreement, 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 Agreement 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 Agreement by signing the original, a counterpart thereof, or other instrument approving this Agreement. 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 Agreement 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 any Unit Operating Agreement governing the rights and obligations of Working Interest Owners unless otherwise provided herein.

**Severability of Provisions**. The provisions of this Agreement 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 Agreement.

**Laws and Regulations.** This Agreement 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 Agreement shall be in accordance with Ohio law.

Submitted by:

Antero Resources Corporation

By: _____

Sloane Ford
Landman
Antero Resources Corporation
1615 Wynkoop Street
Denver, Colorado 80202
Tel. (303) 357-6733
E-mail: sford@anteroresources.com

This instrument prepared by:

R. Neal Pierce (0028379)
Katerina E. Milenkovski (0063314)
Ryan S. Bundy (0090027)
STEPTOE & JOHNSON PLLC
Huntington Center
41 South High Street, Suite 2200
Columbus, Ohio 43215
Tel. (614) 221-5100
E-mail:neal.pierce@steptoe-johnson.com

Exhibit 1-A.1
All Tracts within Lorditch Unit

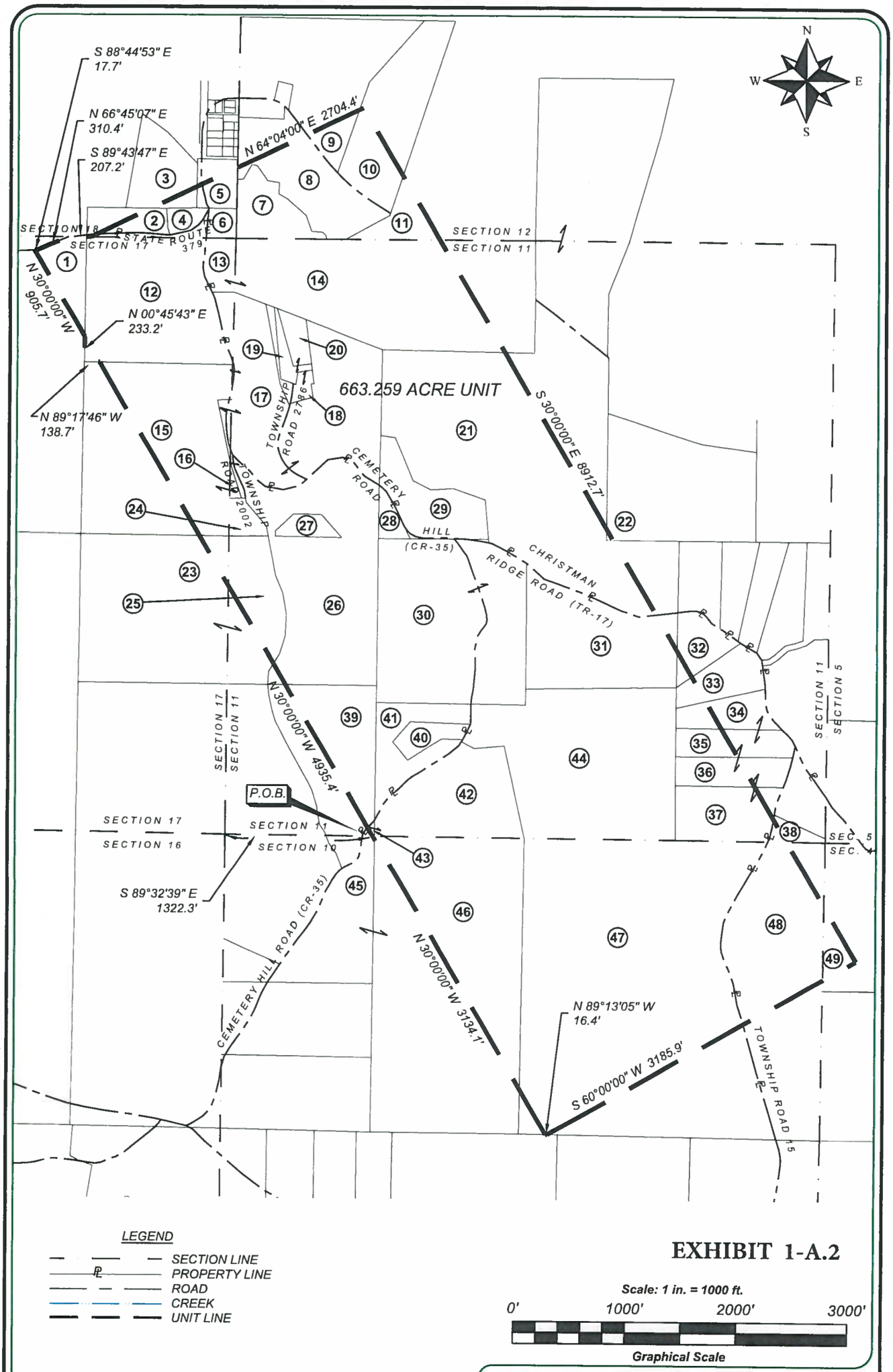
| Tract | Owner | Address | Parcel Number | Deed Acreage | Unit Acreage | Unit Participation |
|---|---|---|---|---|---|---|
| 1 | Monroe Farms, LTD. | 51348 TH 847<br>Summerfield, OH 43788 | 21-008009.0000 | 68.00000 | 5.056 | 0.76230% |
| 2 | BYRTO, LLC. | c/o Joseph D. Byler<br>5075 State Route 379<br>Quaker City, OH 43773 | 21-024001.0000 | 5.29600 | 1.976 | 0.29792% |
| 3 | Mary K. Bernardi,<br>TOD Kristen B. Huber, Successor Trustee for the Bernardi Family Trusts U/A/D 4/23/2010 | 29712 West Oakland Road<br>Bay Village, OH 44140 | 21-024005.0000 | 8.80000 | 0.911 | 0.13735% |
| 4 | Mary K. Bernardi,<br>TOD Kristen B. Huber, Successor Trustee for the Bernardi Family Trusts U/A/D 4/23/2010 | 29712 West Oakland Road<br>Bay Village, OH 44140 | 21-024002.0000 | 1.71000 | 1.528 | 0.23038% |
| 5 | Andrew D. Byler and Katie A. Byler | 51974 Cemetery Hill Road<br>Summerfield, OH 43788 | 21-024004.0000 | 3.71800 | 2.350 | 0.35431% |
| 6 | Andrew D. Byler and Katie A. Byler | 51974 Cemetery Hill Road<br>Summerfield, OH 43788 | 21-024003.0000 | 1.57200 | 1.577 | 0.23777% |
| 7 | Andrew D. Byler and Katie A. Byler | 51974 Cemetery Hill Road<br>Summerfield, OH 43788 | 21-003023.0000 | 7.07800 | 7.079 | 1.06731% |
| 8 | Gary A. Rubel and Nancy S. Rubel | 35479 State Route 78<br>Lewisville, OH 43754 | 21-003021.0000 | 15.68200 | 12.521 | 1.88780% |
| 9 | Long Pine Partners, LLC | P.O. Box 530<br>Brookhaven, MS 39602 | 21-003029.0000 | 28.12010 | 2.611 | 0.39366% |
| 10 | Long Pine Partners, LLC | P.O. Box 530<br>Brookhaven, MS 39602 | 21-003010.0000 | 19.60590 | 6.836 | 1.03067% |
| 11 | (1/3) Dale L. Christman and Joan F. Christman, Trustees of The Dale. L. and Joan F. Christman Living Trust, dated March 4, 2009<br><br>(1/3) Roger S. Christman or Janet M. Christman, Trustees or their Successor(s) as Trustees of The Christman Family Trust, dated September 21, 2001<br><br>(1/3) Karen Christman | 48823 Lewisville Northern Road<br>Lewisville, OH 43754<br><br>3151 Blacklick Road<br>Baltimore, OH 43105<br><br>1390 Timberlane Dr.<br>St Joseph, MI 49065 | 21-003003.0000 | 49.98000 | 4.224 | 0.63686% |
| 12 | Joe D. Byler and Ada T.Byler | 51942 State Route 379<br>Summerfield, OH 43788 | 21-008006.0000 | 31.71200 | 32.017 | 4.82722% |
| 13 | (1/3) Roger S. Christman or Janet M. Christman, Trustees or their Successor(s) as Trustees of The Christman Family Trust, dated September 21, 2002<br><br>(1/3) Dale L. Christman and Joan F. Christman, Trustees of The Dale. L. and Joan F. Christman Living Trust, dated March 4, 2009<br><br>(1/3) Karen Christman | 3151 Blacklick Road<br>Baltimore, OH 43105<br><br>48823 Lewisville Northern Road<br>Lewisville, OH 43754<br><br>1390 Timberlane Dr.<br>St Joseph, MI 49065 | 21-008011.0000 | 2.86000 | 2.995 | 0.45156% |
| 14 | (1/3) Roger S. Christman or Janet M. Christman, Trustees or their Successor(s) as Trustees of The Christman Family Trust, dated September 21, 2002<br><br>(1/3) Dale L. Christman and Joan F. Christman, Trustees of The Dale. L. and Joan F. Christman Living Trust, dated March 4, 2009<br><br>(1/3) Karen Christman | 3151 Blacklick Road<br>Baltimore, OH 43105<br><br>48823 Lewisville Northern Road<br>Lewisville, OH 43754<br><br>1390 Timberlane Dr.<br>St Joseph, MI 49065 | 21-007003.0000 | 53.30000 | 41.297 | 6.22638% |
| 15 | Thomas and Dianna C. Yurkovich | 732 Ravenna Road<br>Kent, OH 44240 | 21-008012.0000 | 46.53000 | 24.981 | 3.76640% |
| 16 | Thomas and Dianna C. Yurkovich | 732 Ravenna Road<br>Kent, OH 44240 | 21-007017.0000 | 0.39000 | 0.392 | 0.05910% |
| 17 | (1/2) Merle J. Vandegrift and Virginia S. Vandegrift<br><br>(1/2) Nelson R. Vandegrift | 813 Lynwood Drive<br>Minerva, OH 44657<br><br>2221 Hedgewood Ave.<br>Alliance, OH 44601 | 21-007013.0000 | 37.39100 | 37.864 | 5.70878% |
| 18 | Seneca Township Board of Trustees | 49537 State Route 379<br>Lewisville, OH 43754 | 21-007038.0000 | 1.97900 | 1.979 | 0.29838% |
| 19 | Seneca Township Board of Trustees | 49537 State Route 379<br>Lewisville, OH 43754 | 21-007018.1000 | 1.22500 | 1.552 | 0.23400% |
| 20 | Seneca Township Board of Trustees | 49537 State Route 379<br>Lewisville, OH 43754 | 21-007018.0000 | 2.45000 | 2.156 | 0.32506% |
| 21 | Allen D. Miller and Rachel Miller | 52230 State Route 379<br>Quaker City, OH 43773 | 21-007024.0000 | 88.16500 | 61.629 | 9.29185% |
| 22 | Marvin D. Miller and Susan S. Miller | 52279 State Route 379<br>Quaker City, OH 43773 | 21-007023.0000 | 29.32200 | 0.066 | 0.00995% |
| 23 | (1/2) Michael Hollosy, Jr.<br>(1/2) Janet Hollosy | 487 Catalina Drive<br>Akron, OH 44319<br>(same address for both) | 21-008001.0000 | 39.21000 | 1.373 | 0.20701% |
| 24 | (1/2) Michael Hollosy, Jr.<br>(1/2) Janet Hollosy | 487 Catalina Drive<br>Akron, OH 44319<br>(same address for both) | 21-007001.1000 | 2.00000 | 2.008 | 0.30275% |

| | | | | | | |
|---|---|---|---|---|---|---|
| 25 | (1/2) Michael Hollosy, Jr.<br>(1/2) Janet Hollosy | 487 Catalina Drive<br>Akron, OH 44319<br>(same address for both) | 21-007001.0000 | 14.00000 | 8.812 | 1.32859% |
| 26 | (1/2) John R. Swingle<br>(1/2) Steve Charek | 8170 Avon Lake Road<br>Lodi, OH 44254<br>(same address for both) | 21-007008.0000 | 40.53200 | 40.135 | 6.05118% |
| 27 | Heirs of Frank Mercer | see attached | 21-007015.0000 | 3.00000 | 2.062 | 0.31089% |
| 28 | Heirs of Frank Mercer | see attached | 21-007015.1000 | 1.75000 | 1.773 | 0.26732% |
| 29 | (1/4) C. Byron Wehr<br>(1/4) Donald G. Wehr<br>(1/4) David L. Wehr<br>(1/4) Bruce Lynn Wehr | 51921 State Route 145<br>Beallsville, OH 43716-9353<br>(same address for all) | 21-007014.0000 | 10.16900 | 10.456 | 1.57646% |
| 30 | Emil Girard, Jr. and Shirley J. Girard | 2243 Fourteenth Street<br>Cuyahoga Falls, OH 44223 | 21-007007.0000 | 45.00000 | 44.898 | 6.76930% |
| 31 | Donna J. Carpenter | 30475 Christman Ridge Road<br>Summerfield, OH 43788 | 21-007006.0000 | 24.78100 | 24.274 | 3.65981% |
| 32 | (1/4) Rosalie Christman<br>(1/4) P. Roger Christman<br>(1/2) Jimmie D. Combs and Barbara J. Combs | 506 Moose Ridge Road<br>Woodsfield, OH 43793<br>(same address for both Christmans)<br>35479 State Route 78<br>Lewisville, OH 43754 | 21-007031.0000 | 5.04400 | 0.500 | 0.07539% |
| 33 | (1/4) Rosalie Christman<br>(1/4) P. Roger Christman<br>(1/2) Jimmie D. Combs and Barbara J. Combs | 506 Moose Ridge Road<br>Woodsfield, OH 43793<br>(same address for both Christmans)<br>35479 State Route 78<br>Lewisville, OH 43754 | 21-007032.0000 | 6.00200 | 1.060 | 0.15982% |
| 34 | (1/4) Rosalie Christman<br>(1/4) P. Roger Christman<br>(1/2) Jimmie D. Combs and Barbara J. Combs | 506 Moose Ridge Road<br>Woodsfield, OH 43793<br>(same address for both Christmans)<br>35479 State Route 78<br>Lewisville, OH 43754 | 21-007033.0000 | 5.33900 | 1.680 | 0.25329% |
| 35 | (1/4) Rosalie Christman<br>(1/4) P. Roger Christman<br>(1/2) Jimmie D. Combs and Barbara J. Combs | 506 Moose Ridge Road<br>Woodsfield, OH 43793<br>(same address for both Christmans)<br>35479 State Route 78<br>Lewisville, OH 43754 | 21-007034.0000 | 6.11100 | 2.861 | 0.43135% |
| 36 | (1/4) Rosalie Christman<br>(1/4) P. Roger Christman<br>(1/2) Jimmie D. Combs and Barbara J. Combs | 506 Moose Ridge Road<br>Woodsfield, OH 43793<br>(same address for both Christmans)<br>35479 State Route 78<br>Lewisville, OH 43754 | 21-007035.0000 | 6.21000 | 3.860 | 0.58197% |
| 37 | (1/4) Rosalie Christman<br>(1/4) P. Roger Christman<br>(1/2) Jimmie D. Combs and Barbara J. Combs | 506 Moose Ridge Road<br>Woodsfield, OH 43793<br>(same address for both Christmans)<br>35479 State Route 78<br>Lewisville, OH 43754 | 21-007036.0000 | 10.08200 | 9.291 | 1.40081% |
| 38 | (1/4) Rosalie Christman<br>(1/4) P. Roger Christman<br>(1/2) Ronald Lee Wilt and Elizabeth Ann Durst | 506 Moose Ridge Road<br>Woodsfield, OH 43793<br>(same address for both Christmans)<br>3338 Amish Road<br>Grantsville, MD 21536 | 21-007039.0000 | 1.64100 | 0.368 | 0.05548% |
| 39 | Richard B. Smith | 50855 Cemetery Hill Road<br>Summerfield, OH 43788 | 21-007020.0000 | 22.25300 | 12.906 | 1.94585% |
| 40 | Virgil Clayton Farnsworth and Teresa M. Farnsworth | 31800 Devoe Ridge Rd.<br>Lewisville, OH 43754 | 21-007016.0000 | 3.00000 | 3.000 | 0.45231% |
| 41 | Virgil Clayton Farnsworth and Teresa M. Farnsworth | 31801 Devoe Ridge Rd.<br>Lewisville, OH 43754 | 21-007016.1000 | 8.97000 | 9.060 | 1.36598% |
| 42 | Skin Creek Valley Farms Minerals, LLC | 6655 Forrester Way<br>Reynoldsburg, OH 43068 | 21-007010.0000 | 18.62600 | 18.707 | 2.82047% |
| 43 | Skin Creek Valley Farms Minerals, LLC | 6656 Forrester Way<br>Reynoldsburg, OH 43068 | 21-007005.0000 | 0.20100 | 0.119 | 0.01794% |
| 44 | Mark E. Headley | 4317 Wickliffe Dr.<br>Barberton, OH 44203 | 21-007004.0000 | 47.47000 | 48.741 | 7.34871% |
| 45 | Skin Creek Valley Farms Minerals, LLC | 6655 Forrester Way<br>Reynoldsburg, OH 43068 | 21-012015.0000 | 15.65400 | 0.006 | 0.00090% |
| 46 | Skin Creek Valley Farms Minerals, LLC | 6656 Forrester Way<br>Reynoldsburg, OH 43068 | 21-012003.0000 | 82.97000 | 35.842 | 5.40392% |
| 47 | Mark E. Headley | 4317 Wickliffe Dr.<br>Barberton, OH 44203 | 21-012017.0000 | 124.91800 | 99.419 | 14.98947% |
| 48 | Judith Loraditch | 5982 Bluebell Road<br>Cumberland, OH 43732 | 21-012001.0000 | 43.06700 | 24.192 | 3.64744% |
| 49 | Kurtz Family Farms, LLC | 1007 Ruby Street<br>Hartville, OH 44632 | 21-013002.0000 | 30.60000 | 2.259 | 0.34059% |
| | | | | TOTAL | 663.25900 | 100.00000% |

Exhibit 1-A.1.1
Heirs of Frank Mercer

| Tract | Owner | Address | Parcel Number | Status |
|---|---|---|---|---|
| 27<br>28 | George Theiss and Mila Theiss | 2607 Woodward Rd<br>Cuyahoga Falls, OH 44221 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Thalia Kahrig and Tod M. Kahrig | 50205 Crawford Road<br>Woodsfield, OH 43793 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Brian Crum | 43097 Hopton Road<br>Beallsville, OH 43716 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Shawn F. Crum and Renee Y. Crum | 55415 County Road 92<br>Beallsville, OH 43716 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Brent Crum and Patricia K. Crum | 53180 Belmont Ridge Road<br>Beallsville, OH 43716 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Reginald E. Crum and<br>Marlene K. Crum | 424 Bud Rish Road<br>Swansea, SC 29160 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Ralph Christman and Penny Christman | 218 S Broadway St.<br>Barnesville, OH 43713 | 21-007015.000<br>21-007015.100 | Leased |
| 27<br>28 | Jaun M. Betts and<br>Monica D. Betts | 11388 Summerwinds Ct. 06<br>Fort Myers, FL 33908 | 21-007015.000<br>21-007015.100 | Leased |
| 27<br>28 | Terry F. Betts and Carrol A. Betts | 9351 NW 40th St.<br>Chiefland, FL 32626 | 21-007015.000<br>21-007015.100 | Leased |
| 27<br>28 | Steve E. Mercer and Karen J. Mercer | 67036 Oakwood Dr.<br>Belmont, OH 43718 | 21-007015.000<br>21-007015.100 | Leased |
| 27<br>28 | Leota J Mercer | 198 Bethesda Road<br>Barnesville, OH 43713 | 21-007015.000<br>21-007015.100 | Leased |
| 27<br>28 | William Theiss, Jr. and Katherine Ann Petry | 1387 Cherry Ridge Dr. SW<br>Sugarcreek, OH 44681 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Christie Lynn Jewel and Fred B. Jewel | 4813 Bate Street<br>Newton falls, OH 44444 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Gary L. Theiss and Betty Theiss | 111 Berry Blvd.<br>Boiling Springs, SC 29316 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Elsie Theiss | 218 Hollywood Ave.<br>Cuyahoga Falls, OH 44221 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Bonnie Mercer Brooks and Dennis E. Brooks | 334 E. South Street<br>Barnesville, OH 43713 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Greg T. Mercer and Annette R. Mercer | 35486 Harper Ridge Rd<br>Woodsfield, OH 43793 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | James C. Mercer, III and<br>Catherine Dawn Mercer | 6130 Virginia Rd<br>Nashport, OH 43830 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | James Chester Mercer and Betty Mercer | 52595 Boston Rd<br>Jerusalem, OH 43747 | 21-007015.000<br>21-007015.100 | Leased |
| 27<br>28 | Heather M. Carl and Ivan B. Carl | 4924 Hamden Way<br>Columbus, OH 43228 | 21-007015.000<br>21-007015.100 | Leased |
| 27<br>28 | Chris Ann Allan and<br>Channing Durrenberger | 3223 Golden Leaf Dr.<br>Kingwood, TX 77339 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Richard Franklin Stephen and Nancy Ann<br>Stephen | 9518 Meadow Ridge Lane<br>Laytonsville, MD 20882 | 21-007015.000<br>21-007015.100 | Leased |
| 27<br>28 | Sean S. Meillarec and<br>Patricia J. Meillarec | 199 Clinton Wright Ln<br>Crossville, TN 38572 | 21-007015.000<br>21-007015.100 | Leased |
| 27<br>28 | Carrie M. Tzoros and<br>Dimitrios P. Tzoros | 4630 NW 30th Street<br>Coconut Creek, FL 33063 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Yves Meillarec | 7351 Pinnacle Pines, Dr. Unit B25<br>Fort Myers, FL 33907 | 21-007015.000<br>21-007015.100 | Leased |
| 27<br>28 | William Ferguson | 26 Wildwood Trail<br>Ormund Beach, FL 32174 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Sandra M. Ferguson | 4117 Pacifica Dr.<br>Orlando, FL 32817 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Janice Thompson and Eugene Thompson | 7733 Louis Pasteur Dr.<br>San Antonio, TX 78229 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Arthur W. Hicks and Eleanor L. Hicks | 1002 Romig Ave.<br>Barberton, OH 44203 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Thomas K. Mercer and Linette M. Mercer | 2346 Grant Ave.<br>Cuyahoga Falls, OH 44223 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Kristina Linn Long | 562 North Ave.<br>Tallmadge, OH 44278 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Brian A. Mercer | 1833 2nd St.<br>Cuyahoga Falls, OH 44221 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Sharon E. Mercer | 748 Alameda Ave.<br>Cuyahoga Falls, OH 44221 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | David G. Mercer | 3129 Charles St.<br>Cuyahoga Falls, OH 44221 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Mary Jo Davis and Joseph S. Davis | 600 Loomis Ave.<br>Cuyahoga Falls, OH 44221 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | James S. Mercer | 670 Seiberling St.<br>Akron, OH 44306 | 21-007015.000<br>21-007015.100 | |

| | | | | |
|---|---|---|---|---|
| 27<br>28 | Michael J. Mercer and<br>Jennifer M. Mercer | 3267 Forestmeadow Dr.<br>Cuyahoga Falls, OH 44221 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Raymond L. and Kathleen A. Weisel | 2163 Coon Road<br>Copley, OH 44321 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Teresa L. Petersen and Gregory S. Petersen | 3969 Meadowvale Dr.<br>Akron, OH 44333 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Kimberly Ann DeLaura | 849 Iona Ave<br>Akron, OH 44314 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Betty Jane Sartoris | 10007 W. Desert Hills Dr.<br>Sun City, AZ 85351 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Emma Bates | 52521 Brushy Run Rd<br>Jerusalem, OH 43747 | 21-007015.000<br>21-007015.100 | Leased |
| 27<br>28 | Sue Ellen Combs and Wilson Combs | 1750 S. Duck Lake Road<br>Highlands, MI 48356 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Krystine Ella Krickemeyer and Oscar Cabrera Hernandez | 2814 NW 52 Ct<br>Fort Lauderdale, FL 33309 | 21-007015.000<br>21-007015.100 | Leased |
| 27<br>28 | Toni Lou Underwood and<br>Thomas Joseph Underwood | 270 S. Mill Creek Rd. APT A<br>Purvis, MS 39475 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Paula Lee Helcher and<br>Robert R. Helcher | 8541 Estate Dr. South<br>West Palm Beach, FL 33411 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Casey J. Wood | 11 Thunderbird Lane<br>Novato, CA 94949 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Eric G. Hagstrom | 4202 E. Wilshire Dr.<br>Phoenix, AZ 85008 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Fred James Hicks and<br>Ramona J. Hicks | 12481 Hollowridge Dr.<br>Doylestown, OH 44230 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Robert E. Lee | US 90 E 6647<br>Lake City, FL 32025 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | John R. Hicks and<br>Barbara J. Hicks | 3069 S. Hametown Rd<br>Norton, OH 44203 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Michael D. Besancon | 4850 S. Duck Lake Rd.,<br>Commerce Township, MI 48382 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Katherine M. Besancon | 4850 S. Duck Lake Rd.,<br>Commerce Township, MI 48382 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Robert D. Besancon | 353 Rolling Hills Dr.<br>Conroe, TX 77304 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Diane Stephen Brown and<br>Walter G. Brown, Jr. | 13 Belmeade Dr.<br>Bluffton, SC 29910 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Dr. Susan S. Glander, M.D. and Christopher Glander | 250 Highpoint Walk<br>Atlanta, GA 30342 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | James R. Stephen | 537 Brown Pelican Dr.<br>Daytona Beach, FL 32119 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Chandler Stephen | 3400 Galt Ocean Dr. #902 S.<br>Fort Lauderdale, FL 33308 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Savannah Stephen | 456 lake Bridge Ln. #616<br>Apoka, FL 32703 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Beverly Mercer | 1340 Arlington Drive<br>Fairborn, OH 45324 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Joe C. Mercer and Paula A. Mercer | 1340 Arlington Drive<br>Fairborn, OH 45324 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Marcia L. Boone and Ronald C. Boone | 2850 Tuppers Ferry Road<br>Wytheville, VA 24382 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Michelle R. Heath and John T. Heath, Jr. | 1204 Millers Court<br>Noblesville, IN 46060 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Roger W. Mercer, II and Patricia B. Mercer | 7035 Tapps Ford Road<br>Amissville, VA 20106 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Ronald Black | 167 Macy Avenue<br>Barberton, OH 44203 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Tami Lynn Stephen | P.O. Box 120733<br>Melbourne, FL 32912 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Sheri L. Black | 3900 Country Club Road<br>Sioux City, IA 51104 | 21-007015.000<br>21-007015.100 | |
| 27<br>28 | Ronda Kennedy and Dennis Kennedy | 712 Ernest Drive<br>Port Orange, FL 32127 | 21-007015.000<br>21-007015.100 | |




# EXHIBIT 1-A.2

| | | | |
|---|---|---|---|
| ISSUE DATE | 06/06/14 | SCALE | 1" = 1000' |
| DRAWN BY | PJN | DATE | 05/13/14 |
| CHECKED BY | LDB | DATE | 06/03/14 |
| APPROVED BY | CRH | DATE | 06/06/14 |

Diversified Engineering Inc.
CONSULTING ENGINEERS & SURVEYORS
228 FAIR AVENUE, N.E.
NEW PHILADELPHIA, OH 44663
Phone: (330) 364-4031
Fax: (330) 364-4031
e-mail: dei@dieng.com
Web: www.dieng.com

OPERATOR: ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET
DENVER, CO 80202

## LORADITCH UNIT

LOCATION: SECTIONS 4, 10, 11, 12, 17 & 18 OF TOWNSHIP 7 NORTH, RANGE 7 WEST, OF THE OLD SEVEN RANGES, SENECA TOWNSHIP, MONROE COUNTY, OHIO

\\CTERANAS\Public\Alpha-Data\Data\OIL & GAS\Antero\Loraditch Pad\PLAT\LORADITCH UNIT DOU PLAT (06-03-2014).dwg , 6/6/2014 11:20 AM

| Tract | Owner | Parcel | Acreage |
|---|---|---|---|
| 1 | Monroe Farm LTD | 21-008009.000 | 5.056 |
| 3 | Mary K. Bernardi, TOD Kristen B. Huber | 21-024005.000 | 0.911 |
| 4 | Mary K. Bernardi, TOD Kristen B. Huber | 21-024002.000 | 1.528 |
| 5 | Andrew D and Katie A Byler | 21-024004.000 | 1.645 |
| 6 | Andrew D and Katie A Byler | 21-024003.000 | 1.104 |
| 7 | Andrew D and Katie A Byler | 21-003023.000 | 4.955 |
| 8 | Gary A. Rubel and Nancy S. Rubel | 21-003021.000 | 8.765 |
| 11 | Roger S. & Janet M. Christman, Trustees | 21-003003.000 | 4.224 |
| 13 | Roger S. & Janet M. Christman, Trustees | 21-008011.000 | 2.995 |
| 14 | Roger S. & Janet M. Christman, Trustees | 21-007003.000 | 41.297 |
| 15 | Thomas & Dianna C. Yurkovich | 21-008012.000 | 24.981 |
| 16 | Thomas & Dianna C. Yurkovich | 21-007017.000 | 0.392 |
| 17 | Nelson R. Vandegrift; Merle J. and Virgina S. Vandergrift | 21-007013.000 | 37.864 |
| 18 | Seneca Township Board of Trustees | 21-007038.000 | 1.979 |
| 19 | Seneca Township Board of Trustees | 21-007018.100 | 1.552 |
| 20 | Seneca Township Board of Trustees | 21-007018.000 | 2.156 |
| 21 | Allen D. and Rachel D. Miller | 21-007024.000 | 61.629 |
| 22 | Marvin D. and Susan S. Miller | 21-007023.000 | 0.046 |
| 23 | Michael, Jr. and Janet Hollosy | 21-008001.000 | 1.373 |
| 24 | Michael, Jr. and Janet Hollosy | 21-007001.100 | 2.008 |
| 25 | Michael, Jr. and Janet Hollosy | 21-007001.000 | 8.812 |
| 26 | John R. Swingle and Steve P. Charek | 21-007008.000 | 40.135 |
| 29 | C. Byron Wehr, Donald Wehr, Bruce Lynn Wehr & David L Wehr | 21-007014.000 | 10.456 |
| 30 | Emil Girard, Jr. and Shirley J. Girard | 21-007007.000 | 44.898 |
| 31 | Donna J. Carpenter | 21-007006.000 | 24.274 |
| 32 | P. Roger Christman, Rosalie Christman, Jimmie & Barbara Combs | 21-007031.000 | 0.500 |
| 33 | P. Roger Christman, Rosalie Christman, Jimmie & Barbara Combs | 21-007032.000 | 1.060 |
| 34 | P. Roger Christman, Rosalie Christman, Jimmie & Barbara Combs | 21-007033.000 | 1.680 |
| 35 | P. Roger Christman, Rosalie Christman, Jimmie & Barbara Combs | 21-007034.000 | 2.861 |
| 36 | P. Roger Christman, Rosalie Christman, Jimmie & Barbara Combs | 21-007035.000 | 3.860 |
| 37 | P. Roger Christman, Rosalie Christman, Jimmie & Barbara Combs | 21-007036.000 | 9.291 |
| 38 | Ronald Lee Wilt & Elizabeth Ann Durst; P. Roger Christman; Rosalie Christman | 21-007039.000 | 0.368 |
| 39 | Richard B. Smith | 21-007020.000 | 12.906 |
| 40 | Virgil Clayton & Teresa M. Farnsworth | 21-007016.000 | 3.000 |
| 41 | Virgil Clayton & Teresa M. Farnsworth | 21-007016.100 | 9.060 |
| 42 | Skin Creek Valley Farms Minerals, LLC | 21-007010.000 | 18.707 |
| 43 | Skin Creek Valley Farms Minerals, LLC | 21-007005.000 | 0.119 |
| 44 | Mark E. Headley | 21-007004.000 | 48.741 |
| 45 | Skin Creek Valley Farms Minerals, LLC | 21-012015.000 | 0.006 |
| 46 | Skin Creek Valley Farms Minerals, LLC | 21-012003.000 | 35.842 |
| 47 | Mark E. Headley, et al | 21-012017.000 | 99.419 |
| 48 | Judith Loraditch, et al | 21-012001.000 | 24.192 |
| 49 | Kurtz Family Farm, LLC | 21-013002.000 | 2.259 |
| | | **Total** | **608.906** |

Exhibit 1-A.3
Unleased Tracts in Loraditch Unit

| Tract | Owner | Parcel | Unit Acreage | Unit Participation |
|---|---|---|---|---|
| 27 | Heirs of Frank Mercer | 21-007015.000 | 2.062 | 0.31089% |
| 28 | Heirs of Frank Mercer | 21-007015.100 | 1.773 | 0.26732% |
| | | **TOTAL** | **3.835** | |

**Oil and Gas Lease**

**THIS OIL AND GAS LEASE** (hereinafter, "**Lease**") made and entered into on this _____day of _____, **2014,** by and between _____, whose address is _____ (hereinafter, "**Lessor**") (collectively if there is more than one) and **ANTERO RESOURCES CORPORATION**, whose address is 1625 17th 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 _____ ($_____) 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 from formations below the base of the _____ formation at a depth of approximately _____feet, as seen in the _____Well (API Number _____) located in Section ___, _____Township, _____County, Ohio, to a depth of _____feet (_____') below the base of the _____, in and under the Leased Premises, for the exclusive right to drill, explore, conduct seismic prospect, operate for, produce, remove and market oil, gas, hydrocarbons and their constituents and by-products therefrom, 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, gas and their constituents and products thereof, including water, brine or any other fluid or substances, only from the below defined 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 always 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. **Notwithstanding anything in this Lease to the contrary, this Lease shall be considered a non-surface use Lease, such that the same is given for the purpose allowing Lessee to explore for, drill for, develop, produce, measure, and market production of oil and gas and their constituents from the Leased Premises by use of the surface of lands that are adjacent, adjoining or are pooled or unitized with the Leased Premises, provided that, Lessee shall not drill any wells, set surface equipment, install any pipe conduit or other appurtenance, enter upon or use the surface of the Leased Premises for any purpose whatsoever without first obtaining prior written consent of Lessor, which consent may be approved or denied for any reason.**

## 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

Exhibit B

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 DELAY RENTAL

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

## TERMS

6)

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.

## ROYALTY AND GAS MEASUREMENT

7) As royalties, Lessee covenants and agrees:

A) Oil. Lessee shall pay Lessor ____ Percent (___%) 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 and less the same proportionate share of all production, petroleum excise and severance taxes. 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 less the same proportionate share of all production, petroleum excise and severance taxes.

B) Gas. Lessee shall pay Lessor _____Percent (___%) 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 less the same proportionate share of all production, petroleum excise and severance taxes.

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. Lessee 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

8) 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.

## DEFINITIONS

9)

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 of the Chief's Order authorizing operation of the ____ Unit.

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

10) 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

11) 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

12) 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

13) 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

14) 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.

## POOLED PRODUCTION UNIT LIMITED

15)

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 Order for Unit Operations, 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 1,000 contiguous acres, plus an acreage tolerance of 10% if the lateral extent of horizontal bore hole(s) in said formation shall extend beyond the boundary of a 1,000 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

16) 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.

## SHUT-IN PAYMENT/LIMITATION

17) 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.

## WATER DAMAGE

18) 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

19) 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.

## HUNTER

20) 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.

## INSURANCE/HOLD HARMLESS

21)

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.

## SUBORDINATION

22) 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

23) 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

24) 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

25) 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

26) 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

27) 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

28)

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. 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. 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

29)

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

30) 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

31) 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

32) 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

33) 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

34) 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

35) 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

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

## NOTICE

37) 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.

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

LESSOR(S)

_____

By:

Exhibit B

_____

By:

## 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 B

# EXHIBIT 2

**PREPARED DIRECT TESTIMONY**

**BRANDON BINFORD - GEOLOGIST**

**Q1. Please state your name and identify where you are employed.**

A1. My name is Brandon Binford. I am an Operations Geologist for Antero Resources Corporation. Our offices are located at 1615 Wynkoop Street, Denver, CO 80202.

**Q2. Describe your professional responsibilities at Antero.**

A2. My responsibilities include geology operations and development planning of the Utica/Point Pleasant Formation. I am involved in all phases of Utica/Point Pleasant resource development. 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 very 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. After we receive a fully permitted well, I work with directional planning consultants to create suitable wellbore plans, or directional plans, which allow us to drill horizontally, sometimes over 10,000'. 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 regional Appalachian Basin analysis, detailed structure and isopach mapping, special core analysis, and serve as Geosteering Coordinator for the Utica/Point Pleasant Formation.

**Q3. Describe your educational background.**

A3. I have a Bachelor's of Science degree in Geology from the Oklahoma State University, with a Minor in Geography. I also have a Master's of Science degree in Geology from

EXHIBIT 2

the University of Colorado.

**Q4. Describe your professional experience.**

A4. Prior to joining Antero, I spent 4 years at Encana Oil & Gas, where I worked with the DJ, Raton, North Park, Piceance, Douglas Creek, Arch, Uinta, and Permian Basins. I have various tight gas sands and shale experience ranging from exploration to development and operations. I have spent the past two years at Antero Resources, where I work on Marcellus Shale and Utica/Point Pleasant Formation operations and development.

**Q5. Are you a member of any professional associations?**

A5. I am a member of American Association of Petroleum Geologists, Rocky Mountain Section; Society of Petrophysics and Well Log Analysis; Society of Exploration Geophysicists; and the Denver Geophysical Society.

**Q6. Are you familiar with Antero Resources Corporation's Application for Unit Operations with respect to the Loraditch Unit?**

A6. Yes.

**Q7. Describe the Loraditch Unit, in terms of its general location, surface acreage, and subsurface depth?**

A7. The Loraditch Unit consists of 49 separate tracts of land totaling approximately 663.259 acres in Monroe County, Ohio. Exhibit 1-A.2 to the Unit Agreement shows the geologic location of the proposed unit in Monroe County. The Unitized Formation described in the Application is the subsurface portion of the Loraditch Unit at a depth from 50' above the top of the Utica Shale, to 50' below the base of the Point Pleasant Formation.

**Q8. Ohio Revised Code § 1509.01(E) defines the term "pool" to mean "an underground reservoir containing a common accumulation of oil or gas, or both, but does not include a gas storage reservoir. Each zone of a geological structure that is completely separated from any other zone in the same structure may contain a separate pool." Please explain if this definition of "pool" applies to the Loraditch Unit and why?**

A8. My personal understanding of a pool is an area of geologically consistent reservoir properties such as thickness, porosity, resistivity, and rock type that share an accumulation of hydrocarbons. Those hydrocarbons will be produced together using one or more

EXHIBIT 2

wellbores across a unit. Outside of the defined unit, the formation will not be affected and reserves will not be depleted. I do think that the Loraditch Unit falls under my definition of "pool" and, likewise, the Ohio Revised Code definition of pool.

**Q9. How do geologists investigate the geologic characteristics of a shale play such as the Utica/Point Pleasant formation?**

A9. Geologists rely on previous literature and geologic studies and look at various factors, including porosity, resistivity, and gamma ray analysis through wireline logging, formation micro-resistivity imaging analysis through wireline logging, cores and cuttings, outcrops, geochemistry and thermal maturity, microseismic mapping projects and analysis, mudlogging information and drill bit behavior.

**Q10. Generally speaking, what sources of data would you review and analyze in order to assess the geologic characteristics of a potential shale play?**

A10. The majority of our geologic understanding of the Utica/Point Pleasant comes from the analysis of whole cores, drill cuttings, and wireline log analysis. I spend considerable time comparing wireline log data readings to core data. These comparisons are then used to derive correlations between well production and reservoir characteristics. I also use basin studies to assist in my assessment of a potential shale play. I examine both burial history and depositional setting. These two criteria give geologists an idea of the conditions of deposition, and what has happened to that formation since. A shale play, for example, is characteristically identified with deposits in a relatively deep water anoxic environment with little to no tidal influence. Once it was laid down and other layers deposited on top of it, tectonics and burial would contribute to the maturation of the organic particles contained within the shale. Those organic particles would at some point go through hydrocarbon generation and maturation. Areas of greater depth, temperature, and pressure will have greater thermal maturity and drier gas. Due to the fact that shale reservoirs are self-sealing and have very low permeability, there is less of a need to identify a confining or "trapping" geologic unit above the resources, as would be typical with conventional plays. Therefore, shale reservoirs are commonly referred to as unconventional resource plays.

**Q11. How is this data obtained, and what is it meant to show about the formation?**

A11. Wireline log data is obtained from vertical wells called "pilot wells" and older

EXHIBIT 2

exploration wells that penetrated the current zone of interest – in this case the Utica/Point Pleasant Formation. Wireline data gives geologists a way to determine reservoir properties without having to physically sample the rock. Where operators drill pilot wells, the core data rock properties and advanced logging suites (e.g. FMI, ECS, and Sonic Scanner) are modeled to match the wireline data. Those models are then applied to nearby wells to determine reservoir quality.

**Q12. What data sources did you use in determining the geologic features of the Loraditch Unit?**

A12. I used wireline logs from surrounding wells, cores from the Miley Unit 5H Pilot well, and microseismic data from the Wayne Unit Pilot.

**Q13. Which formations are included in the proposed Loraditch Unit?**

A13. The Utica Shale and Point Pleasant Formations.

**Q14. How and why were these formations chosen?**

A14. The Utica Shale and Point Pleasant Formation were chosen to be part of the Loraditch Unit because we believe they 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 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 will penetrate and drain a small portion of that formation.

**Q15. What is the approximate depth of the Utica/Point Pleasant Formation under the Loraditch Unit?**

A15. It is approximately 8300' to the top of the Utica/Point Pleasant Formation.

**Q16. Please describe your Exhibits and summarize what they tell us about the Loraditch Unit.**

A16. Exhibit 2-A is a map of southeastern Ohio showing the area where the Loraditch Unit is being proposed, highlighted in pink, as well as several key producing Utica/Point Pleasant horizontal wells. Exhibit 2-B is Cross Section A-A' of three keys wells



EXHIBIT 2

surrounding the Siberian Unit, the Miley Unit 5H Pilot, Et Rubel 1 Pilot, and Wolf Pen Pilot (see Exhibit 2-A 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 Loraditch Unit; the stratigraphy is regionally very consistent. Geologic properties, like thickness and resistivity, are constant throughout the Loraditch Unit.

**Q17. Based on the data you analyzed, should the area be considered a pool? Explain why.**

A17. Yes. 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 Loraditch Unit boundary is all one geologic unit, or part of the same pool.

**Q18. Given the reservoir characteristics of the Utica/Point Pleasant Formation, what would be an appropriate method of allocating production and unit expenses among the parcels contained in the Loraditch Unit?**

A18. An appropriate method of allocation would be on a surface acreage basis. The relative thickness and reservoir quality of the Utica/Point Pleasant Formation is expected to be consistent across the Loraditch 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.

**Q19. Is this the method proposed by Antero for the Loraditch Unit?**

A19. Yes.

**Q20. Is this method used elsewhere?**

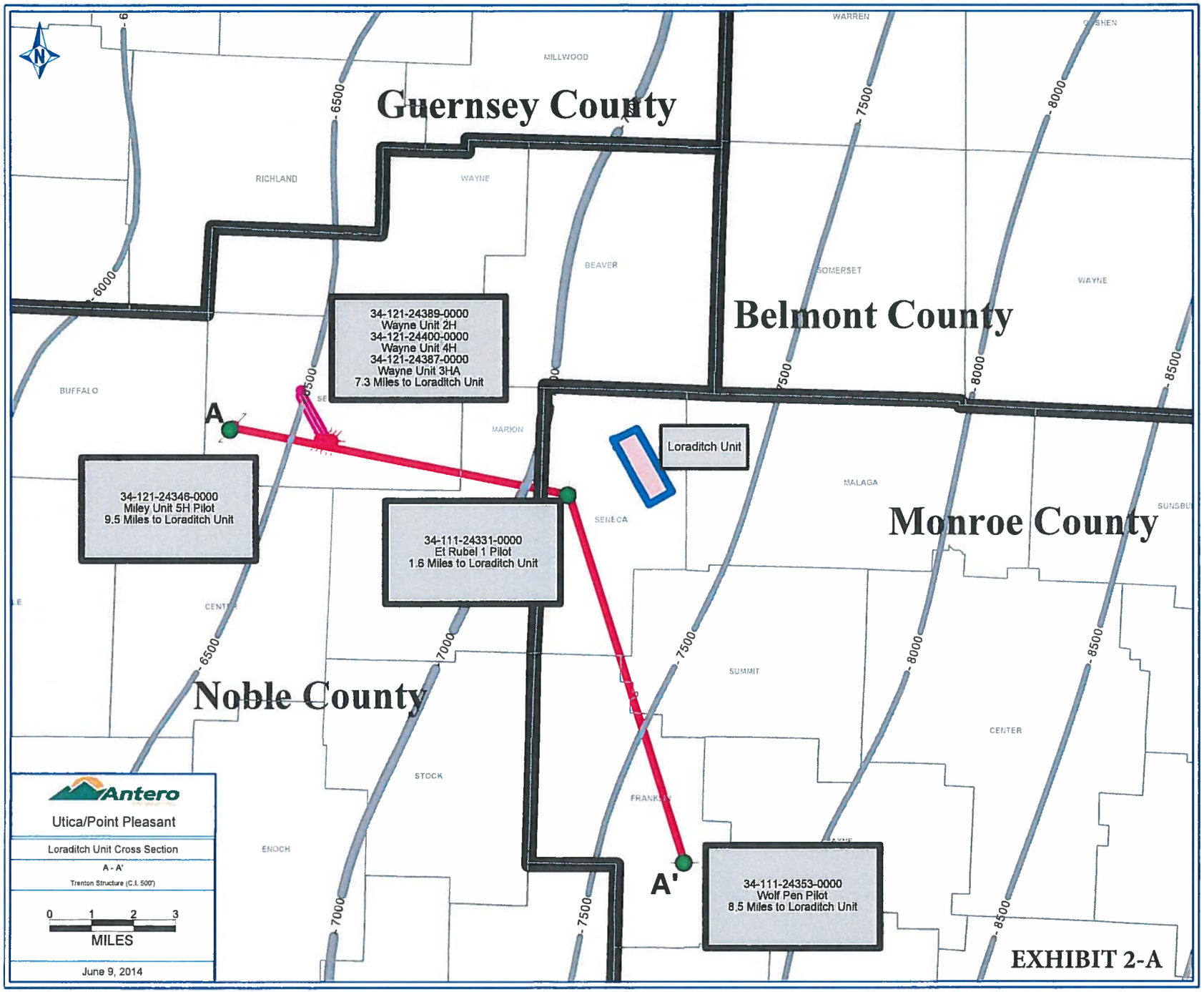
A20. Yes. Antero has used this method on all of the units that we have drilled in Ohio to date. My understanding is that similar methods for pooling are used in Colorado, Oklahoma, and possibly other states as well.

**Q21. Does this conclude your testimony?**

A21. Yes.



EXHIBIT 2


Guernsey County
Belmont County
Monroe County
Noble County
MILLWOOD
WARREN
GOSHEN
RICHLAND
WAYNE
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BUFFALO
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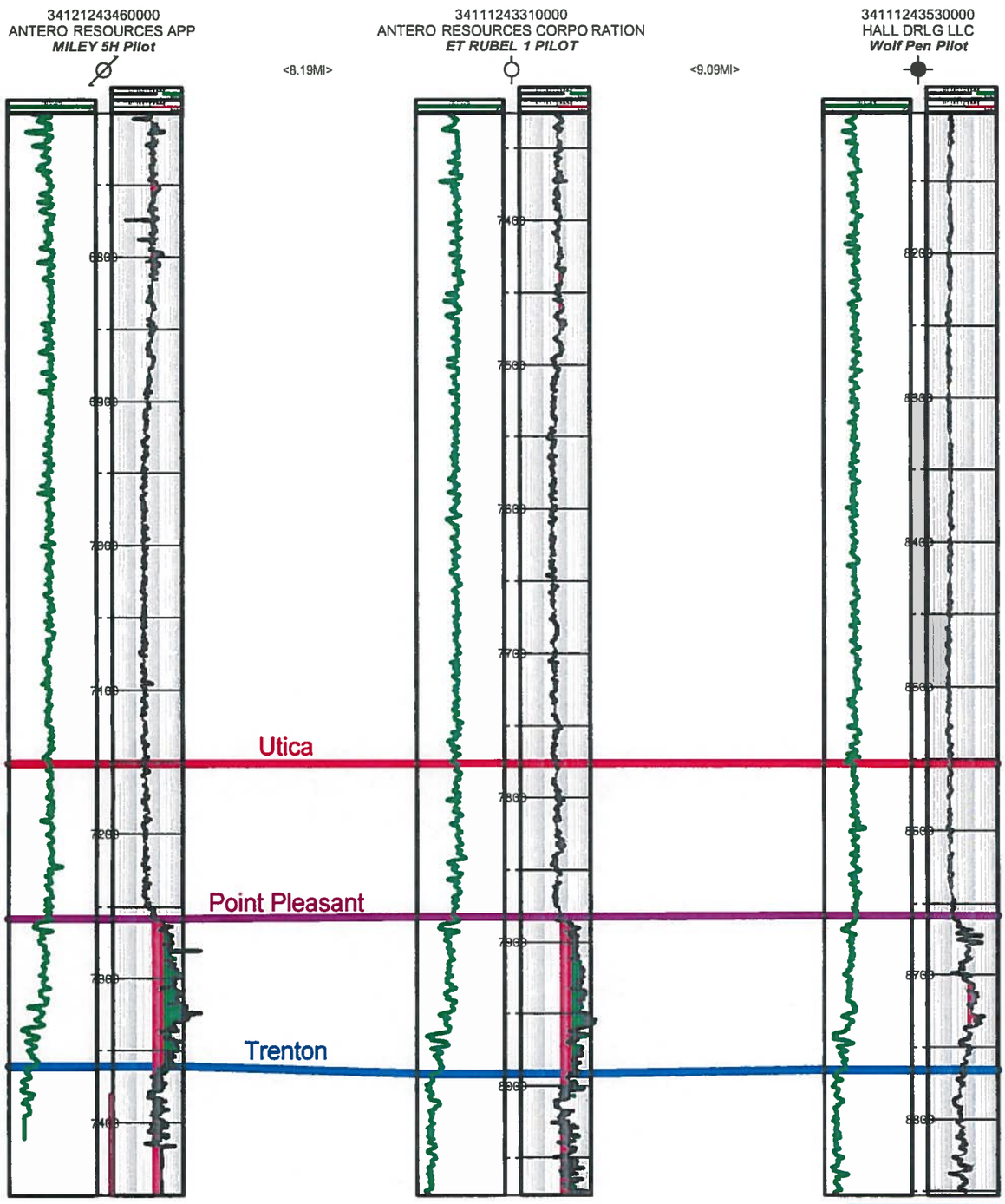
Miley Unit 5H Pilot
9.5 Miles to Loraditch Unit
34-111-24331-0000
Et Rubel 1 Pilot
1.6 Miles to Loraditch Unit
Loraditch Unit
34-111-24353-0000
Wolf Pen Pilot
8.5 Miles to Loraditch Unit
Antero
Utica/Point Pleasant
Loraditch Unit Cross Section
A - A'
Trenton Structure (C.I. 500')
0 1 2 3
MILES
June 9, 2014
EXHIBIT 2-A




Antero

Antero Resources Corporation

Appalachian Basin - Utica Shale

West-East Stratigraphic Cross Section

Loraditch Unit Offset Cross Section

Flattened on Utica Shale Top
Gamma Ray Log (0-250 API)
Resistivity Logs (1-10,000 OHMM)

June 9,2014 12:49 PM

**EXHIBIT 2-B**

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# EXHIBIT 3

**PREPARED DIRECT TESTIMONY**

**HAL HOGSETT**

**Q1. What is your name and business address?**

A1. My name is Hal Hogsett. 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 a Bachelors of Science degree in Petroleum Engineering from The University of Texas in Austin.

**Q3. Describe your professional experience.**

A3. I have approximately seven years of experience working in oil and gas development and exploration. I have been with Antero Resources for two years as a Reservoir Engineer working the Appalachian Basin and Piceance Basin. Prior to working for Antero Resources, I worked with Apache Corporation in multiple disciplines including drilling, completion, production, reserves, reservoir simulation, and field operations. Other than the Appalachian basin, I have worked the Anadarko Basin, Gulf Coast, Gulf of Mexico offshore, and the Permian Basin.

**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, Oklahoma and Texas. I am also a member of the Young Professionals in Energy, where I have previously held an executive board position.

**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 Shale formation. I prepare quarterly SEC reserve estimates for the Utica. I coordinate gathering of data such as PVT sampling, gas analysis along with pressure surveys used in preparing reserve estimates. Some of the tools I use to estimate reserves include decline curve analysis, rate transient analysis, and volumetric calculations.

**Q6. With regard to the Loraditch Unit, have you made an estimate of the production you anticipate from the proposed unit's operations?**



EXHIBIT 3

A6. Yes, it is estimated that if the Loraditch Unit was developed by drilling 6 laterals greater than 9,000' as proposed, 663 acres would be effectively developed and 106.5 Bcfe would be recovered. The calculations are summarized in Exhibit 3-A.

**Q7. How did you make the estimates?**

A7. Using well test data, analogous shale plays, log data, PVT analysis, and reservoir simulation, I generated a type curve for a rich gas well in the Utica/Point Pleasant Shale. The reserves applied to the 6 wells in the Loraditch Unit have been estimated based on these type curves. This process is recognized throughout all North American shale plays.

**Q7. If the Loraditch 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 Loraditch Unit, we would be limited to drilling four shorter laterals and would only be able to develop 463 of the planned 663 acres. I have estimated the quantity of reserves attributable to drilling these shorter laterals to be 39.7 Bcfe. Without unitization, reserves to the northern portion of the proposed unit would likely be stranded and not produced. Thus, of the 106.5 Bcfe potentially recoverable reserves, only 75.4 Bcfe could be produced, leaving 31.1 Bcfe stranded.

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

A8. No, vertical well drilling is more applicable in a thicker, more permeable productive interval. Horizontal drilling, utilizing hydraulic fracturing is necessary in tight shale formations such as the Utica/Point Pleasant in order to increase the surface area exposed to the hydrocarbon bearing reservoir. This 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 product to 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 663 acres of the Utica/Point Pleasant by drilling six wells greater than 9,000' in length. Without unitization, we would only be able to



EXHIBIT 3

develop 463 acres by drilling six wells of 6,106', 5,562', 5,001', 4,842', 9,426, and 9,877' lateral lengths. With unitization we would be able to drill 41% additional lateral feet and develop 43% more acreage from the same surface footprint. With unitization, we would recover an incremental 41% of otherwise stranded hydrocarbons.

**Q10. Is the increase in production associated with unitization solely due to drilling the currently unleased parcels?**

A10. No, the increased production is not solely attributable to production associated with the unleased parcels, but also the production from all of the acreage that would otherwise be stranded without unitization. Aside from the 3.8 unleased acres, there are a number of leased parties who would like to participate in the Loraditch Unit. These mineral owners have willingly entered into leases which allow for the production of oil and gas from their property, but because Antero must legally stay 500' away from unleased tracts, their property cannot be developed without unitization. Their interest would be stranded and likely never developed if unitization is not granted. See Exhibit 4-A for a visual representation of the stranded acreage.

**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 we would be stranding 31.1 Bcfe of hydrocarbons under the proposed Loraditch Unit. I believe that the proposed unitization of the Loraditch Unit is necessary to be protective of 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 Loraditch Unit development?**

A12. During the reserve estimation process, a production profile was generated to estimate produced volumes over time. 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 in order to generate a net present value and return for the project.



EXHIBIT 3

**Q13. What price scenario did you use?**

A13. For preparation of economics, SEC pricing was used. 1Q2014 basis pricing for gas was $3.86/MMBTU. I also included NGLs attributable to gas processing in my economic analysis. It is estimated that gas in this area is approximately 1140 BTU. SEC pricing for NGLs is $46.82 /bbl for 1140 BTU gas. A company will run several pricing scenarios when evaluating a project. SEC pricing is a trailing 12-month average basis price projected flat into the future. This eliminates the fluctuation of strip pricing projections from varying sources. SEC pricing is used when preparing reserves on a quarterly basis and therefore is consistently recognized as a reliable convention among oil and gas exploration companies.

**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 early Utica drilling. Our operations group calculates a cost for various lateral lengths which are scaled based on the respective lateral length of each well in the Loraditch 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.

**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. Construction is in its early phases for a pad which will service both the Loraditch Unit along with a unit to the southeast. Utilizing this existing pad maximizes efficiency, minimizes surface disturbance, and 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**



EXHIBIT 3

**estimated costs?**

A16. Yes. The capital expense is $85.5 million for the unitized project, as compared to $67.4 million for the un-unitized project. The value of hydrocarbons from the proposed unit is $95.3 million as compared to $62.1 million without approval of this application for unit operations. For an additional $18.1 million in capital, Antero could recover hydrocarbons valued at more than $33.2 million. Thus, the economic benefits of unitization far outweigh the additional costs necessary for unit development.

**Q17. Does this conclude your testimony at this time?**

A17. Yes.



EXHIBIT 3

Exhibit 3-A - Antero Loraditch Unit Unitization Engineering Testimony

| Unitized Loraditch Unit (Optimum Development) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name | Lateral Length (feet) | Acres Developed | Gross Capital ($MM) | Net PV10 ($MM) | Gross Residue Gas (Bcf) | Gross Processed NGLs (Mbbls) | Gross Reserves (Bcfe) |
| Loraditch Unit 1H | 10,356 | 119 | $ 15.1 | $ 17.3 | 17.2 | 319 | 19.1 |
| Loraditch Unit 2H | 9,861 | 113 | $ 14.5 | $ 16.4 | 16.4 | 303 | 18.2 |
| Loraditch Unit 3H | 9,124 | 105 | $ 13.7 | $ 15.0 | 15.2 | 281 | 16.9 |
| Loraditch Unit 4H | 9,024 | 104 | $ 13.6 | $ 14.7 | 15.0 | 278 | 16.7 |
| Loraditch Unit 5H | 9,426 | 108 | $ 14.0 | $ 15.5 | 15.7 | 290 | 17.4 |
| Loraditch Unit 6H | 9,877 | 114 | $ 14.6 | $ 16.4 | 16.4 | 304 | 18.2 |
| Total Loraditch Unit | 57,668 | 663 | $ 85.5 | $ 95.3 | 95.9 | 1,774 | 106.5 |

| Non-Unitized Loraditch Unit (Stranded Reserves) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name | Lateral Length (feet) | Acres Developed | Gross Capital ($MM) | Net PV10 ($MM) | Gross Residue Gas (Bcf) | Gross Processed NGLs (Mbbls) | Gross Reserves (Bcfe) |
| Loraditch Unit 1H | 6,106 | 69 | $ 10.6 | $ 9.1 | 10.2 | 188 | 11.3 |
| Loraditch Unit 2H | 5,562 | 62 | $ 9.9 | $ 8.1 | 9.2 | 171 | 10.3 |
| Loraditch Unit 3H | 5,001 | 56 | $ 9.2 | $ 7.0 | 8.3 | 154 | 9.2 |
| Loraditch Unit 4H | 4,842 | 54 | $ 9.0 | $ 4.6 | 8.1 | 149 | 8.9 |
| Loraditch Unit 5H | 9,426 | 108 | $ 14.0 | $ 16.2 | 15.7 | 290 | 17.4 |
| Loraditch Unit 6H | 9,877 | 114 | $ 14.6 | $ 17.1 | 16.4 | 304 | 18.2 |
| Total Loraditch Unit | 40,814 | 463 | $ 67.4 | $ 62.1 | 67.8 | 1,256 | 75.4 |

| Difference | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name | Lateral Length (feet) | Acres Developed | Gross Capital ($MM) | Net PV10 ($MM) | Gross Residue Gas (Bcf) | Gross Processed NGLs (Mbbls) | Gross Reserves (Bcfe) |
| Loraditch Unit 1H | 4,250 | 51 | $ 4.5 | $ 8.2 | 7.1 | 131 | 7.8 |
| Loraditch Unit 2H | 4,299 | 51 | $ 4.6 | $ 8.3 | 7.1 | 132 | 7.9 |
| Loraditch Unit 3H | 4,123 | 49 | $ 4.4 | $ 8.0 | 6.9 | 127 | 7.6 |
| Loraditch Unit 4H | 4,182 | 49 | $ 4.5 | $ 10.2 | 6.9 | 129 | 7.7 |
| Loraditch Unit 5H | - | - | $ - | $ (0.7) | - | - | - |
| Loraditch Unit 6H | - | - | $ - | $ (0.7) | - | - | - |
| Total Loraditch Unit | 16,854 | 200 | $ 18.1 | $ 33.2 | 28.0 | 518 | 31.1 |
| Incremental % | 41% | 43% | 27% | 54% | 41% | 41% | 41% |

**EXHIBIT 3-A**

| **Loraditch Operating Costs** | ($M) |
|---|---|
| Lease Operating Expenses | $ 104 |
| Gathering/Compression | $ 1,399 |
| NGL Processing (required to meet pipeline spec.) | $ 1,323 |
| First Year Estimated Annual Operating Costs (Per Well) | $ 2,826 |

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

# EXHIBIT 4

**PREPARED DIRECT TESTIMONY**

**SLOANE FORD – LANDMAN**

**Q1. Please state your name and identify your employer.**

A1. My name is Sloane Ford and I am a Landman with Antero Resources Corporation. Antero is a Denver based exploration and production company engaged in the development of oil and gas properties in the Appalachian Basin. Our offices are located at 1615 Wynkoop Street, Denver, Colorado 80202.

**Q2. As a landman, what are your professional responsibilities?**

A2. As a landman I am responsible for managing field brokers, negotiating lease acquisitions, and handling title matters for our operations in the Utica Shale. I have also been responsible for overseeing our unitization efforts with regard to the subject Unit.

**Q3. Please summarize your educational background.**

A3. I graduated from the University of Oklahoma with a Bachelor's degree in Business Administration with an emphasis in Energy Management.

**Q4. What is your employment history?**

A4. I began working for Chesapeake Energy in April of 2010 based in Oklahoma City, OK. I worked the Barnett Shale located in Fort Worth, TX for the two years I spent at Chesapeake. I began working for Antero in March of 2012. I have been working the Marcellus Shale located in West Virginia for the past two years. I have recently started working the Utica Shale, where I will be a part of developing the play through lease acquisitions and negotiations, acreage exchanges, title review, unit formation, wellbore planning, joint operating agreement negotiations, various permitting responsibilities, as well as other related Landman duties.

**Q5. Do you belong to any professional organizations or associations?**

A5. I am a member of the American Association of Professional Landmen and the Denver Association of Professional Landmen.

**Q6. Do you have any prior experience with unitization applications?**

A6. I have been involved with pooling, or other unitization statutes, of oil and gas interests in each of the states that I have worked in and have been involved with the preparation of this Application for the Loraditch Unit.



EXHIBIT 4

**Q7. Can you briefly describe the proposed Loraditch Unit?**

A7. The Loraditch Unit consists of 49 separate tracts of land, totaling 663.259 acres more or less in Monroe County, Ohio.

**Q8. What are Antero's plans for developing the Loraditch Unit?**

A8. Within the Loraditch Unit we plan to drill and complete 6 horizontal wells, all to be drilled from the same surface location at the south end of the Unit. Exhibit 4-A depicts the surface location as well as the planned wellbore path for each of the 6 Loraditch Unit wells. We would like to drill the initial well, being the Loraditch Unit 1H, in March of 2015, with the other 5 wells to be drilled immediately following. Development of the Utica in this manner is ideal as it provides several economic and environmental benefits. Drilling, completing, and producing multiple horizontal wells from a single surface location provides maximum production efficiency while substantially reducing the disturbed area and surface impact. This type of development will also protect the correlative rights of the mineral and working interest owners within the unit.

**Q9. What is Antero's Interest in the Loraditch Unit?**

A9. Antero and its Working Interest partners Eclipse Resources I, LP, Eclipse Resources – Ohio, LLC, and Gulfport Energy Corporation, own the oil and gas rights to 659.424 acres of the proposed 663.259 acre unit, which is 99.42179% of the Unit. Antero acquired its working interest in this Unit through the acquisition of a portion of Eclipse's existing leasehold interest as well as our own independent leasing effort. Specifically, Antero purchased a 70% interest of Eclipse's leasehold in this area of the state, of which approximately 16.515 acres fall within the Loraditch Unit. This represents 2.48997% of the Unit. We also had numerous field agents run title and work with mineral owners in order to obtain additional leases covering 592.3911 acres. In all, through its various leasing efforts, Antero has acquired the rights to approximately 91.80518% of the Loraditch Unit.

**Q10. Can you summarize the terms upon which Antero has offered to lease tracts within this Unit?**

A10. Antero has been actively pursuing and acquiring oil and gas leases in this general area and in this Unit specifically for almost two years and has been offering fair market bonus and royalty terms along with a fair lease form. Of the leases that we acquired in this Unit



EXHIBIT 4

over the past year, the average bonus consideration that we have paid is $4,552.00 per acre. The highest lease bonus consideration that we gave to an individual was $5,900/acre. All of the leases that we have taken over the past year have been at an average of 18.5% royalty.

**Q11. Were your leasing efforts successful?**

A11. Overall, I would say yes, they were. Despite our best efforts, however, we were unable to lease 2 tracts representing a total of 3.835 acres.

**Q12. Can you provide any additional information about these 2 unleased tracts?**

A12. These two tracts have had numerous missing heirs. We have made reasonable efforts to locate and contact all of the heirs of Frank Mercer, but there is an open ended family tree based on the little information provided by the locatable heirs. Several of the heirs whom we have addresses for are unresponsive to our certified letters and phone calls. We have used several different tools for locating the heirs such as Juli Clausen at Peoplefinder and other useful internet sites. We also mailed certified copies to known addresses. There are two unleased tracts in this unit, Parcel Numbers 21-007015.0000 and 21-007015.1000, which combined total 3.835 acres, or 0.5809% of the unit. Antero has been unable to definitively identify who owns the mineral interests in these tracts. The tracts are owned by the heirs of Frank Mercer. Subsequent to Frank Mercer's death in 1937, his four children left Monroe County, Ohio and settled in various parts of the nation. As of the filing of this application, 68 heirs have been identified but others may exist. Of the heirs that have been identified, 12 have been leased. Because of the possibility that other unknown heirs may exist, Antero cannot say with any certainty what % interest any of the Mercer heirs holds. Each owns some percentage less than 0.5809%. Antero is filing this application to put unknown heirs on notice of Antero's plans to operate the tracts as part of the Loraditch unit and to obtain certainty as to the interest possessed by each Mercer heir. The attached lease log [Exhibit 4-D] details the efforts that we have made in an attempt to reach an agreement with the unleased owners, including mailing certified letters with our lease offer and terms, multiple phone calls, in person visits, and so forth, but even with our continued efforts, we have been unable to finalize a lease agreement with these remaining owners. The attached plat [Exhibit 4-A] identifies the unleased



EXHIBIT 4

tracts as those being highlighted in red. Additional information about the owners of these tracts is found in Exhibit 1-A.3 to the Unit Agreement.

**Q13. Can you briefly summarize the terms of the Unit Agreement?**

A13. The Unit Agreement, which is attached to this application as Exhibit 1 combines the oil and gas rights as to fifty feet above the top of the Utica Shale to fifty feet below the base of the Point Pleasant formation, such that we can uniformly operate the Loraditch Unit as though it were a single lease. Pursuant to the Unit Agreement, we will allocate the production proceeds from the Loraditch Unit among royalty interest owners and working interest owners based on a surface-acreage basis. Our geology testimony stated that the target formation thickness and reservoir quality of the Utica formation is expected to be consistent across the entire unit and therefore allocation based on surface acreage is appropriate. Under the surface acreage allocation, each tract will be given its proportionate percentage by dividing the tract acreage by the total unit acreage, both of which have been calculated by certified survey.

**Q14. How are unit expenses paid?**

A14. Unit expenses will be allocated and paid by the working interest owners using the same method. Royalty interest owners will not pay unit expenses and will only be responsible for their proportionate share of taxes and post-production costs, which will be payable only from their share of proceeds.

**Q15. Who makes decisions about how the Unit is operated?**

A15. Antero is the Unit Operator and makes operations decisions for the unit, in accordance with the terms of a unit operating agreements it has with the various working interest partners.

**Q16. How does Antero propose treating unleased parties within this Unit?**

A16. We are requesting that the unleased owners be offered two fair market options, which would allow us to develop this unit as planned and in the most efficient way possible, while also providing these owners with fair compensation for the inclusion and development of their minerals. Accordingly, we request that the Chief's Unitization Order give the unleased parties a 30 day option to select from the following options:



EXHIBIT 4

(1) Leasing at $6,200 per acre plus an 18% royalty [High Bonus Option] of the oil and gas produced from any well drilled pursuant to the Order, free and clear of all costs, expenses and risks incurred in connection with the drilling and completing any such well; provided that such royalty shall be payable only as to the proportionate amount the acreage placed into the unit bears to the total acreage in the unit.

(2) Leasing at $5,500 per acre plus a 20% royalty [High Royalty Option] of the oil and gas produced from any well drilled pursuant to the Order, free and clear of all costs, expenses and risks incurred in connection with the drilling and completing any such well; provided that such royalty shall be payable only as to the proportionate amount the acreage placed into the unit bears to the total acreage in the unit.

Given the number of heirs to the Mercer tracts, and the relatively small percentage interest any such heir would possess in those tracts, for both of the foregoing options, if the per acre lease bonus is calculated to be less than $500, Antero proposes a $500 lump sum lease bonus in lieu of the per acre lease bonus and a royalty of 20%.

The interest relinquished under the above options would be limited in depth and time as to the unitized formations and the term of the Unitization Order. Moreover, there would be no surface operations authorized unless specifically agreed to by Antero and the unleased owner. If an unleased party does not make a selection within the 30 day timeframe, we request that the Chief's Unitization Order treat the unleased party as if it had selected the High Bonus Option.

**Q17. Is this a fair offer in your opinion?**

A17. Yes. The two options provided represent the current market value of leasing in this unit, which was determined by looking at the open market transaction over the past year within the unit. Therefore, I believe that the options above would provide an equitable solution to both the leased and unleased owners. Other states including Oklahoma and Colorado also employ similar lease options in their Unitization or pooling proceedings.

**Q18. Does this conclude your testimony?**

A18. Yes.



EXHIBIT 4

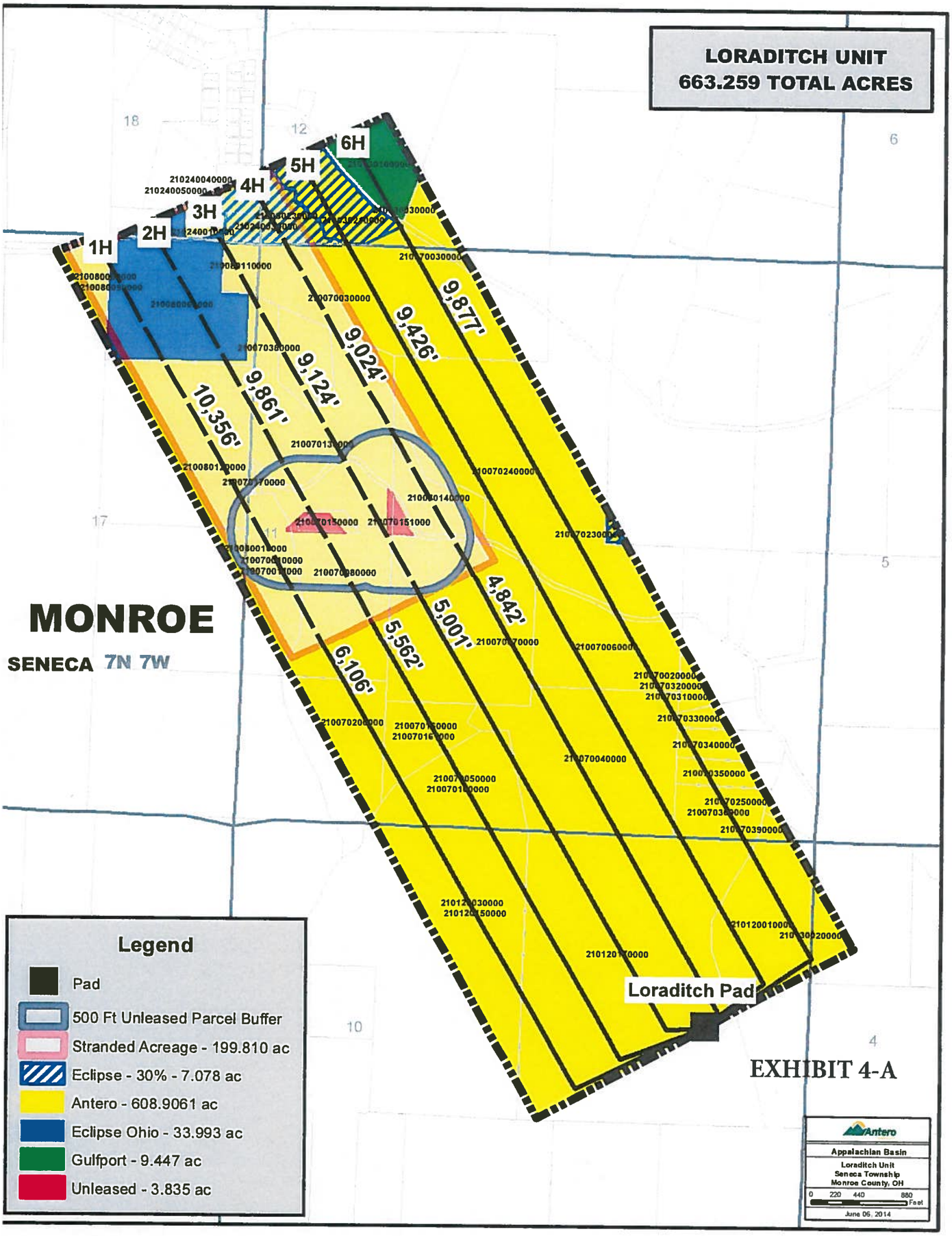
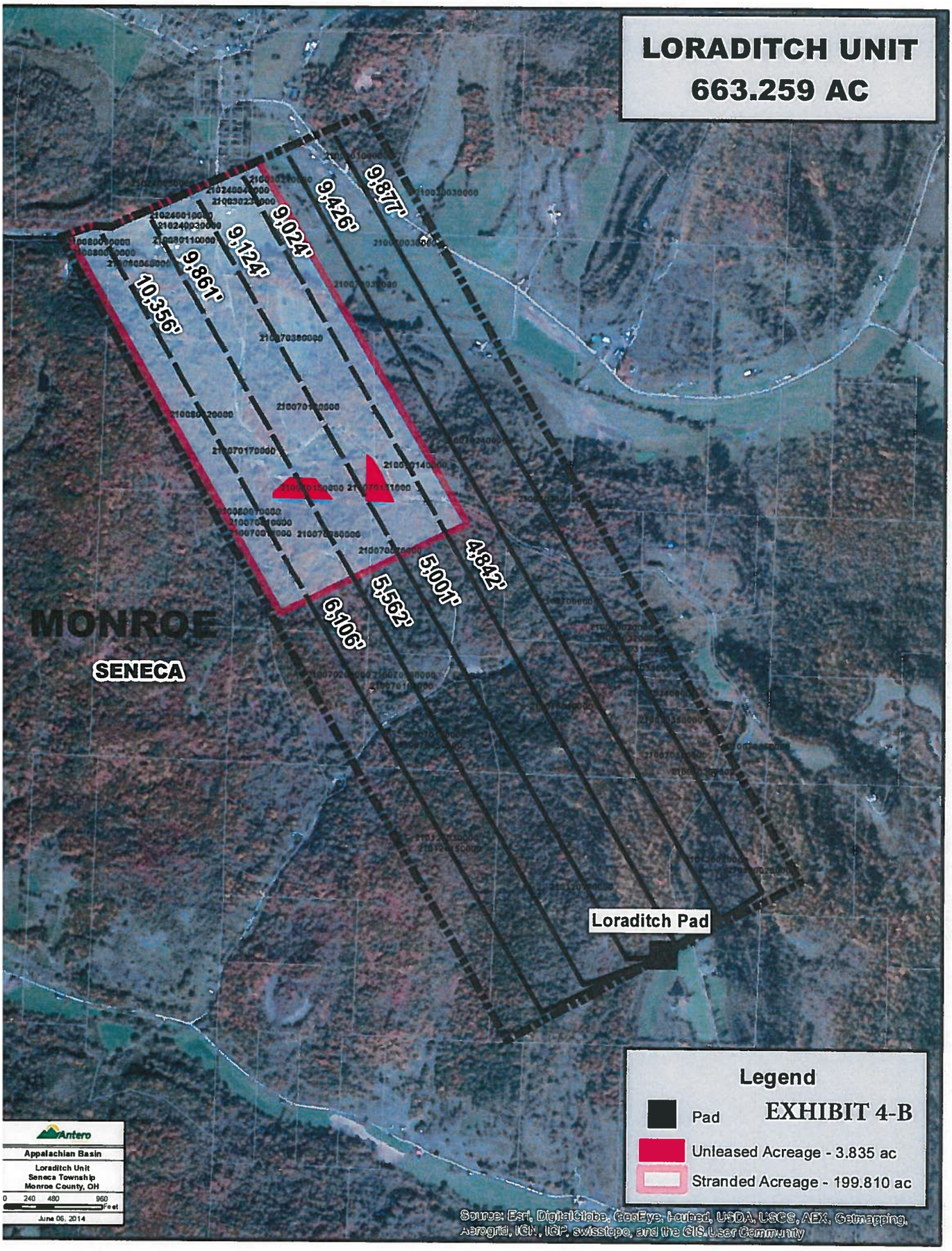

LORADITCH UNIT
663.259 TOTAL ACRES
1H
2H
3H
4H
5H
6H
10,356'
9,861'
9,124'
9,024'
9,426'
9,877'
6,106'
5,562'
5,001'
4,842'
MONROE
SENECA 7N 7W
Loraditch Pad
Legend
Pad
500 Ft Unleased Parcel Buffer
Stranded Acreage - 199.810 ac
Eclipse - 30% - 7.078 ac
Antero - 608.9061 ac
Eclipse Ohio - 33.993 ac
Gulfport - 9.447 ac
Unleased - 3.835 ac
Antero
Appalachian Basin
Loraditch Unit
Seneca Township
Monroe County, OH
0 220 440 880
Feet
June 06, 2014

EXHIBIT 4-A


LORADITCH UNIT
663.259 AC
10,356'
9,861'
9,124'
9,024'
9,426'
9,877'
6,106'
5,562'
5,001'
4,842'
MONROE
SENECA
Loraditch Pad
Legend
Pad
Unleased Acreage - 3.835 ac
Stranded Acreage - 199.810 ac
EXHIBIT 4-B
Antero
Appalachian Basin
Loraditch Unit
Seneca Township
Monroe County, OH
0 240 480 960 Feet
June 06, 2014
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

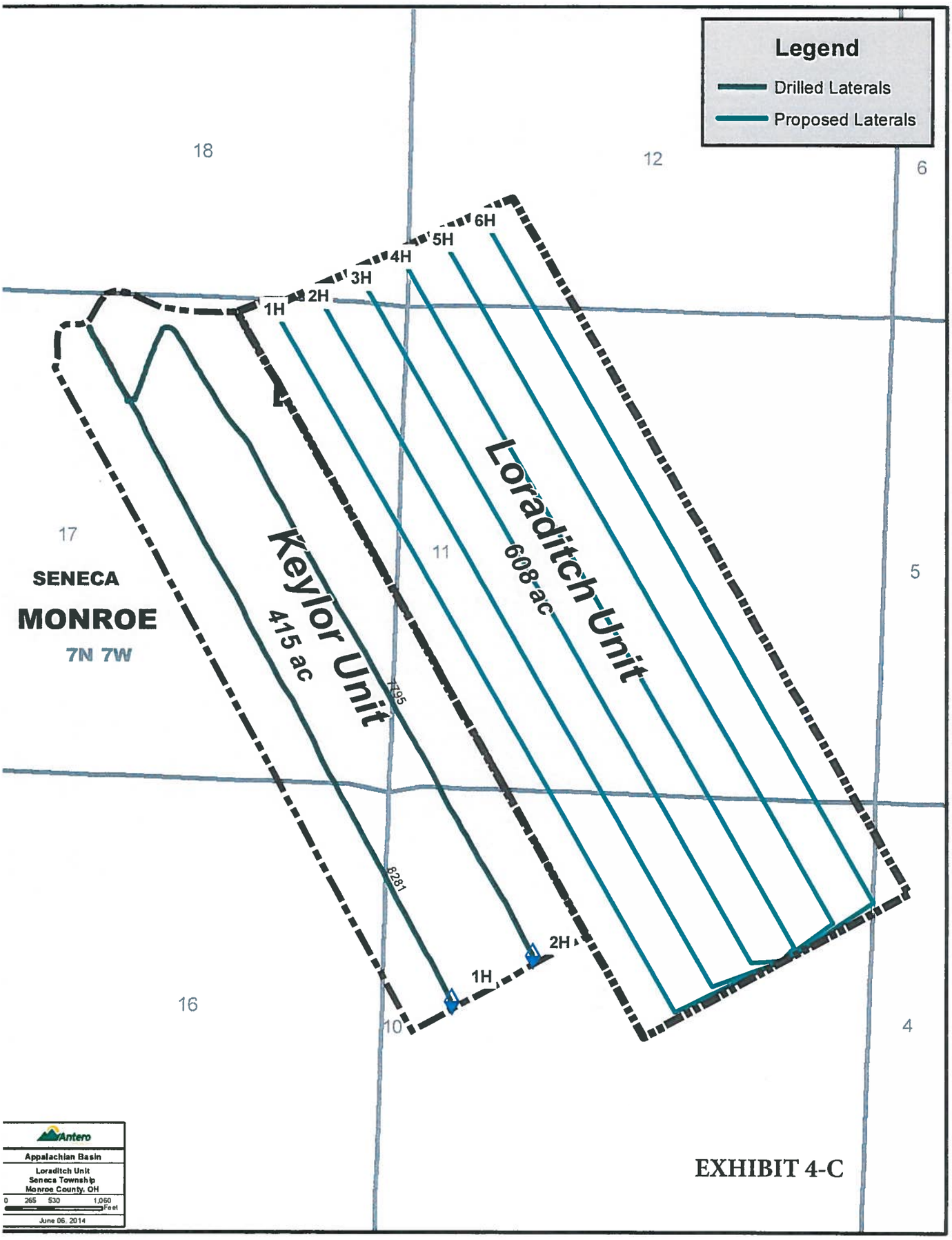

Legend
Drilled Laterals
Proposed Laterals
18
12
6
17
11
5
16
10
4
SENECA
MONROE
7N 7W
Keylor Unit
415 ac
Loraditch Unit
608 ac
1H
2H
3H
4H
5H
6H
7795
8281
1H
2H
Antero
Appalachian Basin
Loraditch Unit
Seneca Township
Monroe County, OH
0 265 530 1,060
Feet
June 06, 2014

EXHIBIT 4-C

**AFFIDAVIT OF LEASE EFFORTS**

STATE OF OHIO )
) SS
COUNTY OF MONROE )

The undersigned, being first duly sworn according to the law, makes this Affidavit and deposes and says that:

1. Affiant, Sloane Ford, is employed by Antero Resources Corporation ("Antero") as a 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. As a result of her job responsibilities, Affiant has 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. Antero has made diligent efforts to voluntarily lease all of the oil and gas interests within the proposed Loraditch Unit and, as of the date of this affidavit, had leased more than 91% of those interests.
4. Despite Antero's efforts, 2 tracts remain unleased.
5. The attached chart documents, in summary form, Antero's efforts to lease each such unleased tract, which efforts include mailing lease offers by certified mail, placing telephone calls, making in-person visits, leaving notes at the property, corresponding by e-mail, or some combination of the above.
6. Antero continues to negotiate with these unleased landowners in an ongoing effort to obtain additional leases before the hearing on the Unit Application for the Loraditch Unit.

Further Affiant sayeth naught.

Dated this 9 day of June, 2014.

Sloane Ford

Sloane Ford, Affiant
Landman
Antero Resources Corporation

EXHIBIT 4-D

## 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 9 day of June, 2014, by Sloane Ford, 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:

Sept 13, 2017

Lauren Schopp
Notary Public

Lauren Schopp
Printed Name of Notary

(SEAL)
LAUREN SCHOPP
Notary Public
State of Colorado
Notary ID 20134057501
My Commission Expires Sep 13, 2017

| | | | | |
|---|---|---|---|---|
| 27<br>28 | George Theiss and Mila Theiss, husband and wife | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 2607 Woodward Rd<br>Cuyahoga Falls, OH 44221<br>330-920-9725 |

| Date | Comments |
|---|---|
| 2/19/2014 | Russ Knopp called George Theiss. Left Message |
| 2/24/2014 | Russ Knopp sent Letter with Oil and Gas Lease offer. |
| 2/24/2014 | Russ Knopp talked to Mila Theiss. George Theiss was at work. |
| 2/26/2014 | Russ Knopp talked to Mila Theiss. George Theiss was out of town. |
| 3/3/2014 | Russ Knopp talked to Mila Theiss again. George Theiss was expected to be back 3/5. |
| 3/11/2014 | Russ Knopp talked to George Theiss. George Theiss does not know what needs to be done to clear the title into his name. |
| 4/8/2014 | Russ Knopp left a message. |
| 4/8/2014 | Russ Knopp talked to George Theiss. Russ Knopp told George Theiss about Antero's plan to contact all known heirs and to offer a bonus of $500 flat for signing an Oil and Gas Lease. George Theiss asked for a little bit of time so George Theiss could talk to some of the older living heirs and an attorney to find out his options. |
| 4/15/2014 | Russ Knopp sent a certified letter with an offer of $500 flat and 20% royalty. |
| 4/16/2014 | Russ Knopp emailed George Theiss and Mila Theiss regarding the certified letters being sent out. |
| 4/17/2014 | George and Mila Theiss received the certified offer letter. |
| 4/21/2014 | Russ Knopp received the return certified notification. |
| 5/15/2014 | David Zamarripa left a message for George Theiss. |
| 5/15/2014 | David Zamarripa spoke with George Theiss' attorney. George Theiss would like to move the SURFACE ESTATE ONLY into his name, or into a trust. |
| 5/21/2014 | David Zamarripa left a message for George Theiss. |
| 5/21/2014 | George Theiss agreed to let David Zamarripa send an Oil and Gas Lease packet to George Theiss and Gary and Elsie Theiss. George Theiss is also going to provide David Zamarripa information on William Theiss Jr. and Christy Theiss. |
| 5/22/2014 | David Zamarripa sent Oil and Gas Lease packet via USPS. |
| 5/27/2014 | David Zamarripa spoke with George and Mila Theiss. They do not like our lease form and want to have their attorney (Maistros and Loepp) speak with Vasanth Ananth and David Zamarripa. |
| 5/29/2014 | David Zamarripa spoke with George and Mila Theiss in concert with Vasanth Ananth. They are very concerned with our lease, and would like us to contact their attorney Thomas Leopp. Vasanth Ananth called and left a voicemail for Thomas Loepp. |
| 5/30/2014 | Vasanth Ananth spoke with Thomas Loepp and offered to send Oil and Gas Lease for redline. Mr. Loepp refused to accept our Oil and Gas Lease for review. Vasanth spoke with Mila Theiss to advise her of the situation. |
| | |
| | |

| | | | | |
|---|---|---|---|---|
| 27<br>28 | Thalia Kahrig and Tod M.<br>Kahrig, wife and husband | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 50205 Crawford Road<br>Woodsfield, OH 43793<br>(740) 213-0730 |

| Date | Comments |
|---|---|
| 4/21/2014 | Russ Knopp sent a certified letter. |
| 4/23/2014 | Thalia Kahrig signed for the certified letter. |
| 4/25/2014 | Russ Knopp called (740) 472-1557. This is Thalia Kahrig's in-laws. They wouldn't give Russ Knopp , Thalia kahrig's number but stated they will pass Russ Knopp's number along and let her know he called. |
| 4/28/2014 | Thalia Kahrig called and left Russ Knopp a message. |
| 4/30/2014 | Russ Knopp called Thalia Kahrig back and left a message. |
| 5/13/2014 | David Zamarripa received a call from Thalia Kahrig. (740) 213-0730 |
| 5/13/2014 | Thalia Kahrig requested that David Zamarripa send them an OGL. |
| 5/15/2014 | David Zamarripa sent Oil and Gas Lease via USPS. |
| 6/3/2014 | David Zamarripa left a message for Thalia and Tod Kahrig. |
| 6/3/2014 | Waiting on Janice Thompson's Atty Cecil Bain to review the Oil and Gas Lease. |
| | |
| | |

| | | | | |
|---|---|---|---|---|
| 27<br>28 | Brian Crum, a single man | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 43097 Hopton Road<br>Beallsville, OH 43716<br>740-213-8081 |

| Date | Comments |
|---|---|
| 4/21/2014 | Russ Knopp sent a certified letter. |
| 5/1/2014 | Brian Crum signed for the certified offer letter. Receipt is in hand. |
| 5/12/2014 | David Zamarripa left a message. |
| 5/13/2014 | Brian Crum requested that David Zamarripa send him an Oil and Gas Lease |
| 5/15/2014 | David Zamarripa sent Oil and Gas Lease via USPS. |
| | |
| | |

| | | | | |
|---|---|---|---|---|
| 27<br>28 | Shawn F. Crum and Renee Y. Crum, husband and wife | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 55415 County Road 92<br>Beallsville, OH 43716<br>740-926-1138<br>740-472-0801 |

| Date | Comments |
|---|---|
| 4/21/2014 | David Zamarripa sent a certified letter. |
| 4/28/2014 | Nicole Boughner signed for the certified offer letter. |
| 5/12/2014 | David Zamarripa left a message for Shawn Crum. |
| 5/15/2014 | David Zamarripa left a message for Shawn Crum on both numbers above. |
| 5/21/2014 | David Zamarripa called and left a message for Shawn Crum at (740) 926-1138. |
| 6/3/2014 | David Zamarripa spoke with Brian Crum and obtained Shawn's spousal information in order to send an oil and gas lease. |
| 6/5/2014 | David Zamarripa sent oil and gas lease via USPS |
| | |
| | |

| | | | | |
|---|---|---|---|---|
| 27<br>28 | Brent Crum and Patricia K. Crum, husband and wife | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 53180 Belmont Ridge Road<br>Beallsville, OH 43716<br>(740) 926-1146 |

| Date | Comments |
|---|---|
| 4/21/2014 | Russ Knopp sent a certified letter. |
| 4/23/2014 | Brent Crum signed for the certified letter. |
| 4/25/2014 | Russ Knopp called and left a message. |
| 5/12/2014 | David Zamarripa called and left a message. |
| 5/15/2014 | David Zamarripa called and left a message. |
| 5/21/2014 | David Zamarripa called and left a message. |
| 6/3/2014 | David Zamarripa spoke with Brain Crum to obtain spousal information. Brian Crum told David Zamarripa that Brent was aware of the Mercer heir situation. |
| 6/5/2014 | David Zamarripa sent oil and gas lease via USPS |
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| 27<br>28 | Reginald E. Crum and<br>Marlene K. Crum,<br>husband and wife | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 424 Bud Rish Road<br>Swansea, SC 29160<br>(803) 568-1729 |

| Date | Comments |
|---|---|
| 4/21/2014 | Russ Knopp sent a certified letter. |
| 4/23/2014 | Reginald E. Crum signed for the cerfitifed letter. |
| 4/28/2014 | Russ Knopp talked to Reggie Crum regarding the offer letter. Reggie Crum is interested but wants to talk it over with some family members. Russ Knopp is preparing a lease to send to him. |
| 4/30/2014 | Russ Knopp sent an Oil and Gas lease packet to Reggie and Marlene Crum. |
| 5/15/2014 | David Zamarripa spoke with Marlene Crum. She asked David Zamarripa to call back at noon. |
| 5/17/2014 | David Zamarripa sent another Oil and Gas Lease via USPS |
| 6/3/2014 | David Zamarripa called and spoke to Marlene Crum. David Zamarripa agreed to call her back a bit later. |
| 6/3/2014 | David Zamarripa left a message with a young man who said Reggie Crum was out on the tractor. He was well informed of the Mercer lease, and said he would have Reggie Crum call David Zamarripa back. |
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| 27<br>28 | William Theiss, Jr. and<br>Katherine Ann Petry,<br>husband and wife | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 1387 Cherry Ridge Dr. SW<br>Sugarcreek, OH 44681<br>330-852-6187 |

| Date | Comments |
|---|---|
| 4/21/2014 | David Zamarripa sent a certified letter. |
| 5/1/2014 | Certified letter returned to sender. Sent to 3914 Ennis Circle NE, Canton, OH 44705 |
| 5/1/2014 | David Zamarripa found a new address and sent a certified offer letter to 2707 Lakeside Ave NW, Canton, OH 44708 |
| 5/5/2014 | David Zamarripa received a call from a Bill Theiss. This is the wrong Bill Theiss. |
| 5/21/2014 | George Theiss agreed to provide David Zamarripa with information on William Theiss Jr. and Christy Theiss. |
| 6/3/2014 | David Zamarripa has had no contact with William Theiss and George Theiss has not provided additional information about William Theiss |
| 6/5/2014 | David Zamarripa mailed certified Letter to 1387 Cherry Ridge Dr. SW, Sugarcreek, OH 44681 |
| 6/5/2014 | David Zamarripa left a message for William Theiss, Jr. at 330-852-6187 |
| 6/6/2014 | David Zamarripa spoke with Katherine Ann Petry, wife of William Theiss, Jr. Katherine Ann Petry is willing to review an oil and gas lease. |
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| 27<br>28 | Christie Lynn Jewel and Fred B. Jewel, wife and husband | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 4813 Bate Street<br>Newton Falls, OH 44444<br>330-469-1958 |

| Date | Comments: |
|---|---|
| 6/4/2014 | Assigned Christie Lynn Jewel to Juli Claussen with People finders in order to obtain contact information. |
| 6/6/2014 | Jaymie with peoplefinders sent David Zamarripa Christie Lynn Jewel's contact information |
| 6/8/2014 | David Zamarripa spoke with Christie Lynn Jewel via telephone. She wants an oil and gas lease to review. |
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| 27<br>28 | Gary L. Theiss and Betty Theiss, husband and wife | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 111 Berry Blvd.<br>Boiling Springs, SC 29316 |

| Date | Comments |
|---|---|
| 4/21/2014 | Russ Knopp sent a certified letter. |
| 4/24/2014 | Gary Theiss signed for the certified offer letter. |
| 5/2/2014 | Gary Theiss called the office. Gary Theiss will follow suit with what his brother George Theiss does. Gary Theiss does not want a lease yet. Gary Theiss is talking it over with his family. |
| 5/21/2014 | George Theiss agreed to let David Zamarripa send an Oil and Gas Lease packet to Gary Theiss. |
| 5/23/2014 | David Zamarripa sent an Oil and Gas Lease via USPS |
| 6/3/2014 | Gary Theiss is George Theiss' brother, and is going to follow what George Theiss does. Vasanth Ananth is still negotiating with Thomas Leopp, George's Atty. |
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| 27<br>28 | Elsie Theiss, a widow | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 218 Hollywood Ave.<br>Cuyahoga Falls, OH 44221<br>330-929-2544 |

| Date | Comments |
|---|---|
| 4/21/2014 | Russ Knopp sent a certified letter. |
| 4/25/2014 | Elsie Theiss signed for the certified offer letter. |
| 5/14/2014 | David Zamarripa called Elsie Thiess' residence and reached George Theiss. |
| 5/23/2014 | David Zamarripa sent an Oil and Gas Lease via USPS |

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| 6/3/2014 | Elsie Theiss is George Theiss' mother, and is going to follow what George Theiss does. Vasanth Ananth is still negotiating with Thomas Leopp, George Theiss' Atty. |
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| 27<br>28 | Bonnie Mercer Brooks<br>and Dennis E. Brooks,<br>wife and husband | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 334 E. South Street<br>Barnesville, OH 43713<br>740-425-1157 |

| Date | Comments |
|---|---|
| 5/13/2014 | David Zamarripa spoke with Bonnie Brooks and she requested that David Zamarripa send her an Oil and Gas Lease |
| 5/17/2014 | David Zamarripa sent Oil and Gas Lease via USPS. |
| 6/3/2014 | David Zamarripa spoke with Bonnie Brooks. She has our lease and she said she wanted to think about it, and will get back to us. |
| 6/3/2014 | David Zamarripa spoke with Bonnie Brooks again, and discussed the No Warranty language. She said she would execute and return ASAP |
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| 27<br>28 | James C. Mercer, III and<br>Catherine Dawn Mercer,<br>husband and wife | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 6130 Virginia Rd<br>Nashport, OH 43830<br>(740) 607-8179 |

| Date | Comments |
|---|---|
| 5/13/2014 | David Zamarripa met with James Mercer. James Mercer wants a lease to execute. |
| 5/15/2014 | David Zamarripa sent an Oil and Gas Lease via USPS |
| 6/3/2014 | David Zamarripa left a follow up message. |
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| 27<br>28 | Chris Ann Allan and<br>Channing Durrenberger,<br>husband and wife | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 3223 Golden Leaf Dr.<br>Kingwood, TX 77339<br>281-360-0600 (Chris Ann)<br>832-444-1439 (Channing) |

| Date | Comments : |
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| 5/16/2014 | David Zamarripa spoke with Chris Allan. She would like an Oil and Gas Lease and offer letter sent to her house. |
| 5/21/2014 | David Zamarripa sent Oil and Gas Lease via USPS. |
| 6/3/2014 | David Zamarripa spoke with Channing Durrenberger. Channing Durrenberger will follow up with Chris Allan this eveing. |
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| 27<br>28 | Carrie M. Tzoros and<br>Dimitrios P. Tzoros, wife<br>and husband | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 4630 NW 30th Street<br>Coconut Creek, FL 33063<br>954-240-3579 |

| Date | Comments: |
|---|---|
| 5/19/2014 | David Zamarripa spoke with Carrie M. Tzoros. She would like an Oil and Gas Lease sent to her. |
| 5/20/2014 | David Zamarripa sent Oil and Gas lease via USPS |
| 6/3/2014 | David Zamarripa left a follow up message |
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| 27<br>28 | William Ferguson,<br>divorced and unremarried | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 26 Wildwood Trail<br>Ormund Beach, FL 32174<br>(386) 677-1992 |

| Date | Comments |
|---|---|
| 4/21/2014 | Russ Knopp sent a certified letter. |
| 4/24/2014 | W. Ferguson signed for the certified offer letter. |
| 4/29/2014 | Russ Knopp received a call from William Ferguson. |
| 5/5/2014 | Russ Knopp sent an Oil and Gas lease. |
| 5/15/2014 | David Zamarripa spoke with William Ferguson. He is in possession of our OGL and is having Janice Thompson's Atty review it. |
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| 27<br>28 | Sandra M. Ferguson,<br>divorced and unremarried | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 4117 Pacifica Dr.<br>Orlando, FL 32817<br>(407) 716-2360 |

| Date | Comments |
|---|---|
| 4/29/2014 | Russ Knopp sent a certified offer letter. |
| 4/29/2014 | Russ Knopp received a call from Sandra Ferguson. |
| 5/5/2014 | Russ Knopp sent an Oil and Gas lease. |
| 5/3/2014 | Sandra Ferguson signed for the certified offer letter. |
| 5/29/2014 | David Zamarripa has had no contact with Sandra yet. |
| 6/3/2014 | David Zamarripa spoke with Sandra Ferguson. She is waiting on her sister Janice Thompson's decision. David Zamarripa is still negotiating with Cecil Bain, Jan Thompson's Atty. |
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| 27<br>28 | Janice Thompson and<br>Eugene Thompson, wife<br>and husband | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 7733 Louis Pasteur Dr.<br>San Antonio, TX 78229<br>(210) 384-9433<br>(281) 804-8720 |

| Date | Comments |
|---|---|
| 4/29/2014 | Russ Knopp sent a certified offer letter. |
| 4/29/2014 | Russ Knopp received a call from Janice Thompson. She is talking it over with family members. |
| 5/2/2014 | Janice Thompson emailed Russ Knopp with addresses and names Russ Knopp was missing. |
| 5/5/2014 | Russ Knopp sent an Oil and Gas Lease |
| 5/15/2014 | David Zamarripa spoke with Janice Thompson. |
| 5/19/2014 | David Zamarripa spoke at length with Janice Thompson. She is going to provide David Zamarripa the most complete family tree she can via email. She also submitted the Oil and Gas Lease to her attorney (Cecil Bain) for review. |
| 5/21/2014 | David Zamarripa had several conversations with Janice Thompson. She is gathering a family tree and will submit to David Zamarripa. |
| 5/29/2014 | David Zamarripa spoke with Janice Thompson's attorney Cecil Bain. Cecil Bain has some minor concerns with our Oil and Gas Lease. Cecil asked what the highest Royalty paid in the Unit was. |
| 6/2/2014 | David Zamarripa called Cecil Bain in attempts to obain his email address. |
| 6/2/2014 | David Zamarripa sent a Word version of Oil and Gas Lease to Cecil Bain (cecilbain@yahoo.com) for revision. |
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| 27<br>28 | Arthur W. Hicks and<br>Eleanor L. Hicks, husband<br>and wife | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 1002 Romig Ave.<br>Barberton, OH 44203<br>330-753-7236<br>330-697-1617 |

| Date | Comments |
|---|---|
| 4/21/2014 | Russ Knopp sent a certified letter. |
| 4/25/2014 | Arthur Hicks received his offer letter. |
| 5/29/2014 | David Zamarripa called and left message. |
| 5/30/2014 | David Zamarripa received voicemail from someone on Arthur Hicks' behalf. Left message on machine again @ 330-753-7236 as instructed on voicemail. |
| 6/2/2014 | David Zamarripa spoke with Eleanor Hicks. She would like an Oil and Gas Lease sent to her for execution. |
| 6/5/2014 | David Zamarripa sent an oil and gas lease via USPS |
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| 27<br>28 | Thomas K. Mercer<br>Linette M. Mercer,<br>husband and wife | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 2346 Grant Ave.<br>Cuyahoga Falls, OH 44223<br>330) 929-3660 |

| Date | Comments |
|---|---|
| 4/21/2014 | Russ Knopp sent a certified letter. |
| 5/8/2014 | Russ Knopp talked to Thomas Mercer. He wants to talk it over with some family members. |
| 5/23/2014 | David Zamarripa spoke with Linette Mercer. She is willing to look at an OGL, although they are not ready to sign it. |
| 5/24/2014 | David Zamarripa sent and Oil and Gas Lease via USPS |
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| 27<br>28 | Kristina Linn Long, marital<br>status not known | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 562 North Ave.<br>Tallmadge, OH 44278<br>330-289-8212 |

| Date | Comments |
|---|---|
| 4/21/2014 | Russ Knopp sent a certified letter. |

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| 5/1/2014 | Certified letter was returned to sender. Sent to 1205 Bellows St., Akron, OH 44301 |
| 5/1/2014 | Russ Knopp found a new address for Kristina L. Long. Russ Knopp sent a new certified offer letter to 562 North Ave., Tallmadge, OH 44278 |
| 5/3/2014 | Kristina signed for the certified offer letter. |
| 5/29/2014 | David Zamarripa left a message on a possible phone number. |
| 6/3/2014 | David Zamarripa left another message on a possible phone number |
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| 27<br>28 | Brian A. Mercer, marital status not known | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 1833 2nd St.<br>Cuyahoga Falls, OH 44221 |

| Date | Comments |
|---|---|
| 4/21/2014 | Russ Knopp sent a certified letter. |
| 4/28/2014 | Brian Mercer signed certified letter. |
| 5/29/2014 | David Zamarripa tried leaving message at (330) 929-3582 and (330) 947-2515 these are both wrong numbers. |
| 6/3/2014 | David Zamarripa has still been able to locate Brian A. Mercer. |
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| 27<br>28 | Sharon E. Mercer, marital status not known | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 748 Alameda Ave.<br>Cuyahoga Falls, OH 44221<br>330-929-3582 |

| Date | Comments |
|---|---|
| 4/21/2014 | Russ Knopp sent a certified letter. |
| 4/25/2014 | Sharon received her offer letter. |
| 5/29/2014 | David Zamarripa tried leaving message at (330) 929-3582 for Sharon Mercer. |
| 6/3/2014 | David Zamarripa left a message @330-929-3582 and called 330-947-2515, but it was a wrong number. |
| 6/5/2014 | David Zamarripa submitted Sharon E. Mercer to Juli Claussen with People Finders in attempts to locate. People finders returned the following information: SS Isssued in 1964-1965 in MD DOB 11-14-1948 and the above referenced address and phone # |
| 6/5/2014 | David Zamarripa left another message at 330-929-3582 again. No contact. |
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| 27<br>28 | David G. Mercer, marital status not known | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 3129 Charles St.<br>Cuyahoga Falls, OH 44221<br>234-678-3530 |

| Date | Comments |
|---|---|
| 4/21/2014 | Russ Knopp sent a certified letter. |
| 4/25/2014 | David Mercer called Russ Knopp and requested he be able to talk it over with his siblings and George Theiss to see how they feel about it. |
| 5/7/2014 | Russ Knopp emailed a copy of the lease to David Mercer, dmercer3@neo.rr.com. The family is trying to get together this weekend to discuss it further. |
| 6/3/2014 | David Zamarripa followed up with David G. Mercer in attempts to obtain spousal information, but was unable to leave a message as the voice mailbox was full and not accepting entries. |
| 6/5/2014 | David Zamarripa followed up with David G. Mercer in attempts to obtain spousal information, but was unable to leave a message as the voice mailbox was full and not accepting entries. |
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| 27<br>28 | Mary Jo Davis and Joseph S. Davis, wife and husband | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 600 Loomis Ave.<br>Cuyahoga Falls, OH 44221<br>330-926-9474 Home<br>330-808-1172 Cell |

| Date | Comments |
|---|---|
| 4/21/2014 | Russ Knopp sent a certified letter. |
| 4/28/2014 | Mary J. Davis signed for certified letter. |
| 5/29/2014 | David Zamarripa left a message for Mary Jo Long Davis at (330) 321-5989. Not sure if this is the correct individual. |
| 6/3/2014 | David Zamarripa left another message. David Zamarripa verified that this is the correct address for Mary Jo Davis via her brother-in-law Raymond Weisel. |
| 6/4/2013 | David Zamarripa heard back from Mary Jo Long Davis from an incorrect number. The person reached was the wrong Mary Jo Davis, she knew nothing of Frank Mercer or any of his heirs. |
| 6/5/2014 | David Zamarripa left message for Mary Jo Davis on a newly obtained phone number. |
| 6/6/2014 | David Zamarripa received a voicemail from Mary Jo Davis. David Zamarripa returned the call, but had to leave another voicemail. |
| 6/6/2014 | David Zamarripa spoke with Mary Jo Davis and She requested an oil and gas lease for execution. |
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| 27<br>28 | James S. Mercer, a single man | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 670 Seiberling St.<br>Akron, OH 44306<br>(330) 573-5875 |

| Date | Comments |
|---|---|
| 4/21/2014 | Russ Knopp sent a certified letter. |
| 4/25/2014 | Russ Knopp talked to James Mercer. He wants to talk it over with his family members and maybe call George Theiss. |
| 4/23/2014 | James Mercer received his certified letter. |
| 5/7/2014 | Russ Knopp talked to James Mercer. His immediate family got together last Sunday to talk about this. They want to see a lease. |
| 5/14/2014 | David Zamarripa spoke with James Mercer at length. James Mercer and his family would like Oil and Gas Leases sent to them. |
| 5/19/2014 | David Zamarripa sent an Oil and Gas Lease via USPS. |
| 6/3/2014 | Oil and Gas Lease was not received by James Mercer. |
| 6/5/2014 | David Zamarripa sent an oil and gas lease via USPS |
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| 27<br>28 | Michael J. Mercer and Jennifer M. Mercer, husband and wife | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 3267 Forestmeadow Dr.<br>Cuyahoga Falls, OH 44221<br>330-928-8593 |

| Date | Comments |
|---|---|
| 4/21/2014 | Russ Knopp sent a certified letter. |
| 4/25/2014 | Michael Mercer received his certified letter. |
| 5/29/2014 | David Zamarrip left a message for Michael Mercer. |
| 5/29/2014 | David Zamarripa spoke with Michael Mercer this afternoon, Michael Mercer wants an Oil and Gas Lease for execution. |
| 6/2/2014 | David Zamarripa sent an Oil and Gas Lease via USPS |
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| 27<br>28 | Raymond L. and Kathleen A. Weisel, husband and wife | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 2163 Coon Road<br>Copley, OH 44321<br>330-608-4365 |

| Date | Comments |
|---|---|
| 4/28/2014 | Russ Knopp sent a certified offer letter. |
| 5/2/2014 | Kathleen Weisel signed for the certified offer letter. |
| 6/3/2014 | David Zamarripa spoke with James S. Mercer (Kathleen's brother). James Mercer asked that David Zamarripa send Oil and Gas Leases to the entire family. |

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| 6/3/2014 | Sent email to Raymond (rayweisel@yahoo.com) to inquire about the heirs of his Deceased Sister Rhoda. Rhoda has two heirs (THERESA AND KIM). |
| 6/5/2014 | David Zamarripa sent and oil and gas lease via USPS |
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| 27<br>28 | Teresa L. Petersen and<br>Gregory S. Petersen, wife<br>and husband | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 3969 Meadowvale Dr<br>Akron OH 44333<br>330-715-4545 |

| Date | Comments: |
|---|---|
| 6/3/2014 | David Zamarripa learned of her existence today, and will track down via Raymond Weisel |
| 6/5/2014 | David Zamarripa received a call from Teresa Peterson, she requested an oil and gas lease for execution. |
| 6/5/2014 | David Zamarripa sent an oil and gas lease via USPS |
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| 27<br>28 | Kimberly Ann DeLaura,<br>divorced and unremarried | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 849 Iona Ave<br>Akron, OH 44314<br>330-937-5669 |

| Date | Comments: |
|---|---|
| 6/3/2014 | David Zamarripa learned of her existence today, and will track down via Raymond Weisel |
| 6/5/2014 | David Zamarripa obtained her address information from Juli Claussen @ Peoplefinder. Mailed Certified letter. |
| 6/6/2014 | David Zamarripa spoke with Kimberly Ann DeLaura. She requested an oil and gas lease for execution. |
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| 27<br>28 | Betty Jane Sartoris,<br>marital status not known | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 10007 W. Desert Hills Dr.<br>Sun City, AZ 85351<br>623-972-7888 |

| Date | Comments |
|---|---|
| 4/28/2014 | David Zamarripa sent a certified offer letter. |
| 5/5/2014 | Betty Sartoris signed for the certified offer letter. |

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| 6/3/2014 | David Zamarripa left a message. |
| 6/3/2014 | David Zamarripa left a message on machine for Betty. |
| 6/4/2014 | David Zamarripa left a message on machine for Betty. |
| 6/5/2014 | David Zamarripa left a message on machine for Betty. |
| 6/5/2014 | Betty Jane Sartoris' contact information was verified via Juli Claussen at Peoplefinder. |
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| 27<br>28 | Sue Ellen Combs and Wilson Combs, wife and husband | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 1750 S. Duck Lake Road<br>Highlands, MI 48356<br>248-867-2889 |

| Date | Comments |
|---|---|
| 5/2/2014 | Russ Knopp sent a certified offer letter. |
| 5/2/2014 | Janice Thompson sent Russ Knopp an email with Sue Comb's information. Sue Combs is the daughter of Emma G. Stephen. |
| 5/5/2014 | Russ Knopp talked to Sue Ellen Combs. She is interested in looking at a lease and interested in the offer. |
| 5/13/2014 | Russ Knopp sent an Oil and Gas Lease to Sue Combs |
| 5/21/2014 | David Zamarripa tried calling Sue Ellen Combs to obtain the contact information for Robert D. Besancon, Katherine M. Besancon, and Michael D. Besancon |
| 6/3/2014 | David Zamarripa followed up with Sue Ellen Combs. Sue Ellen Combs is going to wait and see what Janice Thompson's Atty has to say. |
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| 27<br>28 | Toni Lou Underwood and Thomas Joseph Underwood, wife and husband | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 270 S. Mill Creek Rd. APT A<br>Purvis, MS 39475<br>(832) 233-7714 |

| Date | Comments: Daughter of George Harmon Stephen |
|---|---|
| 5/16/2014 | Russ Knopp received an email from Toni Underwood. She would like an Oil and Gas Lease sent to her for execution. |
| 5/20/2014 | David Zamarripa sent an Oil and Gas Lease via USPS |
| 6/3/2014 | David Zamarripa spoke with Toni Underwood, and she is in possession of our Oil and Gas Lease, but wanted some more time to review it. |
| 6/3/2014 | Waiting on Janice Thompson's Atty Cecil Bain. |

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| 27<br>28 | Paula Lee Helcher and<br>Robert R. Helcher, wife<br>and husband | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 8541 Estate Dr. South<br>West Palm Beach, FL 33411<br>561-248-7234 |

| Date | Comments |
|---|---|
| 5/19/2014 | David Zamarripa received an email from Paula Helcher. She would like to receive an OGL packet. |
| 5/23/2014 | David Zamarripa sent an Oil and Gas Lease via USPS. |
| 6/3/2014 | David Zamarripa spoke with Paula Helcher. She is working with Janice Thompson |
| 6/3/2014 | Waiting on Janice Thompson's Atty Cecil Bain. |
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| 27<br>28 | Casey J. Wood, a single<br>man | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 11 Thunderbird Dr.<br>Novato, CA 94949<br>415-710-1062 |

| Date | Comments: |
|---|---|
| 5/20/2014 | David Zamarripa received information regarding Casey Wood's existence in an email from Janice Thompson. |
| 5/23/2014 | David Zamarripa received contact information via email from Jan Mercer. |
| 5/27/2014 | David Zamarripa left a message on machine for Casey Wood. |
| 5/30/2014 | David Zamarripa sent a certified letter |
| 6/3/2014 | David Zamarripa left a message on machine for Casey Wood. |
| 6/5/2014 | David Zamarripa left a message on machine for Casey Wood. |
| 6/5/2014 | David Zamarripa spoke with Casey J. Wood. Casey J. Wood requested an oil and gas lease for execution. |
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|---|---|---|---|---|
| 27<br>28 | Eric G. Hagstrom, marital status not known | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 4202 E. Wilshire Dr.<br>Phoenix, AZ 85008<br>601-799-7294<br>602-819-6554 |

| Date | Comments: |
|---|---|
| 5/20/2014 | David Zamarripa received information regarding Eric Hagstrom's existence in an email from Janice Thompson. |
| 5/23/2014 | David Zamarripa received contact information via email from Jan Mercer. |
| 5/27/2014 | Phone information received from Jan Thompson is incorrect. |
| 5/30/2014 | David Zamarripa sent a certified letter |
| 6/3/2014 | David Zamarripa tried calling the phone number, however the line was only a busy signal. |
| 6/5/2014 | David Zamarripa Received updated phone nubmers from Janice Thompson. David Zamarripa called and left a voicemail at (601) 799-7294. |
| 6/6/2014 | David Zamarripa tried calling 602-819-6554 ; 602-920-6714; 602-819-6554; 601-799-7294 in attempts to contact Eric G. Hagstrom. |
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|---|---|---|---|---|
| 27<br>28 | Fred James Hicks<br>Ramona J. Hicks, husband and wife | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 12481 Hollowridge Dr.<br>Doylestown, OH 44230 |

| Date | Comments: |
|---|---|
| 5/29/2014 | No contact has been made with Fred James Hicks. |
| 6/2/2014 | David Zamarripa spoke with Eleanor Hicks, and learned that Fred Hicks is working with Nick Squires. |
| 6/2/2014 | David Zamarripa spoke with Fred Hicks. He wants an Oil and Gas Lease sent to him. |
| 6/5/2014 | David Zamarripa sent an oil and gas lease via USPS |
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|---|---|---|---|---|
| 27<br>28 | Robert E. Lee, divorced and unremarried | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | US 90 E 6647<br>Lake City, FL 32025<br>386-288-4330 |

| Date | Comments |
|---|---|
| 6/2/2014 | David Zamarripa Left Message on Machine |

| | |
|---|---|
| 6/5/2014 | David ZamarripaLeft Message on Machine |
| 6/6/2014 | David Zamarripa received Robert E. Lee's contact information from Juli Claussen via Peoplefinder |
| 6/7/2014 | David Zamarripa spoke with Robert E. Lee. Robert E. Lee requested an oil and gas lease for execution. |
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|---|---|---|---|---|
| 27<br>28 | John R. Hicks and<br>Barbara J. Hicks, husband<br>and wife | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 3069 S. Hametown Rd<br>Norton, OH 44203<br>(330) 825-2255 |

| Date | Comments |
|---|---|
| 6/2/2014 | David Zamarripa Spoke with John R. Hicks. John R. Hicks requested an oil and gas lease for exection |
| 6/5/2014 | David Zamarripa sent and oil and gas lease via USPS |
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|---|---|---|---|---|
| 27<br>28 | Michael D. Besancon, a<br>single man | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 4850 S. Duck Lake Rd.,<br>Commerce Township, MI 48382<br>Phone # 248-685-7644 |

| Date | Comments: |
|---|---|
| 5/21/2014 | David Zamarripa spoke with Michael Besancon. |
| 5/21/2014 | David Zamarripa inquired about Robert D. Besancon. Robert D. Besancon and the family are estranged, and were unable to provide David Zamarripa any contact information on Robert D. Besancon. |
| 5/22/2014 | David Zamarripa sent an Oil and Gas lease via USPS |
| 5/23/2014 | David Zamarripa contacted Michael Besancon and let him know the OGL packet was headed his way. I reminded him to include Guardianship documents for Katherine Besancon, his mother. He agreed and said he would provide a copy. |
| 6/3/2014 | Waiting on Janice Thompson's Atty Cecil Bain. |
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|---|---|---|---|---|
| 27<br>28 | Katherine M. Besancon, a single woman | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 4850 S. Duck Lake Rd.,<br>Commerce Township, MI 48382<br>Phone # unknown |

| Date | Comments: |
|---|---|
| 5/21/2014 | Katherine M. Besancon has a guardianship on her estate. Her brother Michael and mother Mary Katherine Besancon are co guardians. |
| 5/24/2014 | David Zamarripa sent and Oil and Gas Lease via USPS |
| 6/3/2014 | Waiting on Janice Thompson's Atty Cecil Bain. |
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|---|---|---|---|---|
| 27<br>28 | Robert D. Besancon, marital status not known | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 353 Rolling Hills Dr.<br>Conroe, TX 77304<br>817-561-0527<br>936-228-2394 |

| Date | Comments: |
|---|---|
| 5/21/2014 | David Zamarripa inquired about Robert. Robert and the family are estranged, and no one has his current address/ whereabouts. Will continue searching. |
| 5/22/2014 | David Zamarripa tried reaching Robert @ 248-636-9634. Left Message on machine. |
| 5/29/2014 | No contact yet. Will keep searching. |
| 6/5/2014 | David Zamarripa obtained contact information from Juli Claussen at Peoplefinder |
| 6/5/2014 | David Zamarripa left message on machine for Robert D. Besancon |
| 6/6/2014 | David Zamarripa sent a certified letter |
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|---|---|---|---|---|
| 27<br>28 | Diane Stephen Brown and Walter G. Brown, Jr., wife and husband | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 13 Belmeade Dr.<br>Bluffton, SC 29910<br>843-298-2399 |

| Date | Comments |
|---|---|
| 5/14/2014 | David Zamarripa spoke with Diane Brown. She is very skeptical, and wants to discuss it with her sister Dr. Susan Glander. |

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|---|---|
| 5/21/2014 | David Zamarripa followed up with Diane Brown. She agreed to provide me her marital status, and wants to receive an OGL packet for herself and Susan Glander. |
| 5/24/2014 | David Zamarripa sent an Oil and Gas Lease via USPS |
| 5/28/2014 | David Zamarripa spoke with Diane Brown. She is in receipt of our OGL and is waiting on Janice Thompson's attorney for approval. She is speaking for herself and Susan Glander as well. |
| 6/3/2014 | Waiting on Janice Thompson's Atty Cecil Bain. |
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|---|---|---|---|---|
| 27<br>28 | Dr. Susan S. Glander, M.D. and Christopher Glander, wife and husband | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 250 Highpoint Walk<br>Atlanta, GA 30342 |

| Date | Comments |
|---|---|
| 5/14/2014 | Dr. Susan Glander has spoken with her sister Diane Brown, they are considering the OGL |
| 5/24/2014 | David Zamarripa sent an Oil and Gas Lease via USPS |
| 5/28/2014 | David Zamarripa spoke with Diane Brown. She is in receipt of our OGL and is waiting on Janice Thompson's attorney for approval. She is speaking for herself and Susan Glander as well. |
| 6/3/2014 | Waiting on Janice Thompson's Atty Cecil Bain. |
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|---|---|---|---|---|
| 27<br>28 | James R. Stephen, no marital status | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 537 Brown Pelican Dr.<br>Daytona Beach, FL 32119<br>386-760-5072 |

| Date | Comments: |
|---|---|
| 5/24/2014 | Word was sent to James via his bank. He does not communicate very well with the family and has paranioa issues. His sisters ask that I approach him in concert with Jan Thompson via third party telephone. Jan does not want James R. Stephen to have any way to contact her, but is willing to contact him on our behalf to begin the execution process. |
| 6/5/2014 | David Zamarripa sent a certified Letter |
| 6/5/2014 | Contact info verified via Juli Claussen @ Peoplefinder |
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|---|---|---|---|---|
| 27<br>28 | Chandler Stephen, a<br>single man | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 3400 Galt Ocean Dr. #902 S.<br>Fort Lauderdale, FL 33308<br>954-683-7809 |

| Date | Comments |
|---|---|
| 5/21/2014 | David Zamarripa spoke with Chandler Stephen and his mother Nilgun Gensoy. |
| 5/23/2014 | David Zamarripa sent an Oil and Gas Lease via USPS |
| 6/3/2014 | Waiting on Janice Thompson's Atty Cecil Bain. |
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|---|---|---|---|---|
| 27<br>28 | Savannah Stephen, no<br>marital status | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 456 Lake Bridge Ln. #616<br>Apoka, FL 32703<br>407-621-1679 Work |

| Date | Comments: |
|---|---|
| 5/21/2014 | David Zamarripa spoke with Nilgun Gensoy, Savannah Stepehen's mother. She would not provide David Zamarripa with Savannah Stephen's contact information, but is giving David Zamarripa's number to her. |
| 5/28/2014 | David Zamarripa learned that Savannah Stephen and her mother, Nilgun Gensoy are estranged. She has very little contact with her family, and David Zamarripa is working in concert with her brother (Chandler) to find her. |
| 6/5/2014 | David Zamarripa Obtained contact information from Juli Claussen @ Peoplefinder |
| 6/6/2014 | David Zamarripa Sent Certified Letter |
| 6/6/2014 | David Zamarripa Left message for Savannah Stephen at work. |
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|---|---|---|---|---|
| 27<br>28 | Beverly Mercer, widow | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 1340 Arlington Drive<br>Fairborn, OH 45324<br>937-878-0576 |

| Date | Comments |
|---|---|
| 5/30/2014 | Nick Squires spoke with Beverly Mercer |
| 6/6/2014 | Nick Squires mailed an oil and gas lease for execution. |
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|---|---|---|---|---|
| 27<br>28 | Joe C. Mercer and Paula A. Mercer, husband and wife | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 1340 Arlington Drive<br>Fairborn, OH 45324<br>937-878-0576 |

| Date | Comments |
|---|---|
| 5/30/2014 | Nick Squires contacted Joe C. Mercer and Paula A. Mercer. |
| 6/6/2014 | Nick Squires mailed the oil and gas lease via USPS. |
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|---|---|---|---|---|
| 27<br>28 | Marcia L. Boone and Ronald C. Boone, wife and husband | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 2850 Tuppers Ferry Road<br>Wytheville, VA 24382<br>276-620-8240 |

| Date | Comments |
|---|---|
| 5/30/2014 | Nick Squires established Initial Contact with Marcia L. Boone and Ronald C. Boone. The Boone's requested an oil and gas lease for execution. |
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|---|---|---|---|---|
| 27<br>28 | Michelle R. Heath and John T. Heath, Jr., wife and husband | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 1204 Millers Court<br>Noblesville, IN 46060<br>937-417-9854 |

| Date | Comments: |
|---|---|
| 5/30/2014 | Nick Squires - Initial Contact - Son of Beverly Mercer |
| 6/6/2014 | Nick Squires mailed the oil and gas lease via USPS. |
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|---|---|---|---|---|
| 27<br>28 | Roger W. Mercer, II and Patricia B. Mercer, husband and wife | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 7035 Tapps Ford Road<br>Amissville, VA 20106<br>540-364-3255 |

| Date | Comments - |
|---|---|
| 5/30/2014 | Nick Squires established contact with Roger W. Mercer and Initial Contact - Son of Beverly Mercer |
| 6/6/2014 | Nick Squires mailed the oil and gas lease via USPS. |
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|---|---|---|---|---|
| 27<br>28 | Ronald Black, a widower | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | 167 Macy Avenue<br>Barberton, OH 44203 |

| Date | Comments: |
|---|---|
| 5/30/2014 | Nick Squires Left message for Ronald Black |
| 6/2/2014 | Nick Squires Left message for Ronald Black |
| 6/6/2014 | David Zamarripa Sent a Certified Letter to address provided by Juli Claussen at peoplefinders |
| 6/9/2014 | Ronald Black contacted Nick Squires and requested an oil and gas lease for execution. |
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|---|---|---|---|---|
| 27<br>28 | Tami Lynn Stephen, a single woman | 21-007015.0000<br>21-007015.1000 | 2<br>1.75 | P.O. Box 120733<br>Melbourne, FL 32912<br>321-615-0781 |

| Date | Comments - |
|---|---|
| 6/6/2014 | David Zamarripa sent information to Juli Claussen at Peoplefinder in attempts to contact Tami Lynn Stephen. |
| 6/6/2014 | David Zamarripa Left message on possible cell phone. |
| 6/6/2014 | David Zamarripa Sent certified letter via USPS |
| 6/6/2014 | David Zamarripa received a call from Tami Lynn Stephen. She requested an oil and gas lease for review. |
| | |
| | |

# EXHIBIT 5

WORKING INTEREST OWNER

APPROVAL OF

UNIT PLAN FOR THE

LORADITCH UNIT

Seneca Township

Monroe County, Ohio

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, a Unit Plan has been prepared for the testing, development, and operation of certain Tracts identified therein, which Plan consists of an agreement entitled, "Unit Agreement, Loraditch Unit, Seneca Township, Monroe County, Ohio," dated June 9, 2014 (the "Unit Agreement"); and an agreement entitled, "Operating Agreement," also regarding the Loraditch Unit and of like date (the "Unit Operating Agreement"); and,

WHEREAS, the undersigned is the owner of a Working Interest in and to one or more of the Tracts identified in said Unit Plan, namely, the Tracts identified below (hereinafter, the "Owner").

NOW, THEREFORE, the Owner hereby approves the Unit Plan and acknowledges receipt of full and true copies of both the Unit Agreement and the Unit Operating Agreement.

IN WITNESS WHEREOF, the undersigned has executed this instrument on the date set forth opposite the signature of its representative.

WORKING INTEREST OWNER

TRACT NO. (see attached)

TRACT ACREAGE 608.906

RELATED WORKING INTEREST PERCENTAGE 91.80518%

Antero Resources Corporation

Date 6/9/14

By: _____
Name: Chris Treml
Title: Land Manager

Exhibit 5

WORKING INTEREST OWNER

APPROVAL OF

UNIT PLAN FOR THE

LORADITCH UNIT

Seneca Township

Monroe County, Ohio

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, a Unit Plan has been prepared for the testing, development, and operation of certain Tracts identified therein, which Plan consists of an agreement entitled, "Unit Agreement, Loraditch Unit, Seneca Township, Monroe County, Ohio," dated June 9, 2014 (the "Unit Agreement"); and an agreement entitled, "Operating Agreement," also regarding the Loraditch Unit and of like date (the "Unit Operating Agreement"); and,

WHEREAS, the undersigned is the owner of a Working Interest in and to one or more of the Tracts identified in said Unit Plan, namely, the Tracts identified below (hereinafter, the "Owner").

NOW, THEREFORE, the Owner hereby approves the Unit Plan and acknowledges receipt of full and true copies of both the Unit Agreement and the Unit Operating Agreement.

IN WITNESS WHEREOF, the undersigned has executed this instrument on the date set forth opposite the signature of its representative.

WORKING INTEREST OWNER

TRACT NO. 5, 6, 7, 8, and 22

TRACT ACREAGE 7.078

RELATED WORKING INTEREST PERCENTAGE 1.06715%

Eclipse Resources I, LP

Date 6/10/14

By: _____

Name: STANLEY E. RICHARDS

Title: SENIOR LAND ADVISOR

Exhibit 5

WORKING INTEREST OWNER

APPROVAL OF

UNIT PLAN FOR THE

LORADITCH UNIT

Seneca Township

Monroe County, Ohio

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, a Unit Plan has been prepared for the testing, development, and operation of certain Tracts identified therein, which Plan consists of an agreement entitled, "Unit Agreement, Loraditch Unit, Seneca Township, Monroe County, Ohio," dated June 9, 2014 (the "Unit Agreement"); and an agreement entitled, "Operating Agreement," also regarding the Loraditch Unit and of like date (the "Unit Operating Agreement"); and,

WHEREAS, the undersigned is the owner of a Working Interest in and to one or more of the Tracts identified in said Unit Plan, namely, the Tracts identified below (hereinafter, the "Owner").

NOW, THEREFORE, the Owner hereby approves the Unit Plan and acknowledges receipt of full and true copies of both the Unit Agreement and the Unit Operating Agreement.

IN WITNESS WHEREOF, the undersigned has executed this instrument on the date set forth opposite the signature of its representative.

WORKING INTEREST OWNER

TRACT NO. 2 and 12

TRACT ACREAGE 33.993

RELATED WORKING INTEREST PERCENTAGE 5.12514%

Eclipse Resources – Ohio, LLC

Date 6/10/14

By: _____
Name: STANLEY E RICHARDS
Title: SENIOR LAND ADVISOR

Exhibit 5

WORKING INTEREST OWNER

APPROVAL OF

UNIT PLAN FOR THE

LORADITCH UNIT

Seneca Township

Monroe County, Ohio

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, a Unit Plan has been prepared for the testing, development, and operation of certain Tracts identified therein, which Plan consists of an agreement entitled, "Unit Agreement, Loraditch Unit, Seneca Township, Monroe County, Ohio," dated June 9, 2014 (the "Unit Agreement"); and an agreement entitled, "Operating Agreement," also regarding the Loraditch Unit and of like date (the "Unit Operating Agreement"); and,

WHEREAS, the undersigned is the owner of a Working Interest in and to one or more of the Tracts identified in said Unit Plan, namely, the Tracts identified below (hereinafter, the "Owner").

NOW, THEREFORE, the Owner hereby approves the Unit Plan and acknowledges receipt of full and true copies of both the Unit Agreement and the Unit Operating Agreement.

IN WITNESS WHEREOF, the undersigned has executed this instrument on the date set forth opposite the signature of its representative.

WORKING INTEREST OWNER

TRACT NO. 9 and 10

TRACT ACREAGE 9.447

RELATED WORKING INTEREST PERCENTAGE 1.42433%

Gulfport Energy Corportation

Date 6/9/14

By: [signature]

Name: Lester A. Zotkus

Title: VP, Land

Exhibit 5

# EXHIBIT 6

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

# MODEL FORM OPERATING AGREEMENT

## Loraditch Unit

OPERATING AGREEMENT

DATED

_____ , _____ ,
year

OPERATOR **Antero Resources Corporation**

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

COUNTY ~~OR PARISH~~ OF **Monroe** , STATE OF **Ohio**

COPYRIGHT 1989 – ALL RIGHTS RESERVED
AMERICAN ASSOCIATION OF PETROLEUM
LANDMEN, 4100 FOSSIL CREEK BLVD.
FORT WORTH, TEXAS, 76137, APPROVED FORM.

A.A.P.L. NO. 610 – 1989

A.A.P.L. FORM 610 - MODEL FORM OPERATING AGREEMENT - 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 **or series of operations** intended to complete a well **well capable of production** as a ~~producer of~~ Oil and Gas in one or more Zones, including, but not limited to, the setting of production casing, perforating, **hydraulic fracturing** 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."

D. The term "Deepen" 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.~~ **When used in connection with a Multi-lateral or Horizontal Well, the term "Deepen" shall mean an operation whereby a Lateral is drilled to a horizontal distance greater than the distance set out in the well proposal approved by the Consenting Parties, or to a horizontal distance greater than the horizontal distance to which the Lateral was previously drilled.**

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 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 pattern of drilling in the Contract Area ~~unless fixed by express agreement of the Drilling Parties~~ **or as otherwise proposed by Operator.**

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~~.~~**, including the surface and bottom-hole locations. The term "Drillsite" when used in connection with a Horizontal or Multi-lateral Well shall mean the surface location and the Oil and Gas Leases or Oil and Gas Interests within the Drilling Unit on which the wellbores, including all Laterals, or any portion thereof, are 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 **Force pooled** 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" shall mean a single operation whereby a deeper Zone **or portion thereof** is abandoned in order to attempt a Completion in a shallower Zone. **When used in connection with a Horizontal or Multi-lateral Well, the term "Plug Back" shall mean an operation to test or Complete the well at a stratigraphically shallower Zone in which the operation has been or is being Completed and which is not within an existing Lateral. Any operation to reduce the length of any Lateral shall not be considered a Plug-back.**

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~~ **Completion operations** within the existing wellbore **that are conducted after the original Completion operations are conducted. The term "Recompletion" or "Recomplete" when used in connection with a Horizontal or a Multi-lateral Well shall mean Completion operations within an existing Lateral that are conducted after the original Completion operations in the Horizontal or a Multi-lateral Well are conducted.**

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 **and hydraulic fracturing** 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" shall mean the directional control and intentional deviation of a well from vertical so as to change the bottom hole location unless done to straighten the hole or drill around junk in the hole to overcome other mechanical difficulties. **When used in connection with a Horizontal or Multi-lateral Well, the term "Sidetrack" shall mean the directional control and intentional deviation of a well outside the existing Lateral(s) so as to change the Zone or the radial direction of a Lateral as originally proposed. Drilling operations which are intended recover penetration of the target interval which are conducted in a Horizontal or Multi-lateral well shall be considered as included in the original proposed drilling operations.**

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 Depth.**

**T. The term "Horizontal Well" shall mean a well containing a single Lateral which is drilled, Completed or Recompleted in a manner in which the horizontal component of the completion interval (1) extends at least one hundred (100') feet in the objective formation and (2) exceeds the vertical component of the completion interval in the objective formation.**

**U. The term "Multi-lateral Well" shall mean a well which contains more than one Lateral which is drilled, Completed or Recompleted in a manner in which the horizontal component of the completion interval of each Lateral (1) extends at least one hundred (100') feet in the objective formation(s) and (2) exceeds the vertical component of the completion interval in the objective formation(s).**

**V. The term "Total 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 Depth. Notwithstanding the foregoing, in the case of a Multi-Lateral Well, if the production from each Lateral is to be commingled in the common vertical wellbore then the Laterals and vertical wellbore shall be considered collectively as one wellbore. When the proposed operation(s) is the drilling of, or operation on, a Horizontal or Multi-Lateral Well, the terms "depth" or "total depth" wherever used in the Agreement shall be deemed to read "Total Depth" insofar as it applies to such well.**

**W. The term "Vertical Well" shall mean a well drilled, Completed or Recompleted other than a Horizontal or Multi-lateral Well.**

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:

__X__ 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) Plat**

__X__ B. Exhibit "B," Form of Lease.

__X__ C. Exhibit "C," Accounting Procedure.

__X__ D. Exhibit "D," Insurance.

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

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

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

__X__ H. Other: **Model Form Recording Supplement**

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 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 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, **1/8 of 8/8ths** 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 shown **of record or** 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 Drillsite of any proposed well prior to commencement of drilling operations and, ~~if a majority in interest of the Drilling Parties so request 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 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/or landmen** for title examination (including preliminary, supplemental, shut-in royalty opinions and division order title opinions), **title curative** 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.

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."

Operator shall make no charge for services rendered by its staff attorneys or other personnel in the performance of the above functions.

No well shall be drilled on the Contract Area until after (1) the title to the Drillsite or Drilling Unit, if appropriate, has been examined as above provided, and (2) the title has been approved by the ~~examining attorney or title has been accepted by all of the Drilling Parties in such well~~ **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 (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 for losses sustained or liabilities incurred except such as may result from gross negligence or willful misconduct.

**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, **exclusive of Saturdays, Sundays, and legal holidays** 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 **all of** Operator's interest to any single subsidiary, parent or successor corporation shall not be the basis for removal of Operator. **Failure of Operator to provide proof, reasonably satisfactory to Non-Operator(s), of the proposed entity's financial capability to conduct operations shall entitle Non-Operator(s) to prevent said transfer.**

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~~ **the party** 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 fails to vote or votes only to succeed itself, 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. 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 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 by 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 wells drilled on the Contract Area shall be drilled on a competitive contract basis at the usual rates prevailing in the area. If it so desires, Operator may employ its own tools and equipment in ~~the drilling of wells~~ **any operation conducted hereunder**, but its charges therefor shall not exceed the prevailing rates in the area and the rate of such charges ~~shall be agreed upon by the parties in writing before drilling operations are commenced~~ **shall be provided by Operator to Consenting Party**, 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 Non-Operator or its duly authorized representative, at the 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 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 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 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 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 hereunder, including but not limited to the Initial Well:

(a) Operator will promptly advise **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 **Consenting Party** / ~~Non-Operators~~ such reports, test results and notices regarding the progress of operations on the well as the **Consenting Party** / ~~Non-Operators~~ shall reasonably request, including, but not limited to, daily drilling reports, completion reports, **, monthly production reports during the first 90 days after date of first sales** / 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:**

On or before the _____ day of _____, _____, Operator shall commence the **actual** drilling of the Initial **with a rig on location capable of drilling the Initial well to the objective depth** Well / at the following location:

**(as more accurately depicted on Exhibit A-1)**

and shall thereafter continue the drilling of the **test** well with due diligence to **a true vertical depth of 8,300' or a depth sufficient to test the– Utica Shale formation as set forth in the AFE.**

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 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~~ **telegram,telex, telecopier, or any other form of facsimile** and the response period shall be limited to forty-eight (48) hours, 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.

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 **To rework, sidetrack, deepen, recomplete, or plug back** 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 party 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.

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 proposing party 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~~ **telegram, telex, telecopier, or any other form of facsimile**, 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 proposing 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) **200** % 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% 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~~ **proposed well or operation** from the beginning of the operations; and

(ii) **400** % 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.

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 **400** % 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 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"). 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."

**See Article XVI**

~~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 not to participate in the prevailing proposal.~~

7. Conformity to Spacing Pattern. 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.

8. Paying Wells. 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. Completion: 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 all horizontal wells in the Utica Shale formation** necessary expenditures for the drilling, Deepening or Sidetracking, testing, Completing and equipping of the well, including necessary tankage and/or surface facilities.

☐ ~~Option No. 2: 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 not 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.~~

2. Rework, Recomplete or Plug Back: 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 _____ **Fifty Thousand** _____ Dollars ($ **50,000.00** _____) 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 **FiftyThousand** _____ Dollars ($ **50,000.00** _____). 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 **50** % 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. 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, **sidetracking** 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 **or are Capable of Production** / : 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 **or a well capable of production even if such well has never in fact produced** shall not be plugged and abandoned without the consent of all parties. 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 **thirty (30)** ~~sixty (60)~~ days of delivery of notice of proposed abandonment shall be deemed an election to consent to the proposal. If, within **thirty (30)** ~~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 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 **51** % 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 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.~~

☑ **<u>Option No. 2:</u> 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 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 to stay execution or to require a marshaling 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, 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 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) days 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 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 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, should any party 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; 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 identical in the form of this agreement.

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

If any party 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.

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," but 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 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.~~

Every sale, encumbrance, transfer or other disposition made by any party 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 **ten** ~~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 the 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 interests 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 **Twenty- Five Thousand** Dollars ($ **25,000.00** ) 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, 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 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, 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, 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 **180** 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, Re-completing, Plugging Back or Reworking operations are commenced within **180** 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 Ohio 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 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

**(See Pages to Follow)**

## ARTICLE XVI.
## OTHER PROVISIONS

A. CONFLICTS:

In the event of a conflict between the provisions of this Article XVI. and any other provisions of this Operating Agreement, the provisions of this Article XVI. shall control and prevail.

B. DISPUTES CONCERNING OBJECTIVE DEPTHS:

If, during the drilling of any well being drilled hereunder, a bona fide dispute shall exist as to whether the proposed depth has been reached in such well (as for example, whether a well has been drilled to a depth sufficient to test a particular sand or formation or if the well has reached the stratigraphic equivalent of a particular depth), the opinion of a majority in interest, and not in numbers, of the parties participating in the drilling of such well shall control and be binding upon all parties. If the parties are equally divided, the opinion of the Operator will control.

C. METERING OF PRODUCTION:

In the event of transfer, sale, encumbrance or other disposition of interest within the Contract Area which creates the necessity of separate measurement of production, the party creating the necessity for such measurement shall alone bear the cost of purchase, installation and operation of such facilities.

D. PRIORITY OF ELECTIONS:

Notwithstanding anything herein to the contrary, it is agreed that where a well shall have been drilled to the objective depth or the objective formation and the Consenting Parties in the well cannot mutually agree upon the sequence and timing of further operations regarding said well, the following elections shall control in the order of priority enumerated hereafter:

1. An election to do additional logging, coring or testing;

2. An election to attempt to complete the well at either the objective depth or objective formation;

2. An election to plug back and attempt to complete said well at an alternate depth or formation;

4. An election to deepen said well;

5. An election to sidetrack said well;

6. An election to plug and abandon said well.

It is provided, however, that if, at the time the Consenting Parties are considering any of the above elections, the hole is in such a condition that a reasonably prudent Operator would not conduct the operations contemplated by the particular election involved for fear of placing the hole in jeopardy or losing the same prior to completing the well in the objective depth or objective formation, such election shall be eliminated from the priorities hereinabove set forth.

E. ADDITIONAL RIGHTS

If any rights in the Contract Area between the parties hereto are acquired by virtue of the drilling, deepening or completion of a well, a Non-Consenting party in such drilling, deepening, or completing shall not be entitled to any interest in such rights.

F. PREPARATION OF EXHIBIT "A":

The interests of the parties as set forth on Exhibit "A" were calculated based on the best information available to the Operator. If the information is found to have been erroneous, or if a mathematical or typographical error has been made in preparing the exhibits, the interests may be recalculated to reflect the correct interest.

G. REGULATORY EXPENSES:

Notwithstanding anything to the contrary contained in this Operating Agreement or the Accounting Procedure (Exhibit "C"), the following items pertaining to the Contract Area shall not be considered as Administrative Overhead, but Operator shall be entitled to make a direct charge against the joint account for same:

Fees for legal services, title costs, costs and expenses in connection with preparations and presentations of evidence and exhibits at Governmental Regulatory hearings, preparation and handling of application to and hearings before the Federal Energy Regulatory Commission and other governmental agencies or regulatory bodies.

H. ADVANCE OF COSTS OF DRILLING, COMPLETING AND OTHER OPERATIONS:

Any party electing to participate in any drilling or completion operation, or any other operation requiring the advance written approval of the parties participating in such operation shall, if invoiced by Operator, be obligated to advance its proportionate share of the total estimated cost shown on the proposal for such operation. Operator shall have the right to invoice each Consenting Party for its proportionate share of such costs within thirty (30) days prior to the anticipated commencement date of such operation (or promptly following the commencement of operations after the expiration of the election period stated in Article VI.C.1 with respect to a completion operation). Thereafter, the provisions of Article VI.B.2 (a), shall apply with respect to treatment of the proposal and the Non-Consenting Interest. Any Consenting Party electing to carry a portion of the interest of the Non-Consenting Party shall advance its additional share of costs within thirty (30) days following receipt of Operator's invoice therefor. In the event Operator pre-bills the Non-Operators as provided herein (and such amount is actually paid by such Non-Operator), but Operator does not actually commence the operation for which the pre-bill was submitted within sixty (60) days of the stated commencement date, then Operator shall return said pre-bill payment amount to the Non-Operators. Any Consenting Party who fails to pay the full amount of its invoice to Operator within thirty (30) days following receipt of such invoice shall be deemed in default. Operator shall provide written notice of default. Non-Operator shall have fifteen (15) days from receipt of written notice to make its payment. Failure to make timely payment to cure the default shall deem the non-paying Consenting Party as a Non-Consenting Party with respect to such operation.

***Loraditch Unit, __Monroe County, OH***

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~~ **the form supplied by Forms-On-A-Disk**, have been made to the form.

**Notwithstanding the foregoing statement, the undersigned acknowledge that they have reviewed the agreement in its entirety and agree to be bound by all the terms and conditions contained herein.**

**ATTEST OR WITNESS:**

**OPERATOR**

**ANTERO RESOURCES CORPORATION**

_____ By _____

_____ **Brian A. Kuhn**
Type or print name

SEF

Title **Vice President, Land**

Date June 10, 2014

Tax ID or S.S. No. _____

**NON-OPERATORS**

_____ By _____

_____
Type or print name

Title _____

Date _____

Tax ID or S.S. No. _____

_____ By _____

_____
Type or print name

Title _____

Date _____

Tax ID or S.S. No. _____

_____ By _____

_____
Type or print name

Title _____

Date _____

Tax ID or S.S. No. _____

## ACKNOWLEDGMENTS

Note: The following forms of acknowledgment are the short forms approved by the Uniform Law on Notarial Acts. The validity and effect of these forms in any state will depend upon the statutes of that state.

Individual acknowledgment:

State of _____ )

) ss.

County of _____ )

This instrument was acknowledged before me on

_____ by _____ as

_____ of _____.

(Seal, if any) _____

Title (and Rank) _____

My commission expires: _____

Acknowledgment in representative capacity:

State of Colorado )

) ss.

County of Denver )

This instrument was acknowledged before me on

June 10, 2014 by Brian A. Kuhn as

Vice President of Antero Resources Corporation.

(Seal, if any) LAUREN SCHOPP Notary Public State of Colorado Notary ID 20134057501 My Commission Expires Sep 13, 2017

Lauren Schopp

Title (and Rank) _____

My commission expires: _____

**Acknowledgment in representative capacity:**

**State of** _____ )

) ss.

**County of** _____ )

**This instrument was acknowledged before me on**

_____ **by** _____ **as**

_____ **of** _____.

**(Seal, if any)** _____

**Title (and Rank)** _____

**My commission expires:** _____

**EXHIBIT "A"**

Attached to and made a part of that certain Joint Operating Agreement dated _____, between Antero Resources Corporation, as Operator, and _____ as Non-Operator.

**LANDS SUBJECT TO CONTRACT:**

See attached Exhibit A-1
Noble County, Ohio, containing 663.259 acres, more or less

**RESTRICTIONS AS TO DEPTHS, FORMATIONS AND SUBSTANCES:**

All depths owned by the parties.

**INTERESTS OF THE PARTIES TO THIS AGREEMENT:**

| **OPERATOR** | **WI** |
|---|---|
| **Antero Resources Corporation** | * |
| **NON-OPERATOR** | **WI** |

**ADDRESSES OF PARTIES FOR NOTICE PURPOSES:**

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

**OIL AND GAS LEASES AND/OR OIL AND GAS INTEREST**

(See Following Page)

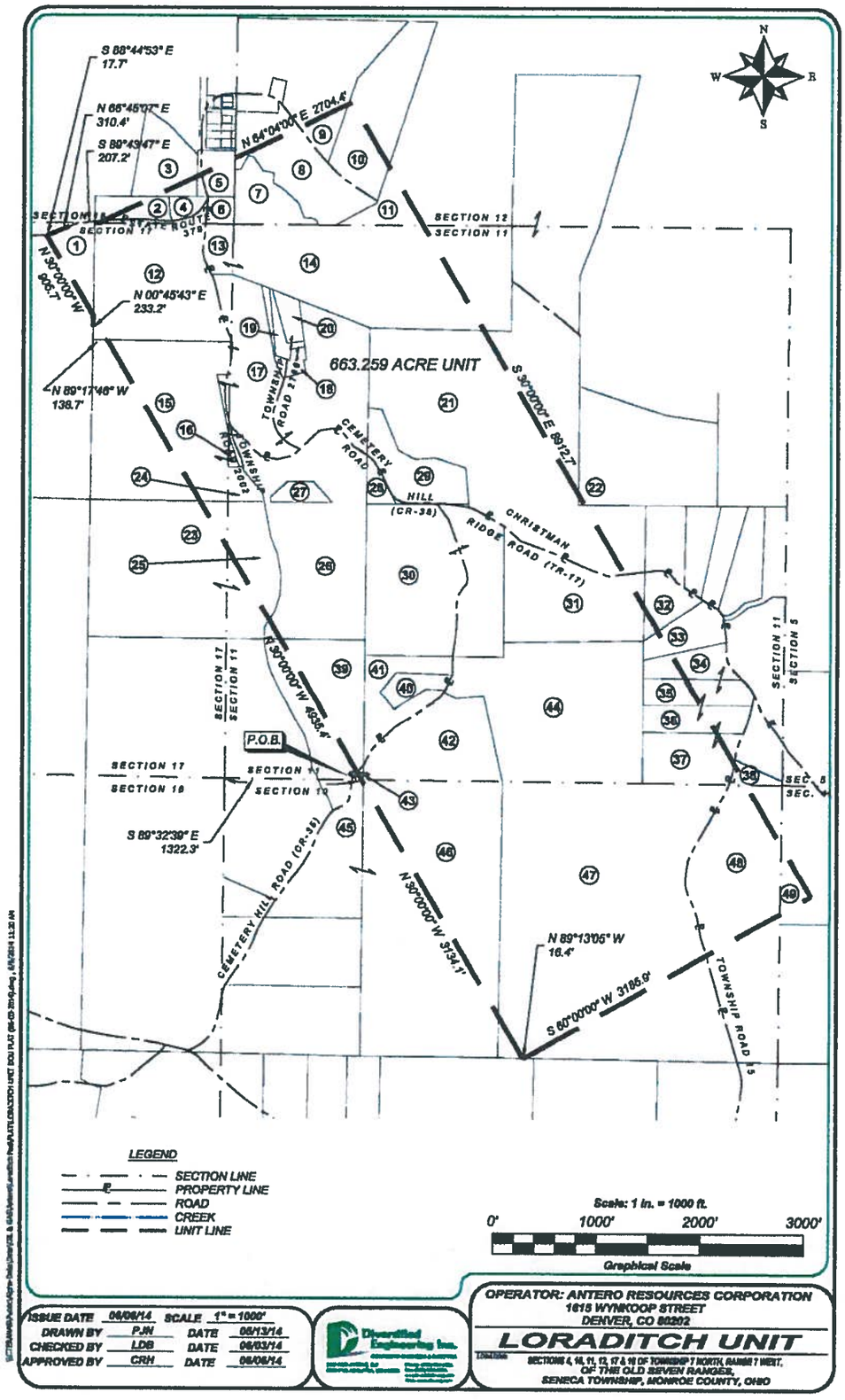
***These interests are subject to change pursuant to Paragraph F of Article XVI**

**LEASES AND DEEDS SUBJECT TO THIS AGREEMENT:**

**Portions of following leases (as shown on the attached Exhibit A-1 attached hereto), subject to the depth restrictions shown above, are subject to this Agreement:**

**EXHIBIT "A-1"**

Attached to and made a part of that certain Joint Operating Agreement dated _____, between Antero Resources Corporation as Operator and _____ as Non-Operator.



| Tract No. | Unit Acreages | Auditor's Parcel No. | Surface owner name | Deed Volume & Page | Deed acreage | Calculated acreage | Mineral owner | Deed Volume & Page |
|---|---|---|---|---|---|---|---|---|
| 1 | 8.058 AC. | 21-003009.0000 | Monroe Farms, LTD | O.R. Vol. 153, Pg. 4 | 58.0 ac. | 58.331 ac. | same as surface | |
| 2 | 1.978 AC. | 21-034001.0000 | Joe D. & Ada T. Byler | O.R. Vol. 164, Pg. 379 | 5.296 ac. | 4.985 ac. | BYTRO, LLC | O.R. Vol. 388, Pg. 547 |
| 3 | 0.911 AC. | 21-034006.0000 | Mary K. Bernardi, TOD Kristen B. Huber, Successor Trustee for the Bernardi Family Trust UA/D 4/23/2018 | O.R. Vol. 172, Pg. 427<br>Deed Vol. 168, Pg. 1004<br>O.R. Vol. 180, Pg. 809 | 8.8 ac. | 8.870 ac. | same as surface | |
| 4 | 1.526 AC. | 21-034002.0000 | Mary K. Bernardi TOD Kristen B. Huber, Successor Trustee for the Bernardi Family Trust UA/D 4/23/2018 | O.R. Vol. 172, Pg. 427<br>Deed Vol. 168, Pg. 1004<br>O.R. Vol. 180, Pg. 809 | 1.71 ac. | 1.526 ac. | same as surface | |
| 5 | 3.360 AC. | 21-034004.0000 | Andrew D. & Katie A. Byler | O.R. Vol. 184, Pg. 708 | 3.716 ac. | 3.719 ac. | same as surface | |
| 6 | 1.577 AC. | 21-034003.0000 | Andrew D. & Katie A. Byler | O.R. Vol. 178, Pg. 309 | 1.577 ac. | 1.577 | same as surface | |
| 7 | 7.079 AC. | 21-003023.0000 | Andrew D. & Katie A. Byler | O.R. Vol. 178, Pg. 309 | 7.078 ac. | 7.079 ac. | same as surface | |
| 8 | 12.621 AC. | 21-003021.0000 | Gary A. Rubel & Nancy S. Rubel | O.R. Vol. 238, Pg. 242 | 18.882 ac. | 16.690 ac. | same as surface | |
| 9 | 2.611 AC. | 21-003026.0000 | Joseph D. & Ada T. Byler | O.R. Vol. 280, Pg. 684 | 28.1301 ac. | 28.124 ac. | Long Pine Partners, LLC | O.R. Vol. 218, Pg. 449 |
| 10 | 6.836 AC. | 21-003010.0000 | David A. & Ella L. Miller | O.R. Vol.10, Pg.693 | 19.8059 ac. | 19.804 ac. | Long Pine Partners, LLC | O.R. Vol. 218 Pg. 449 |
| 11 | 4.224 AC. | 21-003003.0000 | Roger S. Christman & Janet M. Christman, Trustees or their Successors as Trustee(s) of The Christman Family Trust, dated September 21, 2001, Dale L. Christman & Joan F. Christman, Trustees of the The Dale L. & Joan F. Christman Living Trust, dated March 4, 2008; Karen Christman | O.R. Vol. 221, Pg. 75<br>O.R. Vol. 178, Pg. 831<br>O.R. Vol. 78, Pg. 164<br>O R. Vol. 78, Pg. 812<br>Case. No. 2013/220 | 46.98 ac. | 77 ac. | same as surface | |
| 12 | 32.017 AC. | 21-006006.0000 | Joe D. & Ada T. Byler | O.R. Vol. 164, Pg. 379 | 31.712 ac. | 32.017 ac. | same as surface | |
| 13 | 2.986 AC. | 21-006011.0000 | Roger S. Christman & Janet M. Christman, Trustees or their Successors as Trustee(s) of The Christman Family Trust, dated September 21, 2001, Dale L. Christman & Joan F. Christman, Trustees of the The Dale L. & Joan F. Christman Living Trust, dated March 4, 2008; Karen Christman | O.R. Vol. 221, Pg. 75<br>O.R. Vol. 178, Pg. 831<br>O.R. Vol. 78, Pg. 164<br>O.R. Vol. 78, Pg. 812<br>Case. No. 2013/220 | 2.86 ac. | 2.986 ac. | same as surface | |
| 14 | 41.207 AC. | 21-007005.0000 | Roger S. Christman & Janet M. Christman, Trustees or their Successors as Trustee(s) of The Christman Family Trust, dated September 21, 2001; Dale L. Christman & Joan F. Christman, Trustees of the The Dale L. & Joan F. Christman Living Trust, dated March 4, 2008; Karen Christman | O.R. Vol. 221, Pg. 75<br>O.R. Vol. 178, Pg. 831<br>O.R. Vol. 78, Pg. 164<br>O.R. Vol. 78, Pg. 812<br>Case. No. 2013/220 | 53.3 ac. | 54.515 ac. | same as surface | |
| 15 | 24.891 AC. | 21-006012.0000 | Thomas & Dianna C. Yurkovich | Deed Vol. 180, Pg. 671 | 40.53 ac. | 40.394 ac. | same as surface | |
| 16 | 0.382 AC. | 21-007017.0000 | Thomas & Dianna C. Yurkovich | Deed Vol. 180, Pg. 664<br>Deed Vol. 180, Pg. 671 | 0.38 ac. | 0.382 ac. | same as surface | |
| 17 | 37.984 AC. | 21-007013.0000 | Nelson R. Vandagriff; Merle J. & Virginia S. Vandagriff | O.R. Vol. 166, Pg. 258<br>O.R. Vol. 148, Pg. 696 | 37.361 ac. | 37.984 ac. | same as surface | |
| 18 | 1.979 AC. | 21-007038.0000 | Seneca Township<br>Board of Trustees | O.R. Vol. 144, Pg. 178 | 1.979 ac. | 1.979 ac. | same as surface | |
| 19 | 1.543 AC. | 21-007018.1000 | Seneca Township<br>Board of Trustees | Deed Vol. 74, Pg. 168 | 1.226 ac. | 1.553 ac. | same as surface | |
| 20 | 2.166 AC. | 21-007018.0000 | Seneca Township<br>Board of Trustees | Deed Vol. 38, Pg. 614 | 2.48 ac. | 2.166 ac. | same as surface | |
| 21 | 61.629 AC. | 21-007034.0000 | Allen D. & Rachel D. Miller | O.R. Vol. 300, Pg. 338 | 68.165 ac. | 68.087 ac. | same as surface | |
| 22 | 0.066 AC. | 21-007023.0000 | Marvin D. & Susan S. Miller | O.R. Vol. 300, Pg. 344 | 28.323 ac. | 28.137 ac. | Bounty Minerals, LLC | O.R. Vol. 348, Pg. 906 |
| 23 | 1.373 AC. | 21-006001.0000 | Michael, Jr. & Janet Holtzey | O.R. Vol. 168, Pg. 230 | 38.31 ac. | 40.974 ac. | same as surface | |
| 24 | 3.008 AC. | 21-007001.1000 | Michael, Jr. & Janet Holtzey | O.R. Vol. 168, Pg. 230 | 2 ac. | 2.008 ac. | same as surface | |
| 25 | 8.812 AC. | 21-007001.0000 | Michael, Jr. & Janet Holtzey | O.R. Vol. 168, Pg. 230 | 12 ac. | 13.783 ac. | same as surface | |
| 26 | 40.136 AC. | 21-007008.0000 | John R. Balogh & Steve Charnik | O.R. Vol. 123, Pg. 718 | 40.532 ac. | 40.831 ac. | same as surface | |
| 27 | 2.082 AC. | 21-007015.0000 | Frank Mercer | Deed Vol. 64, Pg. 478 | 3 ac. | 2.083 ac. | same as surface | |
| 28 | 1.773 AC. | 21-007015.1000 | Frank Mercer | Deed Vol. 65, Pg. 109 | 1.75 ac. | 1.773 ac. | same as surface | |
| 29 | 10.458 AC. | 21-007014.0000 | C. Byron Wehr, Donald G. Wehr, Bruce Lynn Wehr & David L. Wehr | O.R. Vol. 2, Pg. 43 | 10.169 ac. | 10.458 ac. | same as surface | |
| 30 | 44.888 AC. | 21-007007.0000 | Earl Girard, Jr.<br>& Shirley J. Girard | Deed Vol. 182, Pg. 223<br>O.R. Vol. 216, Pg. 868 | 45 ac. | 44.888 ac. | same as surface | |
| 31 | 34.274 AC. | 21-007006.0000 | Donna J. Carpenter | Deed Book 187, Pg. 711<br>Probate 2010 EST/0748 | 34.781 ac. | 35.063 ac. | same as surface | |
| 32 | 8.800 AC. | 21-007031.0000 | David W. & Linda C. Clark | O.R. Vol. 119, Pg. 756 | 8.044 ac. | 8.047 ac. | P. Roger Christman;<br>Rosalie Christman;<br>Jimmie D. & Barbara J. Combs | Deed Vol. 148, Pg. 503<br>Deed Vol. 165, Pg. 767<br>Probate Case No. 9569<br>Deed Vol. 205, Pg. 219<br>O.R. Vol. 119, Pg. 756 |
| 33 | 1.580 AC. | 21-007032.0000 | David W. & Linda C. Clark | O.R. Vol. 119, Pg. 756 | 6.003 ac. | 6.001 ac. | P. Roger Christman;<br>Rosalie Christman;<br>Jimmie D. & Barbara J. Combs | Deed Vol. 148, Pg. 503<br>Deed Vol. 165, Pg. 767<br>Probate Case No. 9569<br>Deed Vol. 205, Pg. 219<br>O.R. Vol. 119, Pg. 756 |
| 34 | 1.980 AC. | 21-007033.0000 | Mark E. Headley and Valerie K. Headley | O.R. Vol. 119, Pg. 906 | 5.539 ac. | 5.530 ac. | P. Roger Christman;<br>Rosalie Christman;<br>Jimmie D. & Barbara J. Combs | Deed Vol. 148, Pg. 503<br>Deed Vol. 165, Pg. 767<br>Probate Case No. 9569<br>Deed Vol. 205, Pg. 219<br>O.R. Vol. 119, Pg. 756 |
| 35 | 2.861 AC. | 21-007034.0000 | Mark E. Headley and Valerie K. Headley | O.R. Vol. 119, Pg. 906 | 6.111 ac. | 6.111 ac. | P. Roger Christman;<br>Rosalie Christman;<br>Jimmie D. & Barbara J. Combs | Deed Vol. 148, Pg. 503<br>Deed Vol. 165, Pg. 767<br>Probate Case No. 9569<br>Deed Vol. 205, Pg. 219<br>O.R. Vol. 119, Pg. 756 |
| 36 | 3.880 AC. | 21-007035.0000 | Mark E. Headley and Valerie K. Headley | O.R. Vol. 119, Pg. 906 | 6.310 ac. | 6.310 ac. | P. Roger Christman;<br>Rosalie Christman;<br>Jimmie D. & Barbara J. Combs | Deed Vol. 148, Pg. 503<br>Deed Vol. 165, Pg. 767<br>Probate Case No. 9569<br>Deed Vol. 205, Pg. 219<br>O.R. Vol. 119, Pg. 756 |
| 37 | 8.291 AC. | 21-007036.0000 | Mark E. Headley and Valerie K. Headley | O.R. Vol. 119, Pg. 906 | 10.082 ac. | 10.082 ac. | P. Roger Christman;<br>Rosalie Christman;<br>Jimmie D. & Barbara J. Combs | Deed Vol. 148, Pg. 503<br>Deed Vol. 165, Pg. 767<br>Probate Case No. 9569<br>Deed Vol. 205, Pg. 219<br>O.R. Vol. 119, Pg. 756 |
| 38 | 0.388 AC. | 21-007039.0000 | Ronald Lee Will & Elizabeth Ann Durst | O.R. Vol. 154, Pg. 310<br>Deed Vol. 148, Pg. 503 | 1.641 ac. | 1.638 ac. | Ronald Lee Will &<br>Elizabeth Ann Durst;<br>P. Roger Christman;<br>Rosalie Christman | O.R. Vol. 154, Pg. 310<br>Deed Vol. 165, Pg.767<br>Case # 2111 Est. 9569<br>Probate Case # 9569 |

ISSUE DATE 06/06/14 SCALE N/A
DRAWN BY PJN DATE 05/13/14
CHECKED BY LDB DATE 05/29/14
APPROVED BY CRH DATE 06/06/14

Diversified Engineering Inc.

OPERATOR: ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET
DENVER, CO 80202

# LORADITCH UNIT

LOCATION: SECTIONS 4, 10, 11, 12, 17 & 18 OF TOWNSHIP 7 NORTH, RANGE 7 WEST, OF THE OLD SEVEN RANGES, SENECA TOWNSHIP, MONROE COUNTY, OHIO

Loraditch Unit

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 39 | 12.906 AC. | 21-007020.0000 | Richard B. Smith | O.R. Vol. 127, Pg. 870<br>Deed Vol. 203, Pg. 316 | 22.353 ac. | 22.266 ac. | same as surface | |
| 40 | * 3.000 AC. | 21-007018.0000 | Virgil Clayton<br>& Teresa M. Farnsworth | O.R. Vol. 102, Pg. 441 | 3 ac. | 3.000 ac. | same as surface | |
| 41 | * 8.000 AC. | 21-007016.1000 | Virgil Clayton<br>& Teresa M. Farnsworth | O.R. Vol. 102, Pg. 441 | 8.97 ac. | 8.000 ac. | same as surface | |
| 42 | 18.707 AC. | 21-007010.0000 | Stein Creek Valley Farms, LLC | O.R. Vol. 221, Pg. 128 | 18.626 ac. | 18.707 ac. | Stein Creek Valley Farms Minerals, LLC | O.R. Vol. 221, Pg. 132<br>O.R. Vol. 221, Pg. 132 |
| 43 | 0.119 AC. | 21-007008.0000 | Stein Creek Valley Farms, LLC | O.R. Vol. 221, Pg. 128 | 0.901 ac. | 0.708 ac. | Stein Creek Valley Farms Minerals, LLC | O.R. Vol. 221, Pg. 132 |
| 44 | 48.741 AC. | 21-007004.0000 | Mark E. Headley | O.R. Vol. 174, Pg. 802<br>O.R. Vol. 220, Pg. 113<br>O.R. Vol. 231, Pg. 729 | 47.47 ac. | 48.741 ac. | same as surface | |
| 45 | 0.008 AC. | 21-012018.0000 | Stein Creek Valley Farms, LLC | O.R. Vol. 221, Pg. 128 | 16.834 ac. | 15.850 ac. | Stein Creek Valley Farms Minerals, LLC | O.R. Vol. 221, Pg. 132 |
| 46 | 92.843 AC. | 21-012003.0000 | Stein Creek Valley Farms, LLC | O.R. Vol. 221, Pg. 128 | 82.97 ac. | 92.889 ac. | Stein Creek Valley Farms Minerals, LLC | O.R. Vol. 221, Pg. 132 |
| 47 | 89.419 AC. | 21-012017.0000 | Mark E. Headley | O.R. Vol. 163, Pg. 863<br>Court Record (CR 47, Pg. 340)<br>Deed Vol. 82, Pg. 326 | 124.918 ac. | 134.839 ac. | Mark E. Headley, Lewis E. Christman, Herbert Christman, Dale L. Christman, Samuel Christman, Lawrence Christman, Philip F. Christman, Heirs of George M. Christman, Rose Stalling, Solomon Christman, Samuel Ackerman, George Ackerman, Clarence Ackerman, Freda Ackerman, Mary Ackerman, Stella Ackerman, Trella Ackerman | Deed Vol. 83 Pg. 83 |
| 48 | 34.162 AC. | 21-012001.0000 | Judith Loraditch | O.R. Vol. 193, Pg. 644<br>Court Record (CR 47, Pg. 340)<br>Deed Vol. 82, Pg. 326 | 43.087 ac. | 43.087 ac. | Judith Loraditch, Lewis E. Christman, Herbert Christman, Dale L. Christman, Samuel Christman, Lawrence Christman, Philip F. Christman, Heirs of George M. Christman, Rose Stalling, Solomon Christman, Samuel Ackerman, George Ackerman, Clarence Ackerman, Freda Ackerman, Mary Ackerman, Stella Ackerman, Trella Ackerman | Deed Vol. 83 Pg. 83 |
| 49 | 2.369 AC. | 21-013002.0000 | Kurtz Family Farm, LLC | O.R. Vol. 143, Pg. 304 | 30.6 ac. | | same as surface | |

* Unable to definitively establish parcel boundary. No description available.

ISSUE DATE 06/06/14 SCALE N/A
DRAWN BY PJH DATE 06/13/14
CHECKED BY LDB DATE 06/29/14
APPROVED BY CRH DATE 06/06/14

Diversified Engineering Inc.

OPERATOR: ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET
DENVER, CO 80202

# LORADITCH UNIT

SECTIONS 4, 14, 11, 13, 17 & 18 OF TOWNSHIP 7 NORTH, RANGE 7 WEST,
OF THE OLD SEVEN RANGES,
SENECA TOWNSHIP, MONROE COUNTY, OHIO

U:\TTS-WVA\Pj_and_Ajps-Data\jobs\pjh_6 Old\Antero\Loraditch Pad\PLATS\DRAFTS\1 UNIT DOJ PLAT (Rev3-SEE).dwg , 6/30/2014 12:22 PM

Loraditch Unit

**Exhibit B**

**Oil and Gas Lease**

**THIS OIL AND GAS LEASE** (hereinafter, "**Lease**") made and entered into on this _____day of _____ **2014**, 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: _____

# 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

Attached to and made part of **that certain Joint Operating Agreement dated - —by and between Antero Resources Corporation as Operator and as Non-Operator.**

## 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 $ **50,000.00** 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.
☐ **(Alternative 2)** Percentage Basis, Section III.1.C.

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.

☐ **(Alternative 2 – Overhead)** shall be covered by the **overhead** rates.

(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 1 – All Overhead)** shall be covered by the **overhead** rates.

☐ **(Alternative 2 – All Direct)** shall be charged **direct** to the Joint Account.

☑ **(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 $ **9,500.00** (prorated for less than a full month)

Producing Well Rate per month $ **750.00**

(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. OVERHEAD—PERCENTAGE BASIS~~

~~(1) Operator shall charge the Joint Account at the following rates:~~

~~(a) Development Rate _____ percent (_____) % of the cost of development of the Joint Property, exclusive of costs provided under Section II.9 (*Legal Expense*) and all Material salvage credits.~~

~~(b) Operating Rate _____ percent (_____%) of the cost of operating the Joint Property, exclusive of costs provided under Sections II.1 (*Rentals and Royalties*) and II.9 (*Legal Expense*); all Material salvage credits; the value of substances purchased for enhanced recovery; all property and ad valorem taxes, and any other taxes and assessments that are levied, assessed, and paid upon the mineral interest in and to the Joint Property.~~

~~(2) Application of Overhead—Percentage Basis shall be as follows:~~

~~(a) The Development Rate shall be applied to all costs in connection with:~~

~~[i] drilling, redrilling, sidetracking, or deepening of a well~~
~~[ii] a well undergoing plugback or workover operations for a period of five (5) or more consecutive work–days~~
~~[iii] preliminary expenditures necessary in preparation for drilling~~
~~[iv] expenditures incurred in abandoning when the well is not completed as a producer~~
~~[v] construction or installation of fixed assets, the expansion of fixed assets and any other project clearly discernible as a fixed asset, other than Major Construction or Catastrophe as defined in Section III.2 (*Overhead-Major Construction and Catastrophe*).~~

~~(b) The Operating Rate shall be applied to all other costs in connection with Joint Operations, except those subject to Section III.2 (*Overhead-Major Construction and Catastrophe*).~~

## 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) 4.00 % of total costs if such costs are less than $100,000; plus

(2) 4.00 % of total costs in excess of $100,000 but less than $1,000,000; plus

(3) 2.00 % 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) 4.00 % of total costs if such costs are less than $100,000; plus

(2) 4.00 % of total costs in excess of $100,000 but less than $1,000,000; plus

(3) 2.00 % 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"**

**Attached to and made part of that certain Operating Agreement dated _____, between Antero Resources Corporation, as "Operator" and _____ as "Non-Operator".**

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"**

This Agreement is a part of that Joint Operating Agreement dated _____ between Antero Resources Corporation and _____ as Non-Operator.

**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. <u>Payment of Taxes.</u>**

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. <u>Operating Expenses.</u>**

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. <u>Overproducing Allowable</u>.**

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. <u>Payment of Leasehold Burdens</u>.**

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. <u>Application of Agreement</u>.**

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. <u>Term</u>.**

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. <u>Operator's Liability</u>.**

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. <u>Audits.</u>**

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"**

**Attached to and made part of that certain Operating Agreement dated _____, between Antero Resources Corporation, as "Operator" and _____ as "Non-Operator".**

*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"**

Attached to and made a part of that certain Joint Operating Agreement dated _____, between Antero Resources Corporation as Operator and _____ as Non-Operator.

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 **2014**.

**ATTEST OR WITNESS:**

**OPERATOR**

**Antero Resources Corporation**

By: **Brian A. Kuhn**

**Type or Print Name**

Title: **Vice President** SF

Date: June 10, 2014

Address: **1615 Wynkoop Stret, 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:**

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 10 day of June, 2014, by Brian A. Kuhn, Vice President of Antero Resources Corporation, a Delaware corporation, on behalf of said corporation.

WITNESS my hand and seal.

Lauren Schopp
NOTARY PUBLIC

LAUREN SCHOPP
Notary Public
State of Colorado
Notary ID 20134057501
My Commission Expires Sep 13, 2017

My Commission expires:

_____

STATE OF _____ §
§
COUNTY OF_____ §

The foregoing instrument was acknowledged before me this _____ day of _____, 2014, by _____ of _____, _____, on behalf of _____.

WITNESS my hand and seal.

_____
NOTARY PUBLIC

My Commission expires:

_____