Design and Rationale of New Deep Gas Royalty Relief Rule

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Minerals Management Service

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General Information

- Proposed Rule: Published March 26, 2003
- Final Rule: Published January 26, 2004
  Effective March 1, 2004
- Amends 30 CFR 203 (adds 203.40-48)
- Notifications to drill deep wells: 29
  - Drilling has not started: 4
  - Currently drilling: 8
  - Plugged and abandoned: 8
  - Temporarily abandoned: 4
  - On production: 5

Program Rationale

- Increased demand for natural gas
- Relatively few wells drilled to deep depths
- Best new source of near and mid-term gas supply
- Large price fluctuations caused by gas shortages inhibit a continuous, stable investment climate

Program Objectives

- Encourage and accelerate deep gas drilling and production
- Help moderate price increases
- Offset steep decline in shelf gas production
- Spur investment in new technology

Program Design

- Meaningful incentive; minimizes unnecessary relief
- Immediate effect on deep drilling and production
- Categorical relief
- Uses a familiar royalty incentive format
- Not limited to new reservoirs

Definitions

<u>Qualified Well</u>

- Original (new) well or a sidetrack
- Drilling begins on or after March 26, 2003
- Top of perforated interval at least 15,000’ TVD SS
- Produces gas before 5 years following effective date of final rule
- Required notices have been submitted

Definitions

Certified Unsuccessful Well

- Original well or sidetrack
- Drilling begins on or after March 26, 2003, and before the lease produces from a well with the top of the perforated interval at least 18,000’ TVD SS
- Drilled to a target reservoir at least 18,000’ TVD SS
- Fails to meet the producibility requirements of 30 CFR 250, subpart A, or MMS agrees is not commercially producible

Major Issues

- Lease/Well Eligibility
- Sidetracks
- Unitization
- Price Threshold
- Ultra Deep Drilling

Lease/Well Eligibility

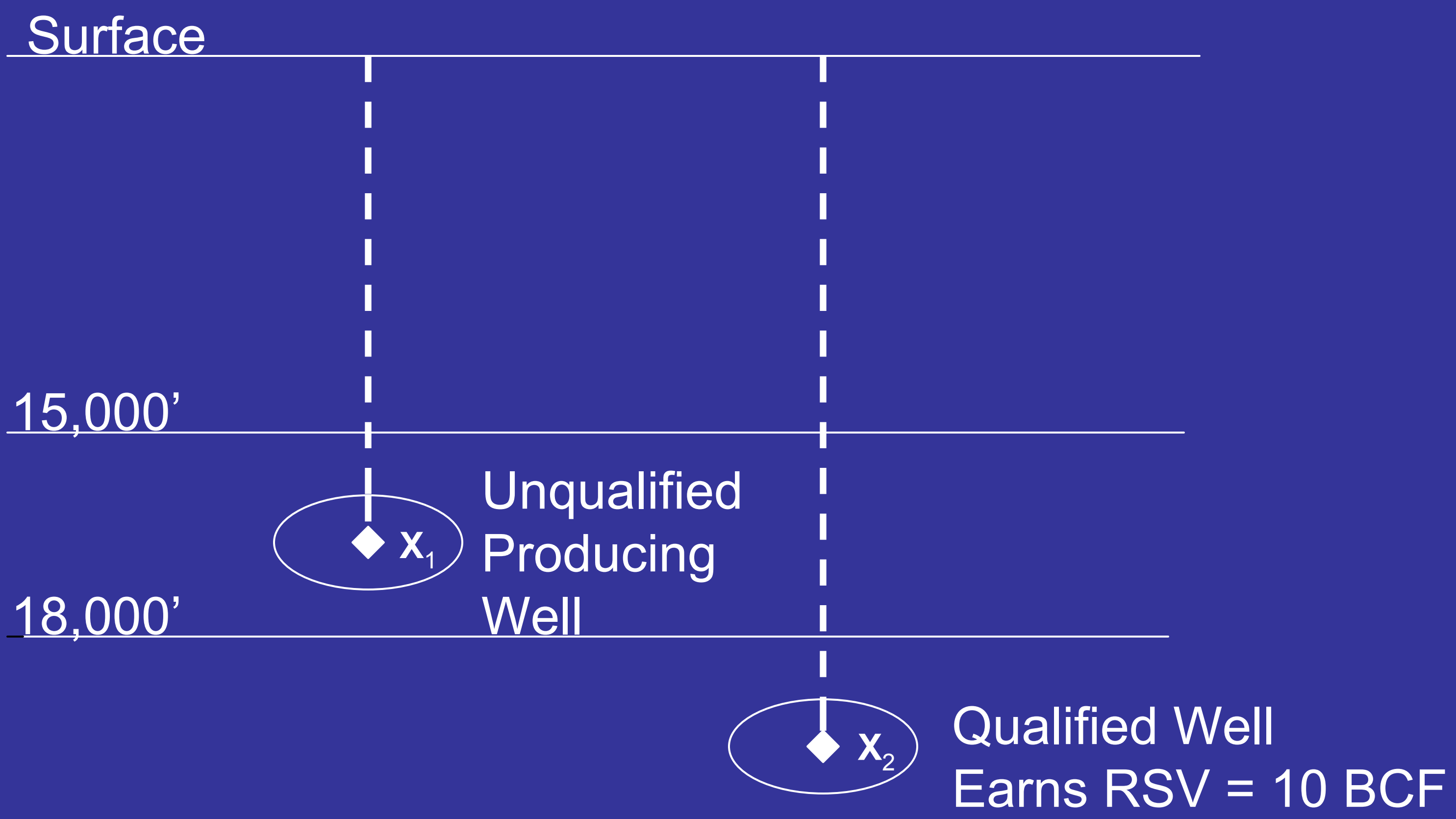
Proposed Rule

No royalty relief if a lease produced from a deep well (15,000’ TVD SS or deeper) that commenced drilling prior to March 26, 2003.

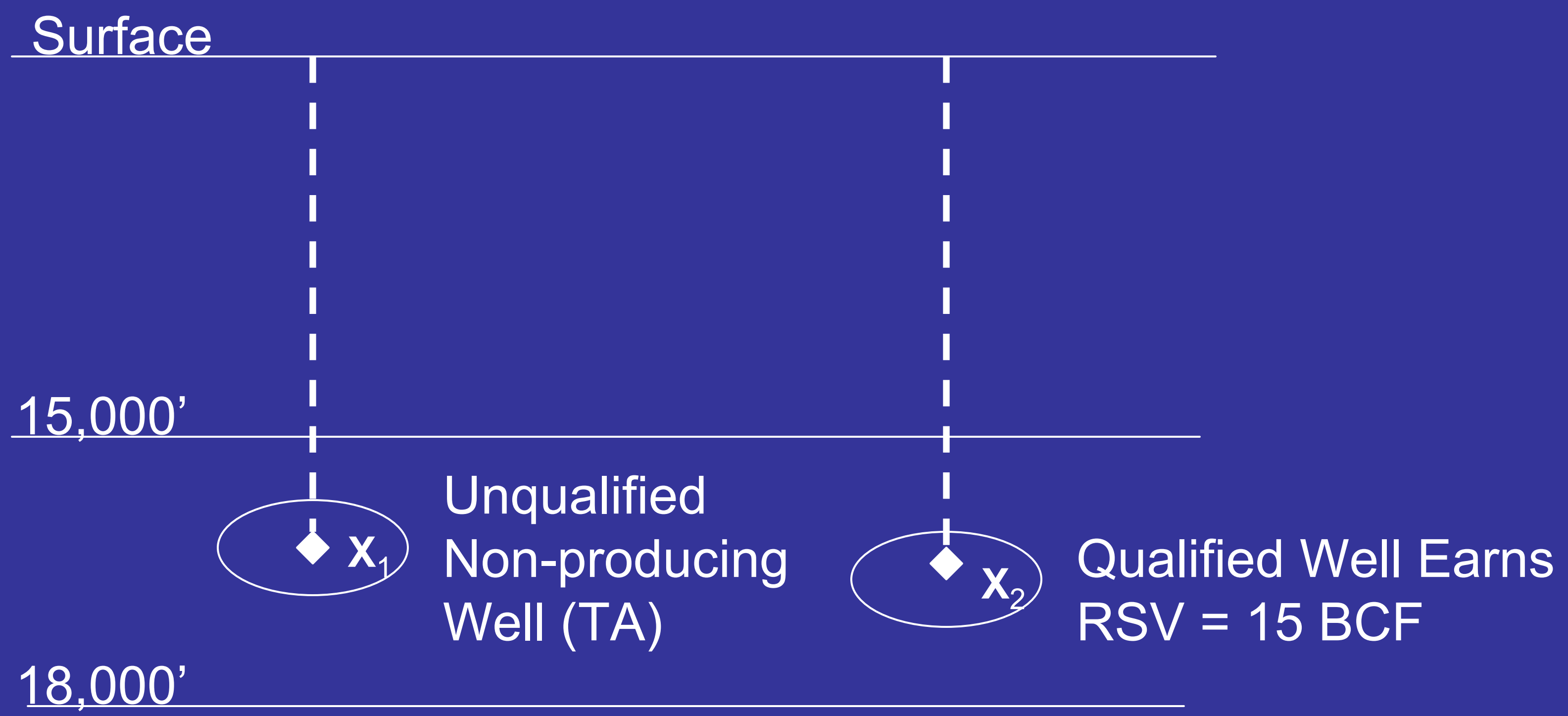
Final Rule

If the lease is producing from an unqualified well in 15,000’ to less than 18,000’ TVD SS depth interval, then that lease can still earn a reduced RSV with a a qualified well at 18,000’ TVD SS or deeper.

Lease/Well Eligibility



Lease/Well Eligibility



Lease/Well Eligibility

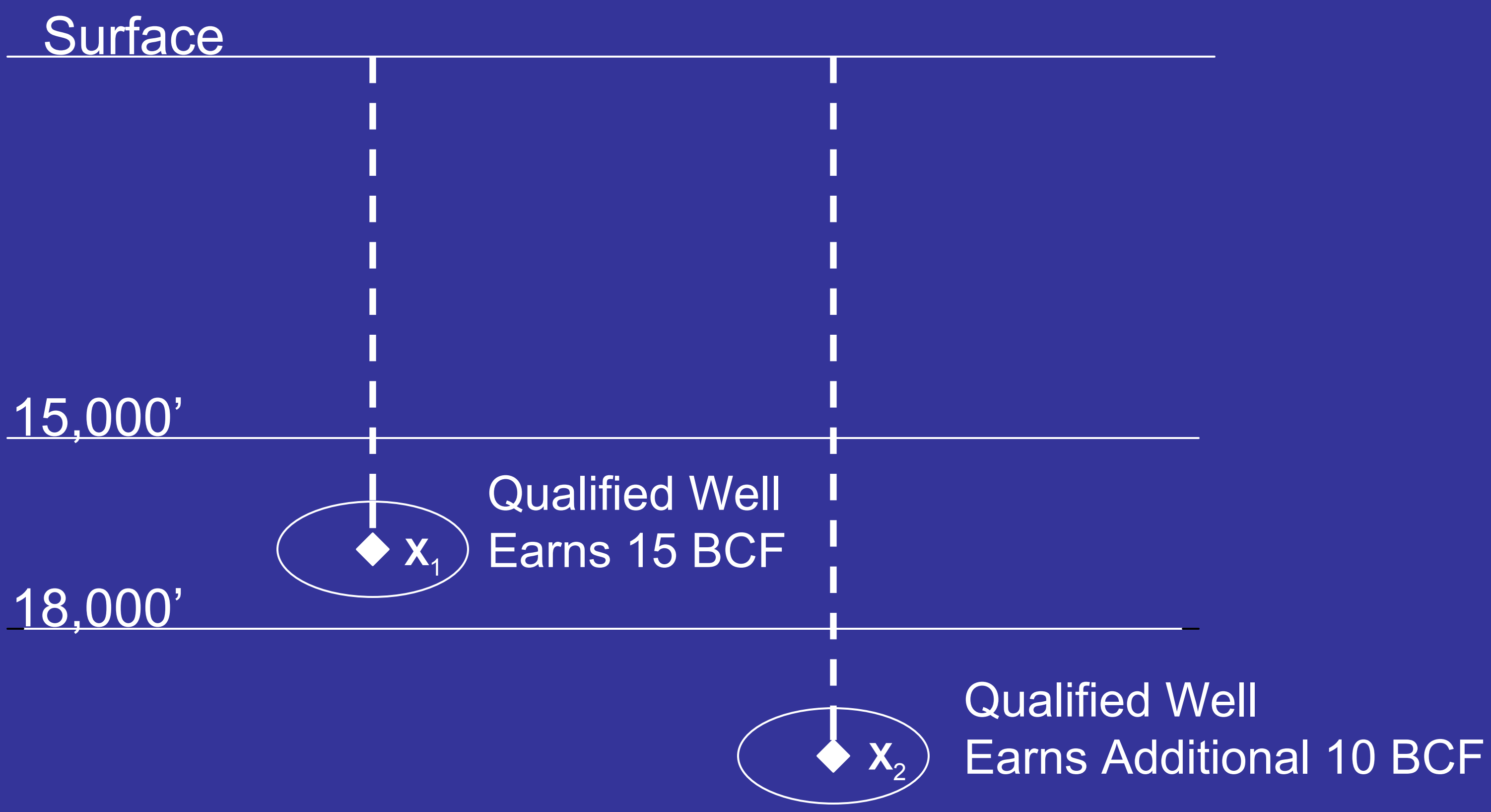
Proposed Rule

First qualified well establishes the royalty suspension volume (RSV) for the lease.

Final Rule

If a lease earns an RSV by producing from a qualified well in the 15,000 to less than 18,000’ TVD SS depth interval, then a subsequent qualified well producing 18,000’ TVD SS or deeper can earn an additional RSV.

Lease/Well Eligibility



Sidetracks

- Royalty relief for sidetracks included in final rule
  - provides opportunities to drill and produce small resource accumulations
  - maximum use of existing facilities
- Lease and well eligibility rules are the same for original wells and sidetracks

Sidetracks

- **Royalty Suspension Volume**

  - Formula for calculating RSV at both depth intervals:
    RSV = 4 BCF + 600 MCF × sidetrack length (rounded to the nearest 100 feet)

  - Examples
    (1) 5,000' sidetrack: 4 BCF + (.6 BCF)(5) = 7 BCF
    (2) 15,000' sidetrack: 4 BCF + (.6 BCF)(15) = 13 BCF

  - The amount of sidetrack relief can not exceed the relief earned by an original well at the same depth

Sidetracks

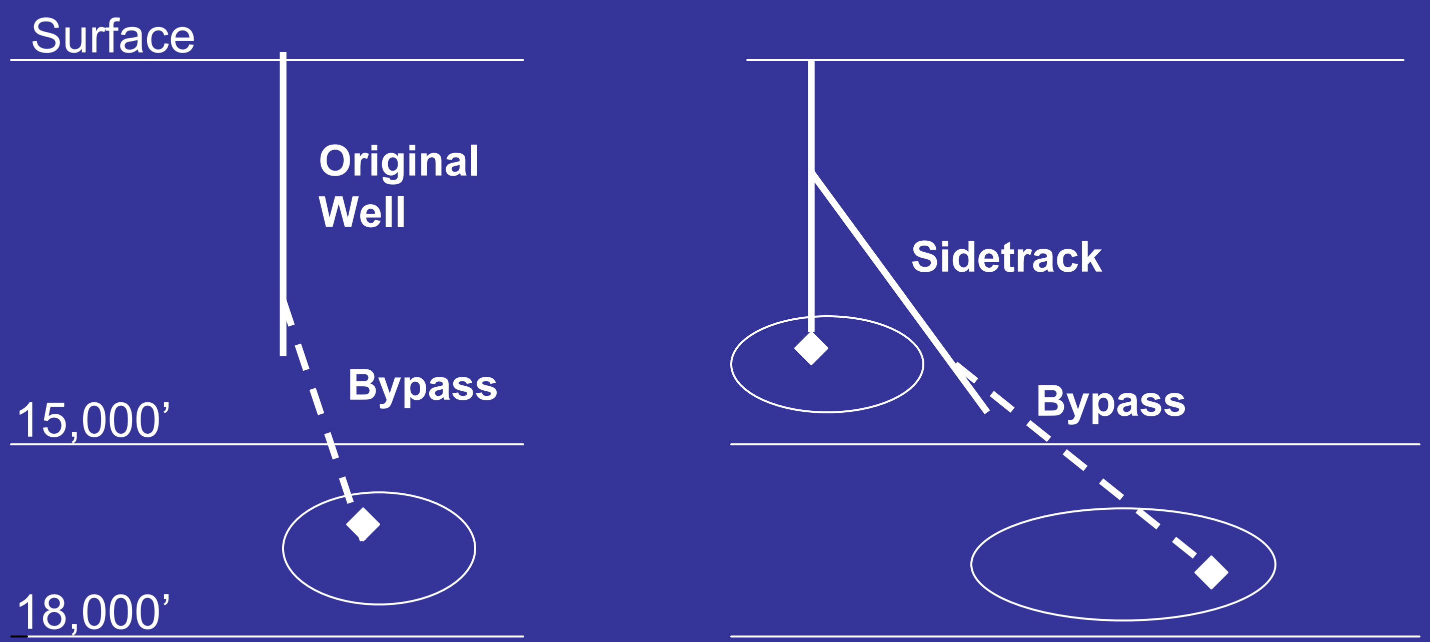
Royalty Suspension Supplement

- Formula for calculating RSS at 18,000’ or deeper:
  RSS = .8 BCFE + 120 MCFE × sidetrack length
  (rounded to the nearest 100 feet)

- Examples
  (1) 10,000’ sidetrack: .8 BCFE + (.12 BCFE)(10) = 2 BCFE
  (2) 15,000’ sidetrack: .8 BCFE + (.12 BCFE)(15) = 2.6 BCFE

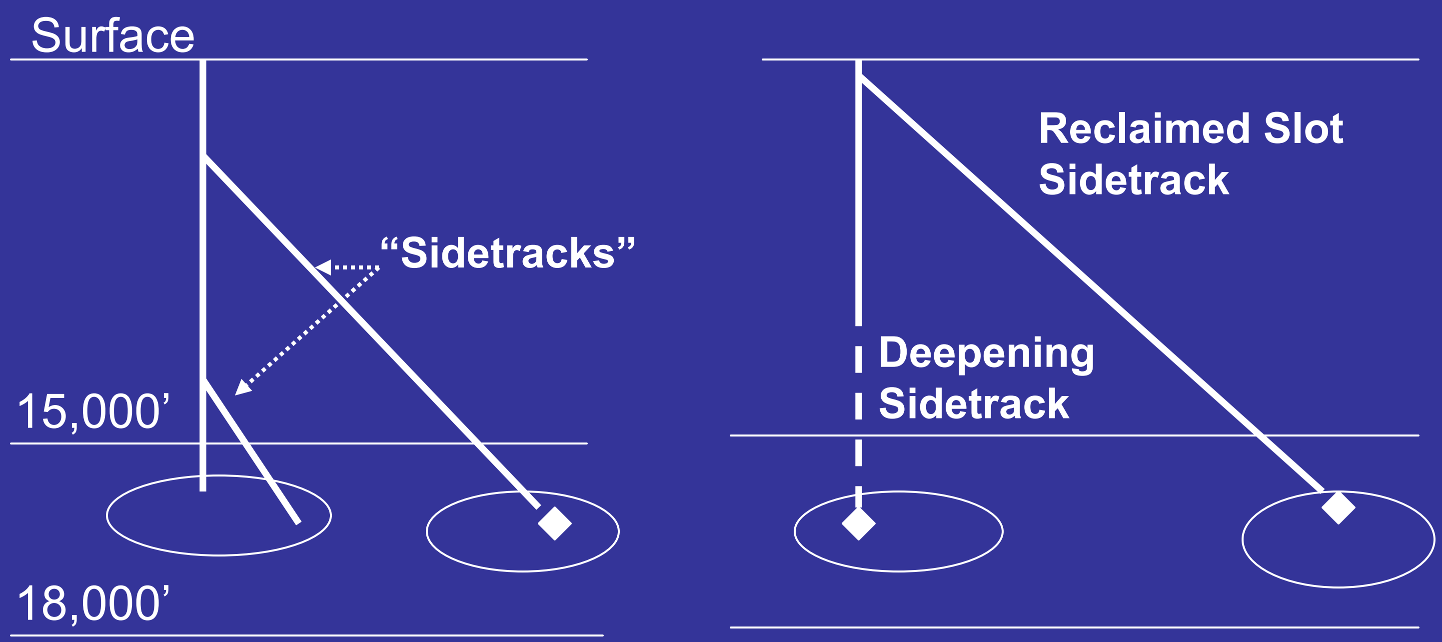
- RSS only applicable to unsuccessful sidetracks with a length of at least 10,000 feet

Sidetracks



- A bypass is considered part of the original well or sidetrack.
- In the illustration on the left, lease gets an RSV for an original well.
- In the illustration on the right, sidetrack length includes length of the bypass.

Sidetracks



- "Sidetracks" drilled before the rig moves off the well location are still considered part of the original well and the RSV for an original well is applicable.
- Deepening a well and drilling a well from a platform slot reclaimed from a previously drilled well are considered sidetracks.

Unitization

Options considered by MMS for deep gas royalty relief in federal units prior to the proposed rule:

- Unit-Based Approach
  - One RSV per unit
  - Entire unit ineligible
  - RSV allocated to unit leases

- Lease-Based Approach
  - Each eligible unit lease can earn an RSV
  - Only individual leases are ineligible
  - RSV is not allocated

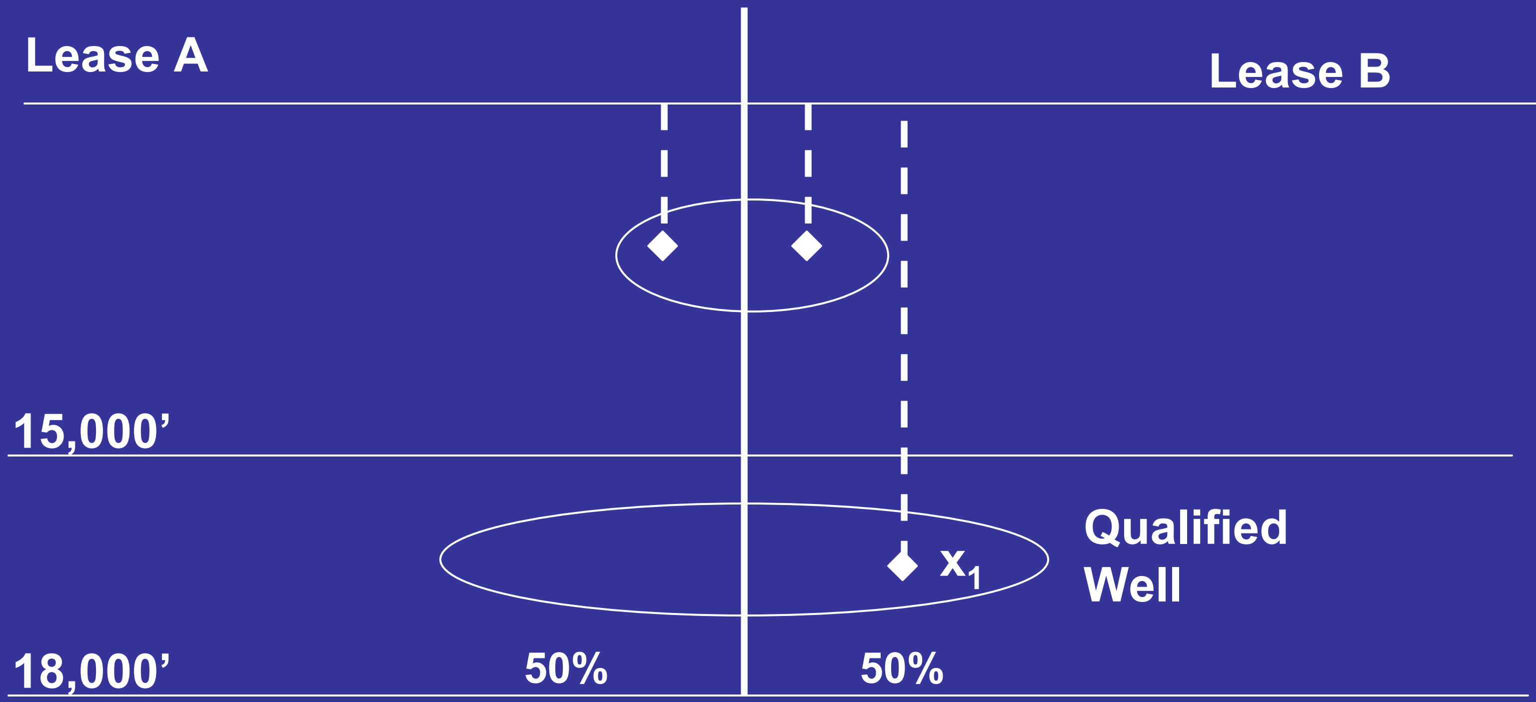
Unitization

- Hybrid Approach
  - Each eligible lease can earn an RSV
  - Only individual leases are ineligible
  - RSV allocated to unit leases

⇨ In the proposed rule, MMS chose the lease based approach.

⇨ Most industry comments recommend the hybrid approach.
  - Not allocating RSV reduces value of relief

Unitization

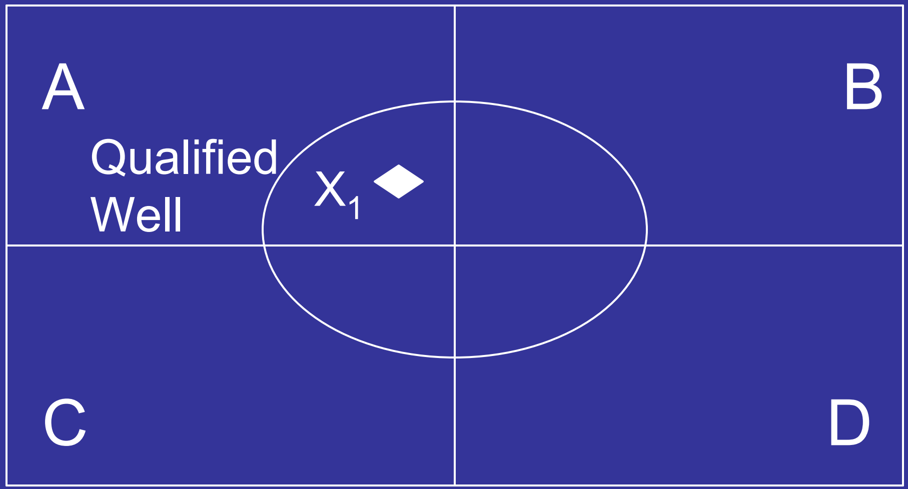


- Lease B earns an RSV of 15 BCF and is allocated 50% of production from X_1
- Lease A has no royalty relief but is allocated 50% of production from X_1
- With no allocation of RSV, X_1 will have to produce 30 BCF to receive the full royalty- free incentive of 15 BCF
- Unit Operating Agreement can be used to allocate the royalty relief benefits to the lessees of Leases A and B

Unitization

- After much discussion and careful consideration, MMS decided to stay with the lease-based approach in the final rule.
- Primary Reason: Some unit leases are allocated production, but can not be allocated an RSV, e. g., state leases and ineligible federal leases.
  - ineligible federal leases include those in water depths deeper than 200 meters or with deep production from wells drilled prior to March 26, 2003
  - approximately 50% of existing shallow water units have either state leases or federal leases that are ineligible for relief at one or both depth intervals
  - other units may contain leases issued after January 1, 2001, which have no provision in the lease instrument requiring lessees to share their deep gas RSV

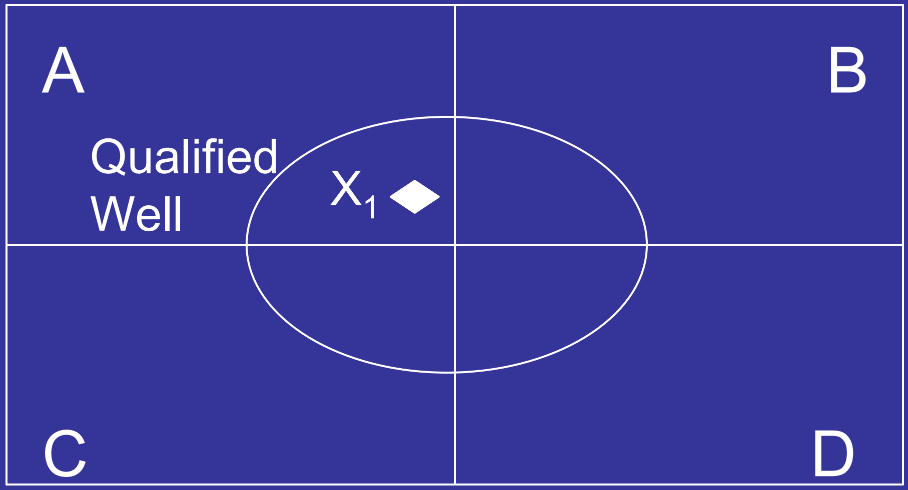
Unitization



- According to industry comments, lease-based approach promotes drilling of unnecessary wells, if X_1 alone can efficiently drain the reservoir.

- Comments also suggested that RSV's should be allowed for Leases B,C, and D without the drilling of a deep well, if MMS concurs that X_1 alone can efficiently drain the reservoir.

Unitization



<u>MMS Response</u>

- Intent of the rule is to provide one RSV to drill a deep well.
- UOA can be used to allocate royalty relief benefits earned by X_1.
- Based on the suggestion in some comments, this unit would receive four RSV's (60 or 100 BCF) for drilling one well, which is far more relief than the program intended.

Price Threshold

- Gas price threshold in proposed rule is $5.00/MMBTU for the year 2000.
- Industry comments suggested eliminating or modifying the threshold.
- MMS conducted in-depth study of price threshold issue
  - Incremental production
  - Net effect on royalties
  - Price volatility

Price Threshold

Conclusion

- Revised price threshold would provide a more valuable incentive
- Gas price threshold in final rule is $9.34/MMBTUfor the year 2004
- Should alleviate much of the uncertainty about the availability of deep gas royalty relief

Ultra Deep Drilling Category

- Industry supports larger RSV (35 to 45 BCF) for ultra deep production below 20,000 feet.
- MMS lacks sufficient data to conduct an economic analysis.
- Adding ultra deep category would have delayed the regulatory process including publication of final rule.
- If Congress passes energy legislation that includes additional relief for ultra deep drilling, MMS will issue a regulation consistent with Congressional legislation.

Main Components of Final Rule

<u>Lease Eligibility</u>

- In existence on January 1, 2001, or exercised an option to replace the deep gas royalty relief in the lease terms with the deep gas provisions in the final rule.
- Located in the Gulf of Mexico wholly west of 87 degrees, 30 minutes west longitude in water depths less than 200 meters.
- Has not produced from a well with a perforated interval the top of which is 18,000 feet TVD SS before March 26, 2003.

Main Components of Final Rule

Types of Royalty Relief

- Royalty Suspension Volume (RSV)
- Royalty Suspension Supplement (RSS)

Main Components of Final Rule

Royalty Suspension Volume

– Lease has not produced from a deep well (15,000' TVD SS or deeper) that commenced drilling prior to March 26, 2003.

If the lease has a qualified well that is …..	Then the lease earns a royalty suspension volume on this amount of gas production
An original well from 15,000 to less than 18,000 feet TVD SS.	15 BCF
A sidetrack from 15,000 to less than 18,000 feet TVD SS.	4 BCF plus 600 MCF times sidetrack measured depth (rounded to the nearest 100 feet) but no more than 15 BCF.
An original well 18,000 feet TVD SS or deeper.	25 BCF
A sidetrack 18,000 feet TVD SS or deeper.	4 BCF plus 600 MCF times sidetrack measured depth (rounded to the nearest 100 feet) but no more than 25 BCF.

Main Components of Final Rule

Royalty Suspension Volume

Lease has produced 15,000' to less than 18,000' TVD SS (regardless if production was before or after March 26, 2003) and the lease subsequently has a qualified well

If the subsequent qualified well is …..	Then you earn a royalty suspension volume on this amount of gas production.
An original well or a sidetrack from 15,000 to less than 18,000 feet TVD SS.	0 BCF
An original well 18,000 feet TVD SS or deeper.	10 BCF
A sidetrack 18,000 feet TVD SS or deeper.	4 BCF plus 600 MCF times sidetrack measured depth (rounded to the nearest 100 feet) but no more than 10 BCF

Main Components of Final Rule

Royalty Suspension Volume

- RSV will be monitored using Oil and Gas Operations Report, part A (OGOR-A)
  - Production volumes reported by well
  - Slightly reduces royalty relief
- Gas Measurement Requirements
  - Semimonthly testing of all producing wells
  - Monthly calibration of each test separator gas meter

Main Components of Final Rule

Royalty Suspension Volume

MMS Notifications (Letter to Regional Supervisor)

- Intent to drill deep well
- Commencement of production

Intent to drill well

- ➢Lease Number
- ➢Area/Block
- ➢Anticipated spud date
- ➢Target Depth

Commencement of production

- ➢Within 30 days
- ➢Lease Number, Area/Block
- ➢Well Number
- ➢Perforated Interval
- ➢Reservoir Name
- ➢Date Production Commenced
- ➢Request confirmation of size of RSV

Main Components of Final Rule

Royalty Suspension Supplement

- With the drilling of a certified unsuccessful well, a lease earns:

If the certified unsuccessful well is …	Then the lease earns a royalty suspension supplement on this volume of oil and gas production.
An original well and the lease has not produced gas or oil from a deep well .	5 BCFE
A sidetrack (with a sidetrack measured depth of at least 10,000 feet) and the lease has not produced gas or oil from a deep well .	0.8 BCFE plus 120 MCFE times sidetrack measured depth (rounded to the nearest 100 feet) but no more than 5 BCFE.
An original well or a sidetrack (with a sidetrack measured depth of at least 10,000 feet) and the lease has produced gas or oil from 15,000 to less than 18,000 feet TVD SS.	2 BCFE

Main Components of Final Rule

Royalty Suspension Supplement

- Applicable to oil and gas volumes produced from or allocated to the lease, regardless of depth, as reported on OGOR-A (5.62MCF=1BO).
- Lease is eligible for two royalty suspension supplements, but only one per wellbore.
- Maximum Relief

2 RSS	10 BCF
1 RSV	25 BCF
Total	35 BCF

Main Components of Final Rule

Royalty Suspension Supplement

Letter to Regional Supervisor for Production and Development

- Within 60 days after reaching total depth
- Well log data, if well does not meet the producibility requirements of 30 CFR Subpart A
- Well log, well test, seismic, and economic data, if well does meet the above producibility requirements

Main Components of Final Rule

Royalty Suspension Supplement

Well meets producibility requirements but not commercially producible

G&G Data

- Digital well logs showing target
- Structure and amplitude map
- Reserve estimate
- Seismic volume used for evaluation
- Well test data

Economic Data

- Point estimate (production profile, costs, etc.)
- Prospective costs only
- No P&A costs for well
- Before tax analysis
- Oil and gas prices published by MMS
- <15% ROR is uneconomic
- Assume royalty suspension volume

Main Components of Final Rule

Price Threshold

- Gas price threshold is $9.34/MMBTU adjusted annually for inflation from year 2004.
- Royalties are due in a calendar year when NYMEX average price exceeds gas price threshold.
- Royalties plus interest are due within 90 days after end of the year.
- Production volumes count as part of the royalty suspension volume and royalty suspension supplement.

Main Components of Final Rule

<u>Substitution Option</u>

- Lessees may replace deep gas royalty relief provisions in lease terms with provisions in final rule.
- Applicable to shallow water leases in sales after January 1, 2001.
- Must notify, in writing, Regional Supervisor for Production and Development within 180 days after effective date of final rule
- Exercising the option is irrevocable.

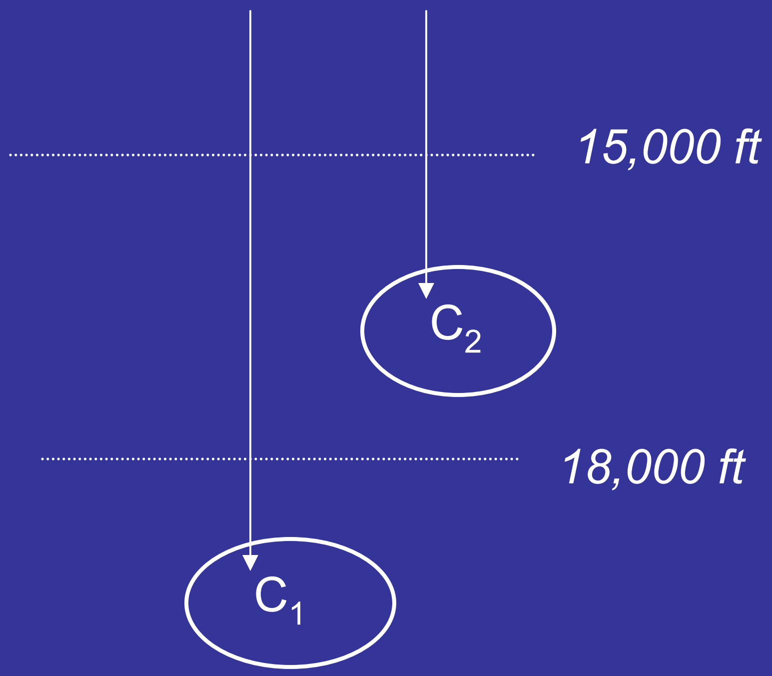
Main Components of Final Rule

Miscellaneous Provisions

- Minimum royalties are due during royalty-free production
- RSV and RSS can be transferred to successor lessees
- Unused RSV and RSS terminate when lease expires

Sharing RSV on Lease

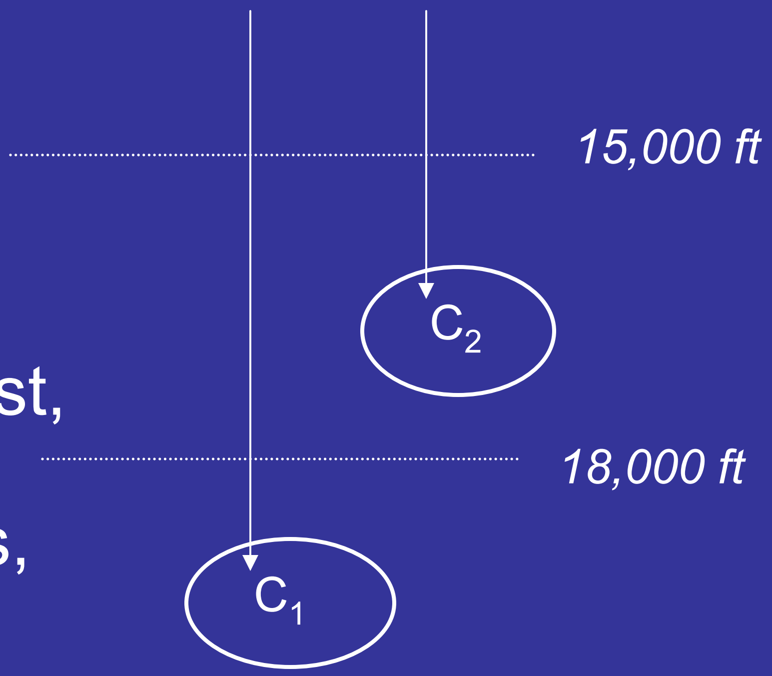
- If C_1 produces first, lease gets 25 BCF
  - C_2 can share up to 25 BCF
- If C_2 produces first, lease gets 15 BCF
  - when C_1 produces lease gets another 10 BCF
  - both wells share up to 25 BCF



Sharing RSV on Lease

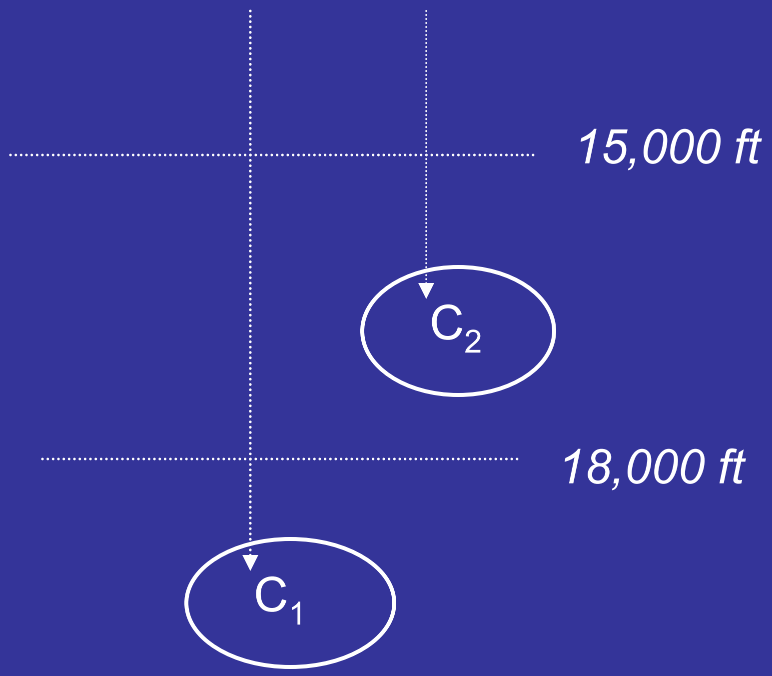
- If C_1 is a sidetrack (5,000') that produces first and earns 7 BCF, then C_2 does not earn any additional RSV, but can share in the 7 BCF.

- If C_2 (original well) produces first, the lease gets 15 BCF and
  - when C_1 sidetrack produces, lease gets another 7 BCF
  - both wells share 22 BCF



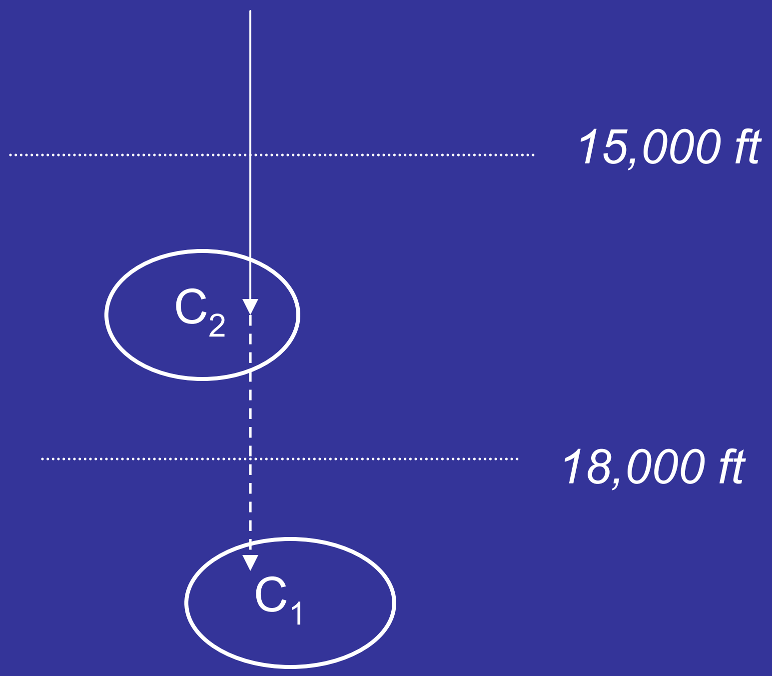
Sharing RSV, RSS on Lease

- If C_1 (original well) is unsuccessful, lease gets 5 BCFE RSS.
- If C_2 (original well) then produces, lease also gets 15 BCF RSV for total of 20 BCF.



Sharing RSV, RSS in Well

- If C_1 is unsuccessful and RSS used up, then C_2 earns 10 BCF.
  (15 BCF – 5 BCFE)



Substitution Comparison
Lease Instrument vs. Final Rule

<table>
<tr><th>Lease Instrument</th><th>Final Rule</th></tr>
<tr><td><u>RSV</u>
First qualified completion (original well or sidetrack?) 15,000’ or deeper:
RSV = 20 BCF</td><td><u>RSV</u>
First qualified well:
- original well
15,000’ to17,999’, RSV = 15 BCF
18,000’ or deeper, RSV = 25 BCF

- sidetrack 15,000’ or deeper
RSV = 4 BCF + .6 BCF/1000’

Note: If the first producing well is 15,000’ to less than 18,000’, then a second qualified original well 18,000’or deeper earns 10 BCF and a sidetrack 4 BCF + .6 BCF/1000’.</td></tr>
</table>

Substitution Comparison
Lease Instrument vs. Final Rule

Lease Instrument	Final Rule
RSS None	**RSS** Certified unsuccessful well (up to 2) - original well: RSS = 5 BCFE - sidetrack (10,000’ or greater): RSS = .8 BCFE + .12 BCFE/1000’
Price Threshold $5.00/MMBTU for year 2000 $3.50/MMBTU (Sale 178)	**Price Threshold** $9.34/MMBTU for year 2004

Substitution Comparison
Lease Instrument vs. Final Rule

Lease Instrument	Final Rule
Eligibility Deep well (or sidetrack?) must produce from a **new gas** reservoir.	**Eligibility** Deep well or sidetrack can produce from: (1) a reservoir producing on another lease (2) an oil reservoir with associated gas
Timing Deep gas production by 5 years after lease issuance	**Timing** (1) Deep well spudded after March 26, 2003 (2) Deep production within 5 years after date of final rule

Royalty Relief Information

MMS GOMR Web Site

Homepage: ***www.gomr.mms.gov***

(click on "***offshore information***" and then on "***royalty relief***"; for additional information click on "***deep gas***")

MMS Contacts

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