

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

In re the Matter of the Application of Antero :
Resources Corporation for Unit Operation :
 : Application Date: March 17, 2015
Hall 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 Noble County, Ohio (hereinafter, the “Hall 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:

R. Neal Pierce (0028379)	Kenneth Vaughn
Katerina E. Milenkovski (0063314)	Landman
Ryan S. Bundy (0090027)	Antero Resources Corporation
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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 Kenneth Vaughn, 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;
 - 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.

12. 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.

13. 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.

14. 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.

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

See Exhibit 5.

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

N/A

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

N/A

II. SUMMARY OF REQUEST FOR UNITIZATION

A. Project Description

The Hall Unit is located in Noble County, Ohio, and consists of sixty-five (65) separate tracts of land. See Exhibits 1-A.1 and 1-A.2 of the Unit Agreement (showing the plat and tract participations, respectively). The total land area in the Hall Unit is approximately 595.653 acres and, at the time of this Application, Antero, together with Eclipse Resources I, LP and Artex Oil Company, has the right to drill on and produce from approximately 594.733 acres¹ 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 two (2) 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

B. Justification for Unitization

¹ Antero Resources Corporation, as Operator, is authorized to file this application on behalf of Eclipse Resources I, which owns a minority interests in Antero’s leases in this proposed unit. Artex Oil Company also leases within the 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.

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 Hall 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 two (2) horizontal wells from a single well pad, with laterals in length of approximately 11,604 feet. Antero estimates that the ultimate recovery from this unit development could be as much as 30.1 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 Hall Unit would result in a substantially lower ultimate recovery of oil and gas, as it would strand approximately 1.4 Bcfe of the total estimated reserves, unlikely to ever be developed.⁴ Antero estimates that the ultimate recovery of reserves will increase by approximately 5% from 28.7 Bcfe to 30.1 Bcfe if the unit is developed utilizing the proposed unit development.⁵

The capital expense associated with developing the unitized project is \$29.5 million, as compared to \$28.7 million for the un-unitized project. The value of hydrocarbons expected to be recovered from the proposed unit is \$13.8 million as compared to \$12.7 million that could be recovered without unit operations. In other words, for an additional \$9 million in capital expenditure, Antero could recover hydrocarbons valued at more than \$1.1 million.⁶ Thus, the economic benefits of unitization outweigh the additional costs necessary for unit development.

C. Unitized Operations

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

⁴ See Reservoir Engineer Testimony, Exhibit 3.

⁵ *Id.*

⁶ *Id. See*, in particular, Exhibit 3-A.

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 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

⁷ See Landman Testimony, Exhibit 4.

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 Hall 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 Hall Unit as proposed.

Respectfully submitted,

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Katerina E. Milenkovski (0063314)
Ryan S. Bundy (0090027)
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Columbus, Ohio 43215

Attorneys for Applicant,
Antero Resources Corporation

UNIT AGREEMENT

**HALL UNIT
WAYNE AND SENECA TOWNSHIP(S)
NOBLE COUNTY, OHIO**

THIS AGREEMENT, entered into as of March 17, 2015, 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.

WITNESSETH:

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 Hall Unit, in Wayne and Seneca Townships, Noble 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.

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 Hall Unit, located in Wayne and Seneca Townships, Noble 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 Hall 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 Hall 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: 
Kenneth Vaughn
Landman
Antero Resources Corporation
1615 Wynkoop Street
Denver, Colorado 80202
Tel. (303) 357-6429
E-mail: kvaughn@anteroresources.com

This instrument prepared by:

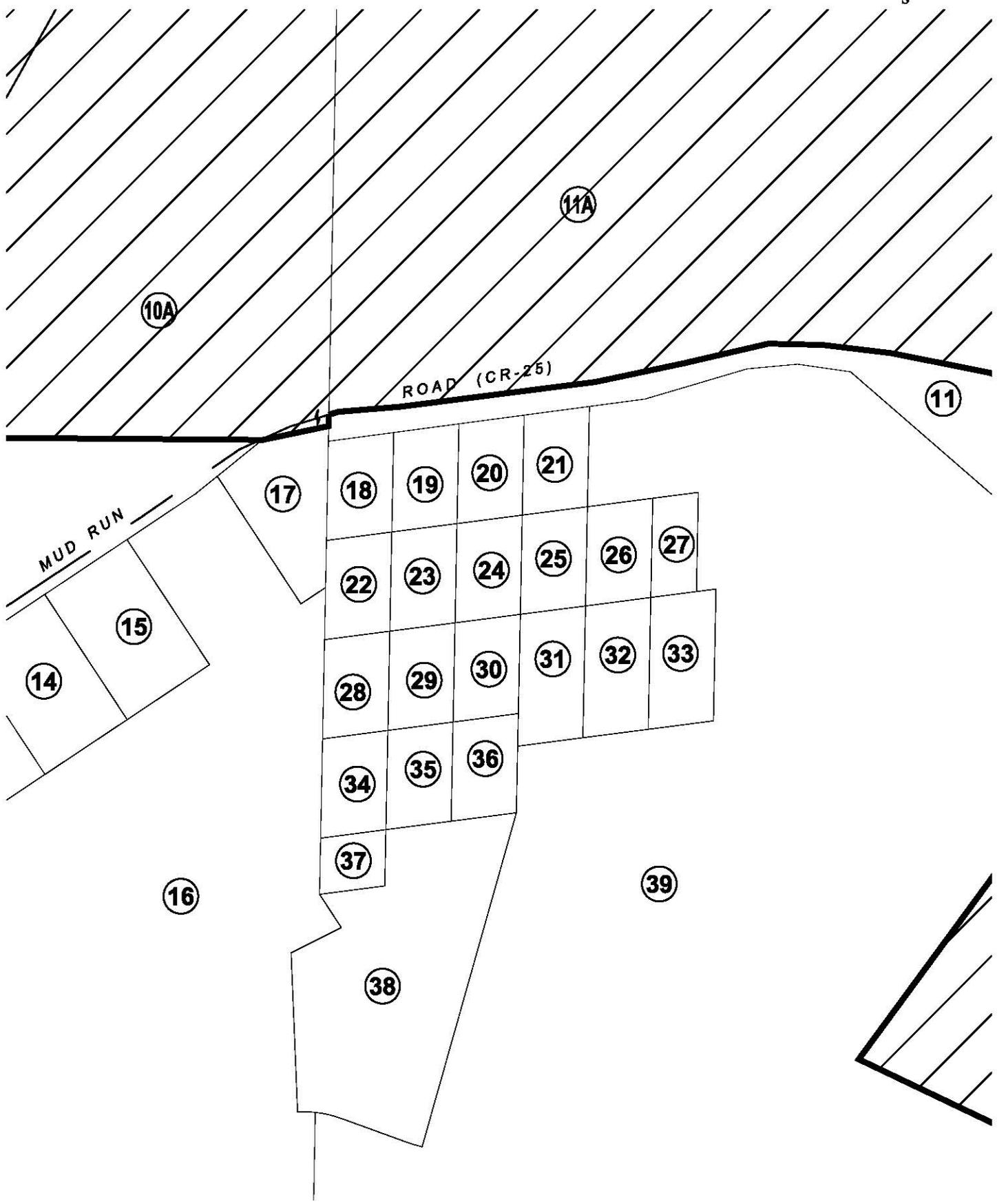
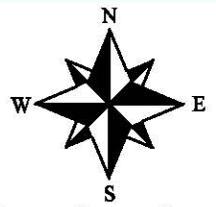
R. Neal Pierce (0028379)
Katerina E. Milenkovski (0063314)
Ryan S. Bundy (0090027)
STEPTOE & JOHNSON PLLC
Huntington Center
41 South High Street, Suite 2200
Columbus, Ohio 43215
Tel. (614) 221-5100
E-mail: neal.pierce@steptoe-johnson.com

Exhibit 1-A.1
All Tracts within Hall Unit

Tract	Owner	Address	Parcel Number	Deed Acreage	Unit Acreage	Unit Participation
1	Muskingum Watershed Conservancy District	1319 3rd Street, PO Box 349 New Philadelphia, OH 44663	36-21185.000	30.50000	10.287	1.72701%
2	Muskingum Watershed Conservancy District	1319 3rd Street, PO Box 349 New Philadelphia, OH 44663	36-21174.000	171.00000	29.608	4.97068%
3	Muskingum Watershed Conservancy District	1319 3rd Street, PO Box 349 New Philadelphia, OH 44663	31-21298.000	79.30000	23.493	3.94407%
4	Muskingum Watershed Conservancy District	1319 3rd Street, PO Box 349 New Philadelphia, OH 44663	31-21223.000	78.00000	48.464	8.13628%
5	Muskingum Watershed Conservancy District	1319 3rd Street, PO Box 349 New Philadelphia, OH 44663	31-21224.000	40.00000	25.121	4.21739%
6	Muskingum Watershed Conservancy District	1319 3rd Street, PO Box 349 New Philadelphia, OH 44663	31-21222.000	78.90000	71.911	12.07263%
7	Muskingum Watershed Conservancy District	1319 3rd Street, PO Box 349 New Philadelphia, OH 44663	31-21198.000	17.60000	8.644	1.45118%
8	Carol A. Miller	54590 Lakeland Drive Senecaville, OH 43780	31-13031.000	0.48200	0.162	0.02720%
9	Carol A. Miller	54590 Lakeland Drive Senecaville, OH 43780	31-13032.000	0.20300	0.027	0.00453%
10	Muskingum Watershed Conservancy District	1319 3rd Street, PO Box 349 New Philadelphia, OH 44663	31-21199.000	50.00000	17.625	2.95894%
10A	Muskingum Watershed Conservancy District	1319 3rd Street, PO Box 349 New Philadelphia, OH 44663	31-21199.000	50.00000	24.657	4.13949%
11	Muskingum Watershed Conservancy District	1319 3rd Street, PO Box 349 New Philadelphia, OH 44663	31-21225.000	34.70000	2.771	0.46520%
11A	Muskingum Watershed Conservancy District	1320 3rd Street, PO Box 349 New Philadelphia, OH 44663	31-21225.001	34.70000	26.529	4.45377%
12	Timothy S. Hall	53557 Mud Run Road Senecaville, OH 43780	31-51180.000	0.78200	0.210	0.03526%
13	Timothy S. Hall	53558 Mud Run Road Senecaville, OH 43780	31-51161.000	1.16400	1.164	0.19542%
14	The Caldwell Savings and Loan Company	P.O. Box 320 425 Main Street Caldwell, OH 43724	31-51179.001	0.78000	0.782	0.13128%
15	Timothy S. Hall	53557 Mud Run Road Senecaville, OH 43780	31-51118.000	0.78000	0.782	0.13128%
16	Timothy S. Hall	53557 Mud Run Road Senecaville, OH 43780	31-51179.000	27.67400	11.176	1.87626%
17	Timothy S. Hall	53558 Mud Run Road Senecaville, OH 43780	31-51034.000	0.64000	0.636	0.10677%
18	Robert M. and Rachel M. Warnes	53660 Mud Run Road Senecaville, OH 43780	31-21156.000	0.34000	0.341	0.05725%
19	Paul D. and Susan L. Ferguson	51048 S.R. 145 Jerusalem, OH 43747	31-21157.000	0.34000	0.342	0.05742%
20	Paul D. and Susan Ferguson	51048 S.R. 145 Jerusalem, OH 43747	31-21158.000	0.34000	0.343	0.05758%
21	Thomas Innocenti - 1/5 interest Wendy M. Innocenti - 2/5 interest Charles H. Klein - 1/5 interest Laura J. Klein - 1/5 interest	26595 Joe Day Road Quaker City, OH 43773	31-21159.000	0.34000	0.344	0.05775%
22	Daniel C. Ferguson, Transfer on Death to Daniel Shane Ferguson	53633 Mud Run Road Senecaville, OH 43780	31-51171.000	0.34000	0.341	0.05725%
23	Daniel C. Ferguson, Transfer on Death to Daniel Shane Ferguson	53633 Mud Run Road Senecaville, OH 43780	31-51172.000	0.34000	0.341	0.05725%
24	Margaret A. Cologne	3129 Wilson Ave Ext. Mingo Junction, OH 43938	31-21162.000	0.34000	0.341	0.05725%
25	Margaret A. Cologne	3129 Wilson Ave Ext. Mingo Junction, OH 43938	31-21163.000	0.34000	0.341	0.05725%
26	Sophia Nora Twarog	182 Oakland Park Avenue Columbus, OH 43214	31-21186.000	0.34000	0.341	0.05725%
27	Sophia Nora Twarog	182 Oakland Park Avenue Columbus, OH 43214	31-51035.000	0.34000	0.238	0.03996%
28	Robyn Whipple	196 Savage Street Berea, OH 44017	31-21185.000	0.34000	0.341	0.05725%
29	Paul A. Ferguson	3248 Townhouse Drive Grove City, OH 43123	31-21184.000	0.34000	0.341	0.05725%
30	Lois J. Halsey (widow)	1061 Garvey Road Columbus, OH 43229	31-21164.000	0.34000	0.341	0.05725%
31	Margaret A. Cologne	3129 Wilson Ave Ext. Mingo Junction, OH 43938	31-21161.000	0.45300	0.453	0.07605%
32	Katherine Foster Jorgensen Twarog, Trustee of the Katherine Foster Jorgenson Twarog Trust dated August 8, 2007	182 Oakland Park Avenue Columbus, OH 43214	31-21165.000	0.45300	0.453	0.07605%
33	William H. Jorgensen	182 Oakland Park Avenue Columbus, OH 43214	31-21166.000	0.45300	0.453	0.07605%
34	Timothy P. O'Leary and Amy B. O'Leary	2254 Sandy Plains Road Clarksville, PA 15322	31-51036.000	0.34000	0.341	0.05725%
35	Timothy Patrick and Nancy Ann O'Leary	245 Olympic Road Pittsburg, PA 15236	31-21168.000	0.34000	0.341	0.05725%
36	Timothy Patrick and Nancy Ann O'Leary	245 Olympic Road Pittsburg, PA 15236	31-21168.000	0.34000	0.341	0.05725%
37	Timothy P. O'Leary and Amy B. O'Leary	2254 Sandy Plains Road Clarksville, PA 15322	31-21167.000	0.19000	0.193	0.03240%
38	Shelli Dee Hall	53589 Mud Run Road Senecaville, OH 43780	31-21154.001	2.41400	2.414	0.40527%
39	Timothy S. Hall	53557 Mud Run Road Senecaville, OH 43780	31-21154.000	27.22400	30.158	5.06301%
40	Muskingum Watershed Conservancy District	1319 3rd Street, PO Box 349 New Philadelphia, OH 44663	31-21153.000	60.60000	13.265	2.22697%

Exhibit 1-A.1
All Tracts within Hall Unit

41	Roland W. Habig - 1/4 interest Gary Habig- 1/4 interest Debra Palmer - 1/4 interest Shari Bowen - 1/4 interest	25020 Britton Road Senecaville, OH 43780 67461 Ebbert Road South Saint Clairsville, OH 43950 62395 Dunfee Road Belmont, OH 43718 53447 Mud Run Road Senecaville, OH 43780	31-21152.000	1.47000	1.077	0.18081%
42	Donald H. Sanford and Patricia A. Sanford, Trustees or their successors in Trust, under the Patricia A. Sanford Living Trust dated October 22, 1991	9298 Easton View Court Rockford, IL 61107	31-21150.000	22.18000	10.912	1.83194%
43	Timothy S. Hall	53557 Mud Run Road Senecaville, OH 43780	31-21170.000	39.00000	0.354	0.05943%
44	Timothy S. Hall	53557 Mud Run Road Senecaville, OH 43780	31-21155.000	39.42000	30.723	5.15787%
45	Donald H. Sanford and Patricia A. Sanford, Trustees or their successors in Trust, under the Patricia A. Sanford Living Trust dated October 22, 1991	9298 Easton View Court Rockford, IL 61107	31-21151.000	39.42000	37.111	6.23031%
46	Kurt Rich and Amanda Rich	51697 Dogtown Road Sarahsville, OH 43779	31-21144.003	5.00000	0.007	0.00118%
47	Merritt Bates and Mary Bates	53724 Mud Run Road Senecaville, OH 43780	31-21144.004	5.00000	0.426	0.07152%
48	Merritt Bates and Mary Bates	53724 Mud Run Road Senecaville, OH 43780	31-21144.005	5.00000	1.090	0.18299%
49	William J. Miller	7079 Norwood Drive Grove City, OH 43123	31-21144.001	5.00000	1.753	0.29430%
50	Daniel J. Vanderkamp and Mary L. Bates	53724 Mud Run Road Senecaville, OH 43780	31-21144.002	4.57200	2.002	0.33610%
51	Jeffrey T. Bond and Kerri L. Bond, for their joint lives, remainder to the survivor of them	24900 Britton Road Senecaville, OH 43780	31-21128.001	103.27300	46.851	7.86549%
52	Barbara A. Weber	1 Cumberland Street, Apt. 3 Caldwell, OH 43724	31-21128.000	37.39800	29.167	4.89664%
53	Jacob C. Bates	6241 Fairway Drive Mason, OH 45040	31-21142.006	3.83100	1.196	0.20079%
54	Trailway Investments LLC	2230 CR 168 Dundee, OH 44624	31-21142.005	12.57700	11.208	1.88163%
55	Shari Bowen	53447 Mud Run Road Senecaville, OH 43780	31-21142.003	13.16100	13.091	2.19776%
56	Merritt Bates and Mary Bates (Life Estate) Bryan Bates and Kendra Bates, for their joint lives, remainder to the survivor of them (Remaindermen)	53724 Mud Run Road Senecaville, OH 43780 (Bryan Bates) 6241 Fairway Drive Mason, OH 45040 (Kendra Bates) 301 Mission Street Unit 26-A San Francisco, CA 94105	31-21142.000	15.32500	0.012	0.00201%
57	Charles G. Tomcho and Debra J. Tomcho	7747 Forest Creek Court Maumee, OH 43537	31-21142.002	10.05000	2.264	0.38009%
58	Barbara A. Weber	1 Cumberland Street, Apt. 3 Caldwell, OH 43724	31-21127.000	20.60200	20.841	3.49885%
59	Dale R. Montgomery	53490 Mud Run Road Senecaville, OH 43780	31-51210.001	1.63000	1.620	0.27197%
60	Dean O. Stack	53938 Mud Run Road Senecaville, OH 43780	31-51210.000	3.32800	3.348	0.56207%
61	Daniel C. Ferguson and Robyn K. Ferguson	53633 Mud Run Road Senecaville, OH 43780	31-51219.005	10.00000	5.027	0.84395%
62	Daniel C. Ferguson and Robyn K. Ferguson	53633 Mud Run Road Senecaville, OH 43780	31-51174.000	2.50400	1.880	0.31562%
63	Arthur F. and Candy H. Ingles	108 Canterbury Lane McMurray, PA 15317	31-51212.000	2.97600	2.975	0.49945%
64	Van Warner and Theresa Warner	32953 Mud Run Road Senecaville, OH 43780	31-51208.000	45.96900	13.778	2.31309%
65	Daniel A. Swift and Tracy Swift	1877 West 3rd Avenue Columbus, OH 43212	31-51219.002	10.00000	0.143	0.02401%
			TOTAL	595.65300	100.00000%	



LEGEND

- SECTION LINE
- PROPERTY LINE
- ROAD
- CREEK
- UNIT LINE
- TOWNSHIP LINE

Scale: 1 in. = 200 ft.



Graphical Scale

ISSUE DATE 03/17/15 SCALE 1" = 200'
 DRAWN BY LDB DATE 04/16/14
 CHECKED BY TRA DATE 08/05/14
 APPROVED BY _____ DATE _____

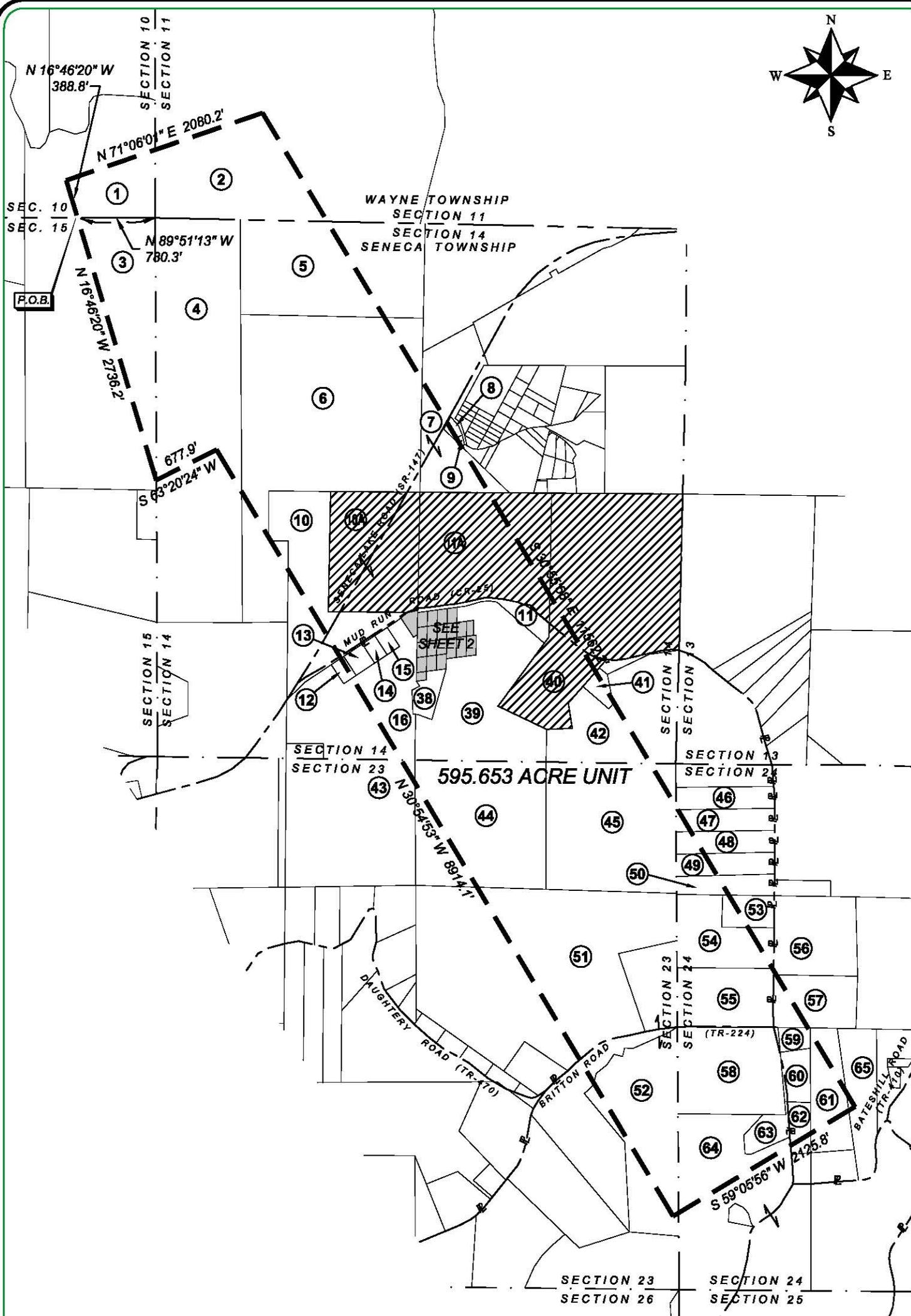
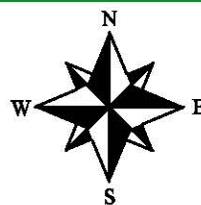


OPERATOR: ANTERO RESOURCES CORPORATION
 1625 17th STREET
 DENVER, CO 80202

HALL UNIT

LOCATION: SECTIONS 10, 11, 14, 15, 23 & 24, TOWNSHIP 8 NORTH,
 RANGE 8 WEST OF THE CONGRESS LANDS EAST OF SCIOTO RIVER,
 WAYNE & SENECA TOWNSHIPS, NOBLE COUNTY, OHIO

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595.653 ACRE UNIT

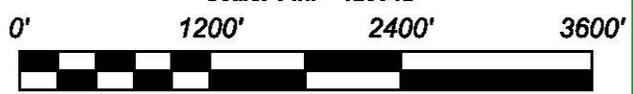


LEASE AREA OF ARTEX OIL

LEGEND

- SECTION LINE
- PROPERTY LINE
- ROAD
- CREEK
- UNIT LINE
- TOWNSHIP LINE

Scale: 1 in. = 1200 ft.



Graphical Scale

ISSUE DATE 03/16/15 SCALE 1" = 1200'
 DRAWN BY LDB DATE 04/16/14
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Exhibit 1-A.3
Unleased Tracts in Hall Unit

Tract	Owner	Parcel	Unit Acreage	Unit Participation
26	Sophia Nora Twarog	31-21186.000	0.341	0.05725%
27	Sophia Nora Twarog	31-51035.000	0.238	0.03996%
30	Lois J. Halsey	31-21164.000	0.341	0.05725%
TOTAL			0.920	0.15446%

Oil and Gas Lease

THIS OIL AND GAS LEASE (hereinafter, “**Lease**”) made and entered into on this ____ day of _____, 2015 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 ____ (\$____) 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

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, its 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 of 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:

By:

ACKNOWLEDGMENT

STATE OF OHIO)
COUNTY OF _____)

On the _____ day of _____, 2015, 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

1 Attached to and made part of that certain Joint Operating Agreement dated _____ by and between Antero Resources
2 Corporation as Operator and _____ as Non-Operator.
3 _____
4 _____

I. GENERAL PROVISIONS

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

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

1. DEFINITIONS

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

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

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

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

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

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

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

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

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

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

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

1 **“Joint Property”** means the real and personal property subject to the Agreement.

2
3 **“Laws”** means any laws, rules, regulations, decrees, and orders of the United States of America or any state thereof and all other
4 governmental bodies, agencies, and other authorities having jurisdiction over or affecting the provisions contained in or the transactions
5 contemplated by the Agreement or the Parties and their operations, whether such laws now exist or are hereafter amended, enacted,
6 promulgated or issued.

7
8 **“Material”** means personal property, equipment, supplies, or consumables acquired or held for use by the Joint Property.

9
10 **“Non-Operators”** means the Parties to the Agreement other than the Operator.

11
12 **“Offshore Facilities”** means platforms, surface and subsea development and production systems, and other support systems such as oil and
13 gas handling facilities, living quarters, offices, shops, cranes, electrical supply equipment and systems, fuel and water storage and piping,
14 heliport, marine docking installations, communication facilities, navigation aids, and other similar facilities necessary in the conduct of
15 offshore operations, all of which are located offshore.

16
17 **“Off-site”** means any location that is not considered On-site as defined in this Accounting Procedure.

18
19 **“On-site”** means on the Joint Property when in direct conduct of Joint Operations. The term “On-site” shall also include that portion of
20 Offshore Facilities, Shore Base Facilities, fabrication yards, and staging areas from which Joint Operations are conducted, or other
21 facilities that directly control equipment on the Joint Property, regardless of whether such facilities are owned by the Joint Account.

22
23 **“Operator”** means the Party designated pursuant to the Agreement to conduct the Joint Operations.

24
25 **“Parties”** means legal entities signatory to the Agreement or their successors and assigns. Parties shall be referred to individually as
26 “Party.”

27
28 **“Participating Interest”** means the percentage of the costs and risks of conducting an operation under the Agreement that a Party agrees,
29 or is otherwise obligated, to pay and bear.

30
31 **“Participating Party”** means a Party that approves a proposed operation or otherwise agrees, or becomes liable, to pay and bear a share of
32 the costs and risks of conducting an operation under the Agreement.

33
34 **“Personal Expenses”** means reimbursed costs for travel and temporary living expenses.

35
36 **“Railway Receiving Point”** means the railhead nearest the Joint Property for which freight rates are published, even though an actual
37 railhead may not exist.

38
39 **“Shore Base Facilities”** means onshore support facilities that during Joint Operations provide such services to the Joint Property as a
40 receiving and transshipment point for Materials; debarkation point for drilling and production personnel and services; communication,
41 scheduling and dispatching center; and other associated functions serving the Joint Property.

42
43 **“Supply Store”** means a recognized source or common stock point for a given Material item.

44
45 **“Technical Services”** means services providing specific engineering, geoscience, or other professional skills, such as those performed by
46 engineers, geologists, geophysicists, and technicians, required to handle specific operating conditions and problems for the benefit of Joint
47 Operations; provided, however, Technical Services shall not include those functions specifically identified as overhead under the second
48 paragraph of the introduction of Section III (*Overhead*). Technical Services may be provided by the Operator, Operator’s Affiliate, Non-
49 Operator, Non-Operator Affiliates, and/or third parties.

50 51 **2. STATEMENTS AND BILLINGS**

52
53 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
54 preceding month. Such bills shall be accompanied by statements that identify the AFE (authority for expenditure), lease or facility, and all
55 charges and credits summarized by appropriate categories of investment and expense. Controllable Material shall be separately identified
56 and fully described in detail, or at the Operator’s option, Controllable Material may be summarized by major Material classifications.
57 Intangible drilling costs, audit adjustments, and unusual charges and credits shall be separately and clearly identified.

58
59 The Operator may make available to Non-Operators any statements and bills required under Section I.2 and/or Section I.3.A (*Advances*
60 *and Payments by the Parties*) via email, electronic data interchange, internet websites or other equivalent electronic media in lieu of paper
61 copies. The Operator shall provide the Non-Operators instructions and any necessary information to access and receive the statements and
62 bills within the timeframes specified herein. A statement or billing shall be deemed as delivered twenty-four (24) hours (exclusive of
63 weekends and holidays) after the Operator notifies the Non-Operator that the statement or billing is available on the website and/or sent via
64 email or electronic data interchange transmission. Each Non-Operator individually shall elect to receive statements and billings
65 electronically, if available from the Operator, or request paper copies. Such election may be changed upon thirty (30) days prior written
66 notice to the Operator.

1 **3. ADVANCES AND PAYMENTS BY THE PARTIES**

2
3 A.

4
5 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
6 payment is not made within such time, the unpaid balance shall bear interest compounded monthly at the prime rate published by the
7 *Wall Street Journal* on the first day of each month the payment is delinquent, plus three percent (3%), per annum, or the maximum
8 contract rate permitted by the applicable usury Laws governing the Joint Property, whichever is the lesser, plus attorney's fees, court
9 costs, and other costs in connection with the collection of unpaid amounts. If the *Wall Street Journal* ceases to be published or
10 discontinues publishing a prime rate, the unpaid balance shall bear interest compounded monthly at the prime rate published by the
11 Federal Reserve plus three percent (3%), per annum. Interest shall begin accruing on the first day of the month in which the payment
12 was due. Payment shall not be reduced or delayed as a result of inquiries or anticipated credits unless the Operator has agreed.
13 Notwithstanding the foregoing, the Non-Operator may reduce payment, provided it furnishes documentation and explanation to the
14 Operator at the time payment is made, to the extent such reduction is caused by:

- 15
16 (1) being billed at an incorrect working interest or Participating Interest that is higher than such Non-Operator's actual working
17 interest or Participating Interest, as applicable; or
18 (2) being billed for a project or AFE requiring approval of the Parties under the Agreement that the Non-Operator has not approved
19 or is not otherwise obligated to pay under the Agreement; or
20 (3) being billed for a property in which the Non-Operator no longer owns a working interest, provided the Non-Operator has
21 furnished the Operator a copy of the recorded assignment or letter in-lieu. Notwithstanding the foregoing, the Non-Operator
22 shall remain responsible for paying bills attributable to the interest it sold or transferred for any bills rendered during the thirty
23 (30) day period following the Operator's receipt of such written notice; or
24 (4) charges outside the adjustment period, as provided in Section I.4 (*Adjustments*).

25
26 **4. ADJUSTMENTS**

27
28 A. Payment of any such bills shall not prejudice the right of any Party to protest or question the correctness thereof; however, all bills
29 and statements, including payout statements, rendered during any calendar year shall conclusively be presumed to be true and correct,
30 with respect only to expenditures, after twenty-four (24) months following the end of any such calendar year, unless within said
31 period a Party takes specific detailed written exception thereto making a claim for adjustment. The Operator shall provide a response
32 to all written exceptions, whether or not contained in an audit report, within the time periods prescribed in Section I.5 (*Expenditure*
33 *Audits*).

34
35 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
36 twenty-four (24) month period following the end of the calendar year in which the original charge appeared or should have appeared
37 on the Operator's Joint Account statement or payout statement. Adjustments that may be made beyond the twenty-four (24) month
38 period are limited to adjustments resulting from the following:

- 39
40 (1) a physical inventory of Controllable Material as provided for in Section V (*Inventories of Controllable Material*), or
41 (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
42 Operator relating to another property, or
43 (3) a government/regulatory audit, or
44 (4) a working interest ownership or Participating Interest adjustment.

45
46 **5. EXPENDITURE AUDITS**

47
48 A. A Non-Operator, upon written notice to the Operator and all other Non-Operators, shall have the right to audit the Operator's
49 accounts and records relating to the Joint Account within the twenty-four (24) month period following the end of such calendar year in
50 which such bill was rendered; however, conducting an audit shall not extend the time for the taking of written exception to and the
51 adjustment of accounts as provided for in Section I.4 (*Adjustments*). Any Party that is subject to payout accounting under the
52 Agreement shall have the right to audit the accounts and records of the Party responsible for preparing the payout statements, or of
53 the Party furnishing information to the Party responsible for preparing payout statements. Audits of payout accounts may include the
54 volumes of hydrocarbons produced and saved and proceeds received for such hydrocarbons as they pertain to payout accounting
55 required under the Agreement. Unless otherwise provided in the Agreement, audits of a payout account shall be conducted within the
56 twenty-four (24) month period following the end of the calendar year in which the payout statement was rendered.

57
58 Where there are two or more Non-Operators, the Non-Operators shall make every reasonable effort to conduct a joint audit in a
59 manner that will result in a minimum of inconvenience to the Operator. The Operator shall bear no portion of the Non-Operators'
60 audit cost incurred under this paragraph unless agreed to by the Operator. The audits shall not be conducted more than once each year
61 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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1 those Non-Operators approving such audit.
2

3 The Non-Operator leading the audit (hereinafter “lead audit company”) shall issue the audit report within ninety (90) days after
4 completion of the audit testing and analysis; however, the ninety (90) day time period shall not extend the twenty-four (24) month
5 requirement for taking specific detailed written exception as required in Section I.4.A (*Adjustments*) above. All claims shall be
6 supported with sufficient documentation.
7

8 A timely filed written exception or audit report containing written exceptions (hereinafter “written exceptions”) shall, with respect to
9 the claims made therein, preclude the Operator from asserting a statute of limitations defense against such claims, and the Operator
10 hereby waives its right to assert any statute of limitations defense against such claims for so long as any Non-Operator continues to
11 comply with the deadlines for resolving exceptions provided in this Accounting Procedure. If the Non-Operators fail to comply with
12 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
13 the claims brought by the Non-Operators shall lapse, and such claims shall then be subject to the applicable statute of limitations,
14 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
15 I.5.C.
16

17 B. The Operator shall provide a written response to all exceptions in an audit report within one hundred eighty (180) days after Operator
18 receives such report. Denied exceptions should be accompanied by a substantive response. If the Operator fails to provide substantive
19 response to an exception within this one hundred eighty (180) day period, the Operator will owe interest on that exception or portion
20 thereof, if ultimately granted, from the date it received the audit report. Interest shall be calculated using the rate set forth in Section
21 I.3.B (*Advances and Payments by the Parties*).
22

23 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
24 shall reply to the lead audit company’s follow-up response within ninety (90) days of receipt; provided, however, each Non-Operator
25 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
26 adequately fulfilling its duties. Unless otherwise provided for in Section I.5.E, if the Operator fails to provide substantive response
27 to an exception within this ninety (90) day period, the Operator will owe interest on that exception or portion thereof, if ultimately
28 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
29 Payments by the Parties*).
30

31 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
32 Operator receives the audit report, the Operator or any Non-Operator participating in the audit has the right to call a resolution
33 meeting, as set forth in this Section I.5.D or it may invoke the dispute resolution procedures included in the Agreement, if applicable.
34 The meeting will require one month’s written notice to the Operator and all Non-Operators participating in the audit. The meeting
35 shall be held at the Operator’s office or mutually agreed location, and shall be attended by representatives of the Parties with
36 authority to resolve such outstanding issues. Any Party who fails to attend the resolution meeting shall be bound by any resolution
37 reached at the meeting. The lead audit company will make good faith efforts to coordinate the response and positions of the
38 Non-Operator participants throughout the resolution process; however, each Non-Operator shall have the right to represent itself.
39 Attendees will make good faith efforts to resolve outstanding issues, and each Party will be required to present substantive information
40 supporting its position. A resolution meeting may be held as often as agreed to by the Parties. Issues unresolved at one meeting may
41 be discussed at subsequent meetings until each such issue is resolved.
42

43 If the Agreement contains no dispute resolution procedures and the audit issues cannot be resolved by negotiation, the dispute shall
44 be submitted to mediation. In such event, promptly following one Party’s written request for mediation, the Parties to the dispute
45 shall choose a mutually acceptable mediator and share the costs of mediation services equally. The Parties shall each have present
46 at the mediation at least one individual who has the authority to settle the dispute. The Parties shall make reasonable efforts to
47 ensure that the mediation commences within sixty (60) days of the date of the mediation request. Notwithstanding the above, any
48 Party may file a lawsuit or complaint (1) if the Parties are unable after reasonable efforts, to commence mediation within sixty (60)
49 days of the date of the mediation request, (2) for statute of limitations reasons, or (3) to seek a preliminary injunction or other
50 provisional judicial relief, if in its sole judgment an injunction or other provisional relief is necessary to avoid irreparable damage or
51 to preserve the status quo. Despite such action, the Parties shall continue to try to resolve the dispute by mediation.
52

53 E. (*Optional Provision – Forfeiture Penalties*)

54 *If the Non-Operators fail to meet the deadline in Section I.5.C, any unresolved exceptions that were not addressed by the Non-*
55 *Operators within one (1) year following receipt of the last substantive response of the Operator shall be deemed to have been*
56 *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*
57 *were not addressed by the Operator within one (1) year following receipt of the audit report or receipt of the last substantive response*
58 *of the Non-Operators, whichever is later, shall be deemed to have been granted by the Operator and adjustments shall be made,*
59 *without interest, to the Joint Account.*
60

61 6. APPROVAL BY PARTIES

62 A. GENERAL MATTERS

63
64
65 Where an approval or other agreement of the Parties or Non-Operators is expressly required under other Sections of this Accounting
66 Procedure and if the Agreement to which this Accounting Procedure is attached contains no contrary provisions in regard thereto, the

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

3
4 This Section I.6.A applies to specific situations of limited duration where a Party proposes to change the accounting for charges from
5 that prescribed in this Accounting Procedure. This provision does not apply to amendments to this Accounting Procedure, which are
6 covered by Section I.6.B.

7
8 **B. AMENDMENTS**

9
10 If the Agreement to which this Accounting Procedure is attached contains no contrary provisions in regard thereto, this Accounting
11 Procedure can be amended by an affirmative vote of two (2) or more Parties, one of which is the Operator,
12 having a combined working interest of at least ninety percent (90 %), which approval shall be binding on all Parties,
13 provided, however, approval of at least one (1) Non-Operator shall be required.

14
15 **C. AFFILIATES**

16
17 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
18 other, then such Affiliates shall be combined and treated as a single Party having the combined working interest or Participating
19 Interest of such Affiliates.

20
21 For the purposes of administering the voting procedures in Section I.6.A, if a Non-Operator is an Affiliate of the Operator, votes
22 under Section I.6.A shall require the majority in interest of the Non-Operator(s) after excluding the interest of the Operator's
23 Affiliate.

24
25 **II. DIRECT CHARGES**

26
27 The Operator shall charge the Joint Account with the following items:

28
29 **1. RENTALS AND ROYALTIES**

30
31 Lease rentals and royalties paid by the Operator, on behalf of all Parties, for the Joint Operations.

32
33 **2. LABOR**

34
35 A. Salaries and wages, ~~including incentive compensation programs as set forth in COPAS MFI-37 ("Chargeability of Incentive~~
36 ~~Compensation Programs")~~; for:

- 37
38 (1) Operator's field employees directly employed On-site in the conduct of Joint Operations,
39
40 (2) Operator's employees directly employed on Shore Base Facilities, Offshore Facilities, or other facilities serving the Joint
41 Property if such costs are not charged under Section II.6 (*Equipment and Facilities Furnished by Operator*) or are not a
42 function covered under Section III (*Overhead*),
43
44 (3) Operator's employees providing First Level Supervision,
45
46 (4) Operator's employees providing On-site Technical Services for the Joint Property if such charges are excluded from the
47 overhead rates in Section III (*Overhead*),
48
49 (5) Operator's employees providing Off-site Technical Services for the Joint Property if such charges are excluded from the
50 overhead rates in Section III (*Overhead*).

51
52 Charges for the Operator's employees identified in Section II.2.A may be made based on the employee's actual salaries and wages,
53 or in lieu thereof, a day rate representing the Operator's average salaries and wages of the employee's specific job category.

54
55 Charges for personnel chargeable under this Section II.2.A who are foreign nationals shall not exceed comparable compensation paid
56 to an equivalent U.S. employee pursuant to this Section II.2, unless otherwise approved by the Parties pursuant to Section
57 I.6.A (*General Matters*).

58
59 B. ~~Operator's cost of holiday, vacation, sickness, and disability benefits, and other customary allowances paid to employees whose~~
60 ~~salaries and wages are chargeable to the Joint Account under Section II.2.A, excluding severance payments or other termination~~
61 ~~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~~
62 ~~amount of salaries and wages chargeable to the Joint Account under Section II.2.A. If percentage assessment is used, the rate shall~~
63 ~~be based on the Operator's cost experience.~~

64
65 C. Expenditures or contributions made pursuant to assessments imposed by governmental authority that are applicable to costs
66 chargeable to the Joint Account under Sections II.2.A and B.

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

3
4 E. Reasonable relocation costs incurred in transferring to the Joint Property personnel whose salaries and wages are chargeable to the
5 Joint Account under Section II.2.A. Notwithstanding the foregoing, relocation costs that result from reorganization or merger of a
6 Party, or that are for the primary benefit of the Operator, shall not be chargeable to the Joint Account. Extraordinary relocation
7 costs, such as those incurred as a result of transfers from remote locations, such as Alaska or overseas, shall not be charged to the
8 Joint Account unless approved by the Parties pursuant to Section I.6.A (*General Matters*).

9
10 F. Training costs as specified in COPAS MFI-35 (“Charging of Training Costs to the Joint Account”) for personnel whose salaries and
11 wages are chargeable under Section II.2.A. This training charge shall include the wages, salaries, training course cost, and Personal
12 Expenses incurred during the training session. The training cost shall be charged or allocated to the property or properties directly
13 benefiting from the training. The cost of the training course shall not exceed prevailing commercial rates, where such rates are
14 available.

15
16 G. Operator’s current cost of established plans for employee benefits, as described in COPAS MFI-27 (“Employee Benefits Chargeable
17 to Joint Operations and Subject to Percentage Limitation”), applicable to the Operator’s labor costs chargeable to the Joint Account
18 under Sections II.2.A and B based on the Operator’s actual cost not to exceed the employee benefits limitation percentage most
19 recently recommended by COPAS.

20
21 H. Award payments to employees, in accordance with COPAS MFI-49 (“Awards to Employees and Contractors”) for personnel whose
22 salaries and wages are chargeable under Section II.2.A.

23 24 **3. MATERIAL**

25
26 Material purchased or furnished by the Operator for use on the Joint Property in the conduct of Joint Operations as provided under Section
27 IV (*Material Purchases, Transfers, and Dispositions*). Only such Material shall be purchased for or transferred to the Joint Property as
28 may be required for immediate use or is reasonably practical and consistent with efficient and economical operations. The accumulation
29 of surplus stocks shall be avoided.

30 31 **4. TRANSPORTATION**

32
33 A. Transportation of the Operator’s, Operator’s Affiliate’s, or contractor’s personnel necessary for Joint Operations.

34
35 B. Transportation of Material between the Joint Property and another property, or from the Operator’s warehouse or other storage point
36 to the Joint Property, shall be charged to the receiving property using one of the methods listed below. Transportation of Material
37 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
38 methods listed below:

39
40 (1) If the actual trucking charge is less than or equal to the Excluded Amount the Operator may charge actual trucking cost or a
41 theoretical charge from the Railway Receiving Point to the Joint Property. The basis for the theoretical charge is the per
42 hundred weight charge plus fuel surcharges from the Railway Receiving Point to the Joint Property. The Operator shall
43 consistently apply the selected alternative.

44
45 (2) If the actual trucking charge is greater than the Excluded Amount, the Operator shall charge Equalized Freight. Accessorial
46 charges such as loading and unloading costs, split pick-up costs, detention, call out charges, and permit fees shall be charged
47 directly to the Joint Property and shall not be included when calculating the Equalized Freight.

48 49 **5. SERVICES**

50
51 The cost of contract services, equipment, and utilities used in the conduct of Joint Operations, except for contract services, equipment, and
52 utilities covered by Section III (*Overhead*), or Section II.7 (*Affiliates*), or excluded under Section II.9 (*Legal Expense*). Awards paid to
53 contractors shall be chargeable pursuant to COPAS MFI-49 (“Awards to Employees and Contractors”).

54
55 The costs of third party Technical Services are chargeable to the extent excluded from the overhead rates under Section III (*Overhead*).

56 57 **6. EQUIPMENT AND FACILITIES FURNISHED BY OPERATOR**

58
59 In the absence of a separately negotiated agreement, equipment and facilities furnished by the Operator will be charged as follows:

60
61 A.

62
63 B. the Operator may elect to use average commercial rates prevailing in the immediate area
64 of the Joint Property. If equipment and facilities are charged under this Section II.6.B, the Operator shall
65 adequately document and support commercial rates and shall periodically review and update the rate and the supporting
66 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.

67 68 **7. AFFILIATES**

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- 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 \$ 5,000.00 . 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 \$ 5,000.00 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.

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

3
4 Charges to the Joint Account resulting from sales/use tax audits, including extrapolated amounts and penalties and interest, are permitted,
5 provided the Non-Operator shall be allowed to review the invoices and other underlying source documents which served as the basis for
6 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
7 review such documentation, the sales/use tax amount shall not be directly charged unless the Operator can conclusively document the
8 amount owed by the Joint Account.

9 10 **11. INSURANCE**

11
12 Net premiums paid for insurance required to be carried for Joint Operations for the protection of the Parties. If Joint Operations are
13 conducted at locations where the Operator acts as self-insurer in regard to its worker's compensation and employer's liability insurance
14 obligation, the Operator shall charge the Joint Account manual rates for the risk assumed in its self-insurance program as regulated by the
15 jurisdiction governing the Joint Property. In the case of offshore operations in federal waters, the manual rates of the adjacent state shall be
16 used for personnel performing work On-site, and such rates shall be adjusted for offshore operations by the U.S. Longshoreman and
17 Harbor Workers (USL&H) or Jones Act surcharge, as appropriate.

18 19 **12. COMMUNICATIONS**

20
21 ~~Costs of acquiring, leasing, installing, operating, repairing, and maintaining communication facilities or systems, including satellite, radio
22 and microwave facilities, between the Joint Property and the Operator's office(s) directly responsible for field operations in accordance
23 with the provisions of COPAS MFI-44 ("Field Computer and Communication Systems"). If the communications facilities or systems
24 serving the Joint Property are Operator-owned, charges to the Joint Account shall be made as provided in Section II.6 (*Equipment and
25 Facilities Furnished by Operator*). If the communication facilities or systems serving the Joint Property are owned by the Operator's
26 Affiliate, charges to the Joint Account shall not exceed average commercial rates prevailing in the area of the Joint Property. The Operator
27 shall adequately document and support commercial rates and shall periodically review and update the rate and the supporting
28 documentation.~~

29 30 **13. ECOLOGICAL, ENVIRONMENTAL, AND SAFETY**

31
32 Costs incurred for Technical Services and drafting to comply with ecological, environmental and safety Laws or standards recommended by
33 Occupational Safety and Health Administration (OSHA) or other regulatory authorities. All other labor and functions incurred for
34 ecological, environmental and safety matters, including management, administration, and permitting, shall be covered by Sections II.2
35 (*Labor*), II.5 (*Services*), or Section III (*Overhead*), as applicable.

36
37 Costs to provide or have available pollution containment and removal equipment plus actual costs of control and cleanup and resulting
38 responsibilities of oil and other spills as well as discharges from permitted outfalls as required by applicable Laws, or other pollution
39 containment and removal equipment deemed appropriate by the Operator for prudent operations, are directly chargeable.

40 41 **14. ABANDONMENT AND RECLAMATION**

42
43 Costs incurred for abandonment and reclamation of the Joint Property, including costs required by lease agreements or by Laws.

44 45 **15. OTHER EXPENDITURES**

46
47 Any other expenditure not covered or dealt with in the foregoing provisions of this Section II (*Direct Charges*), or in Section III
48 (*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
49 Joint Operations. Charges made under this Section II.15 shall require approval of the Parties, pursuant to Section I.6.A (*General Matters*).

50 51 52 **III. OVERHEAD**

53
54 As compensation for costs not specifically identified as chargeable to the Joint Account pursuant to Section II (*Direct Charges*), the Operator
55 shall charge the Joint Account in accordance with this Section III.

56
57 Functions included in the overhead rates regardless of whether performed by the Operator, Operator's Affiliates or third parties and regardless
58 of location, shall include, but not be limited to, costs and expenses of:

- 59
60
- 61 • warehousing, other than for warehouses that are jointly owned under this Agreement
 - 62 • design and drafting (except when allowed as a direct charge under Sections II.13, III.1.A(ii), and III.2, Option B)
 - 63 • inventory costs not chargeable under Section V (*Inventories of Controllable Material*)
 - 64 • procurement
 - 65 • administration
 - 66 • accounting and auditing
 - gas dispatching and gas chart integration

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

9
10 Overhead charges shall include the salaries or wages plus applicable payroll burdens, benefits, and Personal Expenses of personnel performing
11 overhead functions, as well as office and other related expenses of overhead functions.

12
13 **1. OVERHEAD—DRILLING AND PRODUCING OPERATIONS**

14
15 As compensation for costs incurred but not chargeable under Section II (*Direct Charges*) and not covered by other provisions of this
16 Section III, the Operator shall charge on either:

- 17
- 18 (**Alternative 1**) Fixed Rate Basis, Section III.1.B.
- 19 (~~Alternative 2~~) ~~Percentage Basis, Section III.1.C.~~

20
21 **A. TECHNICAL SERVICES**

22
23 (i) Except as otherwise provided in Section II.13 (*Ecological Environmental, and Safety*) and Section III.2 (*Overhead – Major*
24 *Construction and Catastrophe*), or by approval of the Parties pursuant to Section I.6.A (*General Matters*), the salaries, wages,
25 related payroll burdens and benefits, and Personal Expenses for **On-site** Technical Services, including third party Technical
26 Services:

27

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

29

- 30 (~~Alternative 2 – Overhead~~) shall be covered by the overhead rates.

31
32 (ii) Except as otherwise provided in Section II.13 (*Ecological, Environmental, and Safety*) and Section III.2 (*Overhead – Major*
33 *Construction and Catastrophe*), or by approval of the Parties pursuant to Section I.6.A (*General Matters*), the salaries, wages,
34 related payroll burdens and benefits, and Personal Expenses for **Off-site** Technical Services, including third party Technical
35 Services:

36

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

38

- 39 (~~Alternative 2 – All Direct~~) shall be charged direct to the Joint Account.

40

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

46
47 Notwithstanding anything to the contrary in this Section III, Technical Services provided by Operator's Affiliates are subject to limitations
48 set forth in Section II.7 (*Affiliates*). Charges for Technical personnel performing non-technical work shall not be governed by this Section
49 III.1.A, but instead governed by other provisions of this Accounting Procedure relating to the type of work being performed.

50
51 **B. OVERHEAD—FIXED RATE BASIS**

52
53 (1) The Operator shall charge the Joint Account at the following rates per well per month:

54
55 Drilling Well Rate per month \$ 6,000.00 (prorated for less than a full month)

56
57 Producing Well Rate per month \$ 600.00

58
59 (2) Application of Overhead—Drilling Well Rate shall be as follows:

60
61 (a) Charges for onshore drilling wells shall begin on the spud date and terminate on the date the drilling and/or completion
62 equipment used on the well is released, whichever occurs later. Charges for offshore and inland waters drilling wells shall
63 begin on the date the drilling or completion equipment arrives on location and terminate on the date the drilling or completion
64 equipment moves off location, or is released, whichever occurs first. No charge shall be made during suspension of drilling
65 and/or completion operations for fifteen (15) or more consecutive calendar days.

66

- 1 (b) Charges for any well undergoing any type of workover, recompletion, and/or abandonment for a period of five (5) or more
2 consecutive work-days shall be made at the Drilling Well Rate. Such charges shall be applied for the period from date
3 operations, with rig or other units used in operations, commence through date of rig or other unit release, except that no charges
4 shall be made during suspension of operations for fifteen (15) or more consecutive calendar days.
5
- 6 (3) Application of Overhead—Producing Well Rate shall be as follows:
7
- 8 (a) An active well that is produced, injected into for recovery or disposal, or used to obtain water supply to support operations for
9 any portion of the month shall be considered as a one-well charge for the entire month.
10
- 11 (b) Each active completion in a multi-completed well shall be considered as a one-well charge provided each completion is
12 considered a separate well by the governing regulatory authority.
13
- 14 (c) A one-well charge shall be made for the month in which plugging and abandonment operations are completed on any well,
15 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
16 or not the well has produced.
17
- 18 (d) An active gas well shut in because of overproduction or failure of a purchaser, processor, or transporter to take production shall
19 be considered as a one-well charge provided the gas well is directly connected to a permanent sales outlet.
20
- 21 (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
22 charge.
23
- 24 (4) The well rates shall be adjusted on the first day of April each year following the effective date of the Agreement; provided,
25 however, if this Accounting Procedure is attached to or otherwise governing the payout accounting under a farmout agreement, the
26 rates shall be adjusted on the first day of April each year following the effective date of such farmout agreement. The adjustment
27 shall be computed by applying the adjustment factor most recently published by COPAS. The adjusted rates shall be the initial or
28 amended rates agreed to by the Parties increased or decreased by the adjustment factor described herein, for each year from the
29 effective date of such rates, in accordance with COPAS MFI-47 (“Adjustment of Overhead Rates”).
30

31 32 **2. OVERHEAD—MAJOR CONSTRUCTION AND CATASTROPHE** 33

34 To compensate the Operator for overhead costs incurred in connection with a Major Construction project or Catastrophe, the Operator
35 shall either negotiate a rate prior to the beginning of the project, or shall charge the Joint Account for overhead based on the following
36 rates for any Major Construction project in excess of the Operator’s expenditure limit under the Agreement, or for any Catastrophe
37 regardless of the amount. If the Agreement to which this Accounting Procedure is attached does not contain an expenditure limit, Major
38 Construction Overhead shall be assessed for any single Major Construction project costing in excess of \$100,000 gross.
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1 Major Construction shall mean the construction and installation of fixed assets, the expansion of fixed assets, and any other project clearly
2 discernible as a fixed asset required for the development and operation of the Joint Property, or in the dismantlement, abandonment,
3 removal, and restoration of platforms, production equipment, and other operating facilities.
4

5 Catastrophe is defined as a sudden calamitous event bringing damage, loss, or destruction to property or the environment, such as an oil
6 spill, blowout, explosion, fire, storm, hurricane, or other disaster. The overhead rate shall be applied to those costs necessary to restore the
7 Joint Property to the equivalent condition that existed prior to the event.
8

9 A. If the Operator absorbs the engineering, design and drafting costs related to the project:
10

- 11 (1) 5.00 % of total costs if such costs are less than \$100,000; plus
12
13 (2) 3.00 % of total costs in excess of \$100,000 but less than \$1,000,000; plus
14
15 (3) 2.00 % of total costs in excess of \$1,000,000.
16

17 B. If the Operator charges engineering, design and drafting costs related to the project directly to the Joint Account:
18

- 19 (1) 0.00 % of total costs if such costs are less than \$100,000; plus
20
21 (2) 0.00 % of total costs in excess of \$100,000 but less than \$1,000,000; plus
22
23 (3) 0.00 % of total costs in excess of \$1,000,000.
24

25 Total cost shall mean the gross cost of any one project. For the purpose of this paragraph, the component parts of a single Major
26 Construction project shall not be treated separately, and the cost of drilling and workover wells and purchasing and installing pumping
27 units and downhole artificial lift equipment shall be excluded. For Catastrophes, the rates shall be applied to all costs associated with each
28 single occurrence or event.
29

30 On each project, the Operator shall advise the Non-Operator(s) in advance which of the above options shall apply.
31

32 For the purposes of calculating Catastrophe Overhead, the cost of drilling relief wells, substitute wells, or conducting other well operations
33 directly resulting from the catastrophic event shall be included. Expenditures to which these rates apply shall not be reduced by salvage or
34 insurance recoveries. Expenditures that qualify for Major Construction or Catastrophe Overhead shall not qualify for overhead under any
35 other overhead provisions.
36

37 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
38 (*Affiliates*), the provisions of this Section III.2 shall govern.
39

40 3. AMENDMENT OF OVERHEAD RATES 41

42 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
43 or excessive, in accordance with the provisions of Section I.6.B (*Amendments*).
44
45

46 IV. MATERIAL PURCHASES, TRANSFERS, AND DISPOSITIONS 47

48 The Operator is responsible for Joint Account Material and shall make proper and timely charges and credits for direct purchases, transfers, and
49 dispositions. The Operator shall provide all Material for use in the conduct of Joint Operations; however, Material may be supplied by the Non-
50 Operators, at the Operator's option. Material furnished by any Party shall be furnished without any express or implied warranties as to quality,
51 fitness for use, or any other matter.
52

53 1. DIRECT PURCHASES 54

55 Direct purchases shall be charged to the Joint Account at the price paid by the Operator after deduction of all discounts received. The
56 Operator shall make good faith efforts to take discounts offered by suppliers, but shall not be liable for failure to take discounts except to
57 the extent such failure was the result of the Operator's gross negligence or willful misconduct. A direct purchase shall be deemed to occur
58 when an agreement is made between an Operator and a third party for the acquisition of Material for a specific well site or location.
59 Material provided by the Operator under "vendor stocking programs," where the initial use is for a Joint Property and title of the Material
60 does not pass from the manufacturer, distributor, or agent until usage, is considered a direct purchase. If Material is found to be defective
61 or is returned to the manufacturer, distributor, or agent for any other reason, credit shall be passed to the Joint Account within sixty (60)
62 days after the Operator has received adjustment from the manufacturer, distributor, or agent.
63
64
65
66

1 **2. TRANSFERS**

2
3 A transfer is determined to occur when the Operator (i) furnishes Material from a storage facility or from another operated property, (ii) has
4 assumed liability for the storage costs and changes in value, and (iii) has previously secured and held title to the transferred Material.
5 Similarly, the removal of Material from the Joint Property to a storage facility or to another operated property is also considered a transfer;
6 provided, however, Material that is moved from the Joint Property to a storage location for safe-keeping pending disposition may remain
7 charged to the Joint Account and is not considered a transfer. Material shall be disposed of in accordance with Section IV.3 (*Disposition of*
8 *Surplus*) and the Agreement to which this Accounting Procedure is attached.

9
10 **A. PRICING**

11
12 The value of Material transferred to/from the Joint Property should generally reflect the market value on the date of physical transfer.
13 Regardless of the pricing method used, the Operator shall make available to the Non-Operators sufficient documentation to verify the
14 Material valuation. When higher than specification grade or size tubulars are used in the conduct of Joint Operations, the Operator
15 shall charge the Joint Account at the equivalent price for well design specification tubulars, unless such higher specification grade or
16 sized tubulars are approved by the Parties pursuant to Section I.6.A (*General Matters*). Transfers of new Material will be priced
17 using one of the following pricing methods; provided, however, the Operator shall use consistent pricing methods, and not alternate
18 between methods for the purpose of choosing the method most favorable to the Operator for a specific transfer:

- 19
20 (1) Using published prices in effect on date of movement as adjusted by the appropriate COPAS Historical Price Multiplier (HPM)
21 or prices provided by the COPAS Computerized Equipment Pricing System (CEPS).
22
23 (a) For oil country tubulars and line pipe, the published price shall be based upon eastern mill carload base prices (Houston,
24 Texas, for special end) adjusted as of date of movement, plus transportation cost as defined in Section IV.2.B (*Freight*).
25
26 (b) For other Material, the published price shall be the published list price in effect at date of movement, as listed by a Supply
27 Store nearest the Joint Property where like Material is normally available, or point of manufacture plus transportation
28 costs as defined in Section IV.2.B (*Freight*).
29
30 (2) Based on a price quotation from a vendor that reflects a current realistic acquisition cost.
31
32 (3) Based on the amount paid by the Operator for like Material in the vicinity of the Joint Property within the previous twelve (12)
33 months from the date of physical transfer.
34
35 (4) As agreed to by the Participating Parties for Material being transferred to the Joint Property, and by the Parties owning the
36 Material for Material being transferred from the Joint Property.

37
38 **B. FREIGHT**

39
40 Transportation costs shall be added to the Material transfer price using the method prescribed by the COPAS Computerized
41 Equipment Pricing System (CEPS). If not using CEPS, transportation costs shall be calculated as follows:

- 42
43 (1) Transportation costs for oil country tubulars and line pipe shall be calculated using the distance from eastern mill to the
44 Railway Receiving Point based on the carload weight basis as recommended by the COPAS MFI-38 ("Material Pricing
45 Manual") and other COPAS MFIs in effect at the time of the transfer.
46
47 (2) Transportation costs for special mill items shall be calculated from that mill's shipping point to the Railway Receiving Point.
48 For transportation costs from other than eastern mills, the 30,000-pound interstate truck rate shall be used. Transportation costs
49 for macaroni tubing shall be calculated based on the interstate truck rate per weight of tubing transferred to the Railway
50 Receiving Point.
51
52 (3) Transportation costs for special end tubular goods shall be calculated using the interstate truck rate from Houston, Texas, to the
53 Railway Receiving Point.
54
55 (4) Transportation costs for Material other than that described in Sections IV.2.B.(1) through (3), shall be calculated from the
56 Supply Store or point of manufacture, whichever is appropriate, to the Railway Receiving Point

57
58 Regardless of whether using CEPS or manually calculating transportation costs, transportation costs from the Railway Receiving Point
59 to the Joint Property are in addition to the foregoing, and may be charged to the Joint Account based on actual costs incurred. All
60 transportation costs are subject to Equalized Freight as provided in Section II.4 (*Transportation*) of this Accounting Procedure.

61
62 **C. TAXES**

63
64 Sales and use taxes shall be added to the Material transfer price using either the method contained in the COPAS Computerized
65 Equipment Pricing System (CEPS) or the applicable tax rate in effect for the Joint Property at the time and place of transfer. In either
66 case, the Joint Account shall be charged or credited at the rate that would have governed had the Material been a direct purchase.

1 D. CONDITION
2

3 (1) Condition "A" – New and unused Material in sound and serviceable condition shall be charged at one hundred percent (100%)
4 of the price as determined in Sections IV.2.A (*Pricing*), IV.2.B (*Freight*), and IV.2.C (*Taxes*). Material transferred from the
5 Joint Property that was not placed in service shall be credited as charged without gain or loss; provided, however, any unused
6 Material that was charged to the Joint Account through a direct purchase will be credited to the Joint Account at the original
7 cost paid less restocking fees charged by the vendor. New and unused Material transferred from the Joint Property may be
8 credited at a price other than the price originally charged to the Joint Account provided such price is approved by the Parties
9 owning such Material, pursuant to Section 1.6.A (*General Matters*). All refurbishing costs required or necessary to return the
10 Material to original condition or to correct handling, transportation, or other damages will be borne by the divesting property.
11 The Joint Account is responsible for Material preparation, handling, and transportation costs for new and unused Material
12 charged to the Joint Property either through a direct purchase or transfer. Any preparation costs incurred, including any internal
13 or external coating and wrapping, will be credited on new Material provided these services were not repeated for such Material
14 for the receiving property.

15
16 (2) Condition "B" – Used Material in sound and serviceable condition and suitable for reuse without reconditioning shall be priced
17 by multiplying the price determined in Sections IV.2.A (*Pricing*), IV.2.B (*Freight*), and IV.2.C (*Taxes*) by seventy-five percent
18 (75%).

19
20 Except as provided in Section IV.2.D(3), all reconditioning costs required to return the Material to Condition "B" or to correct
21 handling, transportation or other damages will be borne by the divesting property.

22
23 If the Material was originally charged to the Joint Account as used Material and placed in service for the Joint Property, the
24 Material will be credited at the price determined in Sections IV.2.A (*Pricing*), IV.2.B (*Freight*), and IV.2.C (*Taxes*) multiplied
25 by sixty-five percent (65%).

26
27 Unless otherwise agreed to by the Parties that paid for such Material, used Material transferred from the Joint Property that was
28 not placed in service on the property shall be credited as charged without gain or loss.

29
30 (3) Condition "C" – Material that is not in sound and serviceable condition and not suitable for its original function until after
31 reconditioning shall be priced by multiplying the price determined in Sections IV.2.A (*Pricing*), IV.2.B (*Freight*), and IV.2.C
32 (*Taxes*) by fifty percent (50%).

33
34 The cost of reconditioning may be charged to the receiving property to the extent Condition "C" value, plus cost of
35 reconditioning, does not exceed Condition "B" value.

36
37 (4) Condition "D" – Material that (i) is no longer suitable for its original purpose but useable for some other purpose, (ii) is
38 obsolete, or (iii) does not meet original specifications but still has value and can be used in other applications as a substitute for
39 items with different specifications, is considered Condition "D" Material. Casing, tubing, or drill pipe used as line pipe shall be
40 priced as Grade A and B seamless line pipe of comparable size and weight. Used casing, tubing, or drill pipe utilized as line
41 pipe shall be priced at used line pipe prices. Casing, tubing, or drill pipe used as higher pressure service lines than standard line
42 pipe, e.g., power oil lines, shall be priced under normal pricing procedures for casing, tubing, or drill pipe. Upset tubular goods
43 shall be priced on a non-upset basis. For other items, the price used should result in the Joint Account being charged or credited
44 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*
45 *Matters*).

46
47 (5) Condition "E" – Junk shall be priced at prevailing scrap value prices.
48

49 E. OTHER PRICING PROVISIONS
5051 (1) Preparation Costs
52

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

60 (2) Loading and Unloading Costs
61

62
63 Loading and unloading costs related to the movement of the Material to the Joint Property shall be charged in accordance with
64 the methods specified in COPAS MFI-38 ("Material Pricing Manual").
65
66

1 **3. DISPOSITION OF SURPLUS**

2
3 Surplus Material is that Material, whether new or used, that is no longer required for Joint Operations. The Operator may purchase, but
4 shall be under no obligation to purchase, the interest of the Non-Operators in surplus Material.

5
6 Dispositions for the purpose of this procedure are considered to be the relinquishment of title of the Material from the Joint Property to
7 either a third party, a Non-Operator, or to the Operator. To avoid the accumulation of surplus Material, the Operator should make good
8 faith efforts to dispose of surplus within twelve (12) months through buy/sale agreements, trade, sale to a third party, division in kind, or
9 other dispositions as agreed to by the Parties.

10
11 Disposal of surplus Materials shall be made in accordance with the terms of the Agreement to which this Accounting Procedure is
12 attached. If the Agreement contains no provisions governing disposal of surplus Material, the following terms shall apply:

- 13
14 • The Operator may, through a sale to an unrelated third party or entity, dispose of surplus Material having a gross sale value that
15 is less than or equal to the Operator's expenditure limit as set forth in the Agreement to which this Accounting Procedure is
16 attached without the prior approval of the Parties owning such Material.
- 17
18 • If the gross sale value exceeds the Agreement expenditure limit, the disposal must be agreed to by the Parties owning such
19 Material.
- 20
21 • Operator may purchase surplus Condition "A" or "B" Material without approval of the Parties owning such Material, based on
22 the pricing methods set forth in Section IV.2 (*Transfers*).
- 23
24 • Operator may purchase Condition "C" Material without prior approval of the Parties owning such Material if the value of the
25 Materials, based on the pricing methods set forth in Section IV.2 (*Transfers*), is less than or equal to the Operator's expenditure
26 limitation set forth in the Agreement. The Operator shall provide documentation supporting the classification of the Material as
27 Condition C.
- 28
29 • Operator may dispose of Condition "D" or "E" Material under procedures normally utilized by Operator without prior approval
30 of the Parties owning such Material.

31
32 **4. SPECIAL PRICING PROVISIONS**

33
34 **A. PREMIUM PRICING**

35
36 Whenever Material is available only at inflated prices due to national emergencies, strikes, government imposed foreign trade
37 restrictions, or other unusual causes over which the Operator has no control, for direct purchase the Operator may charge the Joint
38 Account for the required Material at the Operator's actual cost incurred in providing such Material, making it suitable for use, and
39 moving it to the Joint Property. Material transferred or disposed of during premium pricing situations shall be valued in accordance
40 with Section IV.2 (*Transfers*) or Section IV.3 (*Disposition of Surplus*), as applicable.

41
42 **B. SHOP-MADE ITEMS**

43
44 Items fabricated by the Operator's employees, or by contract laborers under the direction of the Operator, shall be priced using the
45 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
46 scrap or junk account, the Material shall be priced at either twenty-five percent (25%) of the current price as determined in Section
47 IV.2.A (*Pricing*) or scrap value, whichever is higher. In no event shall the amount charged exceed the value of the item
48 commensurate with its use.

49
50 **C. MILL REJECTS**

51
52 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
53 Section IV.2 (*Transfers*). Line pipe converted to casing or tubing with casing or tubing couplings attached shall be priced as K-55/J-
54 55 casing or tubing at the nearest size and weight.

55
56
57 **V. INVENTORIES OF CONTROLLABLE MATERIAL**

58
59
60 The Operator shall maintain records of Controllable Material charged to the Joint Account, with sufficient detail to perform physical inventories.

61
62 Adjustments to the Joint Account by the Operator resulting from a physical inventory of Controllable Material shall be made within twelve (12)
63 months following the taking of the inventory or receipt of Non-Operator inventory report. Charges and credits for overages or shortages will be
64 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
65 physical inventory unless the inventorying Parties can provide sufficient evidence another Material condition applies.

1 **1. DIRECTED INVENTORIES**

2
3 Physical inventories shall be performed by the Operator upon written request of a majority in working interests of the Non-Operators
4 (hereinafter, "directed inventory"); provided, however, the Operator shall not be required to perform directed inventories more frequently
5 than once every five (5) years. Directed inventories shall be commenced within one hundred eighty (180) days after the Operator receives
6 written notice that a majority in interest of the Non-Operators has requested the inventory. All Parties shall be governed by the results of
7 any directed inventory.
8

9 Expenses of directed inventories will be borne by the Joint Account; provided, however, costs associated with any post-report follow-up
10 work in settling the inventory will be absorbed by the Party incurring such costs. The Operator is expected to exercise judgment in keeping
11 expenses within reasonable limits. Any anticipated disproportionate or extraordinary costs should be discussed and agreed upon prior to
12 commencement of the inventory. Expenses of directed inventories may include the following:
13

- 14 A. A per diem rate for each inventory person, representative of actual salaries, wages, and payroll burdens and benefits of the personnel
15 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
16 be applied to a reasonable number of days for pre-inventory work and report preparation.
17
18 B. Actual transportation costs and Personal Expenses for the inventory team.
19
20 C. Reasonable charges for report preparation and distribution to the Non-Operators.
21

22 **2. NON-DIRECTED INVENTORIES**

23
24 A. OPERATOR INVENTORIES

25
26 Physical inventories that are not requested by the Non-Operators may be performed by the Operator, at the Operator's discretion. The
27 expenses of conducting such Operator-initiated inventories shall not be charged to the Joint Account.
28

29 B. NON-OPERATOR INVENTORIES

30
31 Subject to the terms of the Agreement to which this Accounting Procedure is attached, the Non-Operators may conduct a physical
32 inventory at reasonable times at their sole cost and risk after giving the Operator at least ninety (90) days prior written notice. The
33 Non-Operator inventory report shall be furnished to the Operator in writing within ninety (90) days of completing the inventory
34 fieldwork.
35

36 C. SPECIAL INVENTORIES

37
38 The expense of conducting inventories other than those described in Sections V.1 (*Directed Inventories*), V.2.A (*Operator*
39 *Inventories*), or V.2.B (*Non-Operator Inventories*), shall be charged to the Party requesting such inventory; provided, however,
40 inventories required due to a change of Operator shall be charged to the Joint Account in the same manner as described in Section
41 V.1 (*Directed Inventories*).
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PREPARED DIRECT TESTIMONY

BRANDON BINFORD - GEOLOGIST

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

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

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

5 A2. My responsibilities include geology operations and development planning of the
6 Utica/Point Pleasant Formation. I am involved in all phases of Utica/Point Pleasant
7 resource development. The development process starts by identifying the optimum
8 horizontal wellbore azimuth based on multiple data types like microseismic, geophysical
9 and electric logs, and core data. The preferred azimuth direction is based on how the
10 target formation will behave when hydraulically fractured during the completion process.
11 Once I have deciphered the optimum wellbore azimuth, I begin looking for viable surface
12 locations to construct well pads. The horizontal wells are then planned to originate from
13 these surface locations and are planned to be drilled on very specific dates based on a
14 variety of different factors. It is ideal to find well pads that are suitable for multi-well
15 development because this minimizes surface impact and makes the drilling and
16 completion process very efficient. Once the well pad locations have been negotiated with
17 the surface owners, I coordinate with licensed surveyors and our internal regulatory
18 department to secure well permits. After we receive a fully permitted well, I work with
19 directional planning consultants to create suitable wellbore plans, or directional plans,
20 which allow us to drill horizontally, sometimes over 10,000'. Finally, I communicate
21 with the drilling consultants and contractors on the well pad location to successfully drill
22 the lateral wellbore in the targeted stratigraphic interval (i.e. "geosteering" the well). In
23 addition, I do regional Appalachian Basin analysis, detailed structure and isopach
24 mapping, special core analysis, and serve as Geosteering Coordinator for the Utica/Point
25 Pleasant Formation.

26 **Q3. Describe your educational background.**

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

1 the University of Colorado.

2 **Q4. Describe your professional experience.**

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

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

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

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

14 A6. Yes.

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

17 A7. The Hall Unit consists of 65 separate tracts of land totaling approximately 595.653 acres
18 in Noble County, Ohio. Exhibit 1-A.2 to the Unit Agreement shows the geologic
19 location of the proposed unit in Noble County. The Unitized Formation described in the
20 Application is the subsurface portion of the Hall Unit at a depth from 50' above the top of
21 the Utica Shale, to 50' below the base of the Point Pleasant Formation.

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

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

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

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

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

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

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

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

31 A11. Wireline log data is obtained from vertical wells called “pilot wells” and older

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

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

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

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

12 A13. The Utica Shale and Point Pleasant Formations.

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

14 A14. The Utica Shale and Point Pleasant Formation were chosen to be part of the Hall Unit
15 because we believe they are both part of the same pool. We will drill a target zone in the
16 Point Pleasant Formation, but believe our hydraulic fracturing operations will go through
17 the Point Pleasant and into the Utica Shale. Based on our geologic understanding of the
18 Utica Shale and Point Pleasant Formation, the main reservoir is the Point Pleasant
19 Formation. That is from where most of the hydrocarbons are produced. However, we
20 have seen natural fracturing, porosity, and oil/gas accumulation in cores taken from the
21 Utica Shale, and believe that our hydraulically created fractures will penetrate and drain a
22 small portion of that formation.

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

25 A15. It is approximately 7,600' to the top of the Utica/Point Pleasant Formation.

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

27 A16. Exhibit 2-A is a map of southeastern Ohio showing the area where the Hall Unit is being
28 proposed, highlighted in pink, as well as several key producing Utica/Point Pleasant
29 horizontal wells. Exhibit 2-B is Cross Section A-A' of three keys wells surrounding the
30 Hall Unit, the Miley 5H Pilot, Carrizo Rector 1-S Pilot, and ET Rubel 1 Pilot (see Exhibit

1 2-A for location of the cross section wells). The log data displayed are gamma ray in
2 track 1 and resistivity in track 2. As particularly seen on this exhibit the log data show
3 that the Utica/Point Pleasant Formation does not change within or across the proposed
4 Hall Unit; the stratigraphy is regionally very consistent. Geologic properties, like
5 thickness and resistivity, are constant throughout the Hall Unit.

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

7 A17. Yes. The log data demonstrate that formation thickness remains relatively constant across
8 the unit. Porosity and resistivity will be relatively uniform, and the thermal maturity of
9 the rock, which applies to BTU and liquids content, is the same across the unit. Based on
10 the foregoing, in my professional opinion, the area within the proposed Hall Unit
11 boundary is all one geologic unit, or part of the same pool.

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

15 A18. An appropriate method of allocation would be on a surface acreage basis. The relative
16 thickness and reservoir quality of the Utica/Point Pleasant Formation is expected to be
17 consistent across the Hall Unit. There are no substantial variations expected across the
18 proposed unit and therefore there is no geologic reason to allocate production using a
19 method other than surface acreage.

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

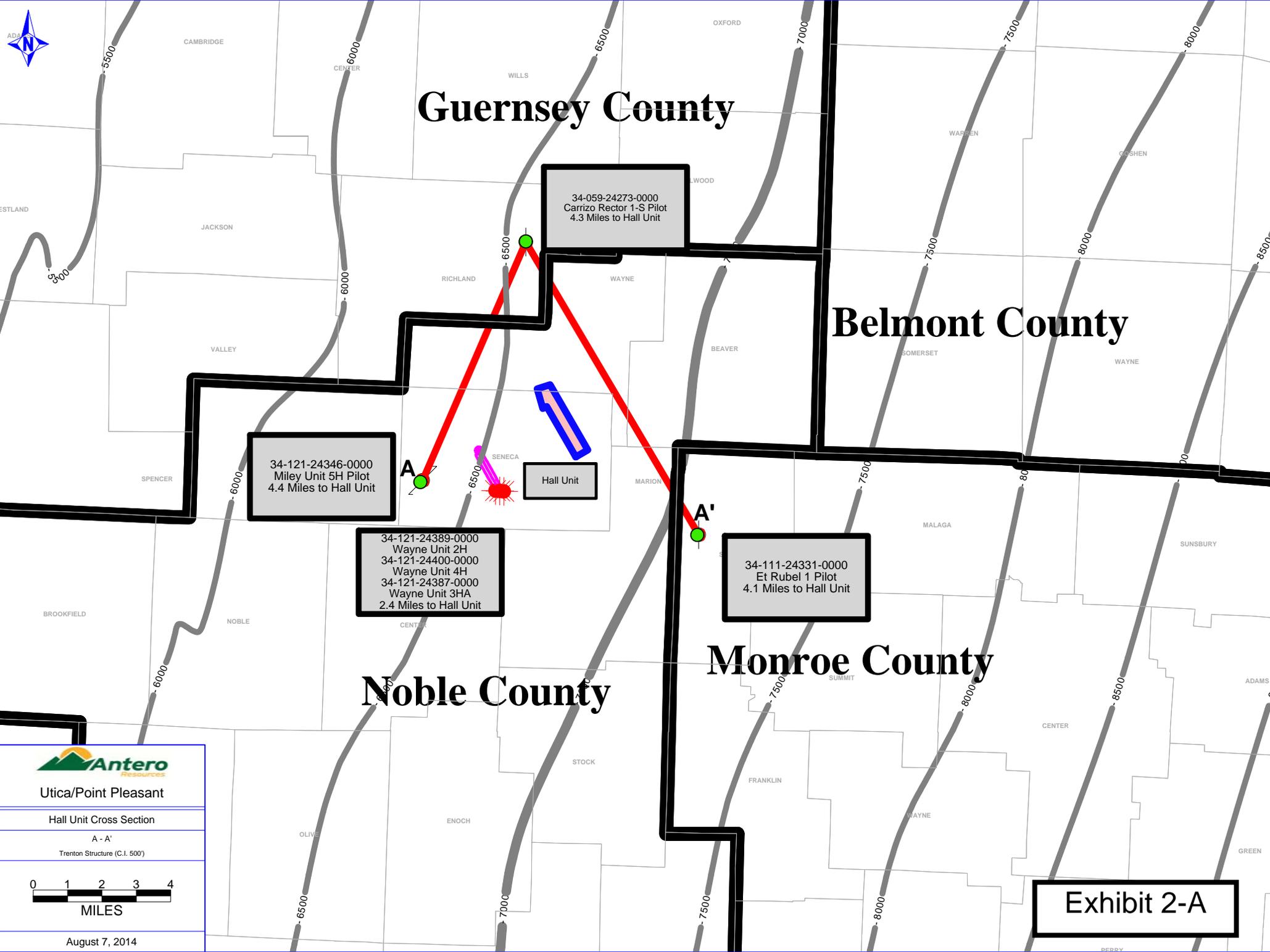
21 A19. Yes.

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

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

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

27 A21. Yes.




Antero
 Utica/Point Pleasant

Hall Unit Cross Section
 A - A'
 Trenton Structure (C.I. 500')

0 1 2 3 4
 MILES

August 7, 2014

Exhibit 2-A

34121243460000
ANTERO RESOURCES CORPORATION
MILEY 5H Pilot

34059242730000
CARRIZO UTICA LLC
RECTOR PILOT

34111243310000
ANTERO RESOURCES CORPORATION
ET RUBEL 1 PILOT

<7.61MI>

<9.88MI>

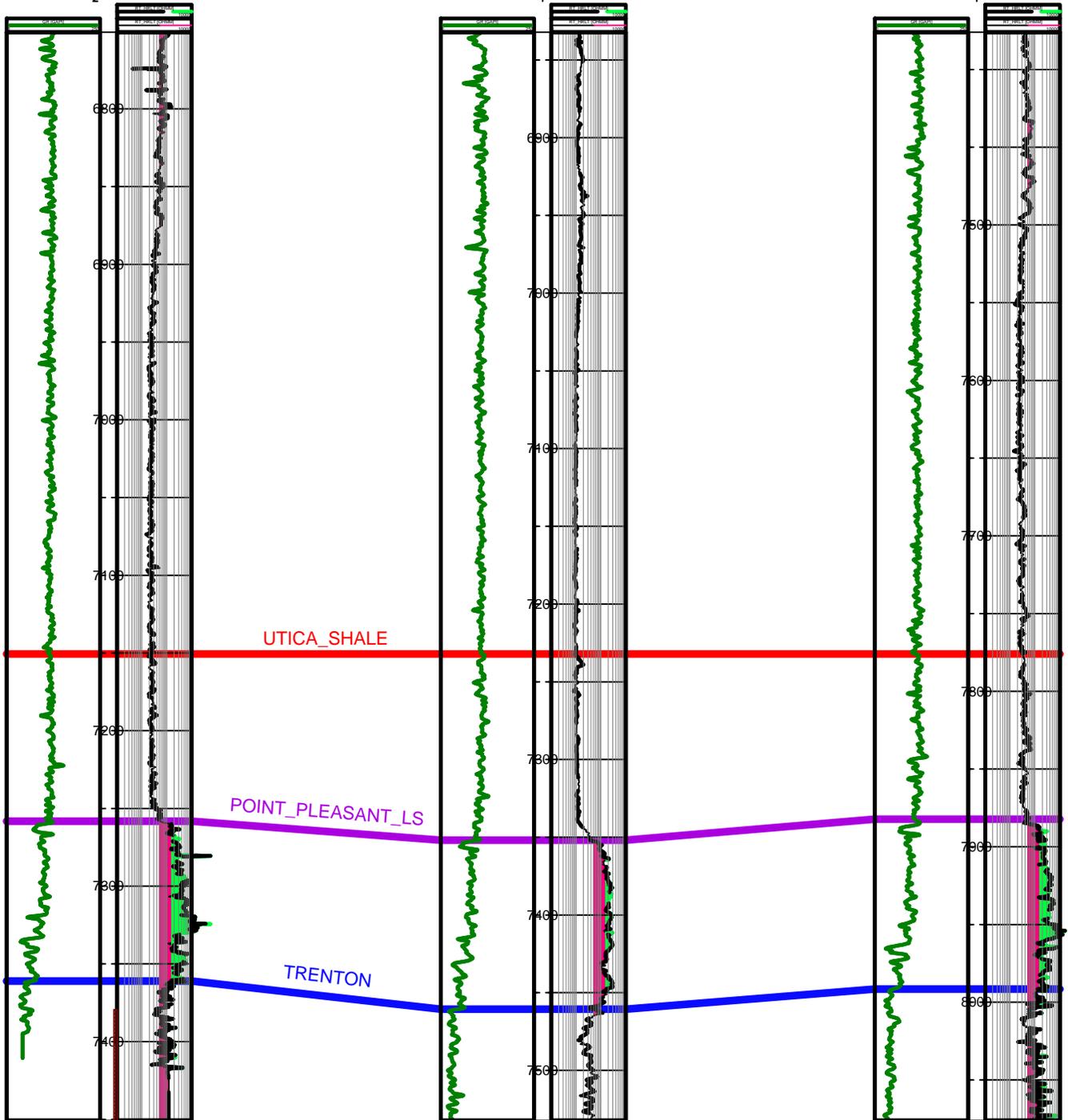


Exhibit 2-B



Antero Resources Corporation

Appalachian Basin - Utica Shale

West-East Stratigraphic Cross Section

Hall Unit Offset Cross Section

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

August 7, 2014 11:33 AM

PREPARED DIRECT TESTIMONY

HAL HOGSETT

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

2 A1. My name is Hal Hogsett. I am a Reservoir Engineer with Antero Resources Corporation.
3 My business address is 1615 Wynkoop Street, Denver, Colorado 80202

4 **Q2. Can you please describe your educational background?**

5 A2. I hold a Bachelors of Science degree in Petroleum Engineering from The University of
6 Texas in Austin.

7 **Q3. Describe your professional experience.**

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

15 **Q4. Are you a member of any professional associations?**

16 A4. I have been a member of the Society of Petroleum Engineers for ten years in Colorado,
17 Oklahoma and Texas. I am also a member of the Young Professionals in Energy, where I
18 have previously held an executive board position.

19 **Q5. What does being a Reservoir Engineer entail?**

20 A5. As a Reservoir Engineer at Antero Resources, I am responsible for quantifying
21 hydrocarbon volumes in the Utica/Point Pleasant Shale formation. I prepare quarterly
22 SEC reserve estimates for the Utica. I coordinate gathering of data such as PVT
23 sampling, gas analysis along with pressure surveys used in preparing reserve estimates.
24 Some of the tools I use to estimate reserves include decline curve analysis, rate transient
25 analysis, and volumetric calculations.

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

1 A6. Yes, it is estimated that if the Hall Unit was developed by drilling two laterals greater
2 than 11,000' as proposed, 595 acres would be effectively developed and 30.1 Bcfe would
3 be recovered. The calculations are summarized in Exhibit 3-A.

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

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

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

12 A7. Yes, if we were not able to unitize the Hall Unit, we would be limited to drilling the same
13 two laterals, however we would have to “stand-off” on both of the laterals. In other
14 words, we are anticipating that we would be granted a “No Perforation Zone” that would,
15 in effect, shorten the completed portion of the lateral by 1,030'. I have estimated the
16 quantity of reserves attributable to the unstimulated portion of the laterals to be 1.4 Bcfe.
17 Without unitization, reserves attributable to the unstimulated lateral would be stranded
18 and not produced. Thus, of the 30.1 Bcfe potentially recoverable reserves, only 28.7
19 Bcfe could be produced, leaving 1.4 Bcfe stranded.

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

22 A8. No, vertical well drilling is more applicable in a thicker, more permeable productive
23 interval. Horizontal drilling, utilizing hydraulic fracturing is necessary in tight shale
24 formations such as the Utica/Point Pleasant in order to increase the surface area exposed
25 to the hydrocarbon bearing reservoir. This provides more conduits by which the
26 hydrocarbons can be drained. Without horizontal drilling and stimulation, the
27 permeability is too low to produce sufficient quantities of product to justify the expense
28 of drilling.

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

1 A9. The results of my calculations are summarized in Exhibit 3-A. In the Unitized
2 development plan, we would develop 595 acres of the Utica/Point Pleasant by drilling
3 two wells greater than 11,000' in length, or 22,948' in total. Without unitization, we
4 would still assume the costs associated with drilling and casing the wells, but would only
5 stimulate 21,917' of lateral, leaving 1,030' stranded. With unitization we would produce
6 from an additional 5% of lateral, for an additional investment of 3%. With unitization,
7 we would recover an incremental 5% of otherwise stranded hydrocarbons.

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

10 A10. No, the increased production is not solely attributable to production associated with the
11 unleased parcels, but also the production from all of the acreage that would otherwise be
12 stranded without unitization. Aside from the 0.9 unleased acres, there are a number of
13 leased parties who would like to participate in the Hall Unit. These mineral owners have
14 willingly entered into leases which allow for the production of oil and gas from their
15 property. The "No Perforation Zone" reduces but does not eliminate the waste. There
16 would still be interest associated with the willing parties that would be stranded and
17 likely never developed if unitization is not granted.

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

20 A11. Absolutely. Without unitization we would be stranding 1.4 Bcfe of hydrocarbons under
21 the proposed Hall Unit. I believe that the proposed unitization of the Hall Unit is
22 necessary to be protective of correlative rights of all mineral owners within the unit while
23 effectively and prudently maximizing recovery of hydrocarbons.

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

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

1 project.

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

3 A13. For preparation of economics, flat pricing was used reflective of current market
4 conditions. NYMEX pricing for gas was \$3.50/MMBTU and WTI oil pricing of
5 \$65/Bbl. I also included NGLs attributable to gas processing in my economic analysis.
6 It is estimated that gas in this area is approximately 1300 BTU. Pricing for NGLs is
7 \$28.84/bbl for this heating value of gas.

8 **Q14. What about anticipated capital and operating expenses?**

9 A14. Capital and operating expenses were incorporated in my analysis. The total estimated
10 capital is based on the capital costs for both the drilling and completion process. The
11 basis for this estimate comes from recent costs we have experienced and incurred in our
12 early Utica drilling. Our operations group calculates a cost for various lateral lengths
13 which are scaled based on the respective lateral length of each well in the Hall Unit. The
14 operating expenses are based on operating experience we have from similar operating
15 areas in West Virginia and Ohio. I look at total operating costs allocated to each well.
16 The costs are then categorized as a fixed or variable cost. Operating costs incorporated in
17 this analysis are both fixed and variable cost estimates.

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

20 A15. Yes, however there was not a feasible solution for alternative development. Other
21 potential locations were ruled out due to ownership, topography, culture, and setback
22 from dwelling requirements that made it difficult to locate an alternative pad site that
23 would be suitable to develop all of the minerals. We have already constructed the pad,
24 and by utilizing the existing pad maximizes efficiency, minimizes surface disturbance,
25 and is the most sensible decision operationally, environmentally, and economically.

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

29 A16. Yes. The capital expense is \$29.5 million for the unitized project, as compared to \$28.7
30 million for the un-unitized project. The present value of the proposed project is \$13.8

1 million as compared to \$12.7 million without approval of this application for unit
2 operations. For an additional \$0.9 million in capital, Antero could recover hydrocarbons
3 valued at \$1.1 million. Thus, the economic benefits of unitization outweigh the
4 additional costs necessary for unit development.

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

6 A17. Yes.

Exhibit 3-A - Antero Hall Unit Unitization Engineering Testimony

Unitized Hall Unit (Optimum Development)							
Well Name	Completed Lateral Length (feet)	Gross Capital (\$MM)	Net PV10 (\$MM)	Gross Residue Gas (Bcf)	Gross Wellhead Condensate (Mbbbls)	Gross Processed NGLs (Mbbbls)	Gross Reserves (Bcfe)
Hall Unit 1H	11,590	\$ 14.9	\$ 7.0	9.4	289	670	15.2
Hall Unit 2H	11,358	\$ 14.6	\$ 6.8	9.2	283	657	14.9
Total Hall Unit	22,948	\$ 29.5	\$ 13.8	18.7	572	1,327	30.1

Non-Unitized Hall Unit (Stranded Reserves Associated with Stand-off)							
Well Name	Completed Lateral Length (feet)	Gross Capital (\$MM)	Net PV10 (\$MM)	Gross Residue Gas (Bcf)	Gross Wellhead Condensate (Mbbbls)	Gross Processed NGLs (Mbbbls)	Gross Reserves (Bcfe)
Hall Unit 1H	11,075	\$ 14.5	\$ 6.4	9.0	276	640	14.5
Hall Unit 2H	10,842	\$ 14.2	\$ 6.3	8.8	270	627	14.2
Total Hall Unit	21,917	\$ 28.7	\$ 12.7	17.8	546	1,267	28.7

Difference							
Well Name	Completed Lateral Length (feet)	Gross Capital (\$MM)	Net PV10 (\$MM)	Gross Residue Gas (Bcf)	Gross Wellhead Condensate (Mbbbls)	Gross Processed NGLs (Mbbbls)	Gross Reserves (Bcfe)
Hall Unit 1H	515	\$ 0.4	\$ 0.5	0.4	13	30	0.7
Hall Unit 2H	515	\$ 0.4	\$ 0.5	0.4	13	30	0.7
Total Hall Unit	1,030	\$ 0.9	\$ 1.1	0.8	26	60	1.4
Incremental %	5%	3%	9%	5%	5%	5%	5%

Hall Operating Costs

	<u>\$/Year</u>	<u>\$/Month</u>
Lease Operating Expenses	\$ 77	\$ 6
Gathering/Compression	\$ 428	\$ 36
<u>NGL Processing (required to meet pipeline spec.)</u>	<u>\$ 315</u>	<u>\$ 26</u>

Average Estimated Annual Operating Costs (Per Well, 5 Year Average)	\$ 820	\$ 68
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*Subsequent years would decrease, as the majority of these costs are dependent on production volumes

PREPARED DIRECT TESTIMONY

KENNETH VAUGHN - LANDMAN

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

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

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

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

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

11 A3. I graduated from the University of Oklahoma with a Bachelor's degree in Energy
12 Management.

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

14 A4. I began working with Antero in July 2010. I worked the Woodford Shale of Oklahoma
15 for approximately one year, the Marcellus Shale in West Virginia for about one year, and
16 most recently the Utica Shale for the past two plus years. Over the past year, I have been
17 focused on our operational efforts in the Utica in which I have helped develop the play
18 through lease acquisitions and negotiations, title review, unit formation, wellbore
19 planning, joint operating agreement negotiations, various permitting activities, and other
20 related duties.

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

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

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

25 A6. I have been involved with pooling oil and gas interests in each of the states that I have
26 worked in and have been involved with the preparation of this Application for the Hall
27 Unit.

28 **Q7. Can you briefly describe the proposed Hall Unit?**

1 A7. The Hall Unit consists of 65 separate tracts of land, totaling 595.653 acres more or less in
2 Noble County, Ohio.

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

4 A8. Within the Hall Unit we plan to drill and complete two (2) horizontal wells, all to be
5 drilled from the same surface location at the south end of the Unit. Exhibit 4-A depicts
6 the surface location as well as the planned wellbore path for each of the Hall Unit wells.
7 We would like to drill the initial well, being the Hall Unit 1H, in April of next year, with
8 the other well to be drilled immediately following. Development of the Utica in this
9 manner is ideal as it provides several economic and environmental benefits. Drilling,
10 completing, and producing multiple horizontal wells from a single surface location
11 provides maximum production efficiency while substantially reducing the disturbed area
12 and surface impact. This type of development will also protect the correlative rights of
13 the mineral and working interest owners within the unit.

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

15 A9. Antero and its Working Interest partners Eclipse Resources I, LP and Artex own the oil
16 and gas rights to 594.733 acres of the proposed 595.6530 acre unit, which is
17 approximately 99.8455% of the Unit. Antero acquired its working interest in this Unit
18 through the acquisition of a portion of Eclipse's existing leasehold interest as well as our
19 own independent leasing effort. Specifically, Antero purchased a 70% interest of
20 Eclipse's leasehold in this area of the state, of which approximately 75.035 acres fall
21 within the Hall Unit. This represents 12.5971% of the Unit. We also had numerous field
22 agents run title and work with mineral owners in order to obtain an additional 35 leases
23 covering 455.247 acres. Pursuant to an agreement with Eclipse, Antero assigned 30% of
24 a majority of these additional acquired leases to Eclipse. In all, through its various
25 leasing efforts, Antero has acquired the rights to approximately 71.24022% of the Unit
26 and Eclipse has acquired rights to 17.78510% of the Unit. In addition to the leasehold
27 interest owned by Antero and Eclipse, Artex Oil Company also has a 10.82023% interest
28 in leasehold rights.

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

1 A10. Antero has been actively pursuing and acquiring oil and gas leases in this general area and
2 in this Unit specifically for almost two years and has been offering fair market bonus and
3 royalty terms along with a fair lease form. Of the leases that we acquired in this Unit
4 over the past year, the average bonus consideration that we have paid is \$6,600 per acre.
5 The highest lease bonus consideration that we gave to an individual was \$7,500. All of
6 the leases that we have taken over the past year have been at a 20% royalty.

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

8 A11. Overall, I would say yes, they were. Despite our best efforts, however, we were unable
9 to lease 3 tracts representing a total of .92 acres.

10 **Q12. Can you provide any additional information about these 3 unleased tracts?**

11 A12. All 3 unleased tracts are small lots within a subdivision. These 3 tracts have 2 owners.
12 One owner lives in Switzerland and refuses to work with Antero to acquire an oil and gas
13 lease. Antero has worked with the owner's family, who has leased with Antero, to help
14 with negotiations. Unfortunately, efforts were unsuccessful and the owner still refused to
15 negotiate. The other unleased owner lives in Ohio, and at one time, agreed to execute an
16 oil and gas lease with Antero. Before final signatures could be acquired, the owner
17 decided they no longer wanted to work with Antero, and has refused any contact after
18 that point. Again, these are small lots within a subdivision totaling 0.92 acres. The
19 attached lease log [Exhibit 4-D] details the efforts that we have made in an attempt to
20 reach an agreement with the unleased owners, including mailing certified letters with our
21 lease offer and terms, multiple phone calls, in person visits, and so forth, but even with
22 our continued efforts, we have been unable to finalize a lease agreement with these
23 remaining owners. The attached plat [Exhibit 4-A] identifies the unleased tracts as those
24 being highlighted in red. Additional information about the owners of these tracts is found
25 in Exhibit 1-A.3 to the Unit Agreement.

26

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

28 A13. The Unit Agreement, which is attached to this application as Exhibit 1 combines the oil
29 and gas rights as to all depths lying below fifty feet above the top of the Utica Shale to
30 fifty feet below the base of the Point Pleasant formation, such that we can uniformly
31 operate the Hall Unit as though it were a single lease. Pursuant to the Unit Agreement,

1 we will allocate the production proceeds from the Hall Unit among royalty interest
2 owners and working interest owners based on a surface-acreage basis. Our geology
3 testimony stated that the target formation thickness and reservoir quality of the Utica
4 formation is expected to be consistent across the entire unit and therefore allocation based
5 on surface acreage is appropriate. Under the surface acreage allocation, each tract will be
6 given its proportionate percentage by dividing the tract acreage by the total unit acreage,
7 both of which have been calculated by certified survey.

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

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

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

14 A15. Antero is the Unit Operator and makes operations decisions for the unit, in accordance
15 with the terms of a unit operating agreements it has with Eclipse Resources I, LP and
16 Artex.

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

18 A16. We are requesting that the unleased owners be offered two fair market options, which
19 would allow us to develop this unit as planned and in the most efficient way possible,
20 while also providing these owners with fair compensation for the inclusion and
21 development of their minerals. Accordingly, we request that the Chief's Unitization
22 Order give the unleased parties a 30 day option to select from the following options:
23
24 (1) Leasing at \$6,200 per acre plus an 18% royalty [High Bonus Option] of the oil and
25 gas produced from any well drilled pursuant to the Order, free and clear of all costs,
26 expenses and risks incurred in connection with the drilling and completing any such well;
27 provided that such royalty shall be payable only as to the proportionate amount the
28 acreage placed into the unit bears to the total acreage in the unit.

29
30 (2) Leasing at \$5,500 per acre plus a 20% royalty [High Royalty Option] of the oil and
31 gas produced from any well drilled pursuant to the Order, free and clear of all costs,

1 expenses and risks incurred in connection with the drilling and completing any such well;
2 provided that such royalty shall be payable only as to the proportionate amount the
3 acreage placed into the unit bears to the total acreage in the unit.

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

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

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

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

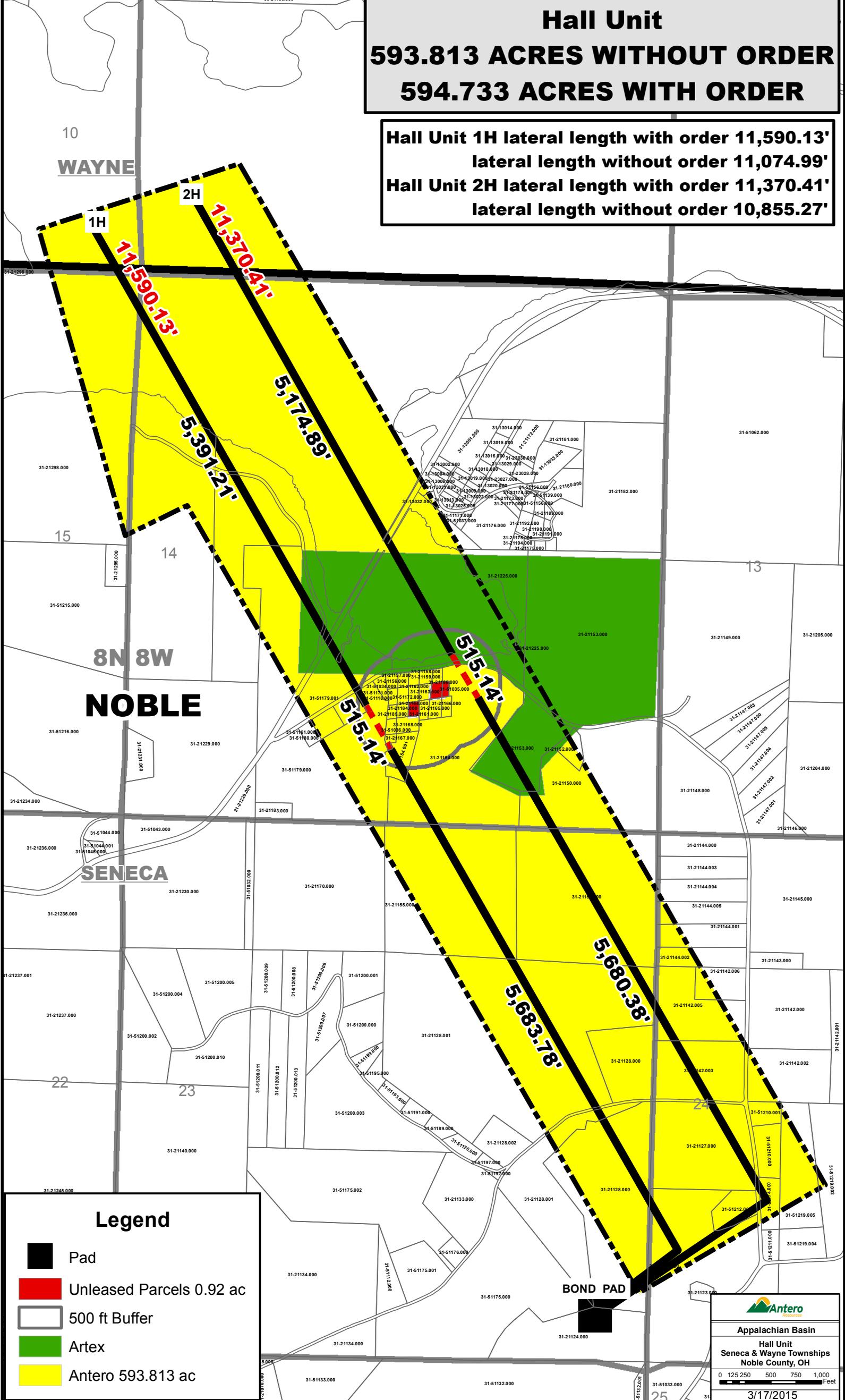
17 A18. Yes.

Hall Unit

593.813 ACRES WITHOUT ORDER

594.733 ACRES WITH ORDER

Hall Unit 1H lateral length with order 11,590.13'
 lateral length without order 11,074.99'
 Hall Unit 2H lateral length with order 11,370.41'
 lateral length without order 10,855.27'



Legend

- Pad
- Unleased Parcels 0.92 ac
- 500 ft Buffer
- Artex
- Antero 593.813 ac


Appalachian Basin
 Hall Unit
 Seneca & Wayne Townships
 Noble County, OH
 0 125 250 500 750 1,000 Feet
 3/17/2015

GUERNSEY

RICHLAND

22

1N 1W

Legend

- AS-DRILLED LATERAL
- PROPOSED LATERAL

2

WAYNE

1

9

10

11

12

NOBLE

8N 8W

16

15

MYRON

14

13

KRUPA

Hall Unit
595 ac

Becker Unit
589 ac

Frederickson Unit
383 ac

Frakes Unit
450 ac

21

22

SENECA

23

24

BOND

28

27

26

25



Appalachian Basin
Siberian Unit
Seneca and Marion Districts
Noble and Monroe Counties, OH

0 425 850 1,700 Feet

3/10/2015

AFFIDAVIT OF LEASE EFFORTS

STATE OF COLORADO)
) SS
COUNTY OF DENVER)

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

1. Affiant, Kenneth Vaughn, 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 his 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 Hall Unit and, as of the date of this affidavit, had leased more than 71.24% of those interests.
4. Despite Antero’s efforts, 3 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 Hall Unit.

Further Affiant sayeth naught.

Dated this 17th day of March, 2015.



 Kenneth Vaughn, Affiant
 Landman
 Antero Resources Corporation

ACKNOWLEDGEMENT

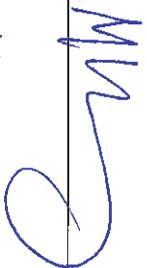
STATE OF COLORADO)
) SS
COUNTY OF Denver)

The foregoing instrument was sworn to before me, a Notary Public in and for the State of Colorado, and subscribed in my presence this 17th day of March, 2015, by Kenneth Vaughn, 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:

11-12-2018


Notary Public 

Printed Name of Notary Stephanie McCauley

(S E A L)



EXHIBIT 4: Resume of Efforts

Halsey Lois J. 1061 Garvey Road	31-0021164.000	Noble, County	Seneca, Township	Hall Unit	0.34 acres
7/31/2013	Bryan Stack called with no answer. Mailed offer letter on July 21, 2013.				
8/19/2013	Bryan Stack spoke to Lois J. Halsey, widow. Agreed to lease. Concerned about no surface. Prepared and mailed Oil and Gas Lease.				
8/30/2013	Bryan Stack took return call from Lois, she indicates she does not want to lease any longer.				
9/11/2013	Bryan Stack Called with no answer				
7/3/2014	Nick Squires located contact information. Called 614-436-3386 and could not leave message. Called 614-436-4784 and it was to a fax machine.				
7/9/2014	Nick Squires called 614-436-3386 and could not leave message. Called 614-436-4784 and it was to a fax machine.				
7/14/2014	Nick Squires called 614-436-3386 and could not leave message. Sent certified letter to 1061 Garvey Road, Columbus, OH				
7/26/2014	Lois Halsey refused receipt of certified letter. Letter Returned with "REFUSED" hand written.				
8/4/2014	Nick Squires drove to address and left card.				
8/5/2014	Nick Squires drove to address. Would not answer door. Appeared to be home. Left another card.				
8/11/2014	Nick Squires talked to Lois Halsey. She will not sign a lease. Pooling process was explained to her. She didn't care - said to stop calling her.				
10/24/2014	John White contacts Lois, he speaks with her at length, she is belligerent, she firmly refuses to meet or agree to any terms.				
11/21/2014	Chris Fields travels to home. Physically verifies address, speaks to neighbor. Neighbor indicates she is difficult. Chris Fields leaves flyer and card.				
11/28/2014	Chris Fields drives to home and leaves card. Attempts to contact neighbors, no one home. Leaves cards on all three homes.				
12/2/2014	Nick Squires Federal Expresses out OGL. Chris Fields requests pre-pooling letter from Antero.				
12/3/2014	Lessor's husband's probate attorney identified as: Kenneth C. Harman, Attorney At Law 2024 Destin Pl. S., Reynoldsburg, OH 43068 Phone: 614-986-1629				
1/9/2015	Chris Fields uses Accurant to locate all known heirs and family members. Not a single number is connected. Addresses for daughter do not appear to be current.				
1/12/2015	Chris Fields and John Caldwell travel to home. No one answers door. Contacts neighbor, he indicates he has spoke to her regarding lease.				
3/11/2015	Rick Allen called both provided phone numbers, with no answer.				
Sophia Nora Twarog Chemin du Millénaire 10 1296 Coppet Switzerland	31-0021186.000 31-0051035.000	Noble, County	Seneca, Township	Hall Unit	0.3400 acres 0.2400 acres
7/9/2013	Chris Fields spoke to Stanley Twarog, brother of Sophia Nora Twarog in Boston for assistance in contacting Sophia.				

8/10/2013	Chris Fields met with Mrs. Twarog Jorgensen Stephens, mother of Sophia Twarog. Attempted phone call to Sophia. Requested assistance with contact.
9/21/2013	Chris Fields mailed lease packet to known address in Geneva, Switzerland. Unable to Certify, out of country.
11/12/2013	Chris Fields mails out Oil and Gas Lease packet to known address in Geneva, Switzerland.
5/1/2014	Chris Fields stops by Mrs. Twarog Jorgensen Stephens (mother of Sophia) home asks to discuss Sophia's OGL, and asked to call Sophia. Sophia does not answer call.
6/26/2014	Chris Fields mails out Oil and Gas Lease packet via USPS Registered mail to Sophia Nora Twarog known address.
7/21/2014	Chris Fields receives Oil and Gas Lease packet sent via USPS Registered mail returned to sender, marked UNCLAIMED.
8/20/2014	Chris Fields emails Stan Twarog (brother of Sophia) all OGL docs for Sophia, request assistance with OGL. Outline pooling and other options in email.
9/8/2014	Chris Fields asks for assistance from Mrs. Twarog Jorgensen Stephens (mother of Sophia), Mrs. Twarog Jorgensen Stephens hand addresses OGL lease packet. Chris Fields mails packet.
10/21/2014	Chris Fields follows up with Mrs. Twarog Jorgensen Stephens (mother of Sophia), indicates Sophia does not want to sign an Oil and Gas Lease.
11/25/2014	Chris Fields travels to home, follows up with Mrs. Twarog Jorgensen Stephens (mother of Sophia), no change over Thanksgiving Holiday.
12/2/2014	Chris Fields contacted Stan Twarog (brother of Sophia Nora Twarog) via email, ask Stan to speak to Sophia, sends all Oil and Gas Lease documents via email to Stan. Stan indicates he has emailed Sophia the documents.
12/3/2014	Chris Fields mails out OGL lease paperwork to known address in Geneva, Switzerland, via Federal Express.
1/12/2015	Chris Fields and John Caldwell travel to home. No one answers door.

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

In re the Matter of the Application of Antero :
Resources Corporation for Unit Operation :
 : Application Date: March 17, 2015
Hall Unit :
 :
 :

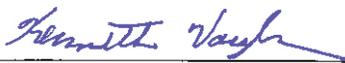
AFFIDAVIT OF OWNERSHIP

I, Kenneth Vaughn, being first duly cautioned and sworn, do hereby depose and state as follows:

1. Affiant, Kenneth Vaughn, 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. Pursuant to Ohio Revised Code §1509.28, the Applicant has filed an application with the Chief of the Division of Oil and Gas Resources Management requesting an order authorizing Applicant to operate the Unitized Formation and applicable land area, identified as the Hall Unit, according to the Unit Plan attached thereto (the “Application”) (as those terms are used and defined therein). The Hall Unit is located in Noble County, Ohio, and consists of approximately sixty-five (65) separate tracts of land covering approximately 595.653 acres.
3. As of the Application Date set forth above, the Applicant is the owner, as that term is defined in Ohio Revised Code §1509.01 (K), of at least 65% of the land overlying the Unitized Formation, as outlined in Exhibit 5 attached hereto.

Further Affiant sayeth naught.

Dated this 13th day of May, 2015.



Kenneth Vaughn, Affiant
Landman
Antero Resources Corporation

ACKNOWLEDGEMENT

STATE OF COLORADO)
) SS
COUNTY OF Denver)

The foregoing instrument was sworn to before me, a Notary Public in and for the State of Colorado, and subscribed in my presence this 13th day of May, 2015, by Kenneth Vaughn, 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:

11-12-2018

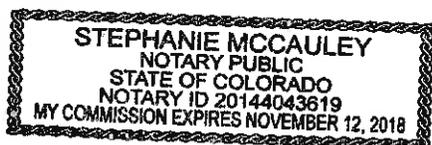


Notary Public

Stephanie McCauley

Printed Name of Notary

(S E A L)



WORKING INTEREST OWNER

APPROVAL OF

UNIT PLAN FOR THE

HALL UNIT

Wayne and Seneca Townships

Noble 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, Hall Unit, Wayne and Seneca Township, Noble County, Ohio," dated December 16, 2014 (the "Unit Agreement"); and an agreement entitled, "Operating Agreement," also regarding the Hall 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 424.345

RELATED WORKING INTEREST PERCENTAGE 71.24022%

Antero Resources Corporation

Date 3/17/2015

By: 

Name: Chris Trembl

Title: Land Manager

Tract	Owner	Parcel	Acreage
1	Muskingum Watershed Conservancy District	36-21185.000	7.201
2	Muskingum Watershed Conservancy District	36-21174.000	20.726
3	Muskingum Watershed Conservancy District	31-21298.000	16.445
4	Muskingum Watershed Conservancy District	31-21223.000	33.925
5	Muskingum Watershed Conservancy District	31-21224.000	17.585
6	Muskingum Watershed Conservancy District	31-21222.000	50.338
7	Muskingum Watershed Conservancy District	31-21198.000	6.051
8	Carol A. Miller	31-13031.000	0.113
9	Carol A. Miller	31-13032.000	0.019
10	Muskingum Watershed Conservancy District	31-21199.000	12.338
11	Muskingum Watershed Conservancy District	31-21225.000	1.940
12	Timothy S. Hall	31-51180.000	0.147
13	Rodney and Mary Enos	31-51161.000	0.815
14	The Caldwell Savings and Loan Company	31-51179.001	0.547
15	Timothy S. Hall	31-51118.000	0.547
16	Timothy S. Hall	31-51179.000	7.823
17	Timothy S. Hall	31-51034.000	0.445
18	Robert M. and Rachel M. Warnes	31-21156.000	0.239
19	Paul D. Ferguson	31-21157.000	0.239
20	Paul D. Ferguson Thomas Innocenti, Chalres H. Klein, Laura J. Klein, and	31-21158.000	0.240
21	Wendy M. Innocenti	31-21159.000	0.241
22	Daniel C. Ferguson	31-51171.000	0.239
23	Daniel C. Ferguson	31-51172.000	0.239
24	Margaret A. Cologne	31-21162.000	0.239
25	Margaret A. Cologne	31-21163.000	0.239
28	Robyn Whipple	31-21185.000	0.239
29	Paul A. Ferguson	31-21184.000	0.239
31	Margaret A. Cologne	31-21161.000	0.317
32	Katherine Foster Jorgensen Twarog Trust	31-21165.000	0.317
33	William H. Jorgensen	31-21166.000	0.317
34	Timothy and Amy O'Leary	31-51036.000	0.239
35	Timothy and Amy O'Leary	31-21168.000	0.239
36	Timothy and Amy O'Leary	31-21168.000	0.239
37	Timothy and Amy O'Leary	31-21167.000	0.135
38	Shelli Dee Hall	31-21154.001	1.690
39	Timothy S. Hall	31-21154.000	21.111
41	Roland W. Habig et al	31-21152.000	1.077
42	Patricia A. Sanford Living Trust	31-21150.000	10.912
43	Timothy S. Hall	31-21170.000	0.248
44	Timothy S. Hall	31-21155.000	21.506
45	Patricia A. Sanford Living Trust	31-21151.000	37.111
46	Kurt and Amanda Rich	31-21144.003	0.007
47	Merritt Bates	31-21144.004	0.426
48	Merritt Bates	31-21144.005	1.090
49	William J. Miller	31-21144.001	1.753
50	Daniel J. Vanderkamp and Mary L. Bates	31-21144.002	2.002
51	Jeffrey T. and Kerri L. Bond	31-21128.001	46.851
52	Barbara A. Weber	31-21128.000	29.167
53	Jacob C. Bates	31-21142.006	1.196
54	Trailway Investments LLC	31-21142.005	7.846
55	Shari Bowen	31-21142.003	9.164
56	Bryan and Amy Bates, Kendra Bates, Charles Curran	31-21142.000	0.012
57	Charles and Debra Tomcho	31-21142.002	2.264
58	Barbara A. Weber	31-21127.000	20.841
59	Dale R. Montgomery	31-51210.001	1.620
60	Dean O. Stack	31-51210.000	2.344
61	Daniel C. and Robyn K. Ferguson	31-51219.005	5.027
62	Daniel C. and Robyn K. Ferguson	31-51174.000	1.880
63	Arthur F. and Candy H. Ingles	31-51212.000	2.083

Tract	Owner	Parcel	Acreage
64	Van and Theresa Warner	31-51208.000	13.778
65	Daniel A. and Tracy Swift	31-51219.002	0.143
			424.345

Memorandum

To: Kenneth Vaughn

CC:

From: Chad Spence

Date: 5/14/2015

Re: Hall Unit | Working Interest Owner Approval of Unit Plan

Enclosed, please find Artex Energy Group LLC's ("**AEG**") approval of the Unit Plan for the Hall Unit in Wayne and Seneca Townships, Noble County, Ohio.

As per our discussions, AEG is not agreeing to be bound by the terms of the Unit Agreement or Operating Agreement referenced therein, but is rather approving the inclusion of its interest in the application for unit operations under Ohio Revised Code § 1509.28.

AEG looks forward to continuing discussions and negotiations concerning its level of participation in the Hall Unit and to reaching more definitive agreements concerning the same.

Should you have any questions, please do not hesitate to contact me.

WORKING INTEREST OWNER

APPROVAL OF

UNIT PLAN FOR THE

HALL UNIT

Wayne and Seneca Townships

Noble 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, Hall Unit, Wayne and Seneca Townships, Noble County, Ohio," dated March 17, 2015 (the "Unit Agreement"); and an agreement entitled, "Operating Agreement," also regarding the Hall 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)

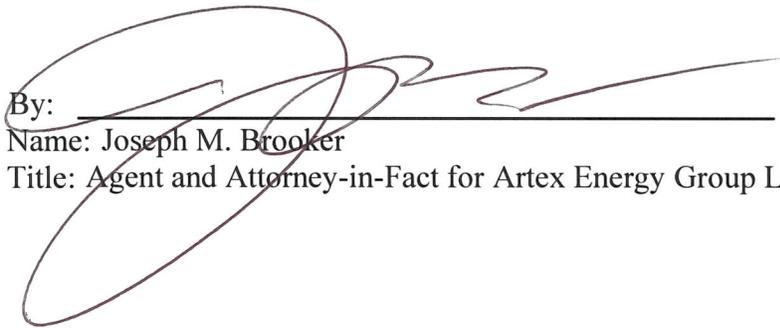
TRACT ACREAGE 64.451

RELATED WORKING INTEREST PERCENTAGE 10.82023%

Artex Energy Group LLC

Date

5/14/2015

By: 

Name: Joseph M. Brooker

Title: Agent and Attorney-in-Fact for Artex Energy Group LLC

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UNIT PLAN FOR THE

HALL UNIT

Wayne and Seneca Townships

Noble County, Ohio

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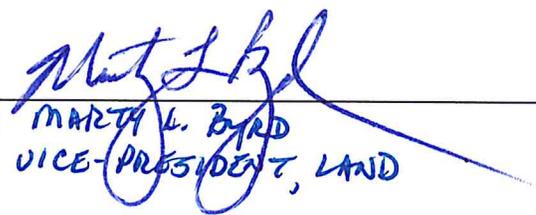
TRACT NO. (see attached)

TRACT ACREAGE 105.938

RELATED WORKING INTEREST PERCENTAGE 17.7851%

Eclipse Resources I, LP

Date 5-11-15

By: 

Name: MARtha L. Byrd

Title: VICE-PRESIDENT, LAND

WORKING INTEREST OWNER

APPROVAL OF

UNIT PLAN FOR THE

HALL UNIT

Wayne and Seneca Townships

Noble County, Ohio

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WORKING INTEREST OWNER

TRACT NO. (see attached)

TRACT ACREAGE 424.345

RELATED WORKING INTEREST PERCENTAGE 71.24022%

Antero Resources Corporation

Date 3/17/2015

By: 

Name: Chris Tremel

Title: Land Manager

Tract	Owner	Parcel	Acreage
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61	Daniel C. and Robyn K. Ferguson	31-51219.005	5.027
62	Daniel C. and Robyn K. Ferguson	31-51174.000	1.880
63	Arthur F. and Candy H. Ingles	31-51212.000	2.083

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65	Daniel A. and Tracy Swift	31-51219.002	0.143
			424.345

Tract	Owner	Parcel	Acreage
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2	Muskingum Watershed Conservancy District	36-21174.000	8.8824
3	Muskingum Watershed Conservancy District	31-21298.000	7.0479
4	Muskingum Watershed Conservancy District	31-21223.000	14.5392
5	Muskingum Watershed Conservancy District	31-21224.000	7.5363
6	Muskingum Watershed Conservancy District	31-21222.000	21.5733
7	Muskingum Watershed Conservancy District	31-21198.000	2.5932
8	Carol A. Miller	31-13031.000	0.0486
9	Carol A. Miller	31-13032.000	0.0081
10	Muskingum Watershed Conservancy District	31-21199.000	5.2875
11	Muskingum Watershed Conservancy District	31-21225.000	0.8318
12	Timothy S. Hall	31-51180.000	0.0630
13	Timothy S. Hall	31-51161.000	0.3492
14	The Caldwell Savings and Loan Company	31-51179.001	0.2346
15	Timothy Hall	31-51118.000	0.2346
16	Timothy S. Hall	31-51179.000	3.3528
17	Robert M. and Rachel M. Warnes	31-51034.000	0.1908
18	Robert M. and Rachel M. Warnes	31-21156.000	0.1023
19	Paul D. Ferguson	31-21157.000	0.1026
20	Paul D. Ferguson	31-21158.000	0.1029
21	Thomas and Wendy M. Innocenti, Charles H. and Laura J. Klein	31-21159.000	0.1032
22	Daniel C. Ferguson	31-51171.000	0.1023
23	Daniel C. Ferguson	31-51172.000	0.1023
24	Margaret A. Cologne	31-21162.000	0.1023
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28	Robyn Whipple	31-21185.000	0.1023
29	Paul A. Ferguson	31-21184.000	0.1023
31	Margaret A. Cologne	31-21161.000	0.1359
32	Katherine Foster Jorgensen Twarog Trust	31-21165.000	0.1359
33	William H. Jorgensen	31-21166.000	0.1359
34	Timothy and Amy O'Leary	31-51036.000	0.1023
35	Timothy and Amy O'Leary	31-21168.000	0.1023
36	Timothy and Amy O'Leary	31-21168.000	0.1023
37	Timothy and Amy O'Leary	31-21167.000	0.0579
38	Shelli Dee Hall	31-21154.001	0.7242
39	Timothy S. Hall	31-21154.000	9.0474
43	Timothy S. Hall	31-21170.000	0.1062
44	Timothy S. Hall	31-21155.000	9.2169
54	Trailway Investments LLC	31-21142.005	3.3624
55	Shari Bowen	31-21142.003	3.9273
60	Dean O. Stack	31-51210.000	1.0044
63	Arthur F. and Candy H. Ingles	31-51212.000	0.8925
			105.938

EXHIBIT 6

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

MODEL FORM OPERATING AGREEMENT

Hall 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~~ Noble, STATE OF Ohio

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AMERICAN ASSOCIATION OF PETROLEUM
LANDMEN, 4100 FOSSIL CREEK BLVD.
FORT WORTH, TEXAS, 76137, APPROVED FORM.

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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 as a / ^{well capable of production} ~~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 / interests therein covering tracts of land lying within the Contract Area which are owned by the parties to this agreement. ^{Force pooled}

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.

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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

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

3 **ARTICLE III.**
4 **INTERESTS OF PARTIES**

5 **A. Oil and Gas Interests:**

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

9 **B. Interests of Parties in Costs and Production:**

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

14 Regardless of which party has contributed any Oil and Gas Lease or Oil and Gas Interest on which royalty or other
15 burdens may be payable and except as otherwise expressly provided in this agreement, each party shall pay or deliver, or
16 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,
17 1/8 of 8/8ths and shall indemnify, defend and hold the other parties free from any liability therefor.

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

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

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

32 **C. Subsequently Created Interests:**

33 If any party has contributed hereto a Lease or Interest that is burdened with an assignment of production given as security
34 for the payment of money, or if, after the date of this agreement, any party creates an overriding royalty, production
35 payment, net profits interest, assignment of production or other burden payable out of production attributable to its working
36 interest hereunder, such burden shall be deemed a "Subsequently Created Interest." Further, if any party has contributed
37 hereto a Lease or Interest burdened with an overriding royalty, production payment, net profits interests, or other burden
38 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
39 burden also shall be deemed a Subsequently Created Interest to the extent such burden causes the burdens on such party's
40 Lease or Interest to exceed the amount / stipulated in Article III.B. above.

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

50 **ARTICLE IV.**
51 **TITLES**

52 **A. Title Examination:**

53 Title examination shall be made on the Drillsite of any proposed well prior to commencement of drilling operations and,
54 ~~if a majority in interest of the Drilling Parties so request or Operator so elects,~~ title examination shall be made on the entire
55 Drilling Unit, or maximum anticipated Drilling Unit, of the well. The opinion will include the ownership of the working
56 interest, minerals, royalty, overriding royalty and production payments under the applicable Leases. Each party contributing
57 Leases and/or Oil and Gas Interests to be included in the Drillsite or Drilling Unit, if appropriate, shall furnish to Operator
58 all abstracts (including federal lease status reports), title opinions, title papers and curative material in its possession free of
59 charge. All such information not in the possession of or made available to Operator by the parties, but necessary for the
60 examination of the title, shall be obtained by Operator. Operator shall cause title to be examined by attorneys on its staff or
61 by outside attorneys. Copies of all title opinions shall be furnished to each Drilling Party. Costs incurred by Operator in
62 procuring abstracts, fees paid outside attorneys **and/or landmen** for title examination (including preliminary, supplemental, shut-in royalty
63 opinions and division order title opinions), **title curative** and other direct charges as provided in Exhibit "C" shall be borne by the Drilling
64 Parties in the proportion that the interest of each Drilling Party bears to the total interest of all Drilling Parties as such
65 interests appear in Exhibit "A." Operator shall make no charge for services rendered by its staff attorneys or other personnel
66 in the performance of the above functions.

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

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

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

6 **B. Loss or Failure of Title:**

7 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
8 reduction of interest from that shown on Exhibit "A," the party credited with contributing the affected Lease or Interest
9 (including, if applicable, a successor in interest to such party) shall have ninety (90) days from final determination of title
10 failure to acquire a new lease or other instrument curing the entirety of the title failure, which acquisition will not be subject
11 to Article VIII.B., and failing to do so, this agreement, nevertheless, shall continue in force as to all remaining Oil and Gas
12 Leases and Interests; and,

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

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

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

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

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

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

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

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

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

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

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

64 ~~3. Other Losses: All losses of Leases or Interests committed to this agreement, other than those set forth in Articles~~
65 ~~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~~
66 ~~Exhibit "A." This shall include but not be limited to the loss of any Lease or Interest through failure to develop or because~~
67 ~~express or implied covenants have not been performed (other than performance which requires only the payment of money),~~
68 ~~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~~
69 ~~readjustment of interests in the remaining portion of the Contract Area on account of any joint loss.~~

70 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
71 Lease or Interest acquired by any party hereto (other than the party whose interest has failed or was lost) during the ninety
72 (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
73 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.
74 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

1 liens and encumbrances resulting therefrom except for those resulting from a bona fide dispute as to services rendered or
 2 materials supplied.

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

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

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

27 7. Drilling and Testing Operations: The following provisions shall apply to each well drilled hereunder, including but not
 28 limited to the Initial Well:

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

31 (b) Operator will send to ^{Consenting Party} / ~~Non-Operators~~ such reports, test results, and notices regarding the progress of operations on the well
 32 as the ^{Consenting Party} / ~~Non-Operators~~, **monthly production reports during the first 90 days after date of first sales**
 33 and well logs.

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

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

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

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

50 **ARTICLE VI.**
 51 **DRILLING AND DEVELOPMENT**

52 **A. Initial Well:**

53 On or before the _____ day of _____, Operator shall commence ^{actual} the / drilling of the Initial
 54 ~~with a rig on location capable of drilling the Initial well to the objective depth~~
 55 Well / at the following location:

56 **(as more accurately depicted on Exhibit A-1)**
 57
 58
 59

60 and shall thereafter continue the drilling of the **test** well with due diligence to a **true vertical depth of 8,300' or a depth**
 61 **sufficient to test the- Utica Shale formation as set forth in the AFE.**
 62
 63
 64
 65
 66

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

69 **B. Subsequent Operations:**

70 1. Proposed Operations: If any party hereto should desire to drill any well on the Contract Area other than the Initial Well, or
 71 if any party should desire to Rework, Sidetrack, Deepen, Recomplete or Plug Back a dry hole or a well no longer capable of
 72 producing in paying quantities in which such party has not otherwise relinquished its interest in the proposed objective Zone under
 73 this agreement, the party desiring to drill, Rework, Sidetrack, Deepen, Recomplete or Plug Back such a well shall give written
 74 notice of the proposed operation to the parties who have not otherwise relinquished their interest in such objective Zone

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1 under this agreement and to all other parties in the case of a proposal for Sidetracking or Deepening, specifying the work to be
2 performed, the location, proposed depth, objective Zone and the estimated cost of the operation. The parties to whom such a
3 notice is delivered shall have thirty (30) days after receipt of the notice within which to notify the party proposing to do the work
4 whether they elect to participate in the cost of the proposed operation. If a drilling rig is on location, notice of a proposal to
5 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-
6 eight (48) hours, exclusive of Saturday, Sunday and legal holidays. Failure of a party to whom such notice is delivered to reply
7 within the period above fixed shall constitute an election by that party not to participate in the cost of the proposed operation.
8 Any proposal by a party to conduct an operation conflicting with the operation initially proposed shall be delivered to all parties
9 within the time and in the manner provided in Article VI.B.6.

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

26 2. Operations by Less Than All Parties:

To rework, sidetrack, deepen, recomplete, or plug back

27 (a) Determination of Participation. If any party to whom such notice is delivered ⁷ as provided in Article VI.B.1. or
28 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
29 Article, the party or parties giving the notice and such other parties as shall elect to participate in the operation shall, no
30 later than ninety (90) days after the expiration of the notice period of thirty (30) days (or as promptly as practicable after the
31 expiration of the forty-eight (48) hour period when a drilling rig is on location, as the case may be) actually commence the
32 proposed operation and complete it with due diligence. Operator shall perform all work for the account of the Consenting
33 Parties; provided, however, if no drilling rig or other equipment is on location, and if Operator is a Non-Consenting Party,
34 the Consenting Parties shall either: (i) request Operator to perform the work required by such proposed operation for the
35 account of the Consenting Parties, or (ii) designate one of the Consenting Parties as Operator to perform such work. The
36 rights and duties granted to and imposed upon the Operator under this agreement are granted to and imposed upon the party
37 designated as Operator for an operation in which the original Operator is a Non-Consenting Party. Consenting Parties, when
38 conducting operations on the Contract Area pursuant to this Article VI.B.2., shall comply with all terms and conditions of this
39 agreement.

40 If less than all parties approve any proposed operation, the proposing party, immediately after the expiration of the
41 applicable notice period, shall advise all Parties of the total interest of the parties approving such operation and its
42 recommendation as to whether the Consenting Parties should proceed with the operation as proposed. Each Consenting Party,
43 within forty-eight (48) hours (exclusive of Saturday, Sunday, and legal holidays) after delivery of such notice, shall advise the
44 proposing party of its desire to (i) limit participation to such party's interest as shown on Exhibit "A" or (ii) carry only its
45 proportionate part (determined by dividing such party's interest in the Contract Area by the interests of all Consenting Parties in
46 the Contract Area) of Non-Consenting Parties' interests, or (iii) carry its proportionate part (determined as provided in (ii)) of
47 Non-Consenting Parties' interests together with all or a portion of its proportionate part of any Non-Consenting Parties'
48 interests that any Consenting Party did not elect to take. Any interest of Non-Consenting Parties that is not carried by a
49 Consenting Party shall be deemed to be carried by the party proposing the operation if such party does not withdraw its
50 proposal. Failure to advise the proposing party within the time required shall be deemed an election under (i). In the event a
51 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
52 total of forty-eight (48) hours—(exclusive of Saturday, Sunday and legal holidays). The proposing party, at its election, may
53 withdraw such proposal if there is less than 100% participation and shall notify all parties of such decision within ten (10)
54 days, or within twenty-four (24) hours if a drilling rig is on location, following expiration of the applicable response period.
55 If 100% subscription to the proposed operation is obtained, the proposing party shall promptly notify the Consenting Parties
56 of their proportionate interests in the operation and the party serving as Operator shall commence such operation within the
57 period provided in Article VI.B.1., subject to the same extension right as provided therein.

58 (b) Relinquishment of Interest for Non-Participation. The entire cost and risk of conducting such operations shall be
59 borne by the Consenting Parties in the proportions they have elected to bear same under the terms of the preceding
60 paragraph. Consenting Parties shall keep the leasehold estates involved in such operations free and clear of all liens and
61 encumbrances of every kind created by or arising from the operations of the Consenting Parties. If such an operation results
62 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
63 the surface location at their sole cost, risk and expense; provided, however, that those Non-Consenting Parties that
64 participated in the drilling, Deepening or Sidetracking of the well shall remain liable for, and shall pay, their proportionate
65 shares of the cost of plugging and abandoning the well and restoring the surface location insofar only as those costs were not
66 increased by the subsequent operations of the Consenting Parties. If any well drilled, Reworked, Sidetracked, Deepened,
67 Recompleted or Plugged Back under the provisions of this Article results in a well capable of producing Oil and/or Gas in
68 paying quantities, the Consenting Parties shall Complete and equip the well to produce at their sole cost and risk, and the
69 well shall then be turned over to Operator (if the Operator did not conduct the operation) and shall be operated by it at the
70 expense and for the account of the Consenting Parties. Upon commencement of operations for the drilling, Reworking,
71 Sidetracking, Recompleting, Deepening or Plugging Back of any such well by Consenting Parties in accordance with the
72 provisions of this Article, each Non-Consenting Party shall be deemed to have relinquished to Consenting Parties, and the
73 Consenting Parties shall own and be entitled to receive, in proportion to their respective interests, all of such Non-
74 Consenting Party's interest in the well and share of production therefrom or, in the case of a Reworking, Sidetracking,

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1 Deepening, Recompleting or Plugging Back, or a Completion pursuant to Article VI.C.1. Option No. 2, all of such Non-
2 Consenting Party's interest in the production obtained from the operation in which the Non-Consenting Party did not elect
3 to participate. Such relinquishment shall be effective until the proceeds of the sale of such share, calculated at the well, or
4 market value thereof if such share is not sold (after deducting applicable ad valorem, production, severance, and excise taxes,
5 royalty, overriding royalty and other interests not excepted by Article III.C. payable out of or measured by the production
6 from such well accruing with respect to such interest until it reverts), shall equal the total of the following:

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

14 (ii) 400 % of (a) that portion of the costs and expenses of drilling, Reworking, Sidetracking, Deepening,
15 Plugging Back, testing, Completing, and Recompleting, after deducting any cash contributions received under Article VIII.C.,
16 and of (b) that portion of the cost of newly acquired equipment in the well (to and including the wellhead connections),
17 which would have been chargeable to such Non-Consenting Party if it had participated therein.

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

27 (c) Reworking, Recompleting or Plugging Back. An election not to participate in the drilling, Sidetracking or
28 Deepening of a well shall be deemed an election not to participate in any Reworking or Plugging Back operation proposed in
29 such a well, or portion thereof, to which the initial non-consent election applied that is conducted at any time prior to full
30 recovery by the Consenting Parties of the Non-Consenting Party's recoupment amount. Similarly, an election not to
31 participate in the Completing or Recompleting of a well shall be deemed an election not to participate in any Reworking
32 operation proposed in such a well, or portion thereof, to which the initial non-consent election applied that is conducted at
33 any time prior to full recovery by the Consenting Parties of the Non-Consenting Party's recoupment amount. Any such
34 Reworking, Recompleting or Plugging Back operation conducted during the recoupment period shall be deemed part of the
35 cost of operation of said well and there shall be added to the sums to be recouped by the Consenting Parties 400 % of
36 that portion of the costs of the Reworking, Recompleting or Plugging Back operation which would have been chargeable to
37 such Non-Consenting Party had it participated therein. If such a Reworking, Recompleting or Plugging Back operation is
38 proposed during such recoupment period, the provisions of this Article VI.B. shall be applicable as between said Consenting
39 Parties in said well.

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

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

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

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

72 3. Stand-By Costs: When a well which has been drilled or Deepened has reached its authorized depth and all tests have
73 been completed and the results thereof furnished to the parties, or when operations on the well have been otherwise
74 terminated pursuant to Article VI.F., stand-by costs incurred pending response to a party's notice proposing a Reworking,

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1 Sidetracking, Deepening, Recompleting, Plugging Back or Completing operation in such a well (including the period required
2 under Article VI.B.6. to resolve competing proposals) shall be charged and borne as part of the drilling or Deepening
3 operation just completed. Stand-by costs subsequent to all parties responding, or expiration of the response time permitted,
4 whichever first occurs, and prior to agreement as to the participating interests of all Consenting Parties pursuant to the terms
5 of the second grammatical paragraph of Article VI.B.2. (a), shall be charged to and borne as part of the proposed operation,
6 but if the proposal is subsequently withdrawn because of insufficient participation, such stand-by costs shall be allocated
7 between the Consenting Parties in the proportion each Consenting Party's interest as shown on Exhibit "A" bears to the total
8 interest as shown on Exhibit "A" of all Consenting Parties.

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

16 4. Deepening: If less than all parties elect to participate in a drilling, Sidetracking, or Deepening operation proposed
17 pursuant to Article VI.B.1., the interest relinquished by the Non-Consenting Parties to the Consenting Parties under Article
18 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
19 of which the parties were given notice under Article VI.B.1. ("Initial Objective"). Such well shall not be Deepened beyond the
20 Initial Objective without first complying with this Article to afford the Non-Consenting Parties the opportunity to participate
21 in the Deepening operation.

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

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

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

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

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

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

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

62 ~~6. Order of Preference of Operations: Except as otherwise specifically provided in this agreement, if any party desires to
63 propose the conduct of an operation that conflicts with a proposal that has been made by a party under this Article VI, such
64 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
65 an operation on a well where no drilling rig is on location, or twenty-four (24) hours, exclusive of Saturday, Sunday and legal
66 holidays, from delivery of the initial proposal, if a drilling rig is on location for the well on which such operation is to be
67 conducted, to deliver to all parties entitled to participate in the proposed operation such party's alternative proposal, such
68 alternate proposal to contain the same information required to be included in the initial proposal. Each party receiving such
69 proposals shall elect by delivery of notice to Operator within five (5) days after expiration of the proposal period, or within
70 twenty-four (24) hours (exclusive of Saturday, Sunday and legal holidays) if a drilling rig is on location for the well that is the
71 subject of the proposals, to participate in one of the competing proposals. Any party not electing within the time required
72 shall be deemed not to have voted. The proposal receiving the vote of parties owning the largest aggregate percentage
73 interest of the parties voting shall have priority over all other competing proposals; in the case of a tie vote, the~~

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1 initial proposal shall prevail. Operator shall deliver notice of such result to all parties entitled to participate in the operation
2 within five (5) days after expiration of the election period (or within twenty-four (24) hours, exclusive of Saturday, Sunday
3 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
4 is on location) from receipt of such notice to elect by delivery of notice to Operator to participate in such operation or to
5 relinquish interest in the affected well pursuant to the provisions of Article VI.B.2.; failure by a party to deliver notice within
6 such period shall be deemed an election not to participate in the prevailing proposal.

7 7. Conformity to Spacing Pattern. Notwithstanding the provisions of this Article VI.B.2., it is agreed that no wells shall be
8 proposed to be drilled to or Completed in or produced from a Zone from which a well located elsewhere on the Contract
9 Area is producing, unless such well conforms to the then-existing well spacing pattern for such Zone.

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

13 **C. Completion of Wells; Reworking and Plugging Back:**

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

17 Option No. 1: All necessary expenditures for the drilling, Deepening or Sidetracking, testing, Completing and
18 equipping of the well, including necessary tankage and/or surface facilities.

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

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

51 **D. Other Operations:**

52 Operator shall not undertake any single project reasonably estimated to require an expenditure in excess of _____
53 Fifty Thousand Dollars (\$ 50,000.00) except in connection with the
54 drilling, Sidetracking, Reworking, Deepening, Completing, Recompleting or Plugging Back of a well that has been previously
55 authorized by or pursuant to this agreement; provided, however, that, in case of explosion, fire, flood or other sudden
56 emergency, whether of the same or different nature, Operator may take such steps and incur such expenses as in its opinion
57 are required to deal with the emergency to safeguard life and property but Operator, as promptly as possible, shall report the
58 emergency to the other parties. If Operator prepares an AFE for its own use, Operator shall furnish any Non-Operator so
59 requesting an information copy thereof for any single project costing in excess of Fifty Thousand Dollars
60 (\$ 50,000.00). Any party who has not relinquished its interest in a well shall have the right to propose that
61 Operator perform repair work or undertake the installation of artificial lift equipment or ancillary production facilities such as
62 salt water disposal wells or to conduct additional work with respect to a well drilled hereunder or other similar project (but
63 not including the installation of gathering lines or other transportation or marketing facilities, the installation of which shall
64 be governed by separate agreement between the parties) reasonably estimated to require an expenditure in excess of the
65 amount first set forth above in this Article VI.D. (except in connection with an operation required to be proposed under
66 Articles VI.B.1. or VI.C.1. Option No. 2, which shall be governed exclusively by those Articles). Operator shall deliver such
67 proposal to all parties entitled to participate therein. If within thirty (30) days thereof Operator secures the written consent
68 of any party or parties owning at least 50 % of the interests of the parties entitled to participate in such operation,
69 each party having the right to participate in such project shall be bound by the terms of such proposal and shall be obligated
70 to pay its proportionate share of the costs of the proposed project as if it had consented to such project pursuant to the terms
71 of the proposal.

72 **E. Abandonment of Wells:**

73 1. Abandonment of Dry Holes: Except for any well drilled or Deepened pursuant to Article VI.B.2., any well which has
74 been drilled or Deepened under the terms of this agreement and is proposed to be completed as a dry hole shall not be

1 plugged and abandoned without the consent of all parties. Should Operator, after diligent effort, be unable to contact any
 2 party, or should any party fail to reply within forty-eight (48) hours (exclusive of Saturday, Sunday and legal holidays) after
 3 delivery of notice of the proposal to plug and abandon such well, such party shall be deemed to have consented to the
 4 proposed abandonment. All such wells shall be plugged and abandoned in accordance with applicable regulations and at the
 5 cost, risk and expense of the parties who participated in the cost of drilling, or ~~Deepening~~ ^{sidetracking} such well. Any party who objects to
 6 plugging and abandoning such well by notice delivered to Operator within forty-eight (48) hours (exclusive of Saturday,
 7 Sunday and legal holidays) after delivery of notice of the proposed plugging shall take over the well as of the end of such
 8 forty-eight (48) hour notice period and conduct further operations in search of Oil and/or Gas subject to the provisions of
 9 Article VI.B.; failure of such party to provide proof reasonably satisfactory to Operator of its financial capability to conduct
 10 such operations or to take over the well within such period or thereafter to conduct operations on such well or plug and
 11 abandon such well shall entitle Operator to retain or take possession of the well and plug and abandon the well. The party
 12 taking over the well shall indemnify Operator (if Operator is an abandoning party) and the other abandoning parties against
 13 liability for any further operations conducted on such well except for the costs of plugging and abandoning the well and
 14 restoring the surface, for which the abandoning parties shall remain proportionately liable.

15 2. Abandonment of Wells That Have Produced / or are Capable of Production : Except for any well in which a Non-Consent operation has been
 16 conducted hereunder for which the Consenting Parties have not been fully reimbursed as herein provided, any well which has
 17 been completed as a producer ~~shall not be plugged and abandoned without the consent of all parties.~~ ^{or a well capable of production even if such well has never in fact produced} If all parties consent to
 18 such abandonment, the well shall be plugged and abandoned in accordance with applicable regulations and at the cost, risk
 19 and expense of all the parties hereto. Failure of a party to reply within ~~thirty (30) sixty (60)~~ ^{thirty (30)} days of delivery of notice of proposed
 20 abandonment shall be deemed an election to consent to the proposal. If, within ~~thirty (30) sixty (60)~~ ^{thirty (30)} days after delivery of notice of the
 21 proposed abandonment of any well, all parties do not agree to the abandonment of such well, those wishing to continue its
 22 operation from the Zone then open to production shall be obligated to take over the well as of the expiration of the
 23 applicable notice period and shall indemnify Operator (if Operator is an abandoning party) and the other abandoning parties
 24 against liability for any further operations on the well conducted by such parties. Failure of such party or parties to provide
 25 proof reasonably satisfactory to Operator of their financial capability to conduct such operations or to take over the well
 26 within the required period or thereafter to conduct operations on such well shall entitle operator to retain or take possession
 27 of such well and plug and abandon the well.

28 Parties taking over a well as provided herein shall tender to each of the other parties its proportionate share of the value of
 29 the well's salvable material and equipment, determined in accordance with the provisions of Exhibit "C," less the estimated cost
 30 of salvaging and the estimated cost of plugging and abandoning and restoring the surface; provided, however, that in the event
 31 the estimated plugging and abandoning and surface restoration costs and the estimated cost of salvaging are higher than the
 32 value of the well's salvable material and equipment, each of the abandoning parties shall tender to the parties continuing
 33 operations their proportionate shares of the estimated excess cost. Each abandoning party shall assign to the non-abandoning
 34 parties, without warranty, express or implied, as to title or as to quantity, or fitness for use of the equipment and material, all
 35 of its interest in the wellbore of the well and related equipment, together with its interest in the Leasehold insofar and only
 36 insofar as such Leasehold covers the right to obtain production from that wellbore in the Zone then open to production. If the
 37 interest of the abandoning party is or includes an Oil and Gas Interest, such party shall execute and deliver to the non-
 38 abandoning party or parties an oil and gas lease, limited to the wellbore and the Zone then open to production, for a term of
 39 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
 40 attached as Exhibit "B." The assignments or leases so limited shall encompass the Drilling Unit upon which the well is located.
 41 The payments by, and the assignments or leases to, the assignees shall be in a ratio based upon the relationship of their
 42 respective percentage of participation in the Contract Area to the aggregate of the percentages of participation in the Contract
 43 Area of all assignees. There shall be no readjustment of interests in the remaining portions of the Contract Area.

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

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

58 **F. Termination of Operations:**

59 Upon the commencement of an operation for the drilling, Reworking, Sidetracking, Plugging Back, Deepening, testing,
 60 Completion or plugging of a well, including but not limited to the Initial Well, such operation shall not be terminated without
 61 consent of parties bearing 51 % of the costs of such operation; provided, however, that in the event granite or other
 62 practically impenetrable substance or condition in the hole is encountered which renders further operations impractical,
 63 Operator may discontinue operations and give notice of such condition in the manner provided in Article VI.B.1, and the
 64 provisions of Article VI.B. or VI.E. shall thereafter apply to such operation, as appropriate.

65 **G. Taking Production in Kind:**

66 **Option No. 1: Gas Balancing Agreement Attached**

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

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

1 directly from the purchaser thereof for its share of all production.

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

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

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

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

27 **Option No. 2: No Gas Balancing Agreement:**

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

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

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

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

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

62 **ARTICLE VII.**

63 **EXPENDITURES AND LIABILITY OF PARTIES**

64 **A. Liability of Parties:**

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

1 **B. Liens and Security Interests:**

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

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

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

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

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

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

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

60 **C. Advances:**

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

70 **D. Defaults and Remedies:**

71 If any party fails to discharge any financial obligation under this agreement, including without limitation the failure to
 72 make any advance under the preceding Article VII.C. or any other provision of this agreement, within the period required for
 73 such payment hereunder, then in addition to the remedies provided in Article VII.B. or elsewhere in this agreement, the
 74 remedies specified below shall be applicable. For purposes of this Article VII.D., all notices and elections shall be delivered

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1 only by Operator, except that Operator shall deliver any such notice and election requested by a non-defaulting Non-Operator,
2 and when Operator is the party in default, the applicable notices and elections can be delivered by any Non-Operator.
3 Election of any one or more of the following remedies shall not preclude the subsequent use of any other remedy specified
4 below or otherwise available to a non-defaulting party.

5 1. Suspension of Rights: Any party may deliver to the party in default a Notice of Default, which shall specify the default,
6 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
7 or more of the remedies provided in this Article. If the default is not cured within thirty (30) days of the delivery of such
8 Notice of Default, all of the rights of the defaulting party granted by this agreement may upon notice be suspended until the
9 default is cured, without prejudice to the right of the non-defaulting party or parties to continue to enforce the obligations of
10 the defaulting party previously accrued or thereafter accruing under this agreement. If Operator is the party in default, the
11 Non-Operators shall have in addition the right, by vote of Non-Operators owning a majority in interest in the Contract Area
12 after excluding the voting interest of Operator, to appoint a new Operator effective immediately. The rights of a defaulting
13 party that may be suspended hereunder at the election of the non-defaulting parties shall include, without limitation, the right
14 to receive information as to any operation conducted hereunder during the period of such default, the right to elect to
15 participate in an operation proposed under Article VI.B. of this agreement, the right to participate in an operation being
16 conducted under this agreement even if the party has previously elected to participate in such operation, and the right to
17 receive proceeds of production from any well subject to this agreement.

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

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

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

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

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

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

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

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

62 **F. Taxes:**

63 Beginning with the first calendar year after the effective date hereof, Operator shall render for ad valorem taxation all
64 property subject to this agreement which by law should be rendered for such taxes, and it shall pay all such taxes assessed
65 thereon before they become delinquent. Prior to the rendition date, each Non-Operator shall furnish Operator information as
66 to burdens (to include, but not be limited to, royalties, overriding royalties and production payments) on Leases and Oil and
67 Gas Interests contributed by such Non-Operator. If the assessed valuation of any Lease is reduced by reason of its being
68 subject to outstanding excess royalties, overriding royalties or production payments, the reduction in ad valorem taxes
69 resulting therefrom shall inure to the benefit of the owner or owners of such Lease, and Operator shall adjust the charge to
70 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
71 upon separate valuations of each party's working interest, then notwithstanding anything to the contrary herein, charges to
72 the joint account shall be made and paid by the parties hereto in accordance with the tax value generated by each party's
73 working interest. Operator shall bill the other parties for their proportionate shares of all tax payments in the manner
74 provided in Exhibit "C."

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

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

9 **ARTICLE VIII.**

10 **ACQUISITION, MAINTENANCE OR TRANSFER OF INTEREST**

11 **A. Surrender of Leases:**

12 The Leases covered by this agreement, insofar as they embrace acreage in the Contract Area, shall not be surrendered in whole
13 or in part unless all parties consent thereto.

14 However, should any party desire to surrender its interest in any Lease or in any portion thereof, such party shall give written
15 notice of the proposed surrender to all parties, and the parties to whom such notice is delivered shall have thirty (30) days after
16 delivery of the notice within which to notify the party proposing the surrender whether they elect to consent thereto. Failure of a
17 party to whom such notice is delivered to reply within said 30-day period shall constitute a consent to the surrender of the Leases
18 described in the notice. If all parties do not agree or consent thereto, the party desiring to surrender shall assign, without express or
19 implied warranty of title, all of its interest in such Lease, or portion thereof, and any well, material and equipment which may be
20 located thereon and any rights in production thereafter secured, to the parties not consenting to such surrender. If the interest of the
21 assigning party is or includes an Oil and Gas Interest, the assigning party shall execute and deliver to the party or parties not
22 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
23 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."
24 Upon such assignment or lease, the assigning party shall be relieved from all obligations thereafter accruing, but not theretofore
25 accrued, with respect to the interest assigned or leased and the operation of any well attributable thereto, and the assigning party
26 shall have no further interest in the assigned or leased premises and its equipment and production other than the royalties retained
27 in any lease made under the terms of this Article. The party assignee or lessee shall pay to the party assignor or lessor the
28 reasonable salvage value of the latter's interest in any well's salvable materials and equipment attributable to the assigned or leased
29 acreage. The value of all salvable materials and equipment shall be determined in accordance with the provisions of Exhibit "C," less
30 the estimated cost of salvaging and the estimated cost of plugging and abandoning and restoring the surface. If such value is less
31 than such costs, then the party assignor or lessor shall pay to the party assignee or lessee the amount of such deficit. If the
32 assignment or lease is in favor of more than one party, the interest shall be shared by such parties in the proportions that the
33 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
34 varies according to depth, then the interest assigned shall similarly reflect such variances.

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

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

40 If any party secures a renewal or replacement of an Oil and Gas Lease or Interest subject to this agreement, then all other parties
41 shall be notified promptly upon such acquisition or, in the case of a replacement Lease taken before expiration of an existing Lease,
42 promptly upon expiration of the existing Lease. The parties notified shall have the right for a period of thirty (30) days following
43 delivery of such notice in which to elect to participate in the ownership of the renewal or replacement Lease, insofar as such Lease
44 affects lands within the Contract Area, by paying to the party who acquired it their proportionate shares of the acquisition cost
45 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
46 parties in the Contract Area. Each party who participates in the purchase of a renewal or replacement Lease shall be given an
47 assignment of its proportionate interest therein by the acquiring party.

48 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
49 by the parties who elect to participate therein, in a ratio based upon the relationship of their respective percentage of participation in
50 the Contract Area to the aggregate of the percentages of participation in the Contract Area of all parties participating in the
51 purchase of such renewal or replacement Lease. The acquisition of a renewal or replacement Lease by any or all of the parties hereto
52 shall not cause a readjustment of the interests of the parties stated in Exhibit "A," but any renewal or replacement Lease in which
53 less than all parties elect to participate shall not be subject to this agreement but shall be deemed subject to a separate Operating
54 Agreement in the form of this agreement.

55 If the interests of the parties in the Contract Area vary according to depth, then their right to participate proportionately in
56 renewal or replacement Leases and their right to receive an assignment of interest shall also reflect such depth variances.

57 The provisions of this Article shall apply to renewal or replacement Leases whether they are for the entire interest covered by
58 the expiring Lease or cover only a portion of its area or an interest therein. Any renewal or replacement Lease taken before the
59 expiration of its predecessor Lease, or taken or contracted for or becoming effective within six (6) months after the expiration of the
60 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
61 the renewal or replacement Lease becomes effective; but any Lease taken or contracted for more than six (6) months after the
62 expiration of an existing Lease shall not be deemed a renewal or replacement Lease and shall not be subject to the provisions of this
63 agreement.

64 The provisions in this Article shall also be applicable to extensions of Oil and Gas Leases.

65 **C. Acreage or Cash Contributions:**

66 ~~While this agreement is in force, if any party contracts for a contribution of cash towards the drilling of a well or any other
67 operation on the Contract Area, such contribution shall be paid to the party who conducted the drilling or other operation and shall
68 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
69 the contribution is made shall promptly tender an assignment of the acreage, without warranty of title, to the Drilling Parties in the
70 proportions said Drilling Parties shared the cost of drilling the well. Such acreage shall become a separate Contract Area and, to the
71 extent possible, be governed by provisions identical to this agreement. Each party shall promptly notify all other parties of any
72 acreage or cash contributions it may obtain in support of any well or any other operation on the Contract Area. The above
73 provisions shall also be applicable to optional rights to earn acreage outside the Contract Area which are in support of well drilled
74 inside Contract Area.~~

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

3 **D. Assignment; Maintenance of Uniform Interest:**

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

- 8 ~~1. the entire interest of the party in all Oil and Gas Leases, Oil and Gas Interests, wells, equipment and production; or~~
- 9 ~~2. an equal undivided percent of the party's present interest in all Oil and Gas Leases, Oil and Gas Interests, wells,~~
10 ~~equipment and production in the Contract Area.~~

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

21 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,
22 may require such co-owners to appoint a single trustee or agent with full authority to receive notices, approve expenditures,
23 receive billings for and approve and pay such party's share of the joint expenses, and to deal generally with, and with power to
24 bind, the co-owners of such party's interest within the scope of the operations embraced in this agreement; however, all such co-
25 owners shall have the right to enter into and execute all contracts or agreements for the disposition of their respective shares of
26 the Oil and Gas produced from the Contract Area and they shall have the right to receive, separately, payment of the sale
27 proceeds thereof.

28 **E. Waiver of Rights to Partition:**

29 If permitted by the laws of the state or states in which the property covered hereby is located, each party hereto owning an
30 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
31 undivided interest therein.

32 **F. Preferential Right to Purchase:**

33 (Optional; Check if applicable.)

34 ~~Should any party desire to sell all or any part of its interests under this agreement, or its rights and interests in the Contract~~
35 ~~Area, it shall promptly give written notice to the other parties, with full information concerning its proposed disposition, which~~
36 ~~shall include the name and address of the prospective transferee (who must be ready, willing and able to purchase), the purchase~~
37 ~~price, a legal description sufficient to identify the property, and all other terms of the offer. The other parties shall then have an~~
38 ~~optional prior right, for a period of ten (10) days after the notice is delivered, to purchase for the stated consideration on the~~
39 ~~same terms and conditions the interest which the other party proposes to sell; and, if this optional right is exercised, the~~
40 ~~purchasing parties shall share the purchased interest in the proportions that the interest of each bears to the total interest of all~~
41 ~~purchasing parties. However, there shall be no preferential right to purchase in those cases where any party wishes to mortgage~~
42 ~~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,~~
43 ~~or to dispose of its interests by merger, reorganization, consolidation, or by sale of all or substantially all of its Oil and Gas assets~~
44 ~~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~~
45 ~~company in which such party owns a majority of the stock.~~

46 **ARTICLE IX.**

47 **INTERNAL REVENUE CODE ELECTION**

48 If, for federal income tax purposes, this agreement and the operations hereunder are regarded as a partnership, and if the
49 parties have not otherwise agreed to form a tax partnership pursuant to Exhibit "G" or other agreement between them, each
50 party thereby affected elects to be excluded from the application of all of the provisions of Subchapter "K," Chapter 1, Subtitle
51 "A," of the Internal Revenue Code of 1986, as amended ("Code"), as permitted and authorized by Section 761 of the Code and
52 the regulations promulgated thereunder. Operator is authorized and directed to execute on behalf of each party hereby affected
53 such evidence of this election as may be required by the Secretary of the Treasury of the United States or the Federal Internal
54 Revenue Service, including specifically, but not by way of limitation, all of the returns, statements, and the data required by
55 Treasury Regulation §1.761. Should there be any requirement that each party hereby affected give further evidence of this
56 election, each such party shall execute such documents and furnish such other evidence as may be required by the Federal Internal
57 Revenue Service or as may be necessary to evidence this election. No such party shall give any notices or take any other action
58 inconsistent with the election made hereby. If any present or future income tax laws of the state or states in which the Contract
59 Area is located or any future income tax laws of the United States contain provisions similar to those in Subchapter "K," Chapter
60 1, Subtitle "A," of the Code, under which an election similar to that provided by Section 761 of the Code is permitted, each party
61 hereby affected shall make such election as may be permitted or required by such laws. In making the foregoing election, each
62 such party states that the income derived by such party from operations hereunder can be adequately determined without the
63 computation of partnership taxable income.

64 **ARTICLE X.**

65 **CLAIMS AND LAWSUITS**

66 Operator may settle any single uninsured third party damage claim or suit arising from operations hereunder if the expenditure
67 does not exceed Twenty-Five Thousand Dollars (\$ 25,000.00) and if the payment is in complete settlement
68 of such claim or suit. If the amount required for settlement exceeds the above amount, the parties hereto shall assume and take over
69 the further handling of the claim or suit, unless such authority is delegated to Operator. All costs and expenses of handling settling,
70 or otherwise discharging such claim or suit shall be a the joint expense of the parties participating in the operation from which the
71 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
72 hereunder over which such individual has no control because of the rights given Operator by this agreement, such party shall
73 immediately notify all other parties, and the claim or suit shall be treated as any other claim or suit involving operations hereunder.

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**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, lightning, 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

1 orders promulgated under such laws in reference to oil, gas and mineral operations, including the location, operation, or
2 production of wells, on tracts offsetting or adjacent to the Contract Area.

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

11 **ARTICLE XV.**
12 **MISCELLANEOUS**

13 **A. Execution:**

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

29 **B. Successors and Assigns:**

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

33 **C. Counterparts:**

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

36 **D. Severability:**

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

40 **ARTICLE XVI.**
41 **OTHER PROVISIONS**

42 **(See Pages to Follow)**
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ARTICLE XVI.
OTHER PROVISIONS

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4 A. CONFLICTS:
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6 In the event of a conflict between the provisions of this Article XVI. and any other provisions of this Operating
7 Agreement, the provisions of this Article XVI. shall control and prevail.
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10 B. DISPUTES CONCERNING OBJECTIVE DEPTHS:
11

12 If, during the drilling of any well being drilled hereunder, a bona fide dispute shall exist as to whether the
13 proposed depth has been reached in such well (as for example, whether a well has been drilled to a depth
14 sufficient to test a particular sand or formation or if the well has reached the stratigraphic equivalent of a
15 particular depth), the opinion of a majority in interest, and not in numbers, of the parties participating in the
16 drilling of such well shall control and be binding upon all parties. If the parties are equally divided, the opinion
17 of the Operator will control.
18
19

20 C. METERING OF PRODUCTION:
21

22 In the event of transfer, sale, encumbrance or other disposition of interest within the Contract Area which
23 creates the necessity of separate measurement of production, the party creating the necessity for such
24 measurement shall alone bear the cost of purchase, installation and operation of such facilities.
25
26

27 D. PRIORITY OF ELECTIONS:
28

29 Notwithstanding anything herein to the contrary, it is agreed that where a well shall have been drilled to the
30 objective depth or the objective formation and the Consenting Parties in the well cannot mutually agree upon the
31 sequence and timing of further operations regarding said well, the following elections shall control in the order
32 of priority enumerated hereafter:
33

- 34 1. An election to do additional logging, coring or testing;
- 35 2. An election to attempt to complete the well at either the objective depth or objective formation;
- 36 2. An election to plug back and attempt to complete said well at an alternate depth or formation;
- 37 3. An election to deepen said well;
- 38 4. An election to deepen said well;
- 39 5. An election to sidetrack said well;
- 40 6. An election to plug and abandon said well.
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46 It is provided, however, that if, at the time the Consenting Parties are considering any of the above elections, the
47 hole is in such a condition that a reasonably prudent Operator would not conduct the operations contemplated
48 by the particular election involved for fear of placing the hole in jeopardy or losing the same prior to completing
49 the well in the objective depth or objective formation, such election shall be eliminated from the priorities
50 hereinabove set forth.
51

52 E. ADDITIONAL RIGHTS
53

54 If any rights in the Contract Area between the parties hereto are acquired by virtue of the drilling, deepening or
55 completion of a well, a Non-Consenting party in such drilling, deepening, or completing shall not be entitled to
56 any interest in such rights.
57

58 F. PREPARATION OF EXHIBIT "A":
59

60 The interests of the parties as set forth on Exhibit "A" were calculated based on the best information available to
61 the Operator. If the information is found to have been erroneous, or if a mathematical or typographical error has
62 been made in preparing the exhibits, the interests may be recalculated to reflect the correct interest.
63

64 G. REGULATORY EXPENSES:
65

66 Notwithstanding anything to the contrary contained in this Operating Agreement or the Accounting Procedure
67 (Exhibit "C"), the following items pertaining to the Contract Area shall not be considered as Administrative
68 Overhead, but Operator shall be entitled to make a direct charge against the joint account for same:
69

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

Hall Unit, Noble 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

Title **Vice President, Land**

Date _____

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. _____

Hall Unit, __Noble County, OH

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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

_____ by **Brian A. Kuhn** as

Vice President of **Antero Resources Corporation** .

(Seal, if any)

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: _____

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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: _____

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: _____

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 _____ acres, more or less

RESTRICTIONS AS TO DEPTHS, FORMATIONS AND SUBSTANCES:

All depths owned by the parties.

INTERESTS OF THE PARTIES TO THIS AGREEMENT:

<u>OPERATOR</u>	<u>WI</u>
Antero Resources Corporation	*
<u>NON-OPERATOR</u>	<u>WI</u>

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 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, its 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 "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.

EXHIBIT " C "

ACCOUNTING PROCEDURE JOINT OPERATIONS

1 Attached to and made part of that certain Joint Operating Agreement dated April 1, 2015 by and between Antero Resources
2 Corporation as Operator and as Non-Operator.

I. GENERAL PROVISIONS

7
8 **IF THE PARTIES FAIL TO SELECT EITHER ONE OF COMPETING "ALTERNATIVE" PROVISIONS, OR SELECT ALL THE**
9 **COMPETING "ALTERNATIVE" PROVISIONS, ALTERNATIVE 1 IN EACH SUCH INSTANCE SHALL BE DEEMED TO HAVE**
10 **BEEEN ADOPTED BY THE PARTIES AS A RESULT OF ANY SUCH OMISSION OR DUPLICATE NOTATION.**

11
12 **IN THE EVENT THAT ANY "OPTIONAL" PROVISION OF THIS ACCOUNTING PROCEDURE IS NOT ADOPTED BY THE**
13 **PARTIES TO THE AGREEMENT BY A TYPED, PRINTED OR HANDWRITTEN INDICATION, SUCH PROVISION SHALL NOT**
14 **FORM A PART OF THIS ACCOUNTING PROCEDURE, AND NO INFERENCE SHALL BE MADE CONCERNING THE INTENT**
15 **OF THE PARTIES IN SUCH EVENT.**

1. DEFINITIONS

16
17
18 All terms used in this Accounting Procedure shall have the following meaning, unless otherwise expressly defined in the Agreement:

19
20
21 **"Affiliate"** means for a person, another person that controls, is controlled by, or is under common control with that person. In this
22 definition, (a) control means the ownership by one person, directly or indirectly, of more than fifty percent (50%) of the voting securities
23 of a corporation or, for other persons, the equivalent ownership interest (such as partnership interests), and (b) "person" means an
24 individual, corporation, partnership, trust, estate, unincorporated organization, association, or other legal entity.

25
26 **"Agreement"** means the operating agreement, farmout agreement, or other contract between the Parties to which this Accounting
27 Procedure is attached.

28
29 **"Controllable Material"** means Material that, at the time of acquisition or disposition by the Joint Account, as applicable, is so classified
30 in the Material Classification Manual most recently recommended by the Council of Petroleum Accountants Societies (COPAS).

31
32 **"Equalized Freight"** means the procedure of charging transportation cost to the Joint Account based upon the distance from the nearest
33 Railway Receiving Point to the property.

34
35 **"Excluded Amount"** means a specified excluded trucking amount most recently recommended by COPAS.

36
37 **"Field Office"** means a structure, or portion of a structure, whether a temporary or permanent installation, the primary function of which is
38 to directly serve daily operation and maintenance activities of the Joint Property and which serves as a staging area for directly chargeable
39 field personnel.

40
41 **"First Level Supervision"** means those employees whose primary function in Joint Operations is the direct oversight of the Operator's
42 field employees and/or contract labor directly employed On-site in a field operating capacity. First Level Supervision functions may
43 include, but are not limited to:

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

59
60
61 **"Joint Account"** means the account showing the charges paid and credits received in the conduct of the Joint Operations that are to be
62 shared by the Parties, but does not include proceeds attributable to hydrocarbons and by-products produced under the Agreement.

63
64 **"Joint Operations"** means all operations necessary or proper for the exploration, appraisal, development, production, protection,
65 maintenance, repair, abandonment, and restoration of the Joint Property.

1 **“Joint Property”** means the real and personal property subject to the Agreement.

2
3 **“Laws”** means any laws, rules, regulations, decrees, and orders of the United States of America or any state thereof and all other
4 governmental bodies, agencies, and other authorities having jurisdiction over or affecting the provisions contained in or the transactions
5 contemplated by the Agreement or the Parties and their operations, whether such laws now exist or are hereafter amended, enacted,
6 promulgated or issued.

7
8 **“Material”** means personal property, equipment, supplies, or consumables acquired or held for use by the Joint Property.

9
10 **“Non-Operators”** means the Parties to the Agreement other than the Operator.

11
12 **“Offshore Facilities”** means platforms, surface and subsea development and production systems, and other support systems such as oil and
13 gas handling facilities, living quarters, offices, shops, cranes, electrical supply equipment and systems, fuel and water storage and piping,
14 heliport, marine docking installations, communication facilities, navigation aids, and other similar facilities necessary in the conduct of
15 offshore operations, all of which are located offshore.

16
17 **“Off-site”** means any location that is not considered On-site as defined in this Accounting Procedure.

18
19 **“On-site”** means on the Joint Property when in direct conduct of Joint Operations. The term “On-site” shall also include that portion of
20 Offshore Facilities, Shore Base Facilities, fabrication yards, and staging areas from which Joint Operations are conducted, or other
21 facilities that directly control equipment on the Joint Property, regardless of whether such facilities are owned by the Joint Account.

22
23 **“Operator”** means the Party designated pursuant to the Agreement to conduct the Joint Operations.

24
25 **“Parties”** means legal entities signatory to the Agreement or their successors and assigns. Parties shall be referred to individually as
26 “Party.”

27
28 **“Participating Interest”** means the percentage of the costs and risks of conducting an operation under the Agreement that a Party agrees,
29 or is otherwise obligated, to pay and bear.

30
31 **“Participating Party”** means a Party that approves a proposed operation or otherwise agrees, or becomes liable, to pay and bear a share of
32 the costs and risks of conducting an operation under the Agreement.

33
34 **“Personal Expenses”** means reimbursed costs for travel and temporary living expenses.

35
36 **“Railway Receiving Point”** means the railhead nearest the Joint Property for which freight rates are published, even though an actual
37 railhead may not exist.

38
39 **“Shore Base Facilities”** means onshore support facilities that during Joint Operations provide such services to the Joint Property as a
40 receiving and transshipment point for Materials; debarkation point for drilling and production personnel and services; communication,
41 scheduling and dispatching center; and other associated functions serving the Joint Property.

42
43 **“Supply Store”** means a recognized source or common stock point for a given Material item.

44
45 **“Technical Services”** means services providing specific engineering, geoscience, or other professional skills, such as those performed by
46 engineers, geologists, geophysicists, and technicians, required to handle specific operating conditions and problems for the benefit of Joint
47 Operations; provided, however, Technical Services shall not include those functions specifically identified as overhead under the second
48 paragraph of the introduction of Section III (*Overhead*). Technical Services may be provided by the Operator, Operator’s Affiliate, Non-
49 Operator, Non-Operator Affiliates, and/or third parties.

50 51 **2. STATEMENTS AND BILLINGS**

52
53 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
54 preceding month. Such bills shall be accompanied by statements that identify the AFE (authority for expenditure), lease or facility, and all
55 charges and credits summarized by appropriate categories of investment and expense. Controllable Material shall be separately identified
56 and fully described in detail, or at the Operator’s option, Controllable Material may be summarized by major Material classifications.
57 Intangible drilling costs, audit adjustments, and unusual charges and credits shall be separately and clearly identified.

58
59 The Operator may make available to Non-Operators any statements and bills required under Section I.2 and/or Section I.3.A (*Advances*
60 *and Payments by the Parties*) via email, electronic data interchange, internet websites or other equivalent electronic media in lieu of paper
61 copies. The Operator shall provide the Non-Operators instructions and any necessary information to access and receive the statements and
62 bills within the timeframes specified herein. A statement or billing shall be deemed as delivered twenty-four (24) hours (exclusive of
63 weekends and holidays) after the Operator notifies the Non-Operator that the statement or billing is available on the website and/or sent via
64 email or electronic data interchange transmission. Each Non-Operator individually shall elect to receive statements and billings
65 electronically, if available from the Operator, or request paper copies. Such election may be changed upon thirty (30) days prior written
66 notice to the Operator.

1 **3. ADVANCES AND PAYMENTS BY THE PARTIES**

2
3 A. ~~Unless otherwise provided for in the Agreement, the Operator may require the Non-Operators to advance their share of the estimated~~
4 ~~cash outlay for the succeeding month's operations within fifteen (15) days after receipt of the advance request or by the first day of~~
5 ~~the month for which the advance is required, whichever is later. The Operator shall adjust each monthly billing to reflect advances~~
6 ~~received from the Non-Operators for such month. If a refund is due, the Operator shall apply the amount to be refunded to the~~
7 ~~subsequent month's billing or advance, unless the Non-Operator sends the Operator a written request for a cash refund. The Operator~~
8 ~~shall remit the refund to the Non-Operator within fifteen (15) days of receipt of such written request.~~

9
10 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
11 payment is not made within such time, the unpaid balance shall bear interest compounded monthly at the prime rate published by the
12 *Wall Street Journal* on the first day of each month the payment is delinquent, plus three percent (3%), per annum, or the maximum
13 contract rate permitted by the applicable usury Laws governing the Joint Property, whichever is the lesser, plus attorney's fees, court
14 costs, and other costs in connection with the collection of unpaid amounts. If the *Wall Street Journal* ceases to be published or
15 discontinues publishing a prime rate, the unpaid balance shall bear interest compounded monthly at the prime rate published by the
16 Federal Reserve plus three percent (3%), per annum. Interest shall begin accruing on the first day of the month in which the payment
17 was due. Payment shall not be reduced or delayed as a result of inquiries or anticipated credits unless the Operator has agreed.
18 Notwithstanding the foregoing, the Non-Operator may reduce payment, provided it furnishes documentation and explanation to the
19 Operator at the time payment is made, to the extent such reduction is caused by:

- 20
21 (1) being billed at an incorrect working interest or Participating Interest that is higher than such Non-Operator's actual working
22 interest or Participating Interest, as applicable; or
23 (2) being billed for a project or AFE requiring approval of the Parties under the Agreement that the Non-Operator has not approved
24 or is not otherwise obligated to pay under the Agreement; or
25 (3) being billed for a property in which the Non-Operator no longer owns a working interest, provided the Non-Operator has
26 furnished the Operator a copy of the recorded assignment or letter in-lieu. Notwithstanding the foregoing, the Non-Operator
27 shall remain responsible for paying bills attributable to the interest it sold or transferred for any bills rendered during the thirty
28 (30) day period following the Operator's receipt of such written notice; or
29 (4) charges outside the adjustment period, as provided in Section I.4 (*Adjustments*).

30
31 **4. ADJUSTMENTS**

32
33 A. Payment of any such bills shall not prejudice the right of any Party to protest or question the correctness thereof; however, all bills
34 and statements, including payout statements, rendered during any calendar year shall conclusively be presumed to be true and correct,
35 with respect only to expenditures, after twenty-four (24) months following the end of any such calendar year, unless within said
36 period a Party takes specific detailed written exception thereto making a claim for adjustment. The Operator shall provide a response
37 to all written exceptions, whether or not contained in an audit report, within the time periods prescribed in Section I.5 (*Expenditure*
38 *Audits*).

39
40 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
41 twenty-four (24) month period following the end of the calendar year in which the original charge appeared or should have appeared
42 on the Operator's Joint Account statement or payout statement. Adjustments that may be made beyond the twenty-four (24) month
43 period are limited to adjustments resulting from the following:

- 44
45 (1) a physical inventory of Controllable Material as provided for in Section V (*Inventories of Controllable Material*), or
46 (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
47 Operator relating to another property, or
48 (3) a government/regulatory audit, or
49 (4) a working interest ownership or Participating Interest adjustment.

50
51 **5. EXPENDITURE AUDITS**

52
53 A. A Non-Operator, upon written notice to the Operator and all other Non-Operators, shall have the right to audit the Operator's
54 accounts and records relating to the Joint Account within the twenty-four (24) month period following the end of such calendar year in
55 which such bill was rendered; however, conducting an audit shall not extend the time for the taking of written exception to and the
56 adjustment of accounts as provided for in Section I.4 (*Adjustments*). Any Party that is subject to payout accounting under the
57 Agreement shall have the right to audit the accounts and records of the Party responsible for preparing the payout statements, or of
58 the Party furnishing information to the Party responsible for preparing payout statements. Audits of payout accounts may include the
59 volumes of hydrocarbons produced and saved and proceeds received for such hydrocarbons as they pertain to payout accounting
60 required under the Agreement. Unless otherwise provided in the Agreement, audits of a payout account shall be conducted within the
61 twenty-four (24) month period following the end of the calendar year in which the payout statement was rendered.

62
63 Where there are two or more Non-Operators, the Non-Operators shall make every reasonable effort to conduct a joint audit in a
64 manner that will result in a minimum of inconvenience to the Operator. The Operator shall bear no portion of the Non-Operators'
65 audit cost incurred under this paragraph unless agreed to by the Operator. The audits shall not be conducted more than once each year
66 without prior approval of the Operator, except upon the resignation or removal of the Operator, and shall be made at the expense of

1 those Non-Operators approving such audit.

2
3 The Non-Operator leading the audit (hereinafter “lead audit company”) shall issue the audit report within ninety (90) days after
4 completion of the audit testing and analysis; however, the ninety (90) day time period shall not extend the twenty-four (24) month
5 requirement for taking specific detailed written exception as required in Section I.4.A (*Adjustments*) above. All claims shall be
6 supported with sufficient documentation.

7
8 A timely filed written exception or audit report containing written exceptions (hereinafter “written exceptions”) shall, with respect to
9 the claims made therein, preclude the Operator from asserting a statute of limitations defense against such claims, and the Operator
10 hereby waives its right to assert any statute of limitations defense against such claims for so long as any Non-Operator continues to
11 comply with the deadlines for resolving exceptions provided in this Accounting Procedure. If the Non-Operators fail to comply with
12 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
13 the claims brought by the Non-Operators shall lapse, and such claims shall then be subject to the applicable statute of limitations,
14 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
15 I.5.C.

16
17 B. The Operator shall provide a written response to all exceptions in an audit report within one hundred eighty (180) days after Operator
18 receives such report. Denied exceptions should be accompanied by a substantive response. If the Operator fails to provide substantive
19 response to an exception within this one hundred eighty (180) day period, the Operator will owe interest on that exception or portion
20 thereof, if ultimately granted, from the date it received the audit report. Interest shall be calculated using the rate set forth in Section
21 I.3.B (*Advances and Payments by the Parties*).

22
23 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
24 shall reply to the lead audit company’s follow-up response within ninety (90) days of receipt; provided, however, each Non-Operator
25 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
26 adequately fulfilling its duties. Unless otherwise provided for in Section I.5.E, if the Operator fails to provide substantive response
27 to an exception within this ninety (90) day period, the Operator will owe interest on that exception or portion thereof, if ultimately
28 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*
29 *Payments by the Parties*).

30
31 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
32 Operator receives the audit report, the Operator or any Non-Operator participating in the audit has the right to call a resolution
33 meeting, as set forth in this Section I.5.D or it may invoke the dispute resolution procedures included in the Agreement, if applicable.
34 The meeting will require one month’s written notice to the Operator and all Non-Operators participating in the audit. The meeting
35 shall be held at the Operator’s office or mutually agreed location, and shall be attended by representatives of the Parties with
36 authority to resolve such outstanding issues. Any Party who fails to attend the resolution meeting shall be bound by any resolution
37 reached at the meeting. The lead audit company will make good faith efforts to coordinate the response and positions of the
38 Non-Operator participants throughout the resolution process; however, each Non-Operator shall have the right to represent itself.
39 Attendees will make good faith efforts to resolve outstanding issues, and each Party will be required to present substantive information
40 supporting its position. A resolution meeting may be held as often as agreed to by the Parties. Issues unresolved at one meeting may
41 be discussed at subsequent meetings until each such issue is resolved.

42
43 If the Agreement contains no dispute resolution procedures and the audit issues cannot be resolved by negotiation, the dispute shall
44 be submitted to mediation. In such event, promptly following one Party’s written request for mediation, the Parties to the dispute
45 shall choose a mutually acceptable mediator and share the costs of mediation services equally. The Parties shall each have present
46 at the mediation at least one individual who has the authority to settle the dispute. The Parties shall make reasonable efforts to
47 ensure that the mediation commences within sixty (60) days of the date of the mediation request. Notwithstanding the above, any
48 Party may file a lawsuit or complaint (1) if the Parties are unable after reasonable efforts, to commence mediation within sixty (60)
49 days of the date of the mediation request, (2) for statute of limitations reasons, or (3) to seek a preliminary injunction or other
50 provisional judicial relief, if in its sole judgment an injunction or other provisional relief is necessary to avoid irreparable damage or
51 to preserve the status quo. Despite such action, the Parties shall continue to try to resolve the dispute by mediation.

52
53 E. (*Optional Provision – Forfeiture Penalties*)

54 *If the Non-Operators fail to meet the deadline in Section I.5.C, any unresolved exceptions that were not addressed by the Non-*
55 *Operators within one (1) year following receipt of the last substantive response of the Operator shall be deemed to have been*
56 *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*
57 *were not addressed by the Operator within one (1) year following receipt of the audit report or receipt of the last substantive response*
58 *of the Non-Operators, whichever is later, shall be deemed to have been granted by the Operator and adjustments shall be made,*
59 *without interest, to the Joint Account.*

61 **6. APPROVAL BY PARTIES**

62 **A. GENERAL MATTERS**

63
64
65 Where an approval or other agreement of the Parties or Non-Operators is expressly required under other Sections of this Accounting
66 Procedure and if the Agreement to which this Accounting Procedure is attached contains no contrary provisions in regard thereto, the

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

3
4 This Section I.6.A applies to specific situations of limited duration where a Party proposes to change the accounting for charges from
5 that prescribed in this Accounting Procedure. This provision does not apply to amendments to this Accounting Procedure, which are
6 covered by Section I.6.B.

7
8 **B. AMENDMENTS**

9
10 If the Agreement to which this Accounting Procedure is attached contains no contrary provisions in regard thereto, this Accounting
11 Procedure can be amended by an affirmative vote of two (2) or more Parties, one of which is the Operator,
12 having a combined working interest of at least fifty percent (50%), which approval shall be binding on all Parties,
13 provided, however, approval of at least one (1) Non-Operator shall be required.

14
15 **C. AFFILIATES**

16
17 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
18 other, then such Affiliates shall be combined and treated as a single Party having the combined working interest or Participating
19 Interest of such Affiliates.

20
21 For the purposes of administering the voting procedures in Section I.6.A, if a Non-Operator is an Affiliate of the Operator, votes
22 under Section I.6.A shall require the majority in interest of the Non-Operator(s) after excluding the interest of the Operator's
23 Affiliate.

24
25 **II. DIRECT CHARGES**

26
27 The Operator shall charge the Joint Account with the following items:

28
29 **1. RENTALS AND ROYALTIES**

30
31 Lease rentals and royalties paid by the Operator, on behalf of all Parties, for the Joint Operations.

32
33 **2. LABOR**

34
35 A. Salaries and wages, including incentive compensation programs as set forth in COPAS MFI-37 ("Chargeability of Incentive
36 Compensation Programs"), for:

- 37
38 (1) Operator's field employees directly employed On-site in the conduct of Joint Operations,
39
40 (2) Operator's employees directly employed on Shore Base Facilities, Offshore Facilities, or other facilities serving the Joint
41 Property if such costs are not charged under Section II.6 (*Equipment and Facilities Furnished by Operator*) or are not a
42 function covered under Section III (*Overhead*),
43
44 (3) Operator's employees providing First Level Supervision,
45
46 (4) Operator's employees providing On-site Technical Services for the Joint Property if such charges are excluded from the
47 overhead rates in Section III (*Overhead*),
48
49 (5) Operator's employees providing Off-site Technical Services for the Joint Property if such charges are excluded from the
50 overhead rates in Section III (*Overhead*).

51
52 Charges for the Operator's employees identified in Section II.2.A may be made based on the employee's actual salaries and wages,
53 or in lieu thereof, a day rate representing the Operator's average salaries and wages of the employee's specific job category.

54
55 Charges for personnel chargeable under this Section II.2.A who are foreign nationals shall not exceed comparable compensation paid
56 to an equivalent U.S. employee pursuant to this Section II.2, unless otherwise approved by the Parties pursuant to Section
57 I.6.A (*General Matters*).

58
59 B. Operator's cost of holiday, vacation, sickness, and disability benefits, and other customary allowances paid to employees whose
60 salaries and wages are chargeable to the Joint Account under Section II.2.A, excluding severance payments or other termination
61 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
62 amount of salaries and wages chargeable to the Joint Account under Section II.2.A. If percentage assessment is used, the rate shall
63 be based on the Operator's cost experience.

64
65 C. Expenditures or contributions made pursuant to assessments imposed by governmental authority that are applicable to costs
66 chargeable to the Joint Account under Sections II.2.A and B.

- 1 D. Personal Expenses of personnel whose salaries and wages are chargeable to the Joint Account under Section II.2.A when the
2 expenses are incurred in connection with directly chargeable activities.
3
- 4 E. Reasonable relocation costs incurred in transferring to the Joint Property personnel whose salaries and wages are chargeable to the
5 Joint Account under Section II.2.A. Notwithstanding the foregoing, relocation costs that result from reorganization or merger of a
6 Party, or that are for the primary benefit of the Operator, shall not be chargeable to the Joint Account. Extraordinary relocation
7 costs, such as those incurred as a result of transfers from remote locations, such as Alaska or overseas, shall not be charged to the
8 Joint Account unless approved by the Parties pursuant to Section I.6.A (*General Matters*).
9
- 10 F. Training costs as specified in COPAS MFI-35 (“Charging of Training Costs to the Joint Account”) for personnel whose salaries and
11 wages are chargeable under Section II.2.A. This training charge shall include the wages, salaries, training course cost, and Personal
12 Expenses incurred during the training session. The training cost shall be charged or allocated to the property or properties directly
13 benefiting from the training. The cost of the training course shall not exceed prevailing commercial rates, where such rates are
14 available.
15
- 16 G. Operator’s current cost of established plans for employee benefits, as described in COPAS MFI-27 (“Employee Benefits Chargeable
17 to Joint Operations and Subject to Percentage Limitation”), applicable to the Operator’s labor costs chargeable to the Joint Account
18 under Sections II.2.A and B based on the Operator’s actual cost not to exceed the employee benefits limitation percentage most
19 recently recommended by COPAS.
20
- 21 H. Award payments to employees, in accordance with COPAS MFI-49 (“Awards to Employees and Contractors”) for personnel whose
22 salaries and wages are chargeable under Section II.2.A.
23

24 3. MATERIAL

25
26 Material purchased or furnished by the Operator for use on the Joint Property in the conduct of Joint Operations as provided under Section
27 IV (*Material Purchases, Transfers, and Dispositions*). Only such Material shall be purchased for or transferred to the Joint Property as
28 may be required for immediate use or is reasonably practical and consistent with efficient and economical operations. The accumulation
29 of surplus stocks shall be avoided.
30

31 4. TRANSPORTATION

- 32
33 A. Transportation of the Operator’s, Operator’s Affiliate’s, or contractor’s personnel necessary for Joint Operations.
34
- 35 B. Transportation of Material between the Joint Property and another property, or from the Operator’s warehouse or other storage point
36 to the Joint Property, shall be charged to the receiving property using one of the methods listed below. Transportation of Material
37 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
38 methods listed below:
39
- 40 (1) If the actual trucking charge is less than or equal to the Excluded Amount the Operator may charge actual trucking cost or a
41 theoretical charge from the Railway Receiving Point to the Joint Property. The basis for the theoretical charge is the per
42 hundred weight charge plus fuel surcharges from the Railway Receiving Point to the Joint Property. The Operator shall
43 consistently apply the selected alternative.
44
- 45 (2) If the actual trucking charge is greater than the Excluded Amount, the Operator shall charge Equalized Freight. Accessorial
46 charges such as loading and unloading costs, split pick-up costs, detention, call out charges, and permit fees shall be charged
47 directly to the Joint Property and shall not be included when calculating the Equalized Freight.
48

49 5. SERVICES

50
51 The cost of contract services, equipment, and utilities used in the conduct of Joint Operations, except for contract services, equipment, and
52 utilities covered by Section III (*Overhead*), or Section II.7 (*Affiliates*), or excluded under Section II.9 (*Legal Expense*). Awards paid to
53 contractors shall be chargeable pursuant to COPAS MFI-49 (“Awards to Employees and Contractors”).
54

55 The costs of third party Technical Services are chargeable to the extent excluded from the overhead rates under Section III (*Overhead*).
56

57 6. EQUIPMENT AND FACILITIES FURNISHED BY OPERATOR

58
59 In the absence of a separately negotiated agreement, equipment and facilities furnished by the Operator will be charged as follows:
60

- 61 A. ~~The Operator shall charge the Joint Account for use of Operator-owned equipment and facilities, including but not limited to~~
62 ~~production facilities, Shore Base Facilities, Offshore Facilities, and Field Offices, at rates commensurate with the costs of ownership~~
63 ~~and operation. The cost of Field Offices shall be chargeable to the extent the Field Offices provide direct service to personnel who~~
64 ~~are chargeable pursuant to Section II.2.A (*Labor*). Such rates may include labor, maintenance, repairs, other operating expense,~~
65 ~~insurance, taxes, depreciation using straight line depreciation method, and interest on gross investment less accumulated depreciation~~
66 ~~not to exceed twelve percent (12%) per annum; provided, however, depreciation shall not be charged when the~~

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

4
5 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~~
6 ~~of the Joint Property, less twenty percent (20%). If equipment and facilities are charged under this Section II.6.B, the Operator shall~~
7 ~~adequately document and support commercial rates and shall periodically review and update the rate and the supporting~~
8 ~~documentation. For automotive equipment, the Operator may elect to use rates published by the Petroleum Motor Transport~~
9 ~~Association (PMTA) or such other organization recognized by COPAS as the official source of rates.~~

10 11 **7. AFFILIATES**

12
13 A. Charges for an Affiliate's goods and/or services used in operations requiring an AFE or other authorization from the Non-Operators
14 may be made without the approval of the Parties provided (i) the Affiliate is identified and the Affiliate goods and services are
15 specifically detailed in the approved AFE or other authorization, and (ii) the total costs for such Affiliate's goods and services billed
16 to such individual project do not exceed \$ 50,000.00 . If the total costs for an Affiliate's goods and services charged to such
17 individual project are not specifically detailed in the approved AFE or authorization or exceed such amount, charges for such
18 Affiliate shall require approval of the Parties, pursuant to Section I.6.A (*General Matters*).

19
20 B. For an Affiliate's goods and/or services used in operations not requiring an AFE or other authorization from the Non-Operators,
21 charges for such Affiliate's goods and services shall require approval of the Parties, pursuant to Section I.6.A (*General Matters*), if the
22 charges exceed \$ 50,000.00 in a given calendar year.

23
24 C. The cost of the Affiliate's goods or services shall not exceed average commercial rates prevailing in the area of the Joint Property,
25 unless the Operator obtains the Non-Operators' approval of such rates. The Operator shall adequately document and support
26 commercial rates and shall periodically review and update the rate and the supporting documentation; provided, however,
27 documentation of commercial rates shall not be required if the Operator obtains Non-Operator approval of its Affiliate's rates or
28 charges prior to billing Non-Operators for such Affiliate's goods and services. Notwithstanding the foregoing, direct charges for
29 Affiliate-owned communication facilities or systems shall be made pursuant to Section II.12 (*Communications*).

30
31 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
32 result of such omission shall be the amount established as the Operator's expenditure limitation in the Agreement. If the Agreement
33 does not contain an Operator's expenditure limitation, the amount deemed adopted by the Parties as a result of such omission shall be
34 zero dollars (\$ 0.00).

35 36 **8. DAMAGES AND LOSSES TO JOINT PROPERTY**

37
38 All costs or expenses necessary for the repair or replacement of Joint Property resulting from damages or losses incurred, except to the
39 extent such damages or losses result from a Party's or Parties' gross negligence or willful misconduct, in which case such Party or Parties
40 shall be solely liable.

41
42 The Operator shall furnish the Non-Operator written notice of damages or losses incurred as soon as practicable after a report has been
43 received by the Operator.

44 45 **9. LEGAL EXPENSE**

46
47 Recording fees and costs of handling, settling, or otherwise discharging litigation, claims, and liens incurred in or resulting from
48 operations under the Agreement, or necessary to protect or recover the Joint Property, to the extent permitted under the Agreement. Costs
49 of the Operator's or Affiliate's legal staff or outside attorneys, including fees and expenses, are not chargeable unless approved by the
50 Parties pursuant to Section I.6.A (*General Matters*) or otherwise provided for in the Agreement.

51
52 Notwithstanding the foregoing paragraph, costs for procuring abstracts, fees paid to outside attorneys for title examinations (including
53 preliminary, supplemental, shut-in royalty opinions, division order title opinions), and curative work shall be chargeable to the extent
54 permitted as a direct charge in the Agreement.

55 56 57 **10. TAXES AND PERMITS**

58
59 All taxes and permitting fees of every kind and nature, assessed or levied upon or in connection with the Joint Property, or the production
60 therefrom, and which have been paid by the Operator for the benefit of the Parties, including penalties and interest, except to the extent the
61 penalties and interest result from the Operator's gross negligence or willful misconduct.

62
63 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
64 notwithstanding any contrary provisions, the charges to the Parties will be made in accordance with the tax value generated by each Party's
65 working interest.

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

3
4 Charges to the Joint Account resulting from sales/use tax audits, including extrapolated amounts and penalties and interest, are permitted,
5 provided the Non-Operator shall be allowed to review the invoices and other underlying source documents which served as the basis for
6 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
7 review such documentation, the sales/use tax amount shall not be directly charged unless the Operator can conclusively document the
8 amount owed by the Joint Account.

9 10 **11. INSURANCE**

11
12 Net premiums paid for insurance required to be carried for Joint Operations for the protection of the Parties. If Joint Operations are
13 conducted at locations where the Operator acts as self-insurer in regard to its worker's compensation and employer's liability insurance
14 obligation, the Operator shall charge the Joint Account manual rates for the risk assumed in its self-insurance program as regulated by the
15 jurisdiction governing the Joint Property. In the case of offshore operations in federal waters, the manual rates of the adjacent state shall be
16 used for personnel performing work On-site, and such rates shall be adjusted for offshore operations by the U.S. Longshoreman and
17 Harbor Workers (USL&H) or Jones Act surcharge, as appropriate.

18 19 **12. COMMUNICATIONS**

20
21 Costs of acquiring, leasing, installing, operating, repairing, and maintaining communication facilities or systems, including satellite, radio
22 and microwave facilities, between the Joint Property and the Operator's office(s) directly responsible for field operations in accordance
23 with the provisions of COPAS MFI-44 ("Field Computer and Communication Systems"). If the communications facilities or systems
24 serving the Joint Property are Operator-owned, charges to the Joint Account shall be made as provided in Section II.6 (*Equipment and*
25 *Facilities Furnished by Operator*). If the communication facilities or systems serving the Joint Property are owned by the Operator's
26 Affiliate, charges to the Joint Account shall not exceed average commercial rates prevailing in the area of the Joint Property. The Operator
27 shall adequately document and support commercial rates and shall periodically review and update the rate and the supporting
28 documentation.

29 30 **13. ECOLOGICAL, ENVIRONMENTAL, AND SAFETY**

31
32 Costs incurred for Technical Services and drafting to comply with ecological, environmental and safety Laws or standards recommended by
33 Occupational Safety and Health Administration (OSHA) or other regulatory authorities. All other labor and functions incurred for
34 ecological, environmental and safety matters, including management, administration, and permitting, shall be covered by Sections II.2
35 (*Labor*), II.5 (*Services*), or Section III (*Overhead*), as applicable.

36
37 Costs to provide or have available pollution containment and removal equipment plus actual costs of control and cleanup and resulting
38 responsibilities of oil and other spills as well as discharges from permitted outfalls as required by applicable Laws, or other pollution
39 containment and removal equipment deemed appropriate by the Operator for prudent operations, are directly chargeable.

40 41 **14. ABANDONMENT AND RECLAMATION**

42
43 Costs incurred for abandonment and reclamation of the Joint Property, including costs required by lease agreements or by Laws.

44 45 **15. OTHER EXPENDITURES**

46
47 Any other expenditure not covered or dealt with in the foregoing provisions of this Section II (*Direct Charges*), or in Section III
48 (*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
49 Joint Operations. Charges made under this Section II.15 shall require approval of the Parties, pursuant to Section I.6.A (*General Matters*).

50 51 **III. OVERHEAD**

52
53 As compensation for costs not specifically identified as chargeable to the Joint Account pursuant to Section II (*Direct Charges*), the Operator
54 shall charge the Joint Account in accordance with this Section III.

55
56 Functions included in the overhead rates regardless of whether performed by the Operator, Operator's Affiliates or third parties and regardless
57 of location, shall include, but not be limited to, costs and expenses of:

- 58
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66
- 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

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

9
10 Overhead charges shall include the salaries or wages plus applicable payroll burdens, benefits, and Personal Expenses of personnel performing
11 overhead functions, as well as office and other related expenses of overhead functions.

12
13 **1. OVERHEAD—DRILLING AND PRODUCING OPERATIONS**

14
15 As compensation for costs incurred but not chargeable under Section II (*Direct Charges*) and not covered by other provisions of this
16 Section III, the Operator shall charge on either:

- 17 (**Alternative 1**) Fixed Rate Basis, Section III.1.B.
- 18 (**Alternative 2**) Percentage Basis, Section III.1.C.

19
20
21 **A. TECHNICAL SERVICES**

22
23 (i) Except as otherwise provided in Section II.13 (*Ecological Environmental, and Safety*) and Section III.2 (*Overhead – Major*
24 *Construction and Catastrophe*), or by approval of the Parties pursuant to Section I.6.A (*General Matters*), the salaries, wages,
25 related payroll burdens and benefits, and Personal Expenses for **On-site** Technical Services, including third party Technical
26 Services:

- 27 (**Alternative 1 – Direct**) shall be charged direct to the Joint Account.
- 28 (**Alternative 2 – Overhead**) shall be covered by the overhead rates.

29
30
31 (ii) Except as otherwise provided in Section II.13 (*Ecological, Environmental, and Safety*) and Section III.2 (*Overhead – Major*
32 *Construction and Catastrophe*), or by approval of the Parties pursuant to Section I.6.A (*General Matters*), the salaries, wages,
33 related payroll burdens and benefits, and Personal Expenses for **Off-site** Technical Services, including third party Technical
34 Services:

- 35 (**Alternative 1 – All Overhead**) shall be covered by the overhead rates.
- 36 (**Alternative 2 – All Direct**) shall be charged direct to the Joint Account.
- 37 (**Alternative 3 – Drilling Direct**) shall be charged direct to the Joint Account, only to the extent such Technical Services
38 are directly attributable to drilling, re-drilling, deepening, or sidetracking operations, through completion, temporary
39 abandonment, or abandonment if a dry hole. Off-site Technical Services for all other operations, including workover,
40 recompletion, abandonment of producing wells, and the construction or expansion of fixed assets not covered by Section
41 III.2 (*Overhead - Major Construction and Catastrophe*) shall be covered by the overhead rates.

42
43 Notwithstanding anything to the contrary in this Section III, Technical Services provided by Operator’s Affiliates are subject to limitations
44 set forth in Section II.7 (*Affiliates*). Charges for Technical personnel performing non-technical work shall not be governed by this Section
45 III.1.A, but instead governed by other provisions of this Accounting Procedure relating to the type of work being performed.

46
47
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49
50
51 **B. OVERHEAD—FIXED RATE BASIS**

52
53 (1) The Operator shall charge the Joint Account at the following rates per well per month:

- 54 Drilling Well Rate per month \$ 9,500.00 (prorated for less than a full month)
- 55
- 56 Producing Well Rate per month \$ 750.00

57
58
59 (2) Application of Overhead—Drilling Well Rate shall be as follows:

60
61 (a) Charges for onshore drilling wells shall begin on the spud date and terminate on the date the drilling and/or completion
62 equipment used on the well is released, whichever occurs later. Charges for offshore and inland waters drilling wells shall
63 begin on the date the drilling or completion equipment arrives on location and terminate on the date the drilling or completion
64 equipment moves off location, or is released, whichever occurs first. No charge shall be made during suspension of drilling
65 and/or completion operations for fifteen (15) or more consecutive calendar days.

66

(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, re-drilling, 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.

1 Major Construction shall mean the construction and installation of fixed assets, the expansion of fixed assets, and any other project clearly
2 discernible as a fixed asset required for the development and operation of the Joint Property, or in the dismantlement, abandonment,
3 removal, and restoration of platforms, production equipment, and other operating facilities.
4

5 Catastrophe is defined as a sudden calamitous event bringing damage, loss, or destruction to property or the environment, such as an oil
6 spill, blowout, explosion, fire, storm, hurricane, or other disaster. The overhead rate shall be applied to those costs necessary to restore the
7 Joint Property to the equivalent condition that existed prior to the event.
8

9 A. If the Operator absorbs the engineering, design and drafting costs related to the project:
10

- 11 (1) 4.00 % of total costs if such costs are less than \$100,000; plus
12
13 (2) 4.00 % of total costs in excess of \$100,000 but less than \$1,000,000; plus
14
15 (3) 2.00 % of total costs in excess of \$1,000,000.
16

17 B. If the Operator charges engineering, design and drafting costs related to the project directly to the Joint Account:
18

- 19 (1) 4.00 % of total costs if such costs are less than \$100,000; plus
20
21 (2) 4.00 % of total costs in excess of \$100,000 but less than \$1,000,000; plus
22
23 (3) 2.00 % of total costs in excess of \$1,000,000.
24

25 Total cost shall mean the gross cost of any one project. For the purpose of this paragraph, the component parts of a single Major
26 Construction project shall not be treated separately, and the cost of drilling and workover wells and purchasing and installing pumping
27 units and downhole artificial lift equipment shall be excluded. For Catastrophes, the rates shall be applied to all costs associated with each
28 single occurrence or event.
29

30 On each project, the Operator shall advise the Non-Operator(s) in advance which of the above options shall apply.
31

32 For the purposes of calculating Catastrophe Overhead, the cost of drilling relief wells, substitute wells, or conducting other well operations
33 directly resulting from the catastrophic event shall be included. Expenditures to which these rates apply shall not be reduced by salvage or
34 insurance recoveries. Expenditures that qualify for Major Construction or Catastrophe Overhead shall not qualify for overhead under any
35 other overhead provisions.
36

37 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
38 (*Affiliates*), the provisions of this Section III.2 shall govern.
39

40 3. AMENDMENT OF OVERHEAD RATES 41

42 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
43 or excessive, in accordance with the provisions of Section I.6.B (*Amendments*).
44
45

46 IV. MATERIAL PURCHASES, TRANSFERS, AND DISPOSITIONS 47

48 The Operator is responsible for Joint Account Material and shall make proper and timely charges and credits for direct purchases, transfers, and
49 dispositions. The Operator shall provide all Material for use in the conduct of Joint Operations; however, Material may be supplied by the Non-
50 Operators, at the Operator's option. Material furnished by any Party shall be furnished without any express or implied warranties as to quality,
51 fitness for use, or any other matter.
52

53 1. DIRECT PURCHASES 54

55 Direct purchases shall be charged to the Joint Account at the price paid by the Operator after deduction of all discounts received. The
56 Operator shall make good faith efforts to take discounts offered by suppliers, but shall not be liable for failure to take discounts except to
57 the extent such failure was the result of the Operator's gross negligence or willful misconduct. A direct purchase shall be deemed to occur
58 when an agreement is made between an Operator and a third party for the acquisition of Material for a specific well site or location.
59 Material provided by the Operator under "vendor stocking programs," where the initial use is for a Joint Property and title of the Material
60 does not pass from the manufacturer, distributor, or agent until usage, is considered a direct purchase. If Material is found to be defective
61 or is returned to the manufacturer, distributor, or agent for any other reason, credit shall be passed to the Joint Account within sixty (60)
62 days after the Operator has received adjustment from the manufacturer, distributor, or agent.
63
64
65
66

1 **2. TRANSFERS**

2
3 A transfer is determined to occur when the Operator (i) furnishes Material from a storage facility or from another operated property, (ii) has
4 assumed liability for the storage costs and changes in value, and (iii) has previously secured and held title to the transferred Material.
5 Similarly, the removal of Material from the Joint Property to a storage facility or to another operated property is also considered a transfer;
6 provided, however, Material that is moved from the Joint Property to a storage location for safe-keeping pending disposition may remain
7 charged to the Joint Account and is not considered a transfer. Material shall be disposed of in accordance with Section IV.3 (*Disposition of*
8 *Surplus*) and the Agreement to which this Accounting Procedure is attached.

9
10 **A. PRICING**

11
12 The value of Material transferred to/from the Joint Property should generally reflect the market value on the date of physical transfer.
13 Regardless of the pricing method used, the Operator shall make available to the Non-Operators sufficient documentation to verify the
14 Material valuation. When higher than specification grade or size tubulars are used in the conduct of Joint Operations, the Operator
15 shall charge the Joint Account at the equivalent price for well design specification tubulars, unless such higher specification grade or
16 sized tubulars are approved by the Parties pursuant to Section I.6.A (*General Matters*). Transfers of new Material will be priced
17 using one of the following pricing methods; provided, however, the Operator shall use consistent pricing methods, and not alternate
18 between methods for the purpose of choosing the method most favorable to the Operator for a specific transfer:

- 19
20 (1) Using published prices in effect on date of movement as adjusted by the appropriate COPAS Historical Price Multiplier (HPM)
21 or prices provided by the COPAS Computerized Equipment Pricing System (CEPS).
22
23 (a) For oil country tubulars and line pipe, the published price shall be based upon eastern mill carload base prices (Houston,
24 Texas, for special end) adjusted as of date of movement, plus transportation cost as defined in Section IV.2.B (*Freight*).
25
26 (b) For other Material, the published price shall be the published list price in effect at date of movement, as listed by a Supply
27 Store nearest the Joint Property where like Material is normally available, or point of manufacture plus transportation
28 costs as defined in Section IV.2.B (*Freight*).
29
30 (2) Based on a price quotation from a vendor that reflects a current realistic acquisition cost.
31
32 (3) Based on the amount paid by the Operator for like Material in the vicinity of the Joint Property within the previous twelve (12)
33 months from the date of physical transfer.
34
35 (4) As agreed to by the Participating Parties for Material being transferred to the Joint Property, and by the Parties owning the
36 Material for Material being transferred from the Joint Property.

37
38 **B. FREIGHT**

39
40 Transportation costs shall be added to the Material transfer price using the method prescribed by the COPAS Computerized
41 Equipment Pricing System (CEPS). If not using CEPS, transportation costs shall be calculated as follows:

- 42
43 (1) Transportation costs for oil country tubulars and line pipe shall be calculated using the distance from eastern mill to the
44 Railway Receiving Point based on the carload weight basis as recommended by the COPAS MFI-38 ("Material Pricing
45 Manual") and other COPAS MFIs in effect at the time of the transfer.
46
47 (2) Transportation costs for special mill items shall be calculated from that mill's shipping point to the Railway Receiving Point.
48 For transportation costs from other than eastern mills, the 30,000-pound interstate truck rate shall be used. Transportation costs
49 for macaroni tubing shall be calculated based on the interstate truck rate per weight of tubing transferred to the Railway
50 Receiving Point.
51
52 (3) Transportation costs for special end tubular goods shall be calculated using the interstate truck rate from Houston, Texas, to the
53 Railway Receiving Point.
54
55 (4) Transportation costs for Material other than that described in Sections IV.2.B.(1) through (3), shall be calculated from the
56 Supply Store or point of manufacture, whichever is appropriate, to the Railway Receiving Point

57
58 Regardless of whether using CEPS or manually calculating transportation costs, transportation costs from the Railway Receiving Point
59 to the Joint Property are in addition to the foregoing, and may be charged to the Joint Account based on actual costs incurred. All
60 transportation costs are subject to Equalized Freight as provided in Section II.4 (*Transportation*) of this Accounting Procedure.

61
62 **C. TAXES**

63
64 Sales and use taxes shall be added to the Material transfer price using either the method contained in the COPAS Computerized
65 Equipment Pricing System (CEPS) or the applicable tax rate in effect for the Joint Property at the time and place of transfer. In either
66 case, the Joint Account shall be charged or credited at the rate that would have governed had the Material been a direct purchase.

1 D. CONDITION

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

15
16 (2) Condition "B" – Used Material in sound and serviceable condition and suitable for reuse without reconditioning shall be priced
17 by multiplying the price determined in Sections IV.2.A (*Pricing*), IV.2.B (*Freight*), and IV.2.C (*Taxes*) by seventy-five percent
18 (75%).

19
20 Except as provided in Section IV.2.D(3), all reconditioning costs required to return the Material to Condition "B" or to correct
21 handling, transportation or other damages will be borne by the divesting property.

22
23 If the Material was originally charged to the Joint Account as used Material and placed in service for the Joint Property, the
24 Material will be credited at the price determined in Sections IV.2.A (*Pricing*), IV.2.B (*Freight*), and IV.2.C (*Taxes*) multiplied
25 by sixty-five percent (65%).

26
27 Unless otherwise agreed to by the Parties that paid for such Material, used Material transferred from the Joint Property that was
28 not placed in service on the property shall be credited as charged without gain or loss.

29
30 (3) Condition "C" – Material that is not in sound and serviceable condition and not suitable for its original function until after
31 reconditioning shall be priced by multiplying the price determined in Sections IV.2.A (*Pricing*), IV.2.B (*Freight*), and IV.2.C
32 (*Taxes*) by fifty percent (50%).

33
34 The cost of reconditioning may be charged to the receiving property to the extent Condition "C" value, plus cost of
35 reconditioning, does not exceed Condition "B" value.

36
37 (4) Condition "D" – Material that (i) is no longer suitable for its original purpose but useable for some other purpose, (ii) is
38 obsolete, or (iii) does not meet original specifications but still has value and can be used in other applications as a substitute for
39 items with different specifications, is considered Condition "D" Material. Casing, tubing, or drill pipe used as line pipe shall be
40 priced as Grade A and B seamless line pipe of comparable size and weight. Used casing, tubing, or drill pipe utilized as line
41 pipe shall be priced at used line pipe prices. Casing, tubing, or drill pipe used as higher pressure service lines than standard line
42 pipe, e.g., power oil lines, shall be priced under normal pricing procedures for casing, tubing, or drill pipe. Upset tubular goods
43 shall be priced on a non-upset basis. For other items, the price used should result in the Joint Account being charged or credited
44 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*
45 *Matters*).

46
47 (5) Condition "E" – Junk shall be priced at prevailing scrap value prices.

48
49 E. OTHER PRICING PROVISIONS

50
51 (1) Preparation Costs

52
53 Subject to Section II (*Direct Charges*) and Section III (*Overhead*) of this Accounting Procedure, costs incurred by the Operator
54 in making Material serviceable including inspection, third party surveillance services, and other similar services will be charged
55 to the Joint Account at prices which reflect the Operator's actual costs of the services. Documentation must be provided to the
56 Non-Operators upon request to support the cost of service. New coating and/or wrapping shall be considered a component of
57 the Materials and priced in accordance with Sections IV.1 (*Direct Purchases*) or IV.2.A (*Pricing*), as applicable. No charges or
58 credits shall be made for used coating or wrapping. Charges and credits for inspections shall be made in accordance with
59 COPAS MFI-38 ("Material Pricing Manual").

60
61 (2) Loading and Unloading Costs

62
63 Loading and unloading costs related to the movement of the Material to the Joint Property shall be charged in accordance with
64 the methods specified in COPAS MFI-38 ("Material Pricing Manual").

1 **3. DISPOSITION OF SURPLUS**

2
3 Surplus Material is that Material, whether new or used, that is no longer required for Joint Operations. The Operator may purchase, but
4 shall be under no obligation to purchase, the interest of the Non-Operators in surplus Material.

5
6 Dispositions for the purpose of this procedure are considered to be the relinquishment of title of the Material from the Joint Property to
7 either a third party, a Non-Operator, or to the Operator. To avoid the accumulation of surplus Material, the Operator should make good
8 faith efforts to dispose of surplus within twelve (12) months through buy/sale agreements, trade, sale to a third party, division in kind, or
9 other dispositions as agreed to by the Parties.

10
11 Disposal of surplus Materials shall be made in accordance with the terms of the Agreement to which this Accounting Procedure is
12 attached. If the Agreement contains no provisions governing disposal of surplus Material, the following terms shall apply:

- 13
14 • The Operator may, through a sale to an unrelated third party or entity, dispose of surplus Material having a gross sale value that
15 is less than or equal to the Operator's expenditure limit as set forth in the Agreement to which this Accounting Procedure is
16 attached without the prior approval of the Parties owning such Material.
- 17
18 • If the gross sale value exceeds the Agreement expenditure limit, the disposal must be agreed to by the Parties owning such
19 Material.
- 20
21 • Operator may purchase surplus Condition "A" or "B" Material without approval of the Parties owning such Material, based on
22 the pricing methods set forth in Section IV.2 (*Transfers*).
- 23
24 • Operator may purchase Condition "C" Material without prior approval of the Parties owning such Material if the value of the
25 Materials, based on the pricing methods set forth in Section IV.2 (*Transfers*), is less than or equal to the Operator's expenditure
26 limitation set forth in the Agreement. The Operator shall provide documentation supporting the classification of the Material as
27 Condition C.
- 28
29 • Operator may dispose of Condition "D" or "E" Material under procedures normally utilized by Operator without prior approval
30 of the Parties owning such Material.

31
32 **4. SPECIAL PRICING PROVISIONS**

33
34 **A. PREMIUM PRICING**

35
36 Whenever Material is available only at inflated prices due to national emergencies, strikes, government imposed foreign trade
37 restrictions, or other unusual causes over which the Operator has no control, for direct purchase the Operator may charge the Joint
38 Account for the required Material at the Operator's actual cost incurred in providing such Material, making it suitable for use, and
39 moving it to the Joint Property. Material transferred or disposed of during premium pricing situations shall be valued in accordance
40 with Section IV.2 (*Transfers*) or Section IV.3 (*Disposition of Surplus*), as applicable.

41
42 **B. SHOP-MADE ITEMS**

43
44 Items fabricated by the Operator's employees, or by contract laborers under the direction of the Operator, shall be priced using the
45 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
46 scrap or junk account, the Material shall be priced at either twenty-five percent (25%) of the current price as determined in Section
47 IV.2.A (*Pricing*) or scrap value, whichever is higher. In no event shall the amount charged exceed the value of the item
48 commensurate with its use.

49
50 **C. MILL REJECTS**

51
52 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
53 Section IV.2 (*Transfers*). Line pipe converted to casing or tubing with casing or tubing couplings attached shall be priced as K-55/J-
54 55 casing or tubing at the nearest size and weight.

55
56
57 **V. INVENTORIES OF CONTROLLABLE MATERIAL**

58
59
60 The Operator shall maintain records of Controllable Material charged to the Joint Account, with sufficient detail to perform physical inventories.

61
62 Adjustments to the Joint Account by the Operator resulting from a physical inventory of Controllable Material shall be made within twelve (12)
63 months following the taking of the inventory or receipt of Non-Operator inventory report. Charges and credits for overages or shortages will be
64 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
65 physical inventory unless the inventorying Parties can provide sufficient evidence another Material condition applies.

1 **1. DIRECTED INVENTORIES**

2
3 Physical inventories shall be performed by the Operator upon written request of a majority in working interests of the Non-Operators
4 (hereinafter, "directed inventory"); provided, however, the Operator shall not be required to perform directed inventories more frequently
5 than once every five (5) years. Directed inventories shall be commenced within one hundred eighty (180) days after the Operator receives
6 written notice that a majority in interest of the Non-Operators has requested the inventory. All Parties shall be governed by the results of
7 any directed inventory.
8

9 Expenses of directed inventories will be borne by the Joint Account; provided, however, costs associated with any post-report follow-up
10 work in settling the inventory will be absorbed by the Party incurring such costs. The Operator is expected to exercise judgment in keeping
11 expenses within reasonable limits. Any anticipated disproportionate or extraordinary costs should be discussed and agreed upon prior to
12 commencement of the inventory. Expenses of directed inventories may include the following:
13

- 14 A. A per diem rate for each inventory person, representative of actual salaries, wages, and payroll burdens and benefits of the personnel
15 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
16 be applied to a reasonable number of days for pre-inventory work and report preparation.
17
18 B. Actual transportation costs and Personal Expenses for the inventory team.
19
20 C. Reasonable charges for report preparation and distribution to the Non-Operators.
21

22 **2. NON-DIRECTED INVENTORIES**

23
24 A. OPERATOR INVENTORIES

25
26 Physical inventories that are not requested by the Non-Operators may be performed by the Operator, at the Operator's discretion. The
27 expenses of conducting such Operator-initiated inventories shall not be charged to the Joint Account.
28

29 B. NON-OPERATOR INVENTORIES

30
31 Subject to the terms of the Agreement to which this Accounting Procedure is attached, the Non-Operators may conduct a physical
32 inventory at reasonable times at their sole cost and risk after giving the Operator at least ninety (90) days prior written notice. The
33 Non-Operator inventory report shall be furnished to the Operator in writing within ninety (90) days of completing the inventory
34 fieldwork.
35

36 C. SPECIAL INVENTORIES

37
38 The expense of conducting inventories other than those described in Sections V.1 (*Directed Inventories*), V.2.A (*Operator*
39 *Inventories*), or V.2.B (*Non-Operator Inventories*), shall be charged to the Party requesting such inventory; provided, however,
40 inventories required due to a change of Operator shall be charged to the Joint Account in the same manner as described in Section
41 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.

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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. Ownership of Gas Production.

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. Balancing of Production Accounts.

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.

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

82 83 **3. In Kind or Cash Balancing Upon Depletion.**

84
85 a. If gas production from a particular formation in a well ceases and no attempt is made to
86 restore production within 180 days, Operator shall have the right, at any time after the date the well last
87 produced gas from that formation, to distribute a statement of net unrecouped Underproduction and
88 Overproduction and the months and years in which the unrecouped production accrued (the "Final
89 Accounting").

90
91 b. Each Overproduced Party shall, within 60 days after receipt of such statement, remit to
92 Operator for disbursement to the Underproduced Parties, a sum of money (which sum shall not include
93 interest) equal to the amount actually received or constructively received, under subparagraph (e) below,
94 by Overproduced Party for sales during the month(s) of Overproduction, calculated in order of accrual,
95 less applicable taxes, royalties, and reasonable costs of marketing and transporting the gas for which the
96 Overproduced Party was actually paid. The remittance shall be based on the number of MMBtu's of
97 Overproduction and shall be accompanied by a statement showing the volumes and prices for each month
98 with accrued unrecouped Overproduction. If Make-up Gas is delivered it shall be supplied from sources
99 determined solely by the Overproduced Party.

100
101 c. Within 60 days of receipt of any remittance by Operator from an Overproduced Party,
102 Operator shall disburse those funds to the Underproduced Party(ies) in accordance with the Final
103 Accounting. Operator assumes no liability with respect to any payment unless the payment is attributable
104 to Operator's overproduction; it being the intent of the parties that each Overproduced Party shall be
105 solely responsible for reimbursing each Underproduced Party in accordance with the provisions of this
106 Agreement. If any Party fails to pay any sum due under the terms of this Agreement after demand by the
107 Operator, the Operator may turn responsibility for the collection of that sum to the Party or Parties to
108 whom it is owed, and Operator shall have no further responsibility for collection.

109
110 d. In determining the amount of Overproduction for which settlement is due, production
111 taken during any month by an Underproduced Party in excess of the Underproduced Party's share shall be
112 treated as Make-up and shall be applied to reduce prior deficits in the order of accrual of those deficits.

113
114 e. An Overproduced Party that took gas in kind for its own use, sold gas to an affiliate, or
115 otherwise disposed of gas in other than a cash sale shall pay for that gas at market value at the time it was
116 produced, even if the Overproduced Party sold the gas to an affiliate at a price greater or lesser than
117 market value.

118
119 f. If any refunds are later required by any governmental authority, each Party shall be
120 accountable for its respective share of any refunds, as finally balanced.

121 122 **4. Deliverability Tests.**

123
124 At the request of any party, Operator may produce the entire well stream for a deliverability test
125 not to exceed 36 hours in duration (or such longer period of time as may be mutually agreed upon by the
126 Parties) if required under the requesting party's gas sales or transportation contract.

127 128 **5. Nominations**

129
130 Each Party shall, on a monthly basis, give Operator sufficient time and data either to nominate the
131 Party's respective share of gas to the transporting pipeline(s) or, if Operator is not nominating the Party's
132 gas, to inform Operator of the manner in which to dispatch the Party's gas. Except as and to the extent
133 caused by Operator's gross negligence or willful misconduct, Operator shall not be responsible for any
134 fees and/or penalties associated with imbalances charged by any pipeline to any Underproduced or
135 Overproduced Parties.

136 137 **6. Statements.**

138
139 On or before the 25th day of the calendar month following the calendar month of production,

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

156
157 **7. Payment of Taxes.**

158
159 Each Party taking gas shall pay or cause to be paid any and all production, severance, utility,
160 sales, excise, or other taxes due on that gas.

161
162 **8. Operating Expenses.**

163
164 The operating expenses are to be borne in the manner provided in the Operating Agreement,
165 regardless of whether all Parties are selling or using gas or whether the sale and use of each are in
166 proportion to their respective interests in the gas.

167
168 **9. Overproducing Allowable.**

169
170 Each Party shall give Operator sufficient time and data to enable Operator to make appropriate
171 nominations, forecasts and/or filings with the regulatory bodies having jurisdiction to establish
172 allowables. Each Party shall at all times regulate its takes and deliveries from the Contract Area so that
173 the well(s) subject to this Agreement shall not curtailed and/or shut-in for overproducing the assigned
174 allowable production by the regulatory body having jurisdiction.

175
176
177 **10. Payment of Leasehold Burdens.**

178
179 At all times while gas is produced from the Contract Area each Party agrees to make appropriate
180 settlement of all royalties, overriding royalties and other payments out of or in lieu of production for
181 which a party is responsible, just as if the Party were taking or delivering to a purchaser the Party's full
182 share, and the Party's full share only, of the gas production, exclusive of gas used in operations, vented or
183 lost. Each Party agrees to indemnify and hold each other Party harmless from any and all claims relating
184 to the payment of leasehold burdens.

185
186 **11. Application of Agreement.**

187
188 The provisions of this Agreement shall be separately applicable and shall constitute a separate
189 agreement with respect to gas produced from each formation in each well located on the Contract Area.

190
191 **12. Term.**

192
193 This Agreement shall terminate when gas production under the Operating Agreement
194 permanently ceases and the accounts of the parties are finally settled in accordance with its provisions.

195
196 **13. Operator's Liability.**

197
198 Except as otherwise provided in this Agreement, Operator is authorized to administer the
199 provisions of this Agreement, but shall have no liability to the other Parties for losses sustained or
200 liability incurred which arise out of or in connection with the performance of Operator's duties (including
201 Operator's negligence) except as may result from Operator's gross negligence or willful misconduct.

202
203 **14. Audits.**

204
205 Any Underproduced Party shall have the right for a period of 120 days after receipt of payment
206 pursuant to a Final Accounting and after giving written notice to all Parties, to audit an Overproduced
207 Party's accounts and receipts relating to a payment. Any Overproduced Party shall have the right for a
208 period of 180 days after tender of payment for unrecouped volumes and on giving written notice to all
209 Parties, to audit an Underproduced Party's records as to volumes. The Party conducting the audit shall

210 bear the costs of the audit. Additionally, Operator shall have the right for a period of 180 days after
211 receipt of an annual statement from a Non-operator, under paragraph 6 after giving written notice, to audit
212 the affected Non-operator's accounts and records relating to a payment. The costs of the audit shall be
213 borne by the joint accounts.

214
215 **15. Operator's Fees.**

216
217 ~~Operator shall charge the joint account \$ 400 per formation in each well, per month, for each~~
218 ~~month during which Operator maintains accounts for a well in a formation.~~

219
220 **16. Liquefiable Hydrocarbons Not Covered Under Agreement.**

221
222 The Parties shall share proportionately in and own all liquid hydrocarbons recovered with the gas
223 by lease equipment, in accordance with their respective interests.

224
225 Nothing in this Gas Balancing Agreement shall cause the Operator to produce a well or reservoir
226 at higher than maximum allowable rates which might have been established by a regulatory authority.

227
228 **17. Conflict.**

229
230 If there is a conflict between the terms of this Agreement and the terms of any gas sales contract
231 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),

1 contract rights, inventory and general intangibles relating thereto or arising therefrom, and all proceeds and products of
2 the foregoing.

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

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

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

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

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

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

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

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

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

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

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

1 8. Other provisions.
2
3
4
5

6 Antero Resources Corporation, who has prepared and circulated this form for execution, represents and warrants
7 that the form was printed from and, with the exception(s) listed below, is identical to the AAPL Form 610RS-1989 Model
8 Form Recording Supplement to Operating Agreement and Financing Statement, as published in computerized form by
9 Forms On-A-Disk, Inc. No changes, alterations, or modifications, other than those made by strikethrough and/or insertion
10 and that are clearly recognizable as changes in Articles _____, have been made to the form.
11

12
13 IN WITNESS WHEREOF, this agreement shall be effective as of the _____ day of _____,
14 year: 2014.

15
16 ATTEST OR WITNESS:

OPERATOR

Antero Resources Corporation

17
18
19
20
21 By: Brian A. Kuhn

Type or Print Name

22
23 Title: Vice President

24 Date: _____

25 Address: 1615 Wynkoop Stret, Denver, CO 80202
26
27

28 ATTEST OR WITNESS:

NON-OPERATORS

29
30
31
32
33 By: _____

Type or Print Name

34 Title: _____

35 Date: _____

36 Address: _____
37
38

39
40 ATTEST OR WITNESS:

41
42
43
44
45 By: _____

Type or Print Name

46 Title: _____

47 Date: _____

48 Address: _____
49
50

51 ATTEST OR WITNESS:

52
53
54
55
56 By: _____

Type or Print Name

57 Title: _____

58 Date: _____

59 Address: _____
60
61

62 ATTEST OR WITNESS:

63
64
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66
67 By: _____

Type or Print Name

68 Title: _____

69 Date: _____

70 Address: _____
71
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73
74

ACKNOWLEDGEMENT

STATE OF COLORADO §
 §
COUNTY OF DENVER §

The foregoing instrument was acknowledged before me this ____ day of _____, 2015, by Brian A. Kuhn, Vice President of Antero Resources Corporation, a Delaware corporation, on behalf of said corporation.

WITNESS my hand and seal.

NOTARY PUBLIC

My Commission expires:

STATE OF _____ §
 §
COUNTY OF _____ §

The foregoing instrument was acknowledged before me this ____ day of _____, 2015, by _____ of _____, _____, on behalf of _____.

WITNESS my hand and seal.

NOTARY PUBLIC

My Commission expires:
