Coalbed Natural Gas Units in Wyoming

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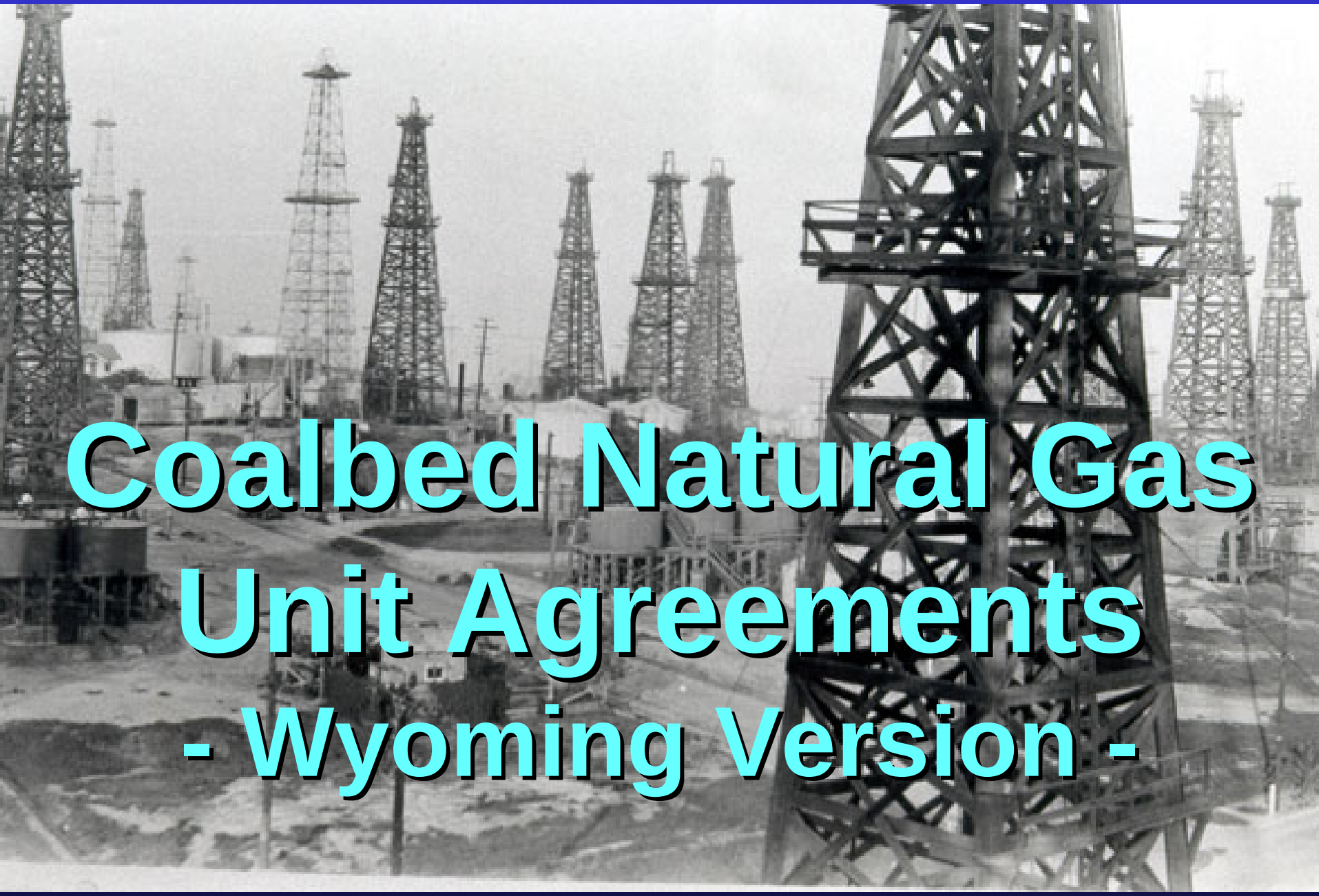
Reservoir Management Group
Wyoming State Office



Coalbed Natural Gas Unit Agreements

- Wyoming Version -

Topics

- ✓ Major changes of Wyoming Version Coalbed Natural Gas Unit form from the standard exploratory unit form
- ✓ Where we are now
- ✓ Problems encountered

Coalbed Natural Gas Units

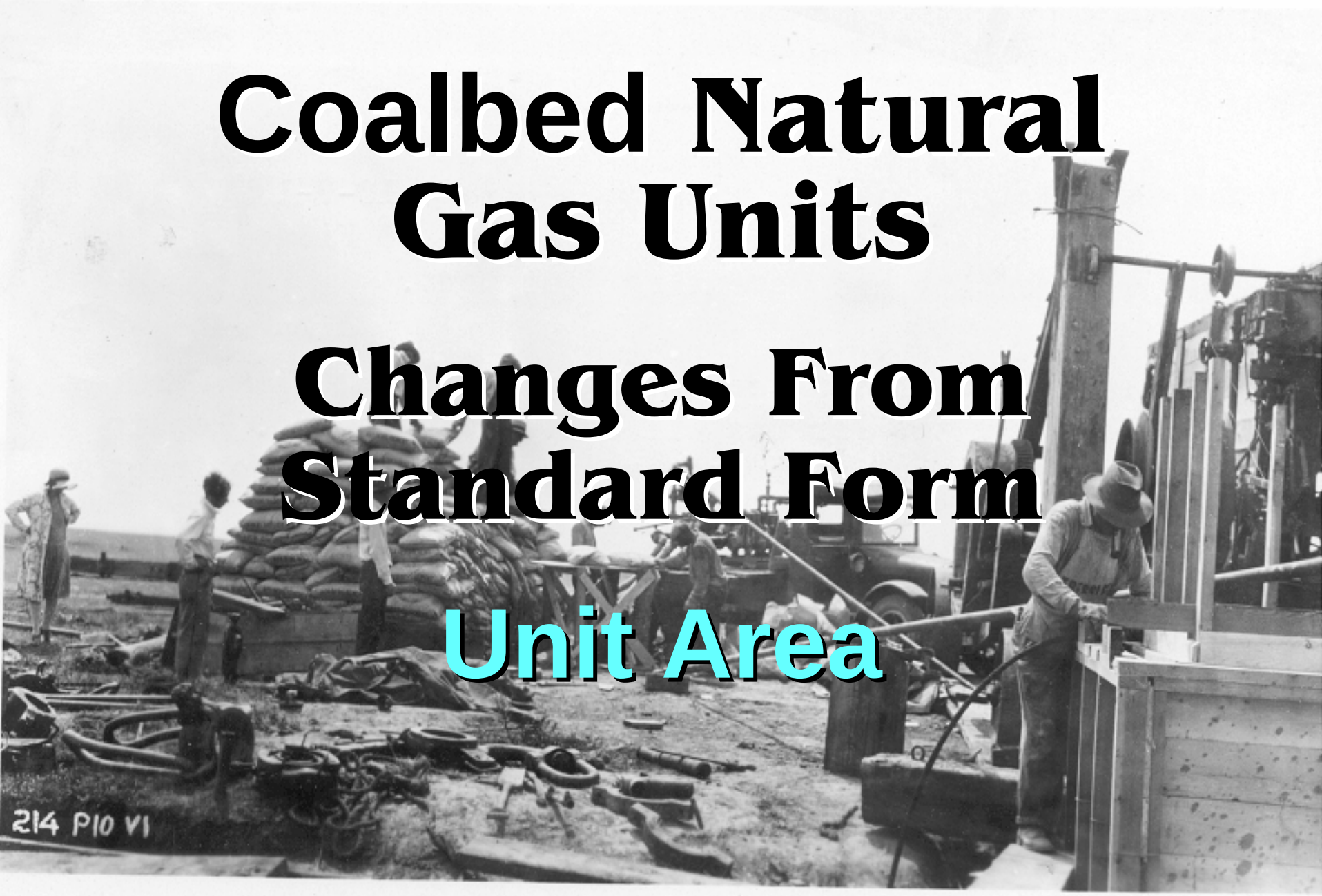
Unit form designed with the following <u>assumptions</u>:

- Shallow unit with emphasis on coalbed natural gas
- Development will occur in a pod concept
- 40 - 80 acre development within the unit

Coalbed Natural Gas Units

Changes From Standard Form

Unit Area



Coalbed Natural Gas Units

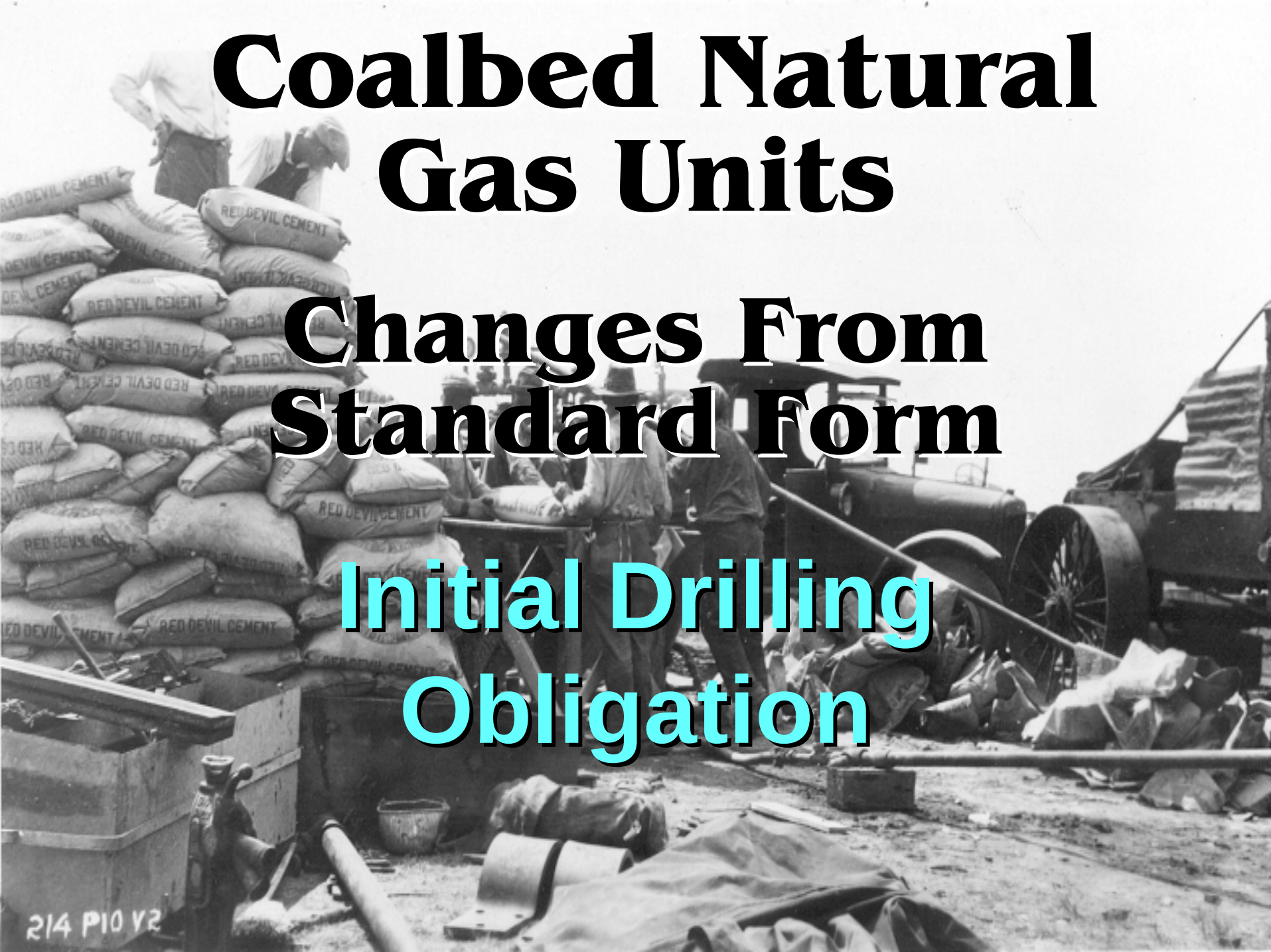
Unit Area

- Maximum size: 25,000 acres
- Administrative block boundary allowed

Coalbed Natural Gas Units

Changes From Standard Form

Initial Drilling Obligation



Coalbed Natural Gas Units

Initial Drilling Obligations

- ✓ Initial drilling obligation will be a negotiated pod of wells. *For example, 5 wells, 9 wells, 15 wells, etc.*
- ✓ Public Interest Requirement (PIR) not met until entire pod is drilled

Coalbed Natural Gas Units

Changes From Standard Form

Unit Contraction

Coalbed Natural Gas Units

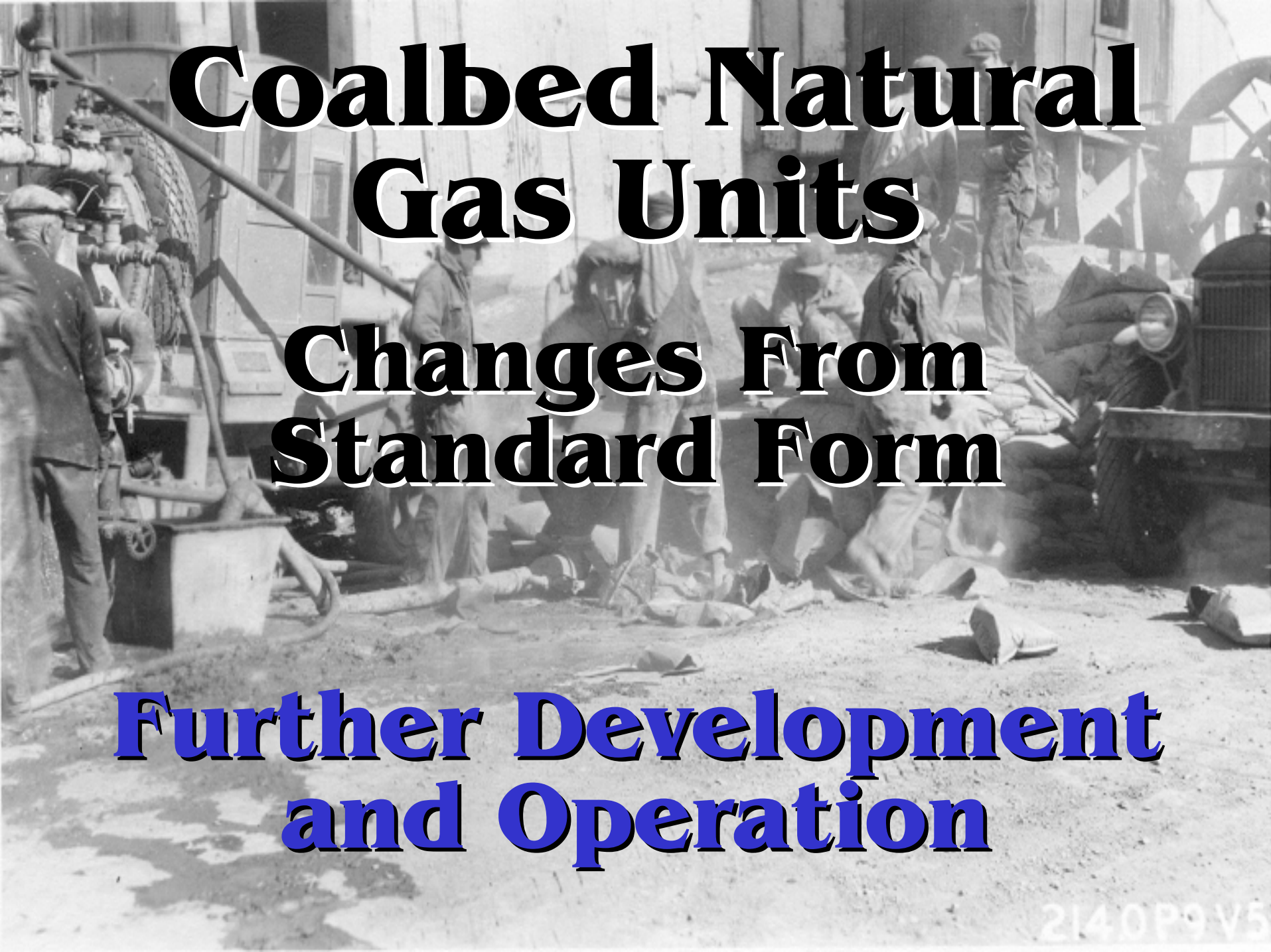
Contraction

- Unit automatically contracts to existing PA(s) on 10th anniversary of the initial PA

Coalbed Natural Gas Units

Changes From Standard Form

Further Development and Operation



Coalbed Natural Gas Units

Further Development and Operation

- Operator required to drill a negotiated number of wells each successive year after PIR is met whether an initial PA is formed or not
- Failure to drill additional wells will cause the agreement to automatically contract to the existing PAs, or terminate

Coalbed Natural Gas Units

Further Development and Operation

- Carryover of excess required wells is allowed
- PODs not required, only yearly reviews

Coalbed Natural Gas Units

Changes From Standard Form

Participation After Discovery

Coalbed Natural Gas Units

Participation After Discovery

- Productivity Requirement (PR)
  - Unit must meet PR in order to be considered a producing unit
  - Is negotiated for 1 and multiple wells. *For example, 1 well must produce 150 mcfd or a combination of wells must produce 300 mcfd*

Coalbed Natural Gas Units

Participation After Discovery

- Productivity Requirement (PR)
  - Once met for a particular PA, PR is not required for further revisions of that specific PA
  - Any new areas drilled within the unit must meet PR prior to PA establishment

Coalbed Natural Gas Units

Participation After Discovery

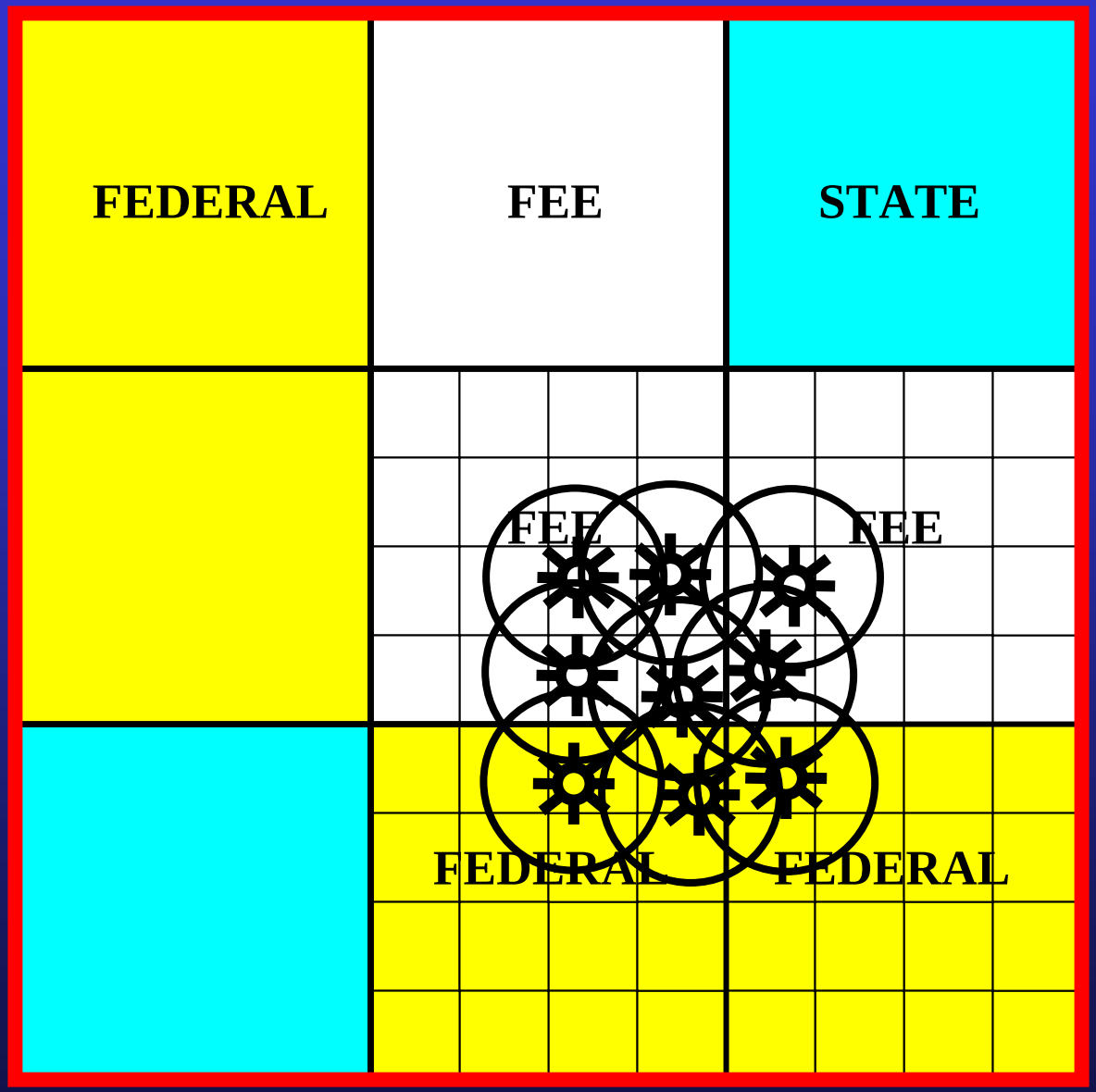
- Participating Areas
  - Streamlined application and approval process
  - Mechanical circle concept
  - ¼ mile radius circle drawn around wells - any 40 acre parcel cut by the circle is included in the PA

Coalbed Natural Gas Units

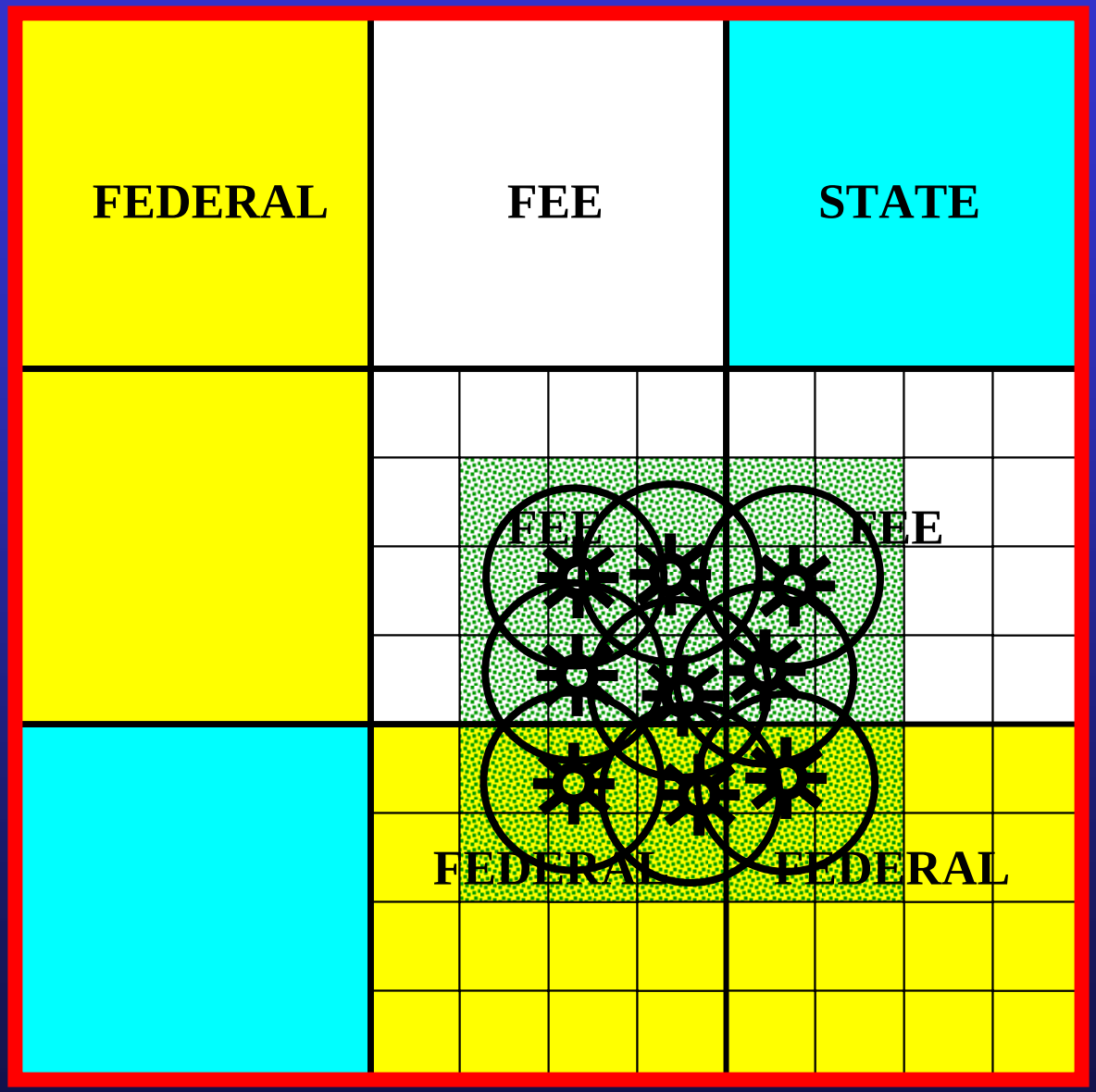
Participation After Discovery

- ✓ Participating Areas - Revisions
  - ✓ All wells TD'd within a particular calendar month will be submitted as one PA revision to be effective the first day of that month

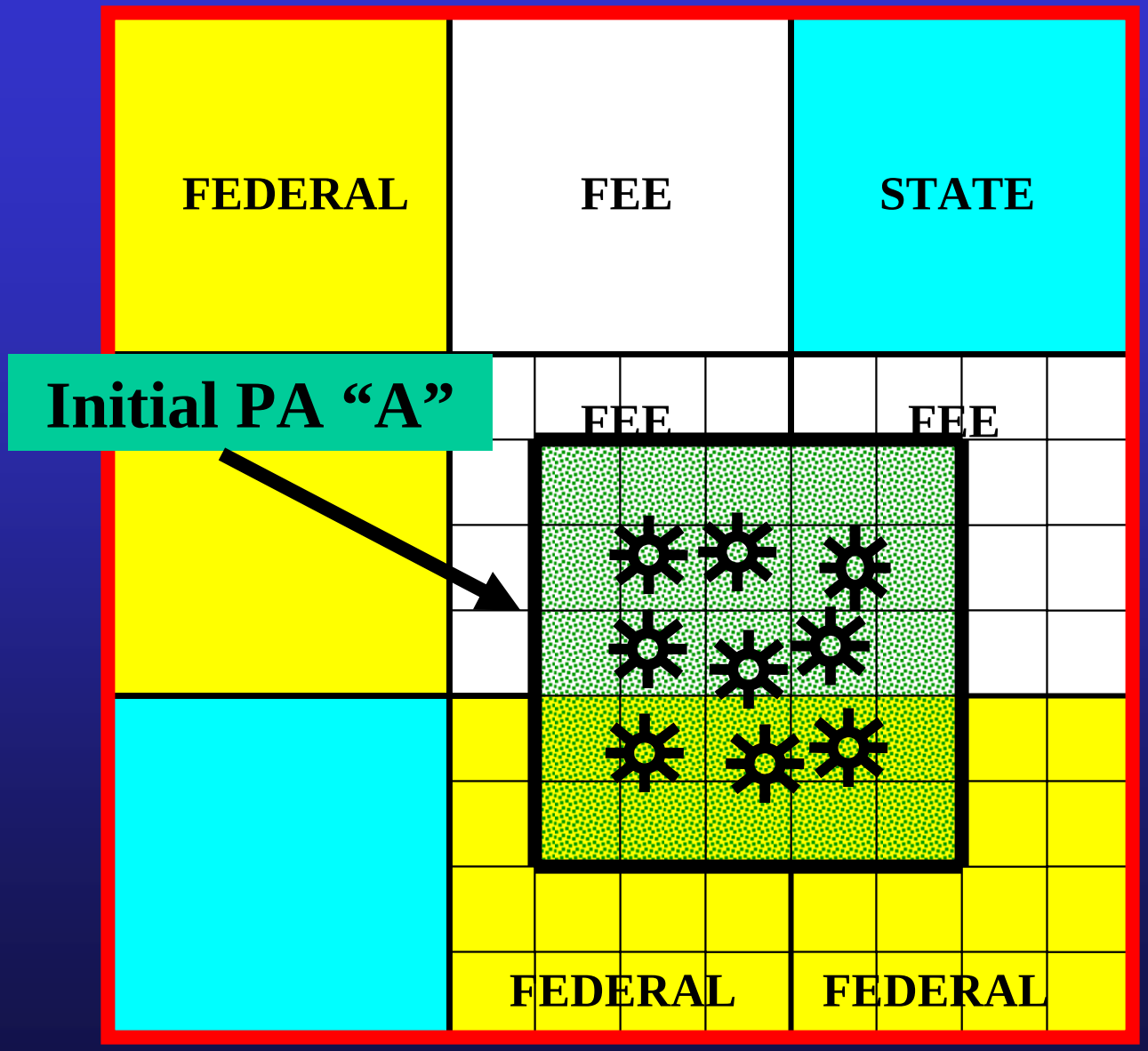
Coalbed Natural Gas Unit



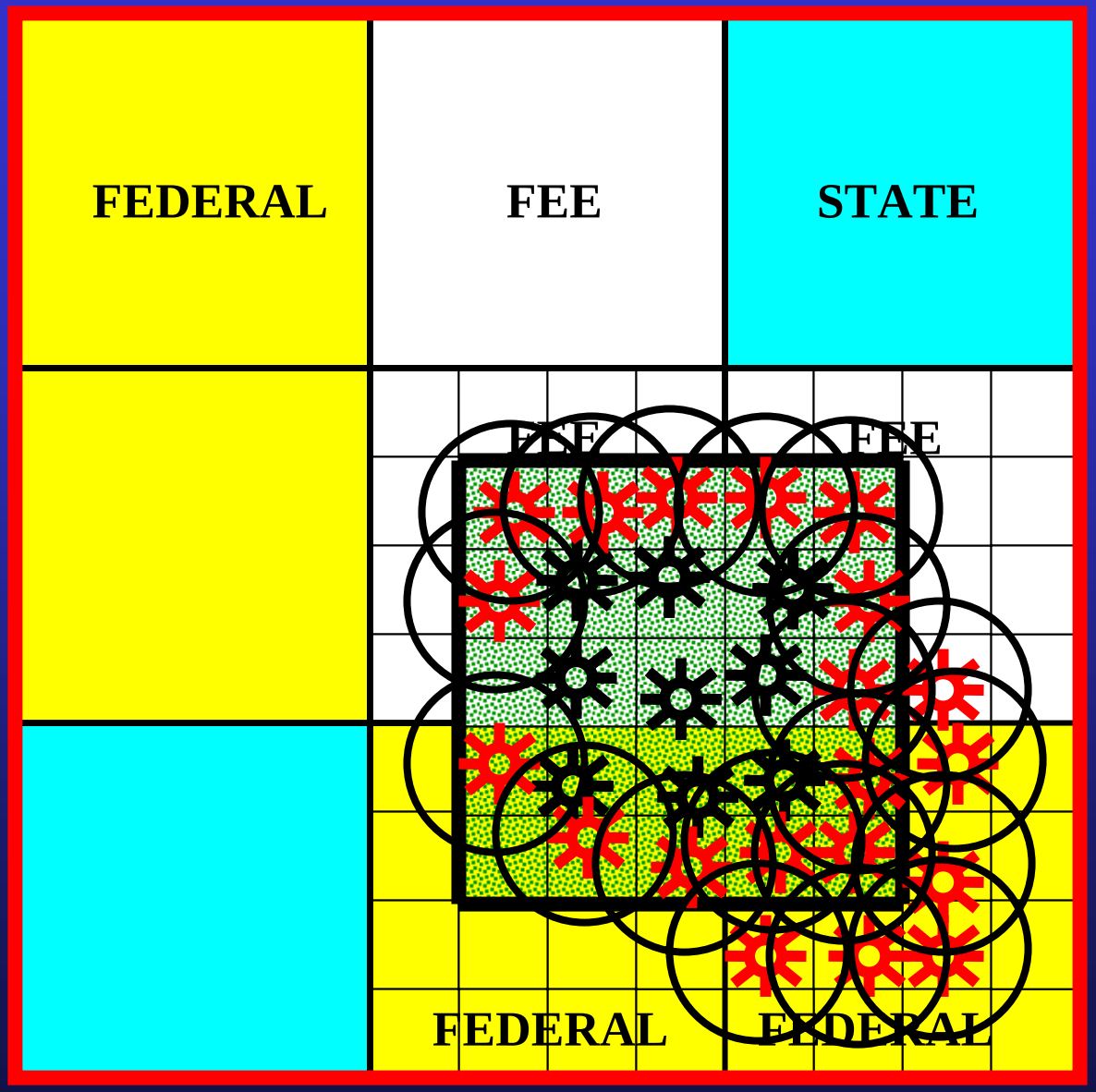
Coalbed Natural Gas Unit



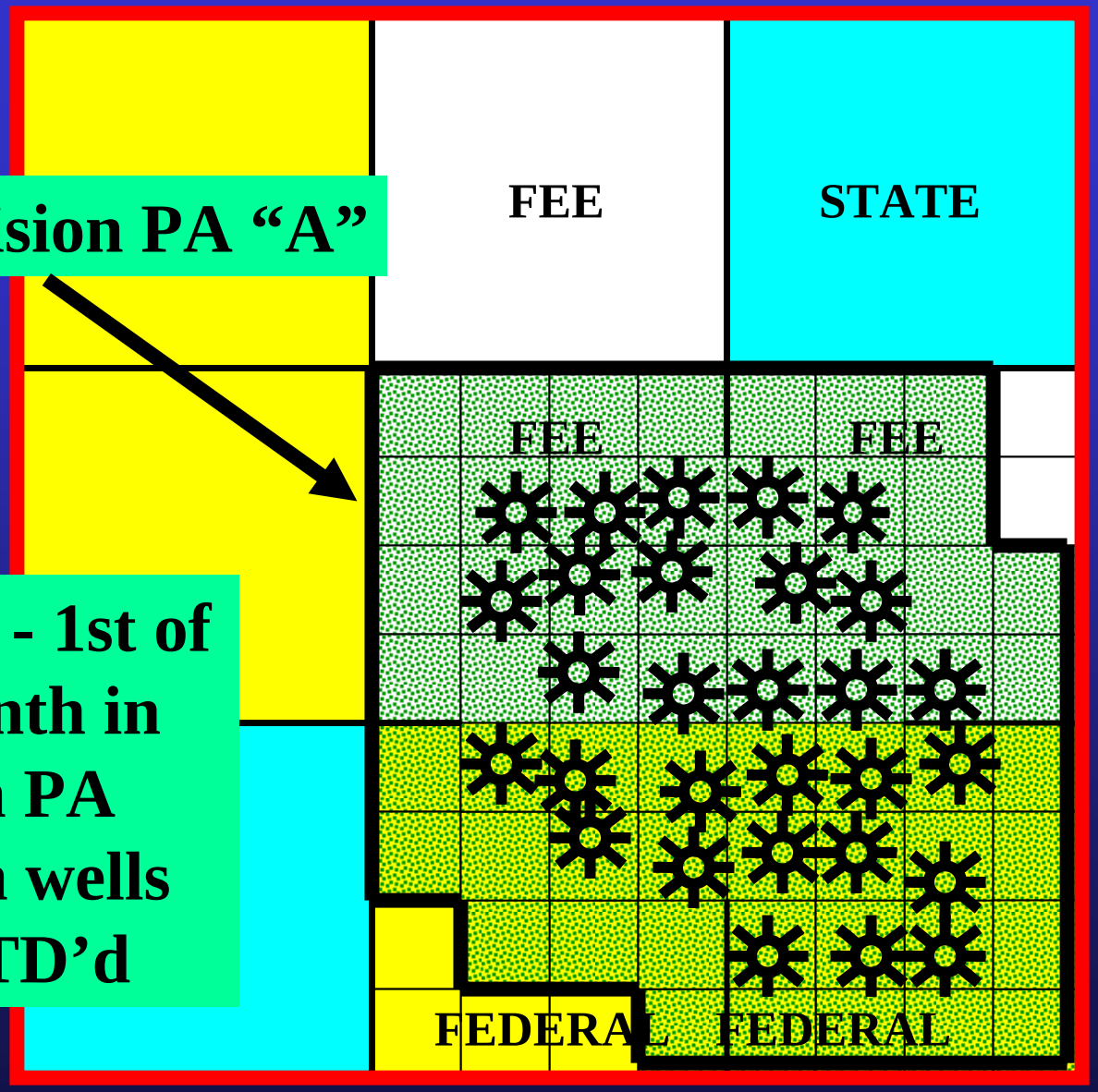
Coalbed Natural Gas Unit



Coalbed Natural Gas Unit



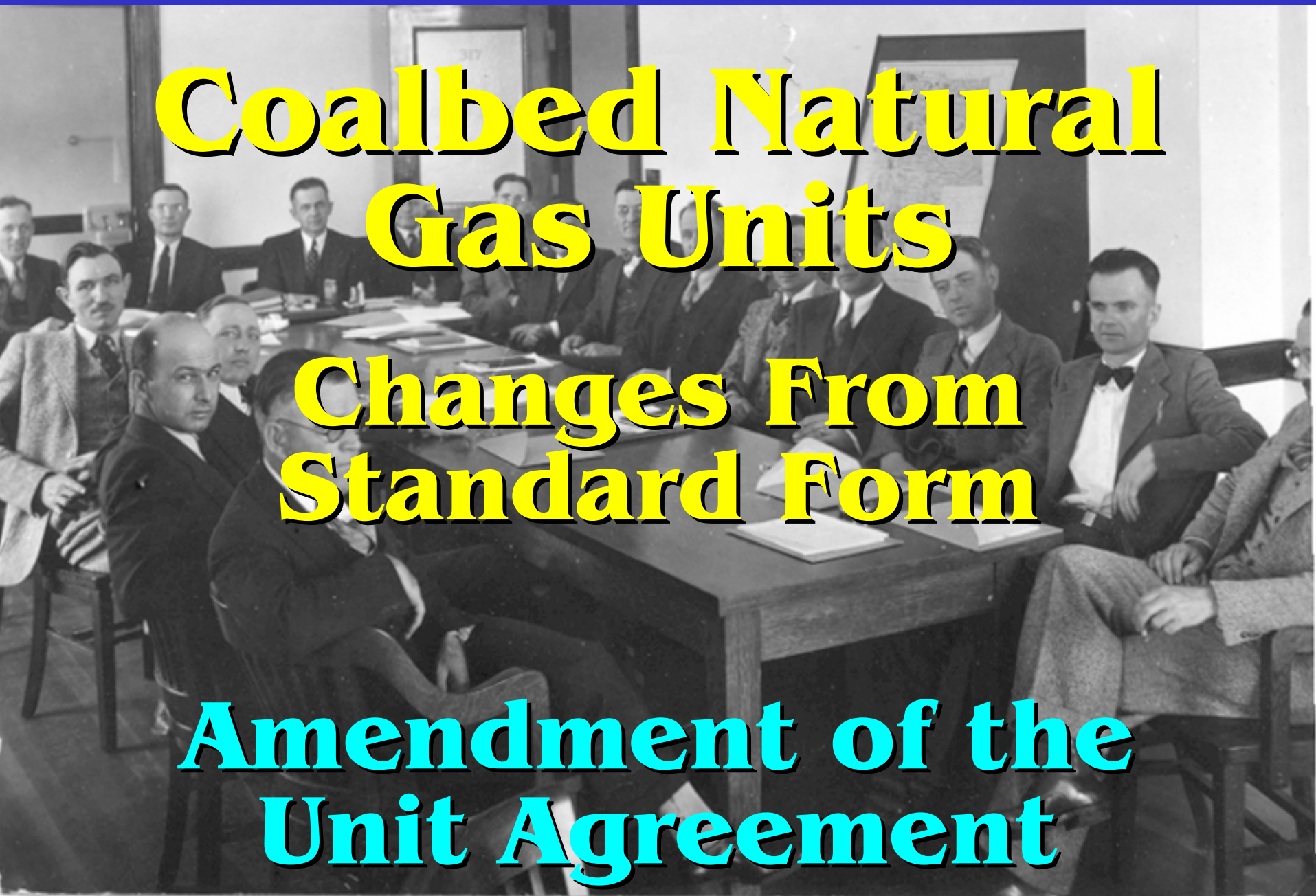
Coalbed Natural Gas Unit



1st Revision PA "A"

Effective - 1st of the month in which PA revision wells were TD'd

PE Conference, USGS - Casper 1933



Coalbed Natural Gas Units

Changes From Standard Form

Amendment of the Unit Agreement

Coalbed Natural Gas Units

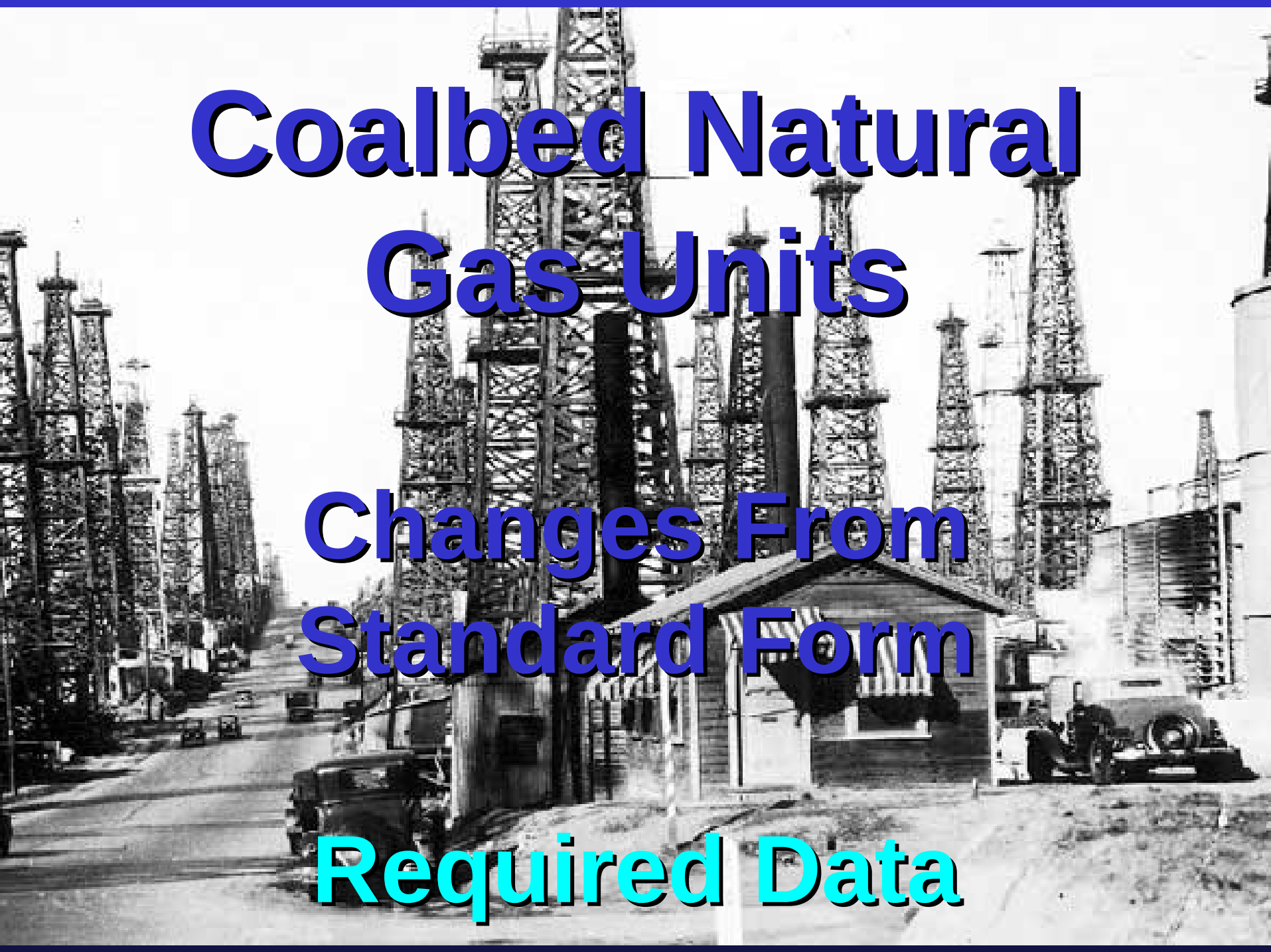
Amendment of the Unit Agreement

- The terms of the unit agreement may be modified by 90% of the WI owners and 60% of the basic royalty owners

Coalbed Natural Gas Units

Changes From Standard Form

Required Data

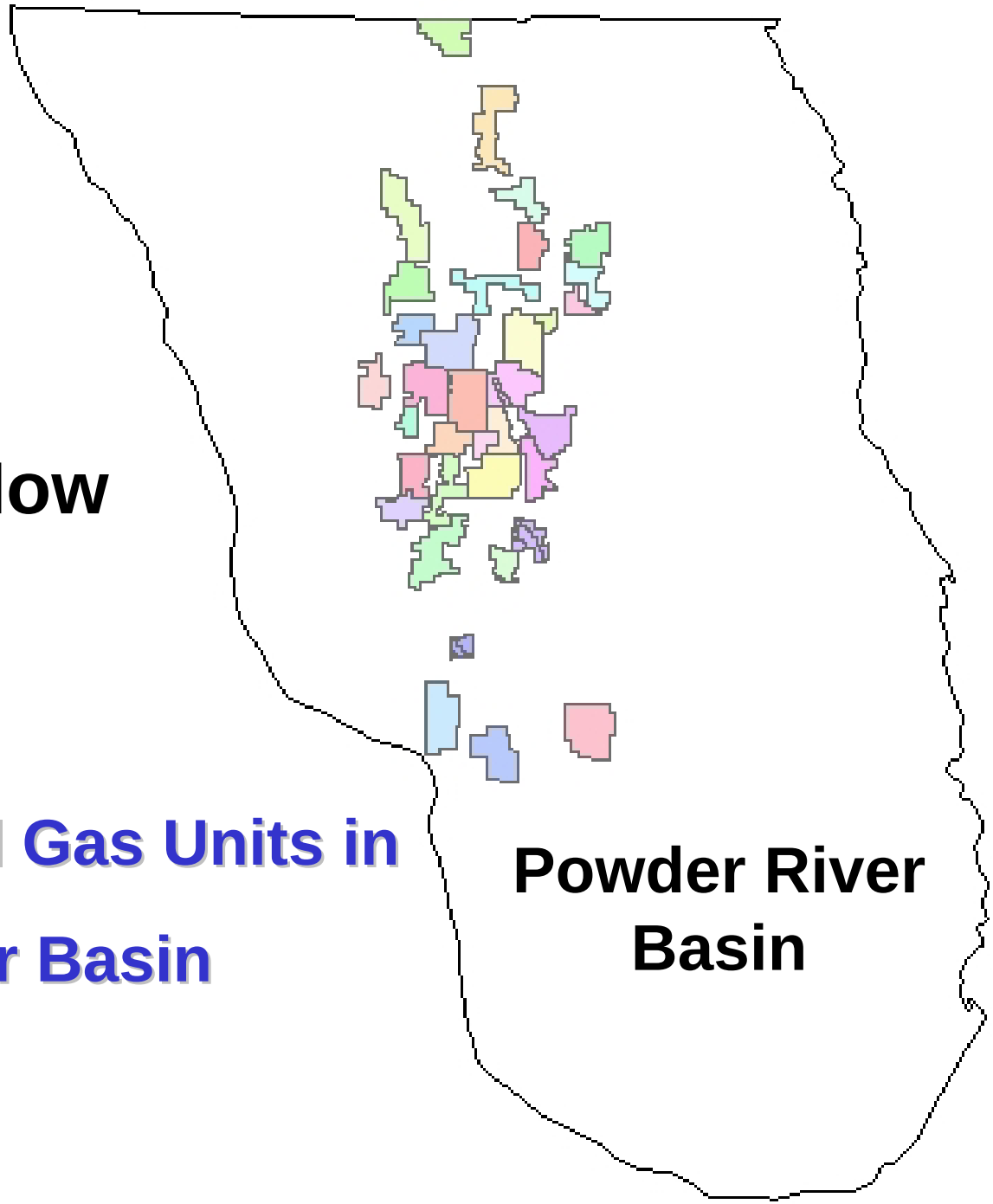


Coalbed Natural Gas Unit

Required Data

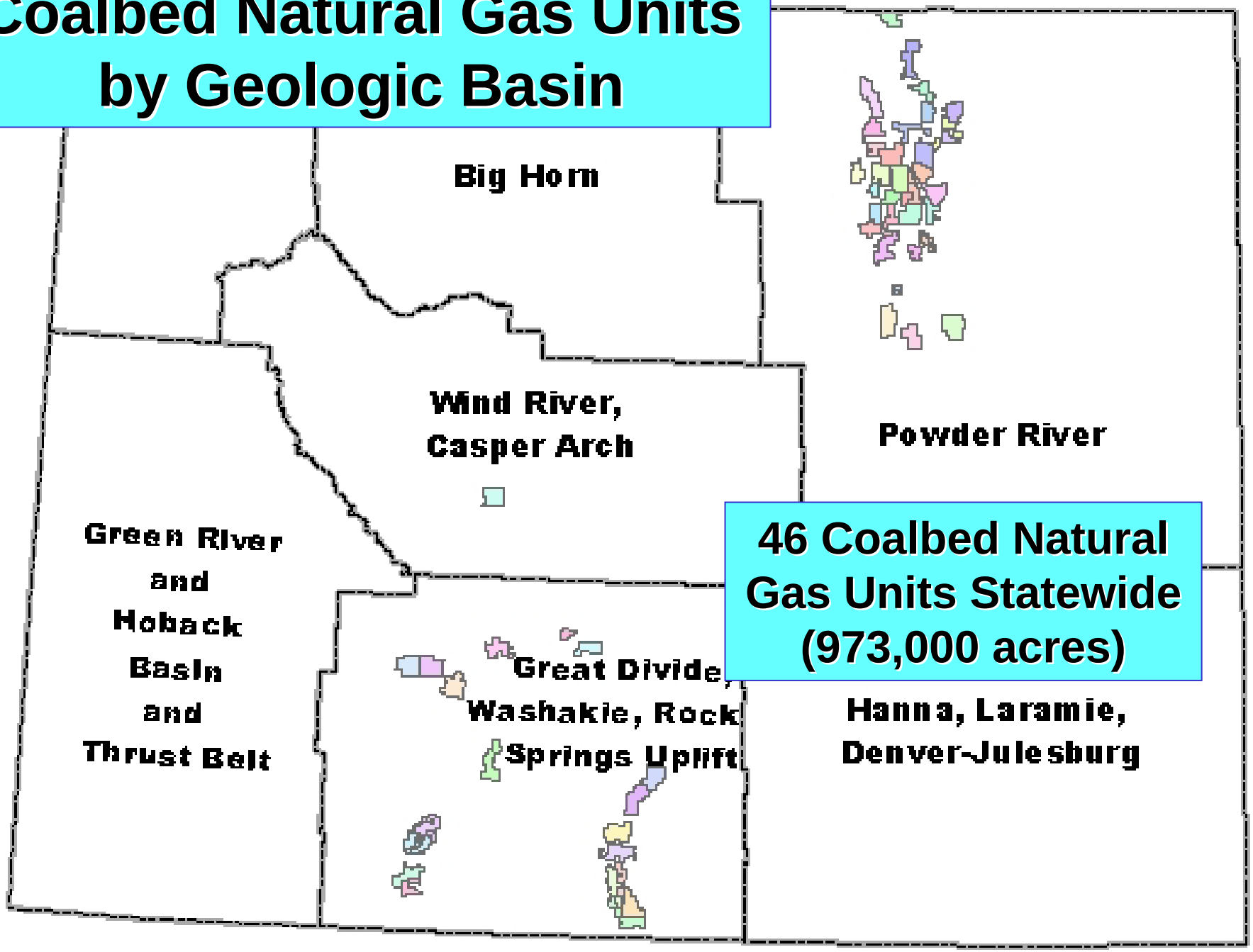
- If little or no coal, water or well log data exists in the area of the proposed unit, unit operator is required to drill groundwater monitoring wells and/or core the coal and/or run a detailed suite of well logs
- These requirements may count toward credit for obligation wells. *For ex. A whole seam coal core would be a credit for 1 obligation well*
- Data used in planning document technical analysis, and drainage analysis

Where We Are Now

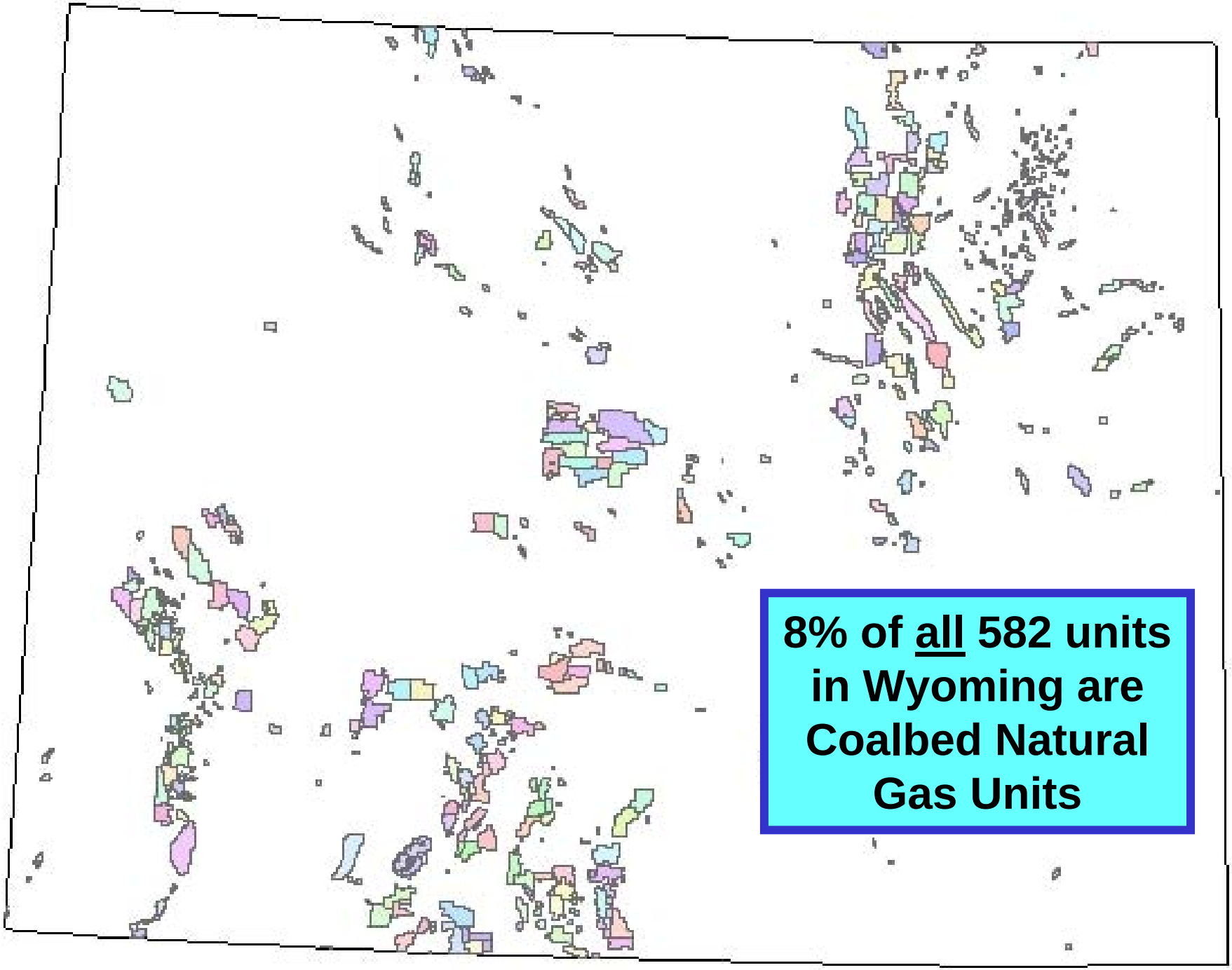


32 Coalbed Natural Gas Units in Powder River Basin

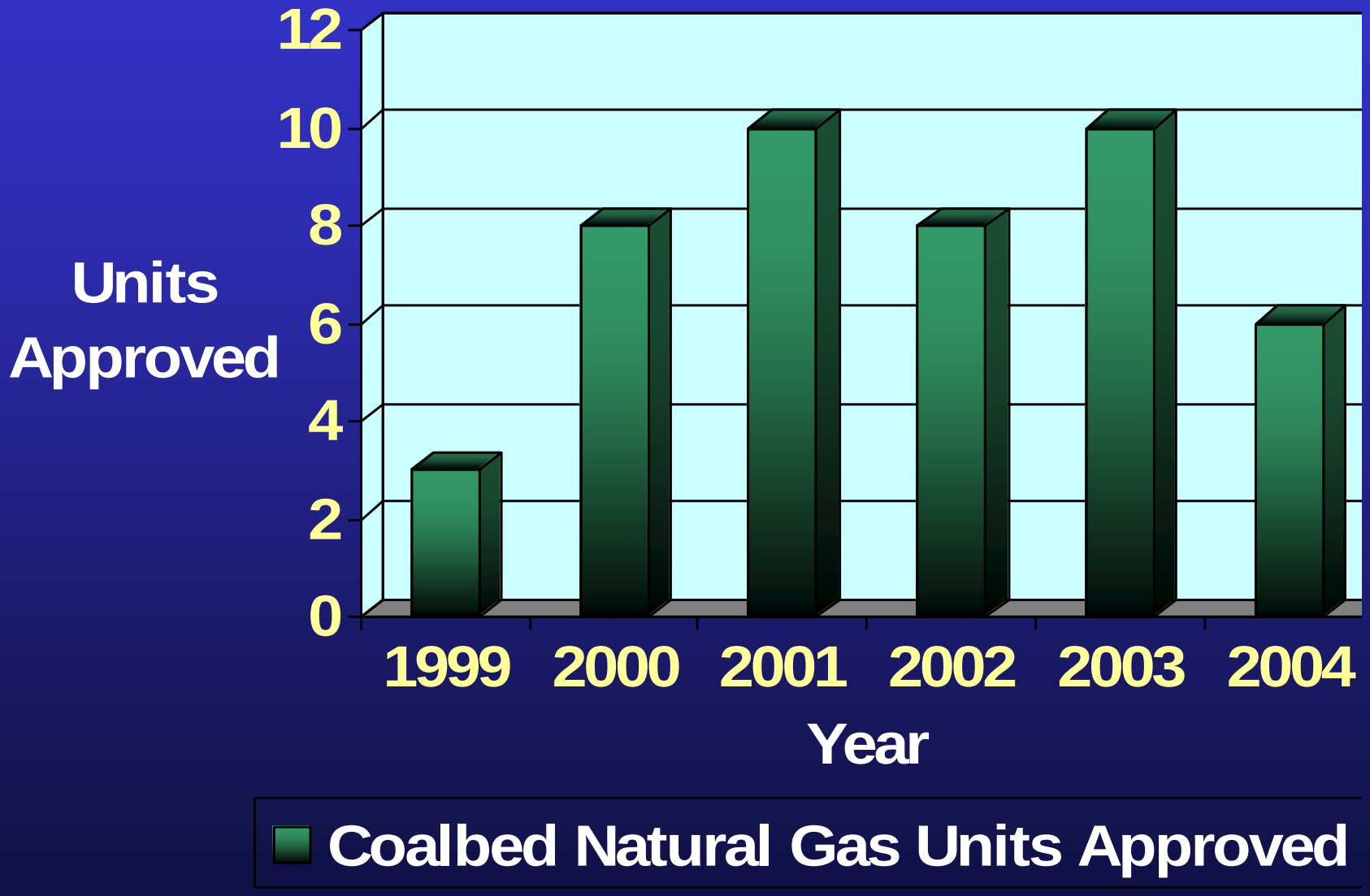
Coalbed Natural Gas Units by Geologic Basin



46 Coalbed Natural Gas Units Statewide (973,000 acres)


8% of all 582 units in Wyoming are Coalbed Natural Gas Units

Coalbed Natural Gas Units Approved by Year



Coalbed Natural Gas Unit

Problems

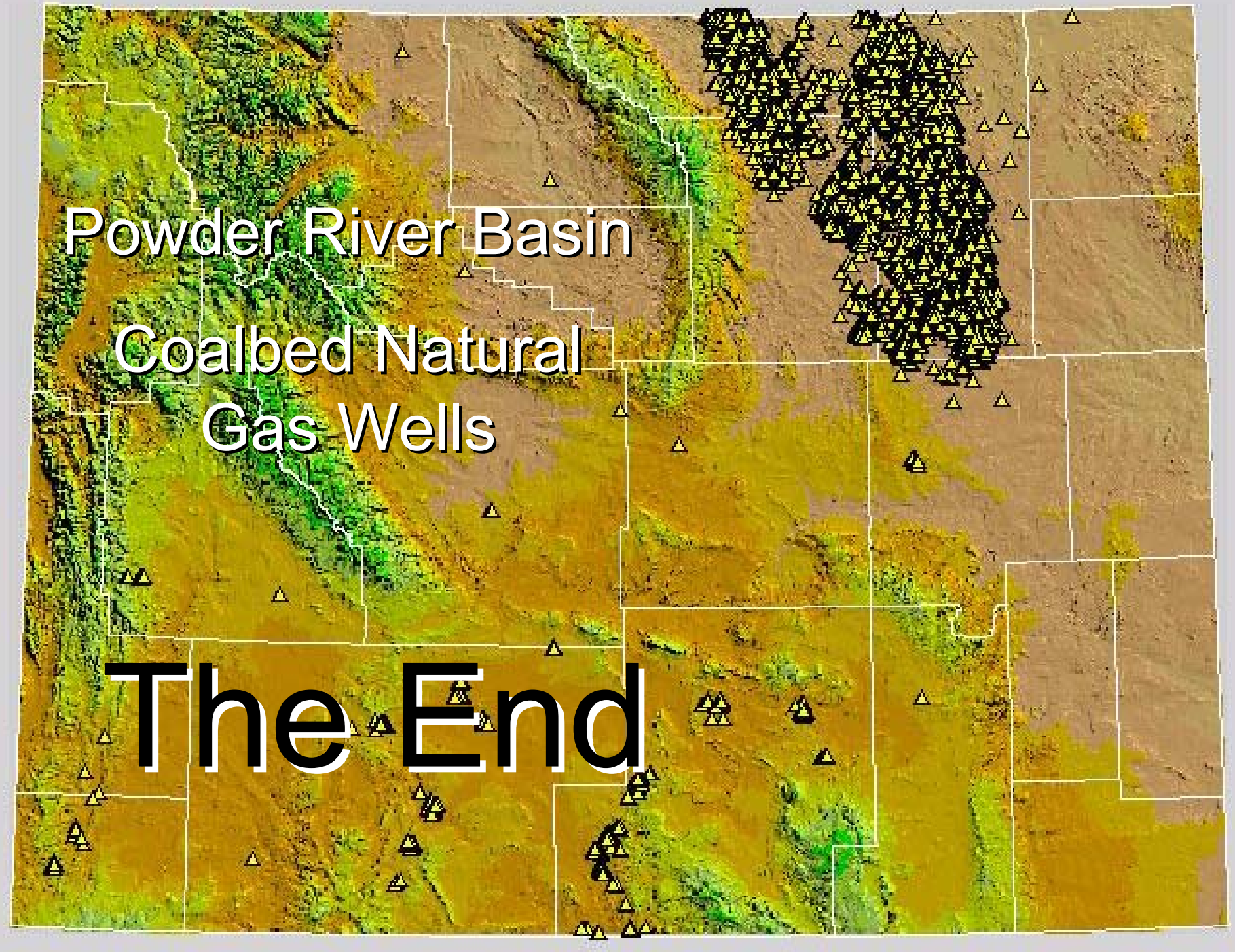
Tracking of Wells and Participating Area Development is Complex and Burdensome

- If fully developed, units may have in excess of 600 wells
- Participating Areas could go through 50 – 100 revisions

Coalbed Natural Gas Unit

Other Minor Problems

- Initial obligation well location changes
  - Geology does not totally drive location
  - APD processing issues may impact location changes
- Hard to get the Annual Review from the unit operator


Powder River Basin
Coalbed Natural
Gas Wells
The End