

NADOA

DIVISION ORDER COURSE



**Energy Point
Consulting**

Introduction



Energy Point Consulting Team



Donna King

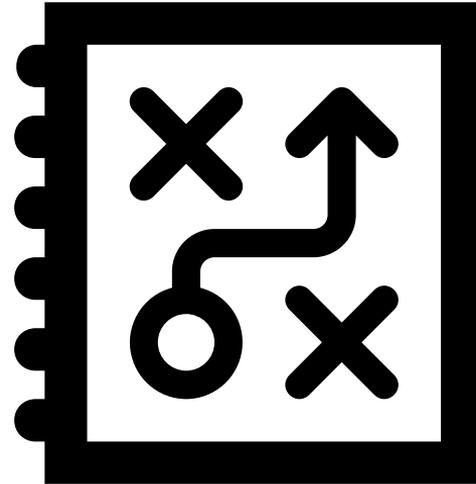
Founder & CEO

Donna King founded Energy Point to serve a niche in the energy data management and contract services market. Leveraging industry skills and a deliverable focused business model, Donna leads the company in delivering value to its clients through high quality services, data management and creative service solutions. She is passionate about education and building strong collaborative teams. Donna is a proven leader with 19+ years of experience and has successfully led and executed many large scale ERP implementations and data clean up projects. Donna has been a featured educational speaker at NADDOA, NALTA, CAPDOA, ALTX, COPAS, and many other organizations and has held a CDOA. She has held positions on the NADDOA board, held board and officer positions including Vice President and President of CAPDOA. She obtained her bachelor's degree at Southern Nazarene University and has 3 darling children. She enjoys the sunshine, reading, audiobooks, and corny jokes.

Basics Course Agenda



- Division Orders? What's that?
- Overview of Interest Types and Terminology
- Sherlock Holmes the Division Order Analyst
- Basic Calculations
 - Royalty Interest
 - Working Interest
 - Overriding Royalty Interest
 - NEMI and NPRI
 - Undivided Interest
 - Community Lease/Entireties Clause



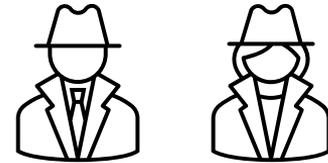
Division Orders? What's that?



The role of the division order department is to essentially translate title, leases, pooled units, and other various working interest agreements into numerical form to lay the groundwork for accounting and marketing so that all owners are billed and paid appropriately.

Another function our department serves is setting up and tracking ownership changes and to generate division orders. This involves setting up owner numbers, entering in W-9 information, tracking pay codes, subordinations, title requirements, processing changes of ownership, and processing division orders. All of this in accordance with various state laws and regulations as well as compliance with internal and external audits.

Division Order Analysts are part detective, legal specialist, customer service representative, and problem solver.



Purpose of a Division Order



- Identifies Title Name, Net Acres, Total Unit Size, Lease Rate, and Unit Interest
- Royalty owner is on notice that a unit is in production
- Confirms correct name, address, and tax identification number is in our system
- Interest owner has opportunity to confirm their unit interest calculations
- Return of division order authorizes operator to distribute royalty payments

Terminology | Key Terms



- Royalty Interest: The mineral owner (Lessor or Grantee of subsequent deed if no mineral reservation)
- Working Interest: The Lessee or Assignee
- Overriding Royalty Interest: An interest carved out of leasehold working interest
- Non-Participating Royalty Interest (NPRI): Typically either reserved or assigned out of royalty interest reserving the rights to a percentage of royalty. Does not include the right to participation in the execution of, the bonus payable for, or the delay rentals to accrue under the lease. (Not credited with mineral acres, just the percentage of royalty) The NPRI owner should sign ratifications granting the right to pool their interest.
- Non-Executive Mineral Interest (NEMI): Typically either reserved or assigned out of mineral interest reserving the certain rights to a percentage of the minerals. Does not include the right to participation in the execution of, the bonus payable for, or the delay rentals to accrue under the lease. (Credited with mineral acres at the lease rate agreed to by Executive Mineral Owner) The NEMI owner should sign ratifications granting the right to pool their interest.
- Undivided Interest: Interest that is undivided, meaning that there are no physical boundaries of ownership within the stated lands.

Record Title | Layman's Terms



Deed: A written deed is the instrument used to convey ownership of real property. (“tangible” mineral interest)

Assignment: Assigns “intangible” working (leasehold) interest and/or specific rights (NPRI/NEMI/ORRI/WI)

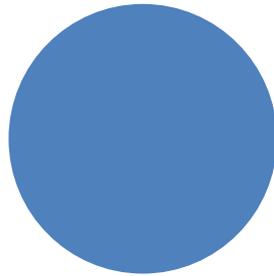
Probate/Will: Property and minerals also pass through probated wills.

Interest types overview



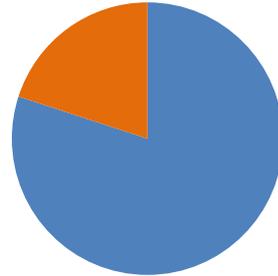
How do Working Interests and Royalty Interests work together?

GROSS WORKING INTEREST



■ Working Interest
■ Royalty Interest

NET REVENUE INTEREST



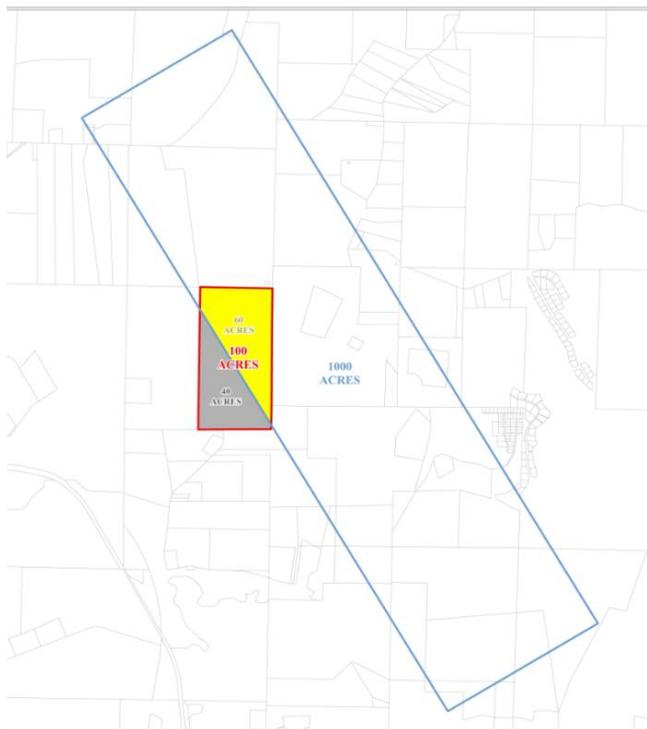
■ Working Interest
■ Royalty Interest

INTEREST TYPES	ACRES	NRI	UNIT INTEREST	GW
Working Interest	100.00	0.80000000	0.80000000	1.00000000
Royalty Interest	100.00	0.20000000	0.20000000	
TOTAL UNIT SIZE	100.00		1.00000000	1.00000000

Practical Application – WI and RI



Unit Interest & Gross Working Interest Calculations for Royalty and Working Interests



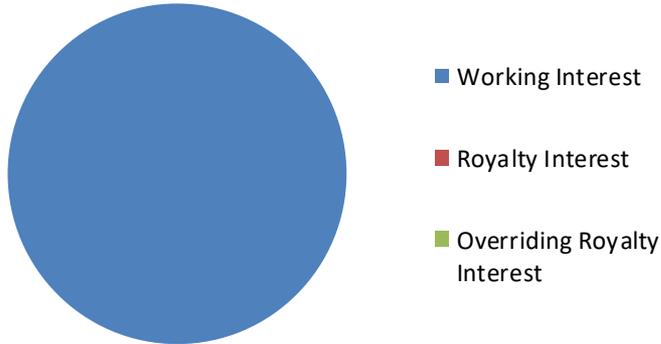
INTEREST TYPES	ACRES	NRI	UNIT INTEREST	GW
Working Interest	60.00	0.87500000	0.05250000	0.06000000
Royalty Interest	60.00	0.12500000	0.00750000	
TOTAL UNIT SIZE	1000.00		0.06000000	0.06000000

Interest types overview

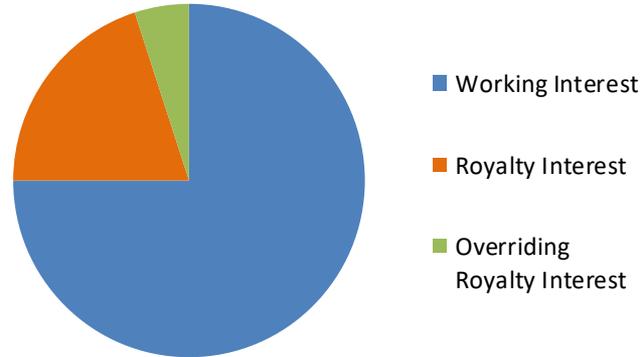


How do Working Interests, Royalty Interests, and Overriding Royalty Interests work together?

GROSS WORKING INTEREST

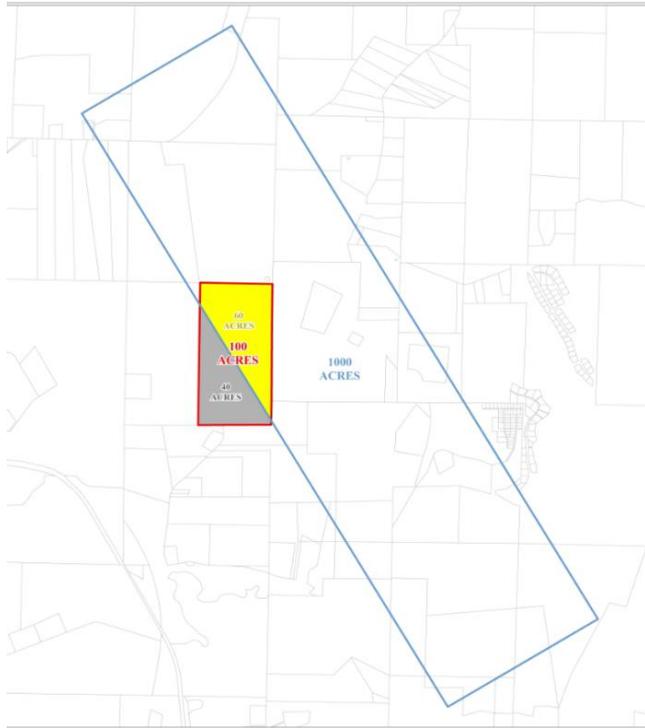


NET REVENUE INTEREST



INTEREST TYPES	ACRES	NRI	UNIT INTEREST	GWI
Working Interest	100.00	0.75000000	0.75000000	1.00000000
Royalty Interest	100.00	0.20000000	0.20000000	
Overriding Royalty Interest	100.00	0.05000000	0.05000000	
TOTAL UNIT SIZE	100.00		1.00000000	1.00000000

Practical Application – WI, ORRI and RI



Unit Interest & Gross Working Interest Calculations for Royalty, Overriding Royalty, and Working Interests

INTEREST TYPES	ACRES	NRI	UNIT INTEREST	GWI
Working Interest	60.00	0.82500000	0.04950000	0.06000000
Royalty Interest	60.00	0.12500000	0.00750000	
Overriding Royalty Interest	60.00	0.05000000	0.00300000	
TOTAL UNIT SIZE	1000.00	1.00000000	0.06000000	0.06000000

Basic Calculations



Gross Working Interest

(Net Acres / Total Unit Size = Gross Working Interest)

Net Working Interest

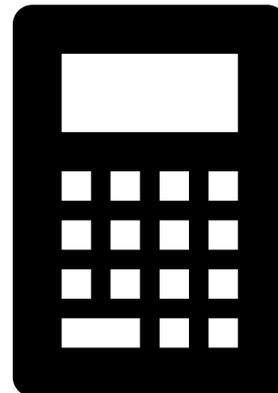
(Net Acres / Total Unit Size X Delivered Net Revenue Interest = Unit Interest)

Royalty Unit Interest (includes ORRI, RI, NEMI)

(Net Acres / Total Unit Size X Royalty Rate = Unit Interest)

Non-Participating Royalty Unit Interest

(Net Acres / Total Unit Size X % of Royalty = Unit Interest)



I've got the tools...now where do I find the information?



Leases | What matters?



Definition: A grant of the sole and exclusive right to explore for oil, gas, and sometimes other minerals, and to extract them from the ground.

- Establishes Lessor and Lessee
- Describes lands
- Contains a term
- Establishes Royalty Rate
- Early Pay/Timing of royalty payments
- Held by Production (HBP)
- Pugh Clause
- Entireties/Appportionment Clauses
- Pooling Provisions
- Shut-in Payments
- Can contain a multitude of different provisions
- May contain addendums
- Should be executed and notarized properly
- Memorandum or actual Oil & Gas lease must be of record
- Lease Ratifications
- Depth Limitations

Lease Example



Lease No. 29410991-00

Title of Document (i.e. sometimes Memorandum or Paid Up Oil and Gas Lease)

PAID UP OIL AND GAS LEASE

This Lease made this 10 day of September, 2009, by and between Edward Cullen and Belle Cullen, husband and wife, 1 Eclipse Lane, Forks, OR 97111 hereinafter called Volturni Drilling Co, Italy hereinafter

Lease Date, Lessor, Lessee

WITNESSETH: That for and in consideration of One Dollar (\$1.00), paid in hand by Lessee, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and of the premises, mutual covenants and agreements hereinafter set forth, the Lessor and Lessee agree as follows:

1. LEASING CLAUSE. Lessor hereby grants, leases and lets exclusively to Lessee all the oil and gas and their constituents, whether hydrocarbon or non-hydrocarbon, underlying the land herein leased, "the Leasehold", together with such exclusive rights as may be necessary or convenient for Lessee, at its election, to explore for, develop, produce, measure, and market production from the Leasehold, and from adjoining lands, using methods and techniques which are not restricted to current technology, including the exclusive right to conduct geophysical and other exploratory tests; to drill, maintain, operate, cease to operate, plug, abandon, and remove wells; to use or install roads, electric power and telephone facilities, and to construct pipelines with appurtenant facilities, including data acquisition, compression and collection facilities for use in the production and transportation of products from the Leasehold and/or from neighboring lands across the Leasehold, and such rights shall survive the term of this agreement for so long thereafter as operations are continued; to use oil, gas, and non-domestic water sources, free of cost; to operate, maintain, repair, and remove material and equipment.

2. DESCRIPTION. The Leasehold is located in the **Township(s) of Union**, in the **County of Carroll**, in the State of Ohio, and described as follows:

Township 14, Range 6:

Section 12: Pt. NW/4, Tax Parcel No. 33-01537.002, 5.00 acres and is bounded substantially by lands now or formerly owned as follows:

On the North by: **Burrow Rd.;**
On the East by: **DeGarmo;**
On the South by: **Long;**
On the West by: **Maple;**

and being lands conveyed to Lessor by deed or other Document, recorded in **OR 39/2771; 313/649; 308/37** of the records of said County and State, and described for the purposes of this agreement as containing a total of **5.00** acres, whether actually more or less, and including contiguous lands owned by Lessor.

3. LEASE TERM. This Lease shall remain in force for a primary term of **five (5) years from September 10, 2009**, (the "effective date") and for as long thereafter as prescribed payments are made, or for as long thereafter as operations are conducted on the Leasehold in search of or production of oil, gas, or their constituents, or for as long as a well capable of production is located on the Leasehold or lands pooled or unitized therewith, or for as long as extended by provision herein. If after the primary term the last producing well on the Leasehold or lands pooled or unitized therewith is plugged and abandoned, the Leasehold will remain under Lease for an additional period of one year from the date of plugging and abandonment, subject to the payment of delay rental.

Lease Term

4. EXTENSION OF PRIMARY TERM. Lessee has the option to extend the primary term of this Lease for one additional term of **five (5) years** from the expiration of the primary term of this Lease; said extension to be

Legal Description

Lease Example



Royalty Clause Examples

5. PAYMENTS TO LESSOR. Lessee covenants to pay Lessor, proportionate to Lessor's percentage of ownership, as follows:

(A) DELAY RENTAL: If operations for drilling are not commenced on the Leasehold or lands pooled or unitized therewith, or any part hereof, within ninety days from the effective date, Lessee shall, to continue this Lease in full force and effect, make payment to Lessor a Delay Rental at the rate of **Five Dollars (\$5.00)** per net mineral acre per year, payments to be made annually, until the commencement of a well. Delay Rental paid for time beyond the commencement date of Royalty payments shall be credited upon the Royalty payment. **The parties hereto agree that this is a Paid-Up Lease with no further Delay Rental and/or Delay in Marketing payments due to Lessor during the primary term hereof.**

(B) ROYALTY: To pay Lessor as Royalty, less all applicable taxes, assessments, and adjustments on production from the Leasehold, as follows:

1. **OIL:** To deliver to the credit of Lessor, free of cost, a Royalty of the equal one-eighth part of all oil and any constituents thereof produced and marketed from the Leasehold.
2. **GAS:** To pay Lessor an amount equal to one-eighth of the net proceeds realized by Lessee from the sale of all gas and the constituents thereof produced and marketed from the Leasehold. Lessee may withhold Royalty payment until such time as the total withheld exceeds twenty-five dollars (\$25.00).

3. Royalties on oil, gas and other substances produced and saved hereunder shall be paid by Lessee to Lessor as follows: (a) For oil and other liquid hydrocarbons separated at Lessee's separator facilities, the royalty shall be Twenty-Five (25%) of such production, to be delivered at Lessee's option to Lessor at the wellhead or to Lessor's credit at the oil purchaser's transportation facilities, provided that Lessee shall have the continuing right to purchase such production at the wellhead market price then prevailing in the same field (or if there is no such price then prevailing in the same field, then in the nearest field in which there is such a prevailing price) for production of similar grade and gravity; (b) for gas (including casinghead gas) and all other substances covered hereby, the royalty shall be Twenty-Five (25%) of the proceeds realized by Lessee from the sale thereof, less a proportionate part of ad valorem taxes and production, severance, or other excise taxes and the costs incurred by Lessee in delivering, processing or otherwise marketing such gas or other substances, provided that Lessee shall have the continuing right to purchase such production at the prevailing wellhead market price paid for production of similar quality contracts entered into on the same or nearest preceding date as the date on which Lessee commences its purchases hereunder; and (c) if at the end of the primary term or any time thereafter one or more wells on the leased premises or lands pooled therewith are capable of either producing oil or gas or other substances covered hereby in paying quantities or such wells are waiting on hydraulic fracture stimulation, but such well or wells are either shut-in or production therefrom is not being sold by Lessee, such well or wells shall nevertheless be deemed to be producing in paying quantities for the purpose of maintaining this lease. If for a period of 90 consecutive days such well or wells are shut-in or production therefrom is not being sold by Lessee, then Lessee shall pay shut-in royalty of one dollar per acre then covered by this lease, such payment to be made to Lessor or to Lessor's credit in the depository designated below, on or before the end of said 90-day period and thereafter on or before each anniversary of the end of said 90-day period while the well or wells are shut-in or production therefrom is not being sold by Lessee; provided that if this lease is otherwise being maintained by operations, or if production is being sold by Lessee from another well or wells on the leased premises or lands pooled therewith, no shut-in royalty shall be due until the end of the 90-day period next following cessation of such operations or production. Lessee's failure to properly pay shut-in royalty shall render Lessee liable for the amount due, but shall not operate to terminate this lease.

Lease Example



Early Pay Examples –
Usually set out a time frame shorter than 120 days and
include a penalty if royalties are not paid timely.

(f) 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-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 or oil into transport for sale of such production. On each subsequent well, royalty payments must commence within ninety (90) 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 or oil into transport of such production. Thereafter, all royalties on oil shall be paid to Lessor on or before the last day of 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 as published by the Wall Street Journal as of the date payment is first due, plus five percent (5%) per annum.

D. General Royalty Provisions:

(1) Accounting and payments to Lessor of royalties from the production of oil and gas from any well shall commence no later than ninety (90) days after the initial commencement of production in paying quantities. Thereafter, unless otherwise specifically provided herein, all accountings and payments for royalties shall be made on or before the last day of the second calendar month following the calendar month in which the production is sold. Should Lessee at any time fail to make royalty payments to Lessor on or before the last day of the second calendar month following the calendar month in which production is sold from any well [for any reason other than the existence of a bona fide title dispute], Lessor may, at Lessor's election, cancel this Lease as to such well and Said Lands ascribed to such well by giving Lessee twenty (20) days advanced written notice of such cancellation. Lessee may avoid such cancellation by paying Lessor all sums (including interest) then owed by Lessee to Lessor prior to the expiration of said twenty (20) day period. Unless otherwise herein expressly provided, and whether or not Lessor shall have canceled this Lease as to any well and Said Lands ascribed to such well for non-payment, any royalties which are suspended and not paid to Lessor within the time periods specified therefor shall accrue interest at the rate of twelve percent (12%) per annum from the due date until paid. Interest due hereunder shall be compounded annually. Acceptance by Lessor of royalties which are past due shall not act as a waiver or estoppel of Lessor's right to receive or recover any and all interest due thereon under the provisions hereof unless the written acceptance or acknowledgment by Lessor to Lessee expressly so provides. Any tender or payment to Lessor of a sum less than the total amount due the Lessor hereunder which is made or intended to be made as an offer of settlement or an accord and satisfaction by or on behalf of Lessee, must be accompanied by a Notice of Settlement Offer, so denominated, addressed to Lessor. Any such offer of settlement submitted solely by the tender of a check containing language of settlement or accord

and satisfaction printed or otherwise inserted thereon shall not be deemed an offer of settlement or accord and satisfaction unless accompanied by such a Notice of Settlement Offer. Lessee shall pay all costs of litigation, including reasonable attorney's fees, expert witness and consultation fees incurred by Lessor in connection with any lawsuit in which Lessor is successful in recovering any royalties or interest or in terminating this Lease due to Lessee's failure to pay royalties within the period set forth herein.

Lease Example



Held by Production (HBP) Example

6. **Held by Production**

This Lease may be held in force after the termination of the Primary Term, including any extensions in accordance with Article II, Section 2 and/or Section 3 of this Lease, only by terms and conditions contained herein, including but not limited to production from, or operations conducted on the Leased Premises or any units in which the Leased Premises is included.

Lease Example



Pugh Clause Example

5. **Pugh Clause**

(a) As to any acreage of the Leased Premises which is not included within any production unit at the expiration of the Primary Term, including any extension of the Primary Term in accordance with Article II, Section 2 and/or Section 3 of this Lease, this Lease shall automatically terminate and be of no further force or effect as to any acreage not within such designated units.

(b) In addition, at the end of the Primary Term or extension thereof, this Lease shall terminate as to all depths and horizons under each production unit below two hundred (200) feet below the stratigraphic equivalent of the base (bottom) of the deepest formation from which production of oil or gas in paying quantities is being maintained (or, in the case of a shut-in gas well, can be maintained) in the well on such production unit if Lessor makes a demand in writing to Lessee that Lessee commence development of such lower depths and horizons, and Lessee has not within one hundred eighty (180) calendar days following such demand, commenced development efforts at least to the extent of application for a permit for a well into such depths and horizons.

(c) Notwithstanding Article II(5)(a) and (b) above, Lessee may continue to utilize access roads, pipelines, or other surface use in effect at the time of termination described above, with Lessee deemed to hold such rights by surface easement so long as such use by Lessee shall continue. Lessee's rights shall not prevent Lessor from re-leasing rights terminated as described above, so long as Lessee's retained surface rights are not disrupted.

Lease Example



11. **APPORTIONMENT OF PAYMENTS.** If the leased premises shall hereafter be divided in severalty or in separate tracts, the premises nevertheless shall continue to be developed and operated as one lease, and all rentals, royalties and payments provided for shall be treated as an entirety and shall be divided among, and paid to, such separate owners in the proportion that the acreage owned by each such separate owner bears to the entire leased acreage.

11. **PROPORTIONATE REDUCTION:** If the Lessor owns a less interest in the Leased Premises than the entire and undivided fee simple therein, then the Royalties and other payments herein provided for shall be paid to the Lessor only in the proportion which such interest bears to the whole and undivided fee. If the Leased Premises is owned by two or more parties, or the ownership of any interest therein should hereafter be transferred by sale, devise or operation of law, the Leased Premises, nevertheless, may be held, developed and operated as an entirety, and the Royalties and other payments herein provided for shall be divided among and paid to such several owners in the proportion that the acreage owned by each such owner bears to the entire Leased Premises.

Lease Example



Pooling Limitation Example

ii. If the well is classified as a horizontal oil or gas well drilled to any geologic formations containing a horizontal component of the drainhole in the target formation whether oil or gas, then the maximum size of the pooled production unit shall not exceed six hundred and forty (640) contiguous acres, except said pooled production unit may exceed six hundred and forty (640) contiguous acres, but in no event larger than one thousand (1,000) contiguous acres, if the lateral extent of horizontal bore hole(s) in said formation 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 pooled production unit shall to the extent practical parallel and be centered on the lateral bore holes to be drilled within the unit.

Lease Example

Take note of Depth limitations in leases, if applicable



SYSTEM	SERIES	GROUP	ANADARKO BASIN	
PENNSYLVANIAN	VIRGILIAN	CISCO	SHAWNEE SHAWNEE DEER CREEK LE COMPTON HOOVER ELGIN (CARMICHAEL) CREAD HEEBNER ENDICOTT	
			DOUGLAS DOUGLAS	
		MISSOURIAN	HOXBAR	OCHELATA COTTAGE GROVE
	SKATOOK			HOGSHOOTER LAYTON CHECKERBOARD CLEVELAND
			DEBEE	MARIATON MARIATON DES MOINESIAN GRANITE WASH
				CHEROKEE CHEROKEE
	PENN.		ATOKAN	UPPER DORNICK HILLS ATOKAN THIRTEEN FINGERS LS
		<i>"WICHITA" OROGENY MTS, ARBUCKLE MTS, NEMAHA RIDGE</i>		
	PENN.	MORROWAN	LOWER DORNICK HILLS MORROW SH PURDY SD MORROW SD (KEYES) / (MOCANE) MORROW MIDDLE PRIMROSE SD MORROW LOWER	
			SPRINGERAN SPRINGER SPRINGER	
MISSISSIPPIAN	CHESTERIAN	CHESTER	CHESTER	
	MERAMECIAN	MERAMEC	MISSISSIPPI LIME	
	OSAGEAN	OSAGE	OSAGE	
DEVONIAN	CHATT	CHATT	WOODFORD	
<i>POST HUNTON OROGENY</i>				
DEVONIAN	ULSTERIAN	HUNTON	HUNTON	
SILURIAN	NIAGARAN & ALEXANDRIAN			

Lease Summary



Leases are essentially the same but have numerous variations and formats.

Record title also takes on a multitude of formats, but typically contains words of grant or conveyance. The appropriate documentation should be filed of record in order to transfer a particular type of interest or in accordance with your company's policy and business risk limitations.

We must incorporate all information and evaluate it appropriately in order to accurately maintain and set up title decks.

Title Opinions & Ownership Reports



Title Opinions – An Opinion rendered by a title attorney establishing the certification of title date, royalty, overriding royalty interest, and working interest ownership, and title requirements.

Ownership Reports – Usually a chain of title established by a broker outlining the royalty ownership. This is usually not as reliable as a title opinion.

Purpose of Title Opinions



Title Opinions: Establish ownership and based off of record title and outline any curative needed to satisfy title requirements.

- *Several different formats, but all should outline royalty ownership, lease rates, working interest ownership, and overriding royalty interests through the date in which the opinions were certified.*
- Drilling Title Opinion: Usually not a complete unit review and does not take in calculations.
- Division Order Title Opinion: Should be a comprehensive and thorough review of the title for the Unit.
- Title Opinions will describe the lands covered by the opinion as well as the last date the title is certified through.

Title Opinion Example



General Title Opinion Format describes

- the lands the opinion covers
- what records were examined
- the date the title is certified through

► Pittsburgh Office
Frick Building
437 Grant Street, 14th Floor
Pittsburgh, PA 15219-6107
Phone: 412-281-0587
Fax: 412-281-2971

► North Hills Office
Waterfront Corporate Park
2100 Georgetowne Drive
Suite 300
Sewickley, PA 15143-8782
Phone: 724-935-4777
Fax: 724-935-4123

www.grblaw.com

G·R·B
Goehring Rutter & Boehm
ATTORNEYS AT LAW
Straightforward Thinking.

July 19, 2011

Howard J. Schulberg
Also admitted in WV and OH
hschulberg@grblaw.com

CH
AT
CO
61
OKlahoma City, OK 73110

RE: CERTIFICATE OF TITLE - BURGETT UNIT
James L. Piecynski and Janet M. Piecynski
12.122 Acres
09-0000248.000
Center Township, Carroll County, Ohio

Gentlemen:

RECORDS EXAMINED AND EXTENT OF EXAMINATION

I hereby certify that I have made a careful examination in the General Indices of Carroll County, Ohio, against the record holders of title to the hereinafter described premises for the period from March 15, 1865 through July 5, 2011, to deeds, mortgages, sheriff and tax sale deeds in the County Recorder records, estates in the Probate Court records, ejections and miscellaneous, equity, judgments, state and federal tax liens in the Clerk of Court's Office, and assessment information and tax liens in the Auditor's Office, Treasurer's Office and Engineer's Office.

PROPERTY DESCRIPTION

All that certain tract of land described as containing 12.122 acres, more or less, and being part of the Southwest and Southeast Quarters of Section No. 7, Township No. 15, Range No. 6, of the Township of Center, County of Carroll, and State of Ohio, being described in a deed dated January 27, 2006, from James L. Piecynski and Janet M. Piecynski, husband and wife, to James L. Piecynski and Janet M. Piecynski, husband and wife, for and during their joint lives, remainder to the survivor of them, recorded August 1, 2006 in Official Record Volume 30, Page 2728 (Exhibit A). Subject to all legal highways, easements, reservations and restrictions of record. Excepted therefrom a 30 foot drive easement.

Title Opinion Example



Certificate of Title (Amelia Earhart) (09-0000248.000)
July 19, 2011

Page 2

COAL AND MINING RIGHTS

Title to the coal has not been examined and is not detailed herein.

OWNERSHIP

As a result of such examination, I find title to said tract of land, including oil and gas, to be vested as follows:

Surface

Parcel No. 09-0000248.000

Amelia Earhart

12.122 Acres

Oil & Gas

UNLEASED:

Amelia Earhart

100.00%

See Curative Requirement #1 below.

General Title Opinion format:

Names the mineral ownership

Names working interest ownership

Names overriding royalty interest ownership

This is the basis of title decks unless we are made aware of other ownership changes or deals made subsequent to the opinion.

Title Opinion



ASSESSMENTS

Said premises are assessed in Center Township, Carroll County, Ohio, for the year 2010 as follows:

Parcel ID No.: 09-0000248.000
Property Desc.:
Assessed amount:

12.122 Acres
6 15 7 Pt SW ¼ SE
12.122 acres at \$18,510.00

Certificate of Title: Amelia Earhart 0000248.000
July 19, 2011

Page 3

In the name of:

Amelia Earhart

2010 taxes are as follows: 12.122 acres at \$767.42 annually, \$389.71 being currently due and payable which includes a penalty of \$6.00. Taxes for 2011 are not yet due and payable.

See copy of the tax map at Exhibit B.

LEASES

Subject to the following oil and gas leases:

1. James Atwell to Hutson and Sparks, dated February 14, 1891, recorded February 20, 1891 in Lease Volume 1, Page 429 (Exhibit C) and covering 265 acres, more or less, for a six year primary term.
2. Garton H. Allen and Deloris J. Allen, husband and wife, to All States Oil & Producing Co., Inc., dated September 28, 1967, recorded December 1, 1967 in Lease Volume 41, Page 349 (Exhibit D) and covering 87.3 acres, more or less, for a three year primary term.
 - a. Affidavit of Non-Compliance with Terms of Oil and Gas Leases executed by Harold E. Grover and Carolyn Sue Grover, dated December 9, 1980, recorded December 24, 1980 in Lease Volume 58, Page 403 (Exhibit E).
3. Harold Grover and Carolyn S. Grover, husband and wife, to Superior Petroleum, Inc., dated August 26, 1980, recorded September 12, 1980 in Lease Volume 57, Page 783 (Exhibit F) and covering 82 acres, more or less, for a one and a half year primary term.
4. Amelia Earhart single, to Witco Oil and Gas Corporation, dated March 1, 1984, recorded March 7, 1984 in Lease Volume 64, Page 804 (Exhibit G) and covering 82.85 acres more or less, for a five year primary term.

July 19, 2011

MORTGAGES

1. Open-end Mortgage from Amelia Earhart to Sky Bank, dated March 4, 2002, recorded March 5, 2002 in Deed Volume 353, Page 213 (Exhibit H) and conveying the subject property to secure repayment of the sum of \$100,000.00.

JUDGMENTS/LIENS

None open of record.

CURATIVE REQUIREMENTS

1. Obtain and record an oil and gas lease from the owners thereof as set forth above under OWNERSHIP.
2. Upon completion of *Curative Requirement* #1, a bringdown examination should be conducted to determine whether there have been any intervening leases, conveyances, liens, etc.
3. Obtain releases or surrenders of the oil and gas leases at Items 1 through 4 under *Leases* above.
4. The surface ownership as set out above is herein certified. However, no examination of documents such as rights of way or easements have been performed.
5. Title to the coal underlying the subject property has not been examined. This estate will be examined and certified upon your request.
6. A subordination of the mortgage as set out above should be obtained.
7. Locate and avoid any rights of way apparent from an inspection of the property.
8. Obtain proof of payment of current taxes prior to engaging in operations on the subject property.

Title Opinions will generally outline the leases covered and any title/curative requirements, mortgages and liens. They will also usually include what the opinion does not cover.

Page 4

Chesapeake Energy Corporation
Certificate of Title: James L. Pleszynski, et al. (09-0000248.000)
July 19, 2011

Page 5

CLOSING STATEMENT

This certificate of title does not cover matters concerning boundaries or surveys, the rights of persons in possession, improper indexing of public records, errors or omissions of public officials in Carroll County, Ohio, forgeries, failure of consideration, incapacity of parties, improper delivery of deeds, any applicable bankruptcy or insolvency laws, liens for current taxes not yet due, support obligation liens (unless indexed in the indices reviewed), all matters not of record, orders by any governmental authority having jurisdiction over the surface and minerals of the subject land, or any other matter affecting the title to this property which does not appear of record. The index of financing statements and liens on personal property and fixtures was not examined. I have presumed the genuineness and validity of all instruments I have examined, all tax sales in the chain of title, and all court proceedings affecting this title. Also, I have made reasonable assumptions as to sources of title. This certificate of title is also subject to anything that might be disclosed by an actual survey or inspection of the property or which a properly conducted environmental audit of the real property and appurtenances may reveal. Subject to the above qualifications, requirements and comments, it is my opinion that title to the oil and gas underlying the subject tract is good and valid.

Very truly yours,

Howard J. Steinberg

Howard J. Steinberg

Title Opinion



Chain of Title

1. Daniel Champer, William Champer, Jacob Champer, Jonathan Champer and Isaac Champer, to Jason Atwell, conveyed a tract of land situate in the Southeast and Southwest Quarters of Section No. 7 and containing 194 acres, more or less, by instrument dated March 15, 1865, recorded March 16, 1865 in Deed Volume 20, Page 635. Excepted therefrom a graveyard situate on the premises.
 2. Edmund Champer, to Jason Atwell, conveyed all his right, title and interest in and to a tract of land situate in the Southeast and Southwest Quarters of Section No. 7 and containing 194 acres, more or less, by instrument dated June 18, 1867, recorded July 3, 1867 in Deed Volume 22, Page 270. Excepted therefrom a graveyard situate on the premises.
 3. Eliza Champer, to Jason Atwell, conveyed a tract of land situate in East side of the South half of Section No. 7 with unspecified acreage, by instrument dated December 21, 1877, recorded December 22, 1877 in Deed Volume 31, Page 537.
 4. Jason Atwell and Mary Atwell, his wife, to The Connoton Valley Railroad Company, conveyed a strip of land situate in the Southwest and Southeast Quarters of Section No. 7 and containing 3.50 acres, more or less, by instrument dated June 23, 1880, recorded June 29, 1880 in Deed Volume 34, Page 253.
 5. Charles F. Atwell, to James M. Atwell, quit-claimed all his right, title and interest in and to a tract of land situate in the Southwest and Southeast Quarters of Section No. 7 and containing 194 acres, more or less, by instrument dated December 29, 1889, recorded December 24, 1889 in Deed Volume 41, Page 540.
- NOTE:** There were no documents found of record to vest said Charles F. Atwell with an interest to the property. It has been assumed for the purpose of this opinion that he is an heir of Jason Atwell.
6. James M. Atwell and Mary Atwell, his wife, to Charles F. Atwell, quit-claimed all his right, title and interest in and to a tract of land situate in the Southwest and Southeast Quarters of Section No. 7 and containing 135.55 acres, more or less, by instrument dated March 26, 1892, recorded April 7, 1892 in Deed Volume 43, Page 333.
 7. Charles F. Atwell to The Deckman Duty Brick Company, conveyed a tract of land situate in the South half of Section No. 7 and containing 145.69 acres, more or less, being the first tract therein, by instrument dated December 20, 1912, recorded January 4, 1913 in

Deed Volume 71, Page 41. Excepted therefrom three tracts of land conveyed prior. Subject to all legal highways.

8. The Deckman Duty Brick Company, to George W. Gotschall, conveyed a tract of land situate in the South half of Section No. 7 and containing 71.42 acres, more or less, by instrument dated July 23, 1915, recorded August 6, 1915 in Deed Volume 73, Page 319.
 9. George W. Gotschall died August 16, 1934, leaving to survive him the following heirs at law, to-wit: Laura Gotschall, Ola Smith, Fred Gotschall, Florence Lucas, Forest Gotschall and Raymond Gotschall.
 10. Wheeling and Lake Erie Railway Company, to Laura Gotschall, Ola Smith, Fred Gotschall, Florence Lucas, Forest Gotschall and Raymond Gotschall, quit-claimed all right, title and interest in and to a strip of land previously conveyed to the Connoton Valley Railroad Company and containing 1.54 acres, more or less, by instrument dated December 18, 1936, recorded January 9, 1937 in Deed Volume 101, Page 575.
- NOTE:** There are no documents of record from The Connoton Valley Railroad Company conveying the subject property to Wheeling and Lake Erie Railway Company but this deed does reference the conveyance to The Connoton Valley Railroad Company and it is therefore assumed for purposes of this title opinion that the Wheeling and Lake Erie Railway Company is a successor in interest to The Connoton Valley Railroad Company.
11. Laura Gotschall, unmarried; Fred Gotschall, unmarried; Ola Smith and Davis Smith, wife and husband; Florence Lucas and Frank Lucas, wife and husband; Forest Gotschall and Elizabeth Gotschall, husband and wife; and Raymond Gotschall and Valetta Gotschall, husband and wife; to Earney H. Wolfe and Hazel Mae Wolfe, conveyed a tract of land situate in the South half of Section No. 7 and containing 71.42 acres, more or less, being the first parcel of Tract One therein; also conveyed a tract of land situate in the Southwest and Southeast Quarters of Section No. 7 and containing 1.54 acres, more or less, by instrument dated November 15, 1947, recorded December 2, 1947 in Deed Volume 113, Page 345. Subject to all legal highways.
 12. According to probate records Earney H. Wolfe died July 4, 1960, leaving to survive him as his devisee, Hazel Mae Wolfe, as evidenced by instrument dated February 10, 1961, recorded February 11, 1961 in Deed Volume 135, Page 476.
 13. Hazel Mae Wolfe, widow, to Garton H. Allen and Deloris J. Allen, husband and wife, conveyed a tract of land situate in the South half of Section No. 7 and containing 71.42 acres, more or less, being the first parcel of Tract One therein; also conveyed a tract of land situate in the Southwest and Southeast Quarters of Section No. 7 and containing 1.54

acres, more or less, by instrument dated August 17, 1961, recorded August 17, 1961 in Deed Volume 135, Page 574. Excepted therefrom a tract of land containing 1.00 acre, more or less. Subject to all legal highways.

14. According to probate records Garton H. Allen died November 12, 1971, leaving to survive him as his sole devisee, Deloris J. Allen, as evidenced by instrument dated May 25, 1972, recorded May 26, 1972 in Deed Volume 170, Page 327.
 15. Deloris J. Allen, widow, to Harold E. Grover and Carolyn Sue Grover, husband and wife, conveyed a tract of land situate in the South half of Section No. 7 and containing 71.42 acres, more or less, being the first parcel of Tract One therein; also conveyed a tract of land situate in the Southwest and Southeast Quarters of Section No. 7 and containing 1.54 acres, more or less, by instrument dated June 1, 1972, recorded June 2, 1972 in Deed Volume 170, Page 383. Excepted therefrom a tract of land containing 1.00 acre, more or less. Subject to all legal highways.
 16. Harold E. Grover and Carolyn Sue Grover, husband and wife, to James L. Pieczynski, conveyed a tract of land situate in the South half of Section No. 7 and containing 71.42 acres, more or less, being the first parcel of Tract One therein; also conveyed a tract of land situate in the Southwest and Southeast Quarters of Section No. 7 and containing 1.54 acres, more or less, by instrument dated January 25, 1982, recorded February 25, 1982 in Deed Volume 207, Page 408. Excepted therefrom two tracts of land containing 1.00 acre and 4.1760 acres, respectively. Subject to all legal highways.
17. **Amelia Earhart** claimed a tract of land situate in the Southwest and Southeast Quarters of Section No. 7 and containing 12.122 acres, more or less. Subject to all legal highways, easements, reservations and restrictions of record. Reserved therefrom a 30 foot drive easement.

Title Opinions also usually describe the chain of title.

Ownership Report Example



TITLE STATUS REPORT							
ACS CERTIFICATION FROM 02/09/1901 TO 4/7/2013							
GALLATIN 1H J(637503)							
Survey (SHL) Kitty House Survey (BHL) William Loving Survey, Abstract (SHL) 678 (BHL) 544							
Tarrant County, Texas							
338.645							
TRACT #	TRACT DESCRIPTION	LEASE #	NEW OWNER NAME	INTEREST	DPU (Y/N)	WB OR 330'	NOTES
TRACT 0001	TRACT 0001, GEOREFERENCE #: A 599-2C, Tracts 2C & 2C1, Abstract 599 & Tracts 2A1, 2B, & 2E2 Abstract 678, John A. Groves Survey, to the City of Euless.	T\00148976-000	Party Zielinski	1.000000		Y	WB
TRACT 0002	TRACT 0002, GEOREFERENCE #: 21230-E-3, Tracts 2A1A, 2A1D, 2B1 & 2B1C, Abstract 678, Kitty House Survey and Block E, Lot 3, International/Regional Industrial Complex Addition, to the City of Euless.	T\00148976-000	Party Zielinski	1.000000		Y	WB
TRACT 0003	TRACT 0003, GEOREFERENCE #: A 599-2C01A, Tracts 2A1A1 and 2B1A, Kitty House Survey, Abstract No. 678, to the City of Euless.	T\00148976-000	Party Zielinski	1.000000		Y	WB
TRACT 0004	TRACT 0004, GEOREFERENCE #: 21230-E-A, Block E, Lot A, International/Regional Industrial Complex Addition, to the City of Euless.	UNLEASED	Hurst Metallurgical Research Laboratory Inc	1.000000		N	
TRACT 0005	TRACT 0005, GEOREFERENCE #: 21230-E-D and 21230-E-6F, Block E, Lots D and 6F, International/Regional Industrial Complex Addition, to the City of Euless.	T\00101091-000	NIE Joint Venture LLC	1.000000		Y	330'
TRACT 0006	TRACT 0006, GEOREFERENCE #: 21230-D-C, Block D, Lot C, International/Regional Industrial Complex Addition, to the City of Euless.	T\00100071-000	Richard H Smith	1.000000		Y	
TRACT 0007	TRACT 0007, GEOREFERENCE #: 21230-C-2B, Block C, Lot 2B, International/Regional Industrial Complex Addition, to the City of Euless.	UNLEASED	Bill J Horn	1.000000		N	
TRACT 0008	TRACT 0008, GEOREFERENCE #: 21230-C-2A, Block C, Lot 2A, International/Regional Industrial Complex Addition, to the City of Euless.	T\00153015-000	James Earl and Mal Earl HW	1.000000		Y	
TRACT 0009	TRACT 0009, GEOREFERENCE #: 21230-C-1C, Block C, Lot 1C, International/Regional Industrial Complex Addition, to the City of Euless.	42.048450-000	Eberle Equipment Company Inc	1.000000		Y	
TRACT 0010	TRACT 0010, GEOREFERENCE #: 21230-C-1B, Block C, Lot 1B, International/Regional Industrial Complex Addition, to the City of Euless.	T\00086862-000	Jimmy C Payton Sr	1.000000		Y	
TRACT 0011	TRACT 0011, GEOREFERENCE #: 21230-C-1A, Block C, Lot 1A, International/Regional Industrial Complex Addition, to the City of Euless.	T\00100636-000	OmniAmerican Bank	1.000000		Y	
TRACT 0012	TRACT 0012, GEOREFERENCE #: 31550-1A, 31550-1B, and 31550- 1C, Tracts 1A, 1B, 1C, and 2, Park Center Addition, to the			1.000000			

Ownership Reports can be in numerous types of formats and have less standard types of information. They typically provide updated ownership of the royalty and whether or not a valid lease is tied to the lands described.

Title Opinion & Ownership Report Summary



- Title Opinions are our most reliable source for setting up ownership in a well.
- Ownership Reports do not have a standard format, but should outline royalty ownership and the lease associated with the described lands it covers.
- We must incorporate all information and evaluate it appropriately in order to accurately set up our title decks. If ownership is set up differently than what is in the title opinion or ownership report, it should be from deeds or assignments subsequent to the opinion and ownership report.

Declaration of Pooled Unit (DPU)



- Purpose of Declaration of Pooled Unit (DPU) (or other type of state or regulatory filing)
 - The DPU is a legal document filed at the County Courthouse
 - Formally declares and describes the producing unit
 - Outlines the leases pooled and lease acreage attributed to the unit
 - Per the terms of the leases a DPU is filed to indefinitely hold the lease for the life of the well
 - Need for Unit Revisions
 - Drilling/Regulatory set backs
 - Review of Title Acreage

DPU Example



INSTRUMENT BOOK PAGE
20130000689 OR 89 4257

20130000689
Filed For Record in
CARROLL COUNTY, OHIO
PATRICIA J. OWENS
01-11-2013 AT 09:18 am
LEASE 160.00
OR BOOK 89 PAGE 4257 - 4266

20130000689
Electronic Filing
From Chesapeake Operating Inc
Trust, LLC

FIRST AMENDMENT TO DECLARATION AND NOTICE OF POOLED UNIT LOG 495 Gusher 1H UNIT

This Amended Declaration and Notice of Pooled Unit prescribes authority that is intended to be effective as of January 14, 2013, by the undersigned parties, who collectively own the leasehold estates created under those certain oil and gas leases and any renewals, extensions, ratifications and amendments thereof which are more particularly described on Exhibit "A" attached hereto and incorporated herein by reference for all purposes (the "Leases"), or who collectively own an interest in the oil and gas estate in the lands described in the Leases, and who join in the execution hereof to evidence their consent to the pooling, unitization and combination of the Leases and oil and gas estates herein described. This Amended Declaration and Notice of Pooled Unit shall amend and replace that certain Declaration and Notice of Pooled Unit recorded May 25, 2012 in the Recorder's Office of Carroll County, Ohio, Instrument Number 20120000000. Specifically, this Amended Declaration is intended to revise the unit boundaries or to correct scrivener's errors, and to substitute one or both exhibits thereto.

RECITALS

WHEREAS, each of the Leases authorizes the lessee thereunder to pool, unitize or combine all or a portion of the lands covered thereby with other land and leases, to form a pooled unit for the exploration, development and production of oil, gas and associated and constituent hydrocarbons from the lands covered by the Leases; and

WHEREAS, the pooling, unitization and combination of the Leases and oil and gas estates to the extent necessary to form the hereinafter described pooled unit are necessary and advisable in the judgment of the undersigned to efficiently and effectively develop the oil and gas rights within such unit.

WHEREAS, **A+ Drilling Company** the Operator of the oil and/or gas well(s) in the pooled unit and executes this document on behalf of itself and as agent for all interest owners in the leases to the extent that they do not separately join in the execution hereof.

NOW, THEREFORE, in order to establish and provide proper notice for the creation of the hereinafter described unit, the undersigned hereby declare as follows:

1. Declaration of Unit: In accordance with the provisions of the Leases, the undersigned do hereby declare, pool, unitize and combine the Leases, including all renewals, extensions, ratifications and

Exhibit "A"
Attached to and made a part of that Final Amended Declaration and Notice of Pooled Unit prepared January 14, 2013, but made effective January 14, 2013, by and between **Gusher 1H** and **A+ Drilling Company**

CHESAPEAKE LEASE ID	LESSOR	LEASE DATE	RECORDING INFORMATION	LEGAL DESCRIPTION	TAX MAP PARCEL ID NUMBERS	TITLE ACRES	NET ACRES IN UNIT
1-339623-000	Karen L. Murray, Trustee of The Karen L. Knotts Living Trust	8/8/2009	20090004163, 84 Page 255-4	Sec. 17, T13N, R5W	170000024001	13.000000	3.344233
1-339566-000	Donald R. and Elizabeth A. Schweg	6/26/2009	20090004163, 84 Page 395-4	Sec. 17, T13N, R5W	170000024002	35.461000	26.756456
1-339592-000	Denver G. Haddock and Debra L. Haddock	7/15/2009	20090004163, 84 Page 345-5	Sec. 17, T13N, R5W	170000187000	7.820000	2.554995
1-339721-000	Lenny J. Ott	10/5/2009	20090004163, 84 Page 371-5	Sec. 17, T13N, R5W	170000441000	3.800000	3.000000
1-339560-000	Nancy M. McLaughlin, Trustee of the Nancy M. McLaughlin Living Trust	6/20/2009	20090004163, 84 Page 271-2	Sec. 15, T13N, R5W	170000448000	41.750000	3.916615
34-000213-000	Dorothy E. Wosar	8/13/2011	20110004805, 73 Page 150-2	Sec. 17, T13N, R5W	170004800000	3.600000	3.600000
1-339776-000	Heleen T. Haskins and Cheryl A. Haskins	11/20/2009	20090004163, 84 Page 371-5	Sec. 17, T13N, R5W	170004810000	3.210000	3.210000
1-339743-000	Christopher L. Wagner and Charles M.	9/29/2009	20090004163, 84 Page 218-6	Sec. 12, T13N, R5W	170005210000	5.230000	1.307499
1-339560-000	Nancy M. McLaughlin, Trustee of the Nancy M. McLaughlin Living Trust	6/20/2009	20090004163, 84 Page 271-2	Sec. 17, T13N, R5W	170005230000	24.800000	5.083722
1-339608-000	Denver A. Leavely and Linda Leavely	9/23/2009	20090004163, 84 Page 150-2	Sec. 17/18, T13, R5W	170005370002	1.050000	0.972121
1-339588-000	William S. Andrews and Janice C. Andrews	7/16/2009	20090004163, 84 Page 371-2	Sec. 27, T13N, R5W	170005390000	53.230000	24.694745
1-339563-000	Haskins A. Schweg, Trustee of the Schweg Revocable Living Trust	6/26/2009	20090004163, 84 Page 34	Sec. 17, T13N, R5W	170005390001	63.270000	31.083124
1-339556-000	Stacy Daniels and Lorie B. Daniels, as joint tenants with right of survivorship	6/22/2009	20090004163, 84 Page 143-3	Sec. 17, T13N, R5W	170005390000	34.900000	18.397863

CHESAPEAKE LEASE ID	LESSOR	LEASE DATE	RECORDING INFORMATION	LEGAL DESCRIPTION	TAX MAP PARCEL ID NUMBERS	TITLE ACRES	NET ACRES IN UNIT
1-339610-000	Ruth E. Foster	8/21/2009	20090004163, 84 Page 198	Sec. 12, T13N, R5W	170000000000	3.800000	0.020018
1-339659-001	Stephanie L. Kinney, Jr. and Cathy S. Kinney	6/7/2009	20090004163, 84 Page 619	Sec. 30, T13N, R5W	170000210000	80.000000	0.648941

End of Exhibit "A"

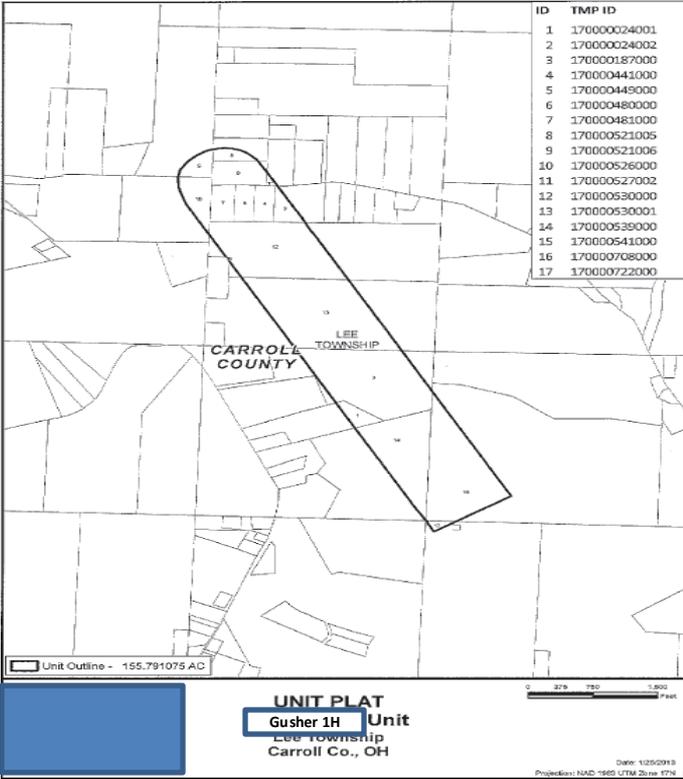
Total Acres in Unit: 165.794815

Record & Return To:
A+ Drilling Company, Inc.
10000
Ocala, FL 32134

20130000689 OR 89 4257

20130000689 OR 89 4257

DPU Example



Congratulations!
You have earned your detective badge!



Basic Calculations



Gross Working Interest

(Net Acres / Total Unit Size = Gross Working Interest)

Net Working Interest

(Net Acres / Total Unit Size X Delivered Net Revenue Interest = Unit Interest)

Royalty Unit Interest (includes ORRI, RI, NEMI)

(Net Acres / Total Unit Size X Royalty Rate = Unit Interest)

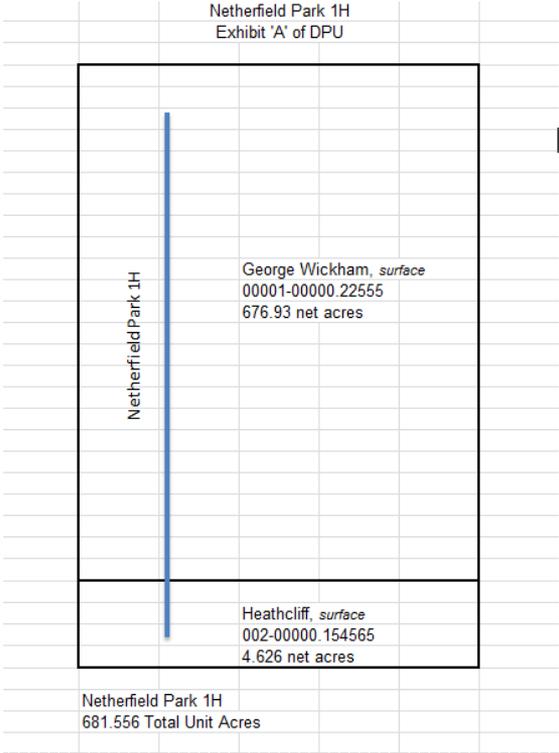
Non-Participating Royalty Unit Interest

(Net Acres / Total Unit Size X % of Royalty = Unit Interest)

EXAMPLE WELL DPU PLAT



Netherfield Park 1H



EXAMPLE WELL TITLE

Netherfield Park 1H



II. OWNERSHIP

Our review of the Materials Examined reflects that as of May 23, 2012, at 8:00 a.m. (the "losing Date"), record title to the Subject Land, subject to the Comments and Requirements set forth herein, is vested as per the following interest ownership schedules:

1. SURFACE ESTATE

George Wickham	a single man	100.0000%
----------------	--------------	-----------

2. COAL ESTATE

George Wickham	a single man	100.0000%
----------------	--------------	-----------

3. OIL AND GAS ESTATE

Executive (Leasing) Rights, Bonuses, Delay Rentals and Royalties

George Wickham		100.0000%
----------------	--	-----------

See Comment/Requirement No. 12.

4. LEASEHOLD ROYALTY

Fitzwilliam Darcy	a single man	12.5000%
-------------------	--------------	----------

See Comment/Requirement Nos. 12 and 15.

5. NON-PARTICIPATING ROYALTY

None of record

See Comment/Requirement No. 13.

All Depths Below the Stratigraphic Equivalent of the Top of the Queenston

Charles Bingley	5.5000%
-----------------	---------

See Comment/Requirement Nos. 13 and 14.

OIL AND GAS LEASEHOLD

All Formations Lying Between the Surface and the Stratigraphic Equivalent of the Top of the Queenston Formation:

	<u>Expense Bearing</u>	<u>Net Revenue</u>
William Collins	100.0000%	87.5000%
— Less Total Royalty Interest	N/A	12.5000%
TOTAL OIL AND GAS LEASEHOLD ESTATE	100.0000%	100.0000%

See Comment/Requirement No. 13.

All Depths Below the Stratigraphic Equivalent of the Top of the Queenston Formation:

	<u>Expense Bearing</u>	<u>Net Revenue</u>
Pemberley Place Drilling Company	72.0000%	59.0400%
Rosings Drilling Company	25.0000%	20.5000%
Longbourn Drilling Company	3.0000%	2.4600%
— Less Total Overriding Royalty Interest	N/A	5.5000%
— Less Total Royalty Interest	N/A	12.5000%
TOTAL OIL AND GAS LEASEHOLD ESTATE	100.0000%	100.0000%

See Comment/Requirement Nos. 13, 15 and 16.

EXAMPLE WELL TITLE

Netherfield Park 1H



FEE TITLE

SURFACE ESTATE:

Heathcliff

COAL ESTATE:

Owner	Decimal Interest	Net Acres	Lease
Heathcliff	1.00000000	4.626000	Unleased

OIL AND GAS ESTATE:

ROYALTY INTEREST

Owner	Decimal Interest	Net Acres	Royalty	Net Revenue Interest	Lease	Objection
Catherine Earnshaw	1.00000000	4.626000	20.000000%	.20000000	1	8

Total Royalty Interest:	1.00000000	4.626000		.20000000		
-------------------------	------------	----------	--	-----------	--	--

OVERRIDING ROYALTY INTEREST

None examined.

WORKING INTEREST

Owner	Decimal Interest	Net Acres	Lease NR	Net Revenue Interest	Lease	ORRI No.	Objection
Pemberley Place Drilling Co	1.00000000	4.626000	80.000000%	.80000000	1		1-8

Total Working Interest:	1.00000000	4.626000		.80000000		
-------------------------	------------	----------	--	-----------	--	--

Total Interest:				1.00000000		
-----------------	--	--	--	------------	--	--

EXAMPLE WELL LEASES



07/11 - OH

PAID-UP OIL AND GAS LEASE

Lease No. _____

This Lease made this 4th day of February, 2017, by and between _____
wife and husband, whose address is _____, Catherine Earnshaw
and _____
Wuthering Heights Drilling Co

_____ hereinafter called "Lessee".
WITNESSETH, that for and in consideration of Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and of the mutual covenants and agreements hereinafter set forth, the Lessor and Lessee agree as follows:

LEASING CLAUSE. Lessor hereby leases exclusively to Lessee all the oil and gas (including, but not limited to coal seam gas, coalbed methane gas, coalbed gas, methane gas, gob gas, occluded methane/natural gas and all associated natural gas and other hydrocarbons and non-hydrocarbons contained in, associated with, emitting from, or produced/originating within any formation, gob area, mixed-out area, coal seam, and all communicating zones), and their liquid or gaseous constituents, whether hydrocarbon or non-hydrocarbon, underlying the land herein leased, together with such exclusive rights as may be necessary or convenient for Lessee, at its election, to explore for, develop, produce, measure, and market production from the Leasehold, and from adjoining lands, using methods and techniques which are not restricted to current technology, including the right to conduct geophysical and other exploratory tests; to drill, maintain, operate, cease to operate, plug, abandon, and remove wells; to use or install roads, electric power and telephone facilities, and to construct pipelines with appurtenant facilities, including data acquisition, compression and collection facilities for use in the production and transportation of products from the Leasehold or from neighboring lands across the Leasehold, to use oil, gas, and non-domestic water sources, free of cost, to store gas of any kind underground, regardless of the source thereof, including the injecting of gas therein and removing the same therefrom; to protect stored gas; to operate, maintain, repair, and remove material and equipment; to use and occupy the subsurface for a wellbore or wellbores to drill across, through and under the Leasehold.

DESCRIPTION. See Exhibit "B" for lands described in LOUDON Township, CARROLL County, OHIO
LOUDON 012N-005W S:18; 1#90096600 LOUDON 012N-005W S:18; 1#90096601

See Exhibit "A" and Exhibit "B" attached hereto and made a part hereof.

and described for the purposes of this agreement as containing a total of 8,660.00 Leasehold acres, whether actually more or less, and including contiguous lands owned by Lessee. This Lease also covers and includes, in addition to that above described, all land, if any, contiguous or adjacent to or adjoining the land above described and (a) owned or claimed by Lessor, by limitation, prescription, possession, reversion or unrecorded instrument or (b) as to which Lessee has a preference right of acquisition. Lessor agrees to execute any supplemental instrument required by Lessee for a more complete or accurate description of said land.

LEASE TERM. This Lease shall remain in force for a primary term of five (5) years from 12:00 A.M. February 4, 2012 (effective date) to 11:59 P.M. February 3, 2017 (last day of primary term) and shall continue beyond the primary term as to the entirety of the Leasehold if any of the following is satisfied: (i) operations are conducted on the Leasehold or lands pooled/unitized therewith in search of oil, gas, or their constituents, or (ii) a well deemed by Lessee to be capable of production is located on the Leasehold or lands pooled/unitized therewith, or

(iii) oil or gas, or their constituents, are produced from the Leasehold or lands pooled/unitized therewith, or (iv) if the Leasehold or lands pooled/unitized therewith is used for the underground storage of gas, or for the protection of stored gas, or (v) if prescribed payments are made, or (vi) if Lessee's operations are delayed, postponed or interrupted as a result of any coal, stone or other mining or mining related operation under any existing and effective lease, permit or authorization covering such operations on the leased premises or on other lands affecting the leased premises, such delay will automatically extend the primary or secondary term of this oil and gas lease without additional compensation or performance by Lessee for a period of time equal to any such delay, postponement or interruption. If there is any dispute concerning this Lease beyond the primary term by reason of any of the alternative mechanisms specified herein, the payment to the Lessor of the prescribed payments provided below shall be conclusive evidence that the Lease has been extended beyond the primary term.

EXTENSION OF PRIMARY TERM. Lessee has the option to extend the primary term of this Lease for one additional term of five (5) years from the expiration of the primary term of this Lease; said extension to be under the same terms and conditions as contained in this Lease. Lessee may exercise this option to extend this Lease if on or before the expiration date of the primary term of this Lease, Lessee pays or tenders to the Lessor or to the Lessor's credit an amount equal to the initial consideration given for the execution hereof. Exercise of this option is at Lessee's sole discretion and may be invoked by Lessee where no other alternative of the Lease Term clause extends this Lease beyond the primary term.

NO AUTOMATIC TERMINATION OR FORFEITURE

(A) **CONSTRUCTION OF LEASE:** The language of this Lease (including, but not limited to, the Lease Term and Extension of Term clauses) shall never be read in language of special limitation. This Lease shall be construed against termination, forfeiture, cancellation or expiration and in favor of giving effect to the continuation of this Lease where the circumstances exist to maintain this Lease in effect under any of the alternative mechanisms set forth above. In connection therewith, (i) a well shall be deemed to be capable of production if it has the capacity to produce a profit over operating costs, without regard to any capital costs to drill or rework the well, or to deliver the oil or gas to the market; and (ii) the Lessee shall be deemed to be conducting operations in search of oil or gas, or their constituents, if the Lessee is engaged in geophysical and other exploratory work including, but not limited to, activities to drill an initial well, to drill a new well, or to rework, stimulate, deepen, sidetrack, frac, plug back in the same or different formation or repair a well or equipment on the Leasehold or any lands pooled/unitized therewith (such activities shall include, but not be limited to, performing any preliminary or preparatory work necessary for drilling, conducting internal technical analysis to initiate and/or further develop a well, obtaining permits and approvals associated therewith and may include material costs in activities provided that there is a continuous of activities showing a good faith effort to develop a well or that the cessation or interruption of activities was beyond the control of Lessee, including interruptions caused by the acts of third parties over whom Lessee has no control or regulatory delays associated with any approval process required for conducting such activities).

(B) **LIMITATION OF FORFEITURE:** This Lease shall never be subject to a civil action or proceeding to enforce a clause of termination, expiration or forfeiture due to any action or inaction by the Lessor, including, but not limited to making any prescribed payments authorized under the terms of this Lease, unless the Lessee has received written notice of Lessor's demand and thereafter fails or refuses to satisfy or provide justification responding to Lessor's demand within 60 days from the receipt of such notice. If Lessee timely responds to Lessor's demand, but in good faith disagrees with Lessor's position and sets forth the reasons therefore, such a response shall be deemed to satisfy this provision, this Lease shall continue in full force and effect and so further damages (or other claims for relief) will accrue in Lessor's favor during the pendency of the dispute, other than claims for payments that may be due under the terms of this Lease.

PAYMENTS TO LESSOR. In addition to the bonus paid by Lessee for the execution hereof, Lessee covenants to pay Lessor, proportionate to Lessor's percentage of ownership, as follows:

(A) **DELAY RENTAL:** To pay Lessor as Delay Rental, after the first lease anniversary, five dollars (\$5.00) per net acre per year payable in advance. The parties hereto agree _____ 1/2ch as further Delay Rental and delay in Marketing payments due to Lessee hereof.

(B) **ROYALTY:** To pay Lessor as Royalty, less all taxes, assessments, and adjustments on production from the Leasehold, as follows:

1. **OIL:** To deliver to the credit of Lessor, free of cost, a Royalty of the equal one-eighth (1/8) part of all oil and any constituents thereof produced and marketed from the Leasehold.

2. **GAS:** To pay Lessor an amount equal to one-eighth (1/8) of the revenue realized by Lessee for all gas and the constituents thereof produced and marketed from the Leasehold, less the cost to transport, treat and process the gas and any losses in volumes to point of measurement that determines the revenue realized by Lessee. Lessee may withhold Royalty payment until such time as the total withhold exceeds fifty dollars (\$50.00).

(C) **DELAY IN MARKETING:** In the event that Lessee drills a well on the Leasehold or lands pooled/unitized therewith that is awaiting completion, or that Lessee deems to be capable of production, but does not market producible gas, oil, or their constituents therefrom, and there is no other basis for extending this Lease, Lessee shall pay after the primary term and until such time as marketing is established (or Lessee surrenders the Lease) a Delay in Marketing payment equal in amount and frequency to the annual Delay Rental payment, and this Lease shall remain in full force and effect to the same extent as payment of Royalty.

(D) **SHUT-IN:** In the event that production of oil, gas, or their constituents is interrupted and not marketed

Exhibit A

34. **Page Count:** If the Leasehold covered by this Oil and Gas Lease covers more than thirty-five (35) net acres

35. **Reverts:** All references made in Paragraphs (iii) of the section entitled "PAYMENT TO LESSOR" as to one-eighth (1/8) royalty shall be amended to _____ 1/5th

37. **Claim and Green Clause:** Lessee agrees that if and when any penalty, setback or stipulate of tax statements created or imposed under any governmental program such as, but not limited to CREP, CRP and Clean and Green that is levied on Lessor solely as a result of Lessee's operations on leased premises, Lessee will reimburse Lessor upon written request and copy of the penalty notice, but only insofar as such assessments are imposed on that portion of the surface of the leased premises actually disturbed by such oil and gas operations and not on reclaimed.

38. **Recordable Release:** Upon termination, expiration or surrender of this Lease in whole or in part, Lessee shall provide Lessee with a copy of an appropriate release of discharge.

39. **Assignment Notice:** Lessee shall notify Lessor in writing if Lessee assigns all or a majority portion of this Lease to a third party. Provided, however, that notice to the Lessor shall not be required in the event of an assignment by Lessee: (a) to an affiliate, subsidiary, or internal partner; (b) in consequence of a merger or amalgamation; or (c) of all or substantially all of its assets to a third party.

40. **Pooled Production Unit Limit:** In the event Lessee desires to pool or unitize the Leased Premises with other lands and there is no spacing order previously established by a governmental or regulatory body, Lessee shall not have the right to form a production Unit larger than one thousand two hundred and eighty (1,280) acres.

41. **Insurance:** Lessee and any person acting on Lessee's behalf under this Lease, 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:

- Workers' Compensation and Employer's Liability Insurance;
- Commercial General Liability and Umbrella Liability Insurance (\$5,000,000.00 minimum coverage);
- Business auto and Umbrella Liability Insurance (\$5,000,000.00 minimum coverage);
- Environmental 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 promptly provided to Lessor.

Catherine Earnshaw

EXAMPLE CALCULATIONS

NETHERFIELD PARK 1H



NETHERFIELD PARK 1H - EXAMPLE WELL		TOTAL UNIT ACRES:		681.556000			
OWNER NAME	ORIGINAL LESSEE	TRACT %	NET ACRES	REV RATE	NRI	GWI	BURDEN GROUP
	TOTAL RI						
	TOTAL WI						
	TOTAL ORRI						
	TOTAL PARCEL						
	TOTAL RI						
	TOTAL WI						
	TOTAL PARCEL						
	TOTAL WELL						

BASIC CALCULATIONS EXAMPLE



OWNER NAME	ORIGINAL LESSEE	TRACT %	NET ACRES	REV RATE	NRI	GWI	BURDEN GROUP
FITZWILLIAM DARCY	CHARLES BINGLEY DRILLING CO		676.930000	0.12500000	0.12415157		A
<i>TOTAL RI</i>							
PEMBERLEY PLACE DRILLING COMPANY		0.720000	487.389600	0.82000000	0.58639271	0.71511306	A
ROSINGS DRILLING COMPANY		0.250000	169.232500	0.82000000	0.20360858	0.24830315	A
LONGBOURN DRILLING COMPANY		0.030000	20.307900	0.82000000	0.02443303	0.02979638	A
<i>TOTAL WI</i>			<i>676.930000</i>		<i>0.81443432</i>	<i>0.99321259</i>	
CHARLES BINGLEY			676.930000	0.05500000	0.05462669		A
<i>TOTAL ORRI</i>					<i>0.05462669</i>		
TOTAL PARCEL			676.930000		0.99321259	0.99321259	
CATHERINE EARNSHAW	WUTHERING HEIGHTS DRILLING CO		4.626000	0.20000000	0.00135748		B
<i>TOTAL RI</i>							
PEMBERLEY PLACE DRILLING COMPANY		1.000000	4.626000	0.80000000	0.00542993	0.00678741	B
<i>TOTAL WI</i>			<i>4.626000</i>		<i>0.00542993</i>	<i>0.00678741</i>	
TOTAL PARCEL			4.626000		0.00678741	0.00678741	
TOTAL WELL			681.556000		1.00000000	1.00000000	

Questions & Answers



Advanced Course Agenda



- **Payouts – Farm Out Agreements, Non-Consent**
- **Pooling, Area of Mutual Interest, Joint Operating Agreements**
- **Burden Spreads – Tying it all together**
- **Communication**
- **Questions**

Pooling, JOA, AMI



To obtain a basic understanding of Joint Operating Agreements (JOA) and Areas of Mutual Interest (AMI) and how they affect Division Orders

Joint Operating Agreement (JOA) – Basic agreement that governs and establishes how parties will share in costs and production within a Contract Area.

Area of Mutual Interest (AMI) – Agreement establishing parties rights and interests in an area of development and how individual leases will be shared within the AMI.

To obtain a basic understanding of Pooling Requirements (if applicable) in active areas. We will break down why they are necessary and when they need to be filed.

Declaration of Pooled Unit – TX, OH, WV, PA

Force Pooling – Oklahoma

Pooling Requirements - Wyoming, Colorado, North Dakota, New Mexico, Louisiana, Kansas

Joint Operating Agreement



Purpose of Joint Operating Agreement

4 basic forms of AAPL Form 610 Model Form Operating Agreement (1956, 1977, 1982, and 1989)

Applicable (must) to working interest owners if more than just the Operator owns an interest in the well.

Establishes the lands forming the Contract Area.

Establishes how costs should be treated, and penalties if partner does not participate in the drilling of the well.

JOA Example




A.A.P.L. FORM 610 - 1989
MODEL FORM OPERATING AGREEMENT

OPERATING AGREEMENT

DATED

_____, 19____,

OPERATOR _____

CONTRACT AREA _____

COUNTY OR PARISH OF _____, STATE OF _____

COPYRIGHT 1989 — ALL RIGHTS RESERVED
 AMERICAN ASSOCIATION OF PETROLEUM
 LANDMEN, 4100 FOSSIL CREEK BLVD.
 FORT WORTH, TEXAS, 76117, APPROVED FORM.
 A.A.P.L. NO. 610 - 1989

A.A.P.L. FORM 610 - MODEL FORM OPERATING AGREEMENT - 1989

TABLE OF CONTENTS

Article	Title	Page
I.	DEFINITIONS	1
II.	EXHIBITS	2
III.	INTERESTS OF PARTIES	2
A.	OIL AND GAS INTERESTS	2
B.	INTERESTS OF PARTIES IN COSTS AND PRODUCTION	2
C.	SUBSEQUENTLY CREATED INTERESTS	2
IV.	TITLES	2
A.	TITLE EXAMINATION	2
B.	LOSS OR FAILURE OF TITLE	3
1.	Failure of Title	3
2.	Loss by Non-Payment or Erroneous Payment of Amount Due	3
3.	Other Losses	3
4.	Curing Title	3
V.	OPERATOR	4
A.	DESIGNATION AND RESPONSIBILITIES OF OPERATOR	4
B.	RESIGNATION OR REMOVAL OF OPERATOR AND SELECTION OF SUCCESSOR	4
1.	Resignation or Removal of Operator	4
2.	Selection of Successor Operator	4
3.	Effect of Bankruptcy	4
C.	EMPLOYEES AND CONTRACTORS	4
D.	RIGHTS AND DUTIES OF OPERATOR	4
1.	Competitive Rates and Use of Affiliates	4
2.	Discharge of Joint Account Obligations	4
3.	Protection from Liens	4
4.	Custody of Funds	5
5.	Access to Contract Area and Records	5
6.	Filing and Furnishing Governmental Reports	5
7.	Drilling and Testing Operations	5
8.	Cost Estimates	5
9.	Insurance	5
E.	INSURANCE	5
F.	INSURANCE	5
G.	INSURANCE	5
H.	INSURANCE	5
I.	INSURANCE	5
J.	INSURANCE	5
K.	INSURANCE	5
L.	INSURANCE	5
M.	INSURANCE	5
N.	INSURANCE	5
O.	INSURANCE	5
P.	INSURANCE	5
Q.	INSURANCE	5
R.	INSURANCE	5
S.	INSURANCE	5
T.	INSURANCE	5
U.	INSURANCE	5
V.	INSURANCE	5
W.	INSURANCE	5
X.	INSURANCE	5
Y.	INSURANCE	5
Z.	INSURANCE	5
AA.	INSURANCE	5
AB.	INSURANCE	5
AC.	INSURANCE	5
AD.	INSURANCE	5
AE.	INSURANCE	5
AF.	INSURANCE	5
AG.	INSURANCE	5
AH.	INSURANCE	5
AI.	INSURANCE	5
AJ.	INSURANCE	5
AK.	INSURANCE	5
AL.	INSURANCE	5
AM.	INSURANCE	5
AN.	INSURANCE	5
AO.	INSURANCE	5
AP.	INSURANCE	5
AQ.	INSURANCE	5
AR.	INSURANCE	5
AS.	INSURANCE	5
AT.	INSURANCE	5
AU.	INSURANCE	5
AV.	INSURANCE	5
AW.	INSURANCE	5
AX.	INSURANCE	5
AY.	INSURANCE	5
AZ.	INSURANCE	5
BA.	INSURANCE	5
BB.	INSURANCE	5
BC.	INSURANCE	5
BD.	INSURANCE	5
BE.	INSURANCE	5
BF.	INSURANCE	5
BG.	INSURANCE	5
BH.	INSURANCE	5
BI.	INSURANCE	5
BJ.	INSURANCE	5
BK.	INSURANCE	5
BL.	INSURANCE	5
BM.	INSURANCE	5
BN.	INSURANCE	5
BO.	INSURANCE	5
BP.	INSURANCE	5
BQ.	INSURANCE	5
BR.	INSURANCE	5
BS.	INSURANCE	5
BT.	INSURANCE	5
BU.	INSURANCE	5
BV.	INSURANCE	5
BW.	INSURANCE	5
BX.	INSURANCE	5
BY.	INSURANCE	5
BZ.	INSURANCE	5
CA.	INSURANCE	5
CB.	INSURANCE	5
CC.	INSURANCE	5
CD.	INSURANCE	5
CE.	INSURANCE	5
CF.	INSURANCE	5
CG.	INSURANCE	5
CH.	INSURANCE	5
CI.	INSURANCE	5
CJ.	INSURANCE	5
CK.	INSURANCE	5
CL.	INSURANCE	5
CM.	INSURANCE	5
CN.	INSURANCE	5
CO.	INSURANCE	5
CP.	INSURANCE	5
CQ.	INSURANCE	5
CR.	INSURANCE	5
CS.	INSURANCE	5
CT.	INSURANCE	5
CU.	INSURANCE	5
CV.	INSURANCE	5
CW.	INSURANCE	5
CX.	INSURANCE	5
CY.	INSURANCE	5
CZ.	INSURANCE	5
DA.	INSURANCE	5
DB.	INSURANCE	5
DC.	INSURANCE	5
DD.	INSURANCE	5
DE.	INSURANCE	5
DF.	INSURANCE	5
DG.	INSURANCE	5
DH.	INSURANCE	5
DI.	INSURANCE	5
DJ.	INSURANCE	5
DK.	INSURANCE	5
DL.	INSURANCE	5
DM.	INSURANCE	5
DN.	INSURANCE	5
DO.	INSURANCE	5
DP.	INSURANCE	5
DQ.	INSURANCE	5
DR.	INSURANCE	5
DS.	INSURANCE	5
DT.	INSURANCE	5
DU.	INSURANCE	5
DV.	INSURANCE	5
DW.	INSURANCE	5
DX.	INSURANCE	5
DY.	INSURANCE	5
DZ.	INSURANCE	5
EA.	INSURANCE	5
EB.	INSURANCE	5
EC.	INSURANCE	5
ED.	INSURANCE	5
EE.	INSURANCE	5
EF.	INSURANCE	5
EG.	INSURANCE	5
EH.	INSURANCE	5
EI.	INSURANCE	5
EJ.	INSURANCE	5
EK.	INSURANCE	5
EL.	INSURANCE	5
EM.	INSURANCE	5
EN.	INSURANCE	5
EO.	INSURANCE	5
EP.	INSURANCE	5
EQ.	INSURANCE	5
ER.	INSURANCE	5
ES.	INSURANCE	5
ET.	INSURANCE	5
EU.	INSURANCE	5
EV.	INSURANCE	5
EW.	INSURANCE	5
EX.	INSURANCE	5
EY.	INSURANCE	5
EZ.	INSURANCE	5
FA.	INSURANCE	5
FB.	INSURANCE	5
FC.	INSURANCE	5
FD.	INSURANCE	5
FE.	INSURANCE	5
FF.	INSURANCE	5
FG.	INSURANCE	5
FH.	INSURANCE	5
FI.	INSURANCE	5
FJ.	INSURANCE	5
FK.	INSURANCE	5
FL.	INSURANCE	5
FM.	INSURANCE	5
FN.	INSURANCE	5
FO.	INSURANCE	5
FP.	INSURANCE	5
FQ.	INSURANCE	5
FR.	INSURANCE	5
FS.	INSURANCE	5
FT.	INSURANCE	5
FU.	INSURANCE	5
FV.	INSURANCE	5
FW.	INSURANCE	5
FX.	INSURANCE	5
FY.	INSURANCE	5
FZ.	INSURANCE	5
GA.	INSURANCE	5
GB.	INSURANCE	5
GC.	INSURANCE	5
GD.	INSURANCE	5
GE.	INSURANCE	5
GF.	INSURANCE	5
GG.	INSURANCE	5
GH.	INSURANCE	5
GI.	INSURANCE	5
GJ.	INSURANCE	5
GK.	INSURANCE	5
GL.	INSURANCE	5
GM.	INSURANCE	5
GN.	INSURANCE	5
GO.	INSURANCE	5
GP.	INSURANCE	5
GQ.	INSURANCE	5
GR.	INSURANCE	5
GS.	INSURANCE	5
GT.	INSURANCE	5
GU.	INSURANCE	5
GV.	INSURANCE	5
GW.	INSURANCE	5
GX.	INSURANCE	5
GY.	INSURANCE	5
GZ.	INSURANCE	5
HA.	INSURANCE	5
HB.	INSURANCE	5
HC.	INSURANCE	5
HD.	INSURANCE	5
HE.	INSURANCE	5
HF.	INSURANCE	5
HG.	INSURANCE	5
HH.	INSURANCE	5
HI.	INSURANCE	5
HJ.	INSURANCE	5
HK.	INSURANCE	5
HL.	INSURANCE	5
HM.	INSURANCE	5
HN.	INSURANCE	5
HO.	INSURANCE	5
HP.	INSURANCE	5
HQ.	INSURANCE	5
HR.	INSURANCE	5
HS.	INSURANCE	5
HT.	INSURANCE	5
HU.	INSURANCE	5
HV.	INSURANCE	5
HW.	INSURANCE	5
HX.	INSURANCE	5
HY.	INSURANCE	5
HZ.	INSURANCE	5
IA.	INSURANCE	5
IB.	INSURANCE	5
IC.	INSURANCE	5
ID.	INSURANCE	5
IE.	INSURANCE	5
IF.	INSURANCE	5
IG.	INSURANCE	5
IH.	INSURANCE	5
II.	INSURANCE	5
IJ.	INSURANCE	5
IK.	INSURANCE	5
IL.	INSURANCE	5
IM.	INSURANCE	5
IN.	INSURANCE	5
IO.	INSURANCE	5
IP.	INSURANCE	5
IQ.	INSURANCE	5
IR.	INSURANCE	5
IS.	INSURANCE	5
IT.	INSURANCE	5
IU.	INSURANCE	5
IV.	INSURANCE	5
IW.	INSURANCE	5
IX.	INSURANCE	5
IY.	INSURANCE	5
IZ.	INSURANCE	5
JA.	INSURANCE	5
JB.	INSURANCE	5
JC.	INSURANCE	5
JD.	INSURANCE	5
JE.	INSURANCE	5
JF.	INSURANCE	5
JG.	INSURANCE	5
JH.	INSURANCE	5
JI.	INSURANCE	5
JJ.	INSURANCE	5
JK.	INSURANCE	5
JL.	INSURANCE	5
JM.	INSURANCE	5
JN.	INSURANCE	5
JO.	INSURANCE	5
JP		

JOA Example



Paragraph B is an important paragraph to read and understand as it describes the interests of parties in the unit.

3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

**ARTICLE III.
INTERESTS OF PARTIES**

A. Oil and Gas Interests:

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

B. Interests of Parties in Costs and Production:

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

Regardless of which party has contributed any Oil and Gas Lease or Oil and Gas Interest on which royalty or other burdens may be payable and except as otherwise expressly provided in this agreement, each party shall pay or deliver, or cause to be paid or delivered, all burdens on its share of the production from the Contract Area up to, but not in excess of, _____ and shall indemnify, defend and hold the other parties free from any liability therefor. Except as otherwise expressly provided in this agreement, if any party has contributed hereto any Lease or Interest which is burdened with any royalty, overriding royalty, production payment or other burden on production in excess of the amounts stipulated above, such party so burdened shall assume and alone bear all such excess obligations and shall indemnify, defend and hold the other parties hereto harmless from any and all claims attributable to such excess burden. However, so long as the Drilling Unit for the productive Zone(s) is identical with the Contract Area, each party shall pay or deliver, or cause to be paid or delivered, all burdens on production from the Contract Area due under the terms of the Oil and Gas Lease(s) which such party has contributed to this agreement, and shall indemnify, defend and hold the other parties free from any liability therefor.

JOA Example



(b) Relinquishment of Interest for Non-Participation. The entire cost and risk of conducting such operations shall be borne by the Consenting Parties in the proportions they have elected to bear same under the terms of the preceding paragraph. Consenting Parties shall keep the leasehold estates involved in such operations free and clear of all liens and encumbrances of every kind created by or arising from the operations of the Consenting Parties. If such an operation results in a dry hole, then subject to Articles VI.B.6. and VI.E.3., the Consenting Parties shall plug and abandon the well and restore the surface location at their sole cost, risk and expense; provided, however, that those Non-Consenting Parties that participated in the drilling, Deepening or Sidetracking of the well shall remain liable for, and shall pay, their proportionate shares of the cost of plugging and abandoning the well and restoring the surface location insofar only as those costs were not increased by the subsequent operations of the Consenting Parties. If any well drilled, Reworked, Sidetracked, Deepened, Recompleted or Plugged Back under the provisions of this Article results in a well capable of producing Oil and/or Gas in paying quantities, the Consenting Parties shall complete and equip the well to produce at their sole cost and risk, and the well shall then be turned over to Operator (if the Operator did not conduct the operation) and shall be operated by it at the expense and for the account of the Consenting Parties. Upon commencement of operations for the drilling, Reworking, Sidetracking, Recompleting, Deepening or Plugging Back of any such well by Consenting Parties in accordance with the provisions of this Article, each Non-Consenting Party shall be deemed to have relinquished to Consenting Parties all of the Consenting Parties shall own and be entitled to receive, in proportion to their respective interests, all of such Non-Consenting Party's interest in the well and share of production therefrom or, in the case of a Reworking, Sidetracking...

This portion addresses Non-Consent penalties. This is a key provision that needs to be reviewed if a party elects not to participate.

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

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

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

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

JOA Example



EXHIBIT "A"

Attached to and made a part of that certain Operating Agreement dated March 7, 2011, by and between Pemberley Drilling Co as Operator, and Longbourn Drilling Co and Rosings Drilling Co et al, as Non-Operators

Example of JOA Exhibit "A" regarding Contract Area

I. Lands Subject To Agreement:

See Exhibit "A-1" attached hereto.

II. Restrictions as to Depths and Formations: none

III. Participants and Addresses:

Longbourn Drilling Co
222 Bennett Street
Hertfordshire, England

Rosings Drilling Co
333 De Bourgh
Kent, England

Pemberley Drilling Co
444 Darcy Lane
Derbyshire, England

IV. Contract Area Summary:

	<u>Contract Area Net Acres</u>	<u>Contract Area WI</u>
Longbourn Drilling Co	20.3079	2.979638%
Rosings Drilling Co	169.2325	24.830315%
Pemberley Drilling Co	<u>492.0156</u>	<u>72.190047%</u>
	681.5560	100.000000%

It is understood by the parties hereto that in the event of unleased mineral interests and/or third party owning an interest in the Contract Area, the interest reflected above shall be proportionately reduced to actual interest owned by the parties in the Contract Area and/or working interest ownership in a well drilled hereunder.

V. Oil and gas leases, mineral fee, and other oil and gas rights owned by the Parties within the Prospect Area: See Exhibit "A-2" attached hereto.

VI. See Exhibit "A-3" for wellbore working interests.

AMI Example



**AMENDED AND RESTATED
PARTICIPATION AGREEMENT**

This Agreement is entered into as of May 17, 2004, by and between [REDACTED] and the other parties hereto whose names are set forth below (such other parties being collectively called the "Participants" or individually called a "Participant");

WITNESSETH:

WHEREAS, [REDACTED] and each Participant (collectively the "Parties" or individually a "Party") previously entered into a separate Participation Agreement (collectively the "Original Agreements") regarding the development of the lands described in Exhibit "A" hereto for the production of oil and/or gas;

WHEREAS, the Parties desire to amend the Original Agreements and consolidate such agreements into a single agreement by executing this agreement amending and restating the terms of the Original Agreements; and

NOW, THEREFORE, in consideration of the premises, the mutual covenants, agreements and obligations set forth herein, and the mutual benefits to be received hereunder, the Parties hereby amend and restate the Original Agreements and otherwise agree as follows:

ARTICLE I. DEFINITIONS

For the purposes of this Agreement, the following terms shall have the meanings designated below:

1.1 "Available NRI Percentage" shall mean a percentage equal to the difference between (a) aggregate of royalties, overriding royalties, (which may include the Landman's Override) and other burdens against production, expressed as a percentage, and (b) twenty-nine percent (29%) of 8/8ths; provided, however, in the event the Exploration Agreement is executed by the Parties, the foregoing percentage shall be multiplied by fifty percent (50%).

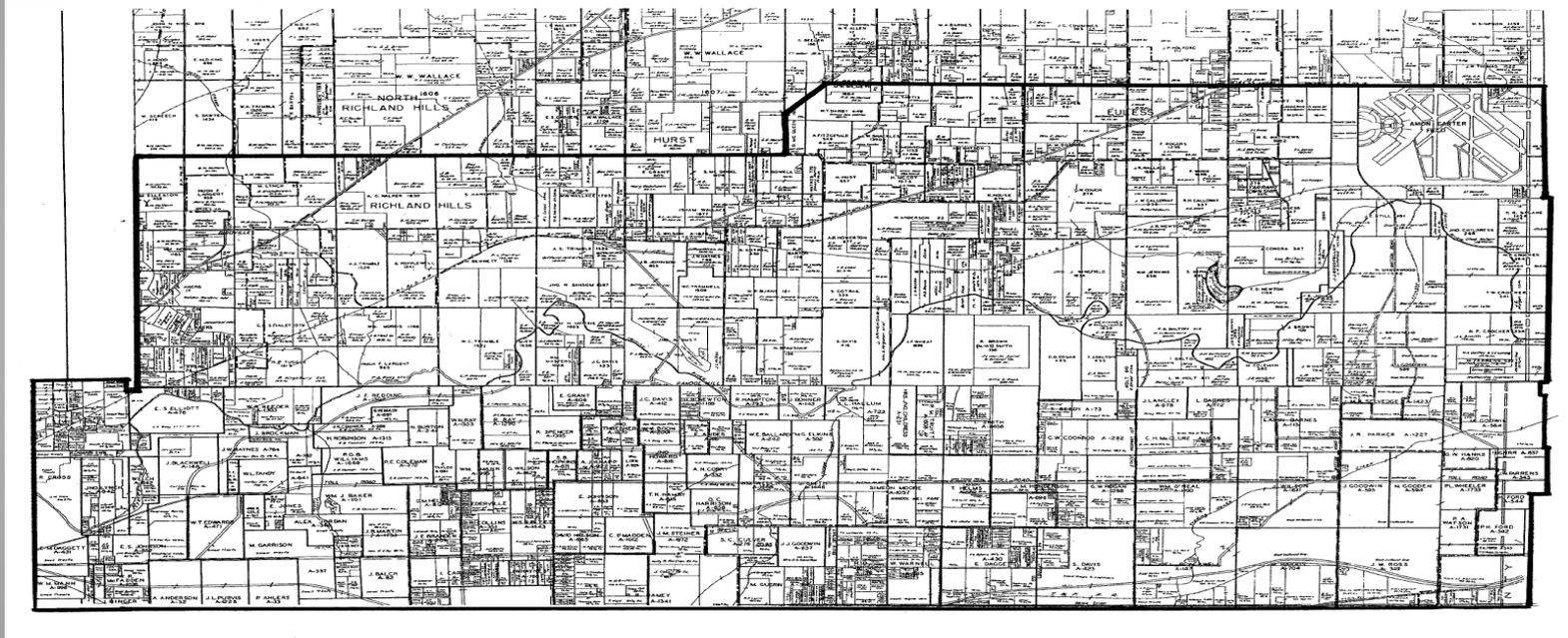
1.2 "Back-in Participant" shall mean each of the following Participants: Dale Gas Partners, L.P., Fulcrum Partners, Ltd. and the West Fork Lesors.

1.3 "Brentwood Override" shall mean that certain five percent (5%) overriding royalty interest in and to the oil, gas and other hydrocarbons produced and saved from the Brentwood tract described in Exhibit "B" attached hereto under and by virtue of the West Fork Lease, assigned by [REDACTED] in that certain Assignment of Overriding Royalty Interest of even date herewith.

- 1 -

AMIs can take on many different forms and formats. The language within the agreement should outline how interests are to be shared and treated within the boundaries established by the AMI.

AMI Example



AMIs are agreements borne out of a geographical area typically for a specified amount of time.

JOA & AMI Summary



- Most standard form JOAs have specific language stricken and edits made. Be mindful of this when looking at JOAs.
- Joint Operating Agreements have a direct impact on how royalty and working interests functions are performed and can have significant impact on calculations.
- AMIs do not have a standard format and often cover a large area.

Forced Pooling | Why?



Force Pooling

Definition: Forced/Compulsory Pooling-regulated by the Oklahoma Corporation Commission

What is filed: Application & Notice of Hearing setting a hearing date. A Pooling Order is issued 15 days after notice has been given & published in two newspapers.

Timing: After the Order has been issued pooled parties have 20 days to make an election or they will be deemed to have made an election.

Burden Spread | Calculations



Taking things one step further...

Work through the example well

Calculate each working interest owner's proportionate share of the unit interest for each of the royalty and overriding royalty interest burdens

After Payout (APO) Scenarios and Calculations



APO scenarios can be caused by a partner electing to go non-consent in a well under the terms of the JOA, Farmout Agreements, and a variety of other specific agreements.

Interest Types Overview



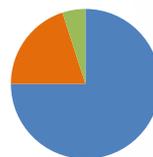
How do Working Interests, Royalty Interests, and Overriding Royalty Interests work together?

GROSS WORKING INTEREST



- Working Interest
- Royalty Interest

NET REVENUE INTEREST



- Working Interest

INTEREST TYPES	ACRES	NRI	UNIT INTEREST	GWI
Working Interest	100.00	0.75000000	0.75000000	1.00000000
Royalty Interest	100.00	0.20000000	0.20000000	
Overriding Royalty Interest	100.00	0.05000000	0.05000000	
TOTAL UNIT SIZE	100.00		1.00000000	1.00000000

Basic Calculations



Gross Working Interest

(Net Acres / Total Unit Size = Gross Working Interest)

Net Working Interest

(Net Acres / Total Unit Size X Delivered Net Revenue Interest = Unit Interest)

Royalty Unit Interest (includes ORRI, RI, NEMI)

(Net Acres / Total Unit Size X Royalty Rate = Unit Interest)

Non-Participating Royalty Unit Interest

(Net Acres / Total Unit Size X % of Royalty = Unit Interest)

Example Calculations

Netherfield Park 1H



OWNER NAME	NET ACRES	REV RATE	NRI	GWI	BURDEN GROUP
PEMBERLEY PLACE DRILLING COMPANY	487.389600	0.82000000	0.58639271	0.71511306	A
PEMBERLEY PLACE DRILLING COMPANY	4.626000	0.80000000	0.00542993	0.00678741	B
PEMBERLEY PLACE DRILLING COMPANY	492.015600	0.81981196	0.59182264	0.72190047	A,B
LONGBOURN DRILLING COMPANY	20.307900	0.82000000	0.02443303	0.02979638	A
ROSINGS DRILLING COMPANY	169.232500	0.82000000	0.20360858	0.24830315	A
TOTAL WORKING INTEREST	681.556000		0.81986425	1.00000000	
CATHERINE EARNSHAW	4.626000	0.20000000	0.00135748		B
FITZWILLIAM DARCY	676.930000	0.12500000	0.12415157		A
TOTAL ROYALTY INTEREST	681.556000		0.12550906		
CHARLES BINGLEY	676.930000	0.05500000	0.05462669		A
TOTAL OVERRIDING ROYALTY INTEREST	676.930000		0.05462669		
TOTAL WELL	681.556000		1.00000000	1.00000000	

COMBINING WORKING INTEREST



OWNER NAME	ORIGINAL LESSEE	NET ACRES	REV RATE	NRI	GWI	BURDEN GROUP
PEMBERLEY PLACE DRILLING COMPANY		487.389600	0.82000000	0.58639271	0.71511306	A
PEMBERLEY PLACE DRILLING COMPANY		4.626000	0.80000000	0.00542993	0.00678741	B
PEMBERLEY PLACE DRILLING COMPANY		492.015600	0.81981196	0.59182264	0.72190047	A,B
LANGBOURN DRILLING COMPANY		20.307900	0.82000000	0.02443303	0.02979638	A
ROSINGS DRILLING COMPANY		169.232500	0.82000000	0.20360858	0.24830315	A
<i>TOTAL WORKING INTEREST</i>		<i>681.556000</i>		<i>0.81986425</i>	<i>1.00000000</i>	

Burden Spreads | Tying it all Together



Burden Spreads are the reflection of the burdens each working interest owner proportionately bears of the royalty and overriding royalty interest.

TARRANT COUNTY, TEXAS 427.550000		D.O. File W.I. Owners		TITLE NRI		BURDEN SPREAD:															
Deck Description: MASTER TIT		Populate Deck_Upload		DECIMALS		TARRANT	TOTAL	WELL	WELL	OGG	OGG	OGG	OGG	OGG	OGG	OGG	OGG	OGG	OGG	OGG	TOTAL
				OWNERID:	600171	118000	801269	599184	599185	559970	600171	801269								1.00000000	
OWNER NAME	ACRES	RI/NRI	UNIT INTEREST																		
WORKING INTEREST	273.585856	0.71597592	0.45814730	0.45814730																	
	10.688750	0.71875240	0.01796880	0.01796880																	
	91.195286	0.71597592	0.15271575	0.15271575																	
	3.141278	0.71597592	0.00526039	0.00526039																	
	3.141278	0.71597592	0.00526039	0.00526039																	
	11.779802	0.71597592	0.01972648	0.01972648																	
	25.513312	0.75000000	0.04475496	0.04475496																	
	8.504438	0.75000000	0.01491833	0.01491833																	
TOTAL WI	427.550000		0.71875240																		
	0.851556	0.25000000	0.00049793	0.00049793	0.0001246	0.00011564	0.00000398	0.00000398	0.00001494											0.00049793	
	2.554667	0.25000000	0.00149378	0.00149378	0.00003735	0.00034693	0.00001195	0.00001195	0.00004481											0.00149378	
	0.851556	0.25000000	0.00049793	0.00049793	0.0001246	0.00011564	0.00000398	0.00000398	0.00001494											0.00049793	
	1.128889	0.25000000	0.00124482	0.00124482	0.00003112	0.00028911	0.00000996	0.00000996	0.00003734											0.00124482	
	116.552778	0.25000000	0.06815155	0.06815155	0.00170379	0.01582820	0.00054521	0.00054521	0.00204455											0.06815155	
	1.064444	0.25000000	0.00062241	0.00062241	0.00043366	0.00011557	0.00001455	0.00000498	0.00001867											0.00062241	
	6.386666	0.24000000	0.00358508	0.00358508	0.00249790	0.00008964	0.00083263	0.00002868	0.00010755											0.00358508	
	99.945556	0.25000000	0.05844086	0.05844086	0.04071867	0.00146101	0.01357289	0.00046753	0.00175323											0.05844086	
	112.295000	0.25000000	0.06566191	0.06566191	0.04574994	0.00164155	0.01524998	0.00052529	0.00052529											0.06566191	
	1.128889	0.25000000	0.00124482	0.00124482	0.00086733	0.00003112	0.00028911	0.00000996	0.00003734											0.00124482	
	3.193333	0.25000000	0.00186723	0.00186723	0.00130099	0.00004668	0.00043366	0.00001494	0.00001494											0.00186723	
	25.546666	0.24000000	0.01434031	0.01434031	0.00999161	0.00035851	0.00330354	0.00011472	0.00043021											0.01434031	
	4.257778	0.25000000	0.00248964	0.00248964	0.00173466	0.00006223	0.00057822	0.00001992	0.00007469											0.00248964	
	6.386666	0.24000000	0.00358508	0.00358508	0.00249790	0.00008964	0.00083263	0.00002868	0.00010755											0.00358508	
	1.128889	0.25000000	0.00124482	0.00124482	0.00086733	0.00003112	0.00028911	0.00000996	0.00003734											0.00124482	
	2.128889	0.25000000	0.00124482	0.00124482	0.00086733	0.00003112	0.00028911	0.00000996	0.00003734											0.00124482	
	1.064444	0.25000000	0.00062241	0.00062241	0.00043366	0.00011557	0.00014455	0.00000498	0.00001867											0.00062241	
	3.193334	0.25000000	0.00186723	0.00186723	0.00130099	0.00004668	0.00043366	0.00001494	0.00001494											0.00186723	
	34.890000	0.25000000	0.02040112	0.02040112	0.00051003											0.01491832	0.00497277	0.02040112			
TOTAL RI			0.24910375																		
	392.660000	0.00250000	0.00229599	0.00229599	0.00159973	0.00005740	0.00053324	0.00001837	0.00001837											0.00229599	
	392.660000	0.00250000	0.00229599	0.00229599	0.00159973	0.00005740	0.00053324	0.00001837	0.00001837											0.00229599	
	392.660000	0.03000000	0.01919677	0.01919677	0.00068875	0.00639897	0.00022041	0.00022041	0.00022041											0.01919677	
TOTAL ORRI			0.03214385																		
TOTAL WELL	427.550000		1.00000000		0.63989207	0.02500000	0.21329736	0.00734716	0.00734716	0.02755187	0.05967328	0.01989110								1.00000000	
					0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000								0.00000000	

BURDEN SPREAD CALCULATIONS (APO)



681.556000

W. I. Owners

Deck Description: MASTER TITLE

Populate Deck_Upload

	W. I. Owners		NRI DECIMALS			
	LONGBOURN	PEMBERLEY	ROSINGS	TOTAL		
GW I:	0.02979638	0.72190047	0.24830315	1.00000000		
OWNERID:	0	0	0			
OWNER NAME	NET ACRES	RI/NRI	UNIT INTEREST			
WORKING INTEREST						
LONGBOURN DRILLING COMPANY	20.307900	0.82000000	0.02443303	0.02443303		0.02443303
PEMBERLEY PLACE DRILLING COMPANY	492.015600	0.81981196	0.59182265	0.59182265		0.59182265
ROSINGS DRILLING COMPANY	169.232500	0.82000000	0.20360858	0.20360858		0.20360858
TOTAL WORKING INTEREST	681.556000		0.81986426			0.81986426
TOTAL ROYALTY INTEREST						
CATHERINE EARNSHAV	4.626000	0.20000000	0.00135748	0.00135748		0.00135748
FITZWILLIAM DARCY	676.930000	0.12500000	0.12415157	0.00372456	0.08938912	0.03103789
TOTAL ROYALTY INTEREST	681.556000		0.12550905			0.12550905
TOTAL OVERRIDING ROYALTY INTEREST						
CHARLES BINGLEY	676.930000	0.05500000	0.05462669	0.00163879	0.03933122	0.01368668
TOTAL OVERRIDING ROYALTY INTEREST	676.930000		0.05462669			0.05462669
TOTAL WELL	681.556000		1.00000000	0.02979638	0.72190047	0.24830315
				0.00000000	0.00000000	0.00000000

= Net Acres / Total Unit Size

Net Acres / Total Unit Size X Lease Rate = Unit Interest

= Unit Interest X I

= 0.03 X Unit Interest

= 0.72 X Unit Interest

= 0.25 X Unit Interest

Checks in place to ensure well balances

Burden Spreads OK



Important differences: Revenue Decks, PPI Decks

PPI formula: = (Sum of WI & ORRI Burdens) / (1-Total Royalty Burdens)

Royalty Share Formula: = PPI X Total Royalty Burden

WELL NAME:				[REDACTED]				Dist: Revenue (original)				RECORD			
UNIT DESCRIPTION:				[REDACTED]				Gas Marketing				TITLE			
COUNTY, STATE:				[REDACTED]				Gas Balancing				NRI			
UNIT ACRES:				640.000000				D. O. File				DECIMALS			
Prepared: 7/10/07				Deck Description: MASTER TITLE				w. I. Owners				TOTAL			
Effective: 11/28/06				PROPORTIONATE PRODUCTION INTERES				Populate Deck_Upload				BURDEN SPREAD:			
Deck: 18				REVISED											
Analyst: [REDACTED]															
IT	OWN NO.	PROPERTY NUMBER	PY ST	EX CL	OWNER NAME	NET ACRES	RI/NRL	UNIT INTEREST							
9	699991	157796	NP	N	ROYALTY SHARE (OK)			0.20962395	0.00541134	0.01352476	0.00215492	0.00525802	0.16975015	0.01352476	0.20962395
1	564432	157796	PA	N	[REDACTED]	15.535714	0.84051692	0.02040317	0.02040317						0.02040317
1	502245	157796	PA	N	[REDACTED]	42.759935	0.75514796	0.05045324		0.05045324					0.05045324
1	550697	157796	PA	N	[REDACTED]	6.400000	0.81250000	0.00812500			0.00812500				0.00812500
1	605000	157796	PA	N	[REDACTED]	16.000000	0.78490403	0.01962260				0.01962260			0.01962260
1	605037	157796	PA	N	[REDACTED]	516.544416	0.78490403	0.63349653					0.63349653		0.63349653
1	685491	157796	PA	N	[REDACTED]	42.759935	0.75514796	0.05045324						0.05045324	0.05045324
								0.78255378							
3	506772	157796	PA	N	[REDACTED]	12.000000	0.12500000	0.00234375		0.00016215		0.00006067	0.00195878	0.00016215	0.00234375
3	550697	157796	PA	N	[REDACTED]	56.100000	0.06250000	0.00547852		0.00037902		0.00014182	0.00457866	0.00037902	0.00547852
								0.00782227							
									0.02581451	0.06451917	0.01027992	0.02508311	0.80978412	0.06451917	1.00000000

= Sum of WI & ORRI Burdens

= Sum of all WI & ORRI Burdens

BPO WORKING INTEREST CALCULATIONS



NETHERFIELD PARK 1H - EXAMPLE WELL		TOTAL UNIT ACRES:	681.556000				
OWNER NAME	ELECTION	NET ACRES	REV RATE	NRI	GWI	BURDEN GROUP	
APO 500% - ROSINGS ELECTS NON-CONSENT							
PEMBERLEY PLACE DRILLING COMPANY							
LONGBOURN DRILLING COMPANY							
ROSINGS DRILLING COMPANY							
		NON-CONSENT					
<i>TOTAL APO WORKING INTEREST</i>							
PEMBERLEY PLACE DRILLING COMPANY							
LONGBOURN DRILLING COMPANY							
<i>TOTAL CARRYING WI PARTNERS</i>							
ROSINGS DRILLING COMPANY							
		NON-CONSENT					
PEMBERLEY PLACE DRILLING COMPANY							
LONGBOURN DRILLING COMPANY							
<i>TOTAL CARRYING WI PARTNERS</i>							
BPO 500% - ROSINGS ELECTS NON-CONSENT							
PEMBERLEY PLACE DRILLING COMPANY							
LONGBOURN DRILLING COMPANY							
<i>TOTAL BPO WORKING INTEREST</i>							

BPO WORKING INTEREST CALCULATIONS



OWNER NAME	ORIGINAL LESSEE	NET ACRES	REV RATE	NRI	GW	BURDEN GROUP
APO 500% - ROSINGS ELECTS NON-CONSENT						
PEMBERLEY PLACE DRILLING COMPANY		492.015600	0.81981196	0.59182264	0.72190047	A,B
LONGBOURN DRILLING COMPANY		20.307900	0.82000000	0.02443303	0.02979638	A
ROSINGS DRILLING COMPANY	NON-CONSENT	169.232500	0.82000000	0.20360858	0.24830315	A
TOTAL APO WORKING INTEREST		681.556000		0.81986425	1.00000000	
PEMBERLEY PLACE DRILLING COMPANY		492.015600	0.81981196	0.59182264	0.72190047	A,B
LONGBOURN DRILLING COMPANY		20.307900	0.82000000	0.02443303	0.02979638	A
TOTAL CARRYING WI PARTNERS		512.323500	0.81981941	0.61625567	0.75169685	
ROSINGS DRILLING COMPANY	NON-CONSENT	169.232500	0.82000000	0.20360858	0.24830315	A
PEMBERLEY PLACE DRILLING COMPANY		162.524323	0.82000000	0.19553778	0.23846070	A
LONGBOURN DRILLING COMPANY		6.708177	0.82000000	0.00807080	0.00984244	A
TOTAL CARRYING WI PARTNERS		169.232500	0.82000000	0.20360858	0.24830315	
BPO 500% - ROSINGS ELECTS NON-CONSENT						
PEMBERLEY PLACE DRILLING COMPANY		654.539923	0.81985865	0.78736042	0.96036118	A,B
LONGBOURN DRILLING COMPANY		27.016077	0.82000000	0.03250383	0.03963882	A
TOTAL BPO WORKING INTEREST		681.556000		0.81986425	1.00000000	

= UNIT INTEREST / GW

CHECKS IN PLACE TO ENSURE BALANCE

$$= 20.3079 / 512.3235 \times 169.2325 = 20.3079 + 6.708177$$

$$= 492.0156 / 512.3235 \times 169.2325 = 492.0156 + 162.524323$$

GREAT JOB! You made it!!



WHEW!!!!



Questions & Answers

