



# A Reasonable Foreseeable Development Scenario for an Area with Large Active Gas Plays

Hannett, Mont; Unusual weathering

# Pinedale, Wyoming

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Reservoir Management Group

Wyoming State Office

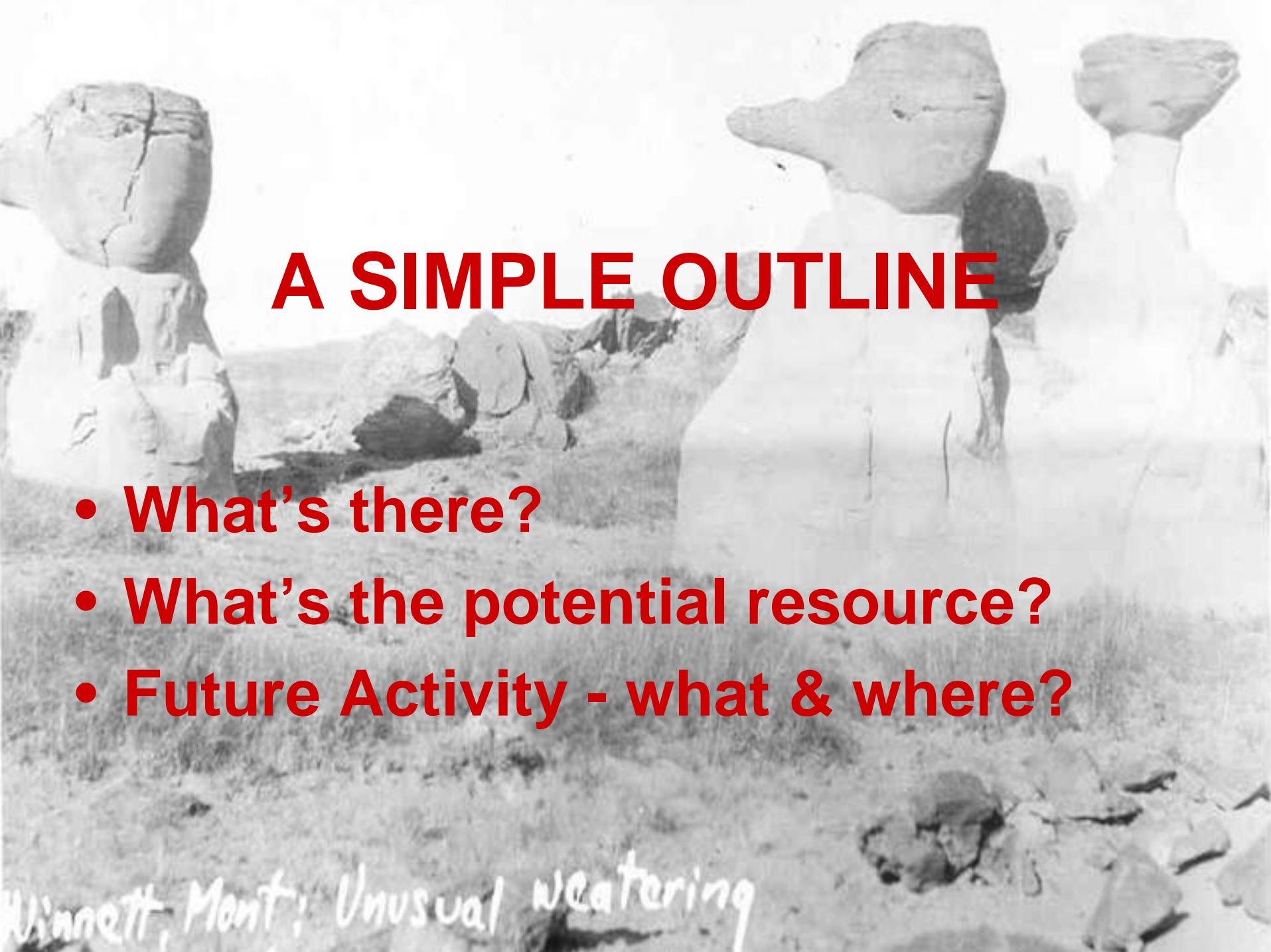
Hannett, Mont; Unusual weathering



# **Reasonable Foreseeable Development Scenario**

**Predicts future O&G exploration  
and development activities, with  
details about that activity.**

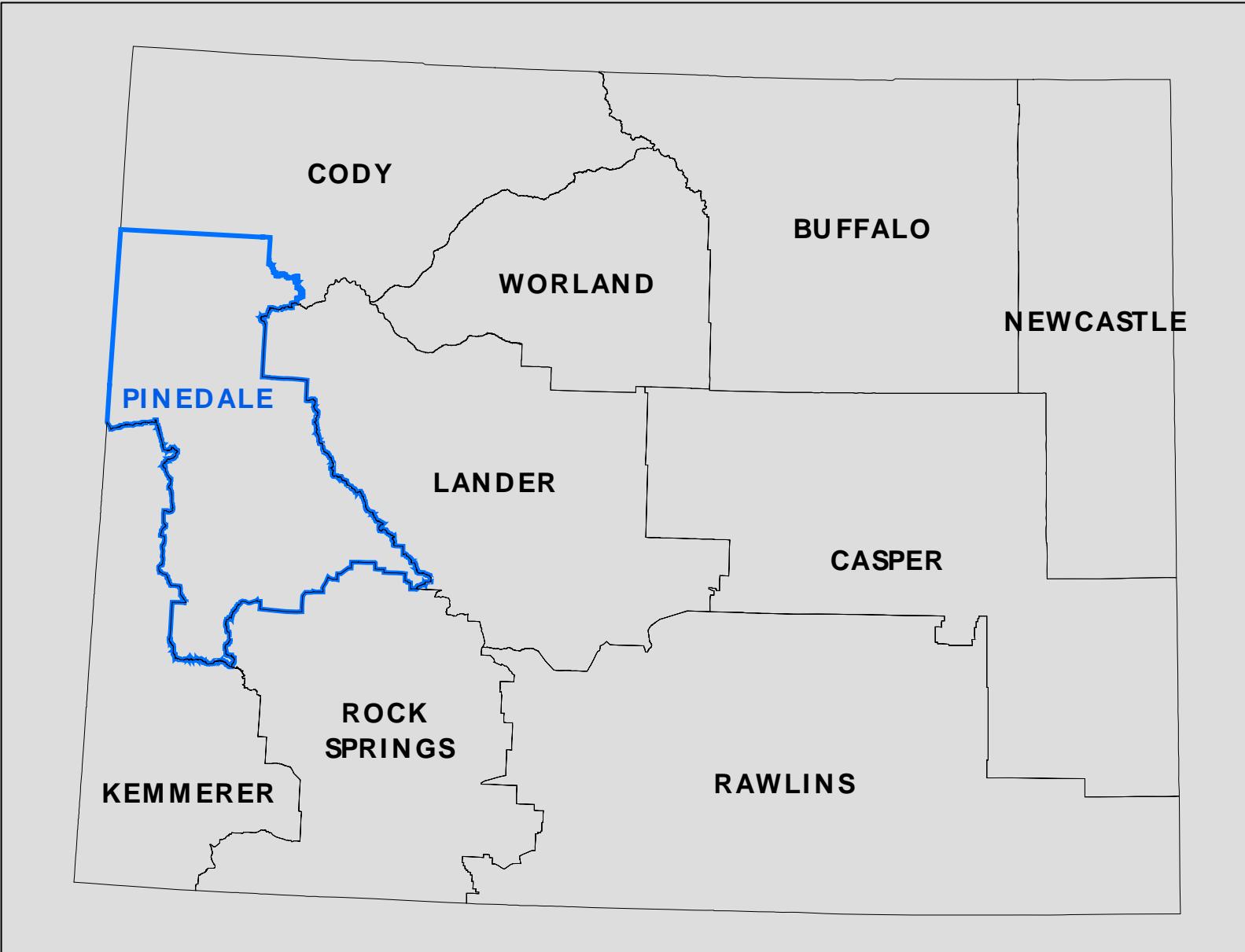
*Hannett, Mont: Unusual weathering*



# A SIMPLE OUTLINE

- What's there?
- What's the potential resource?
- Future Activity - what & where?

Hannett, Mont: Unusual weathering

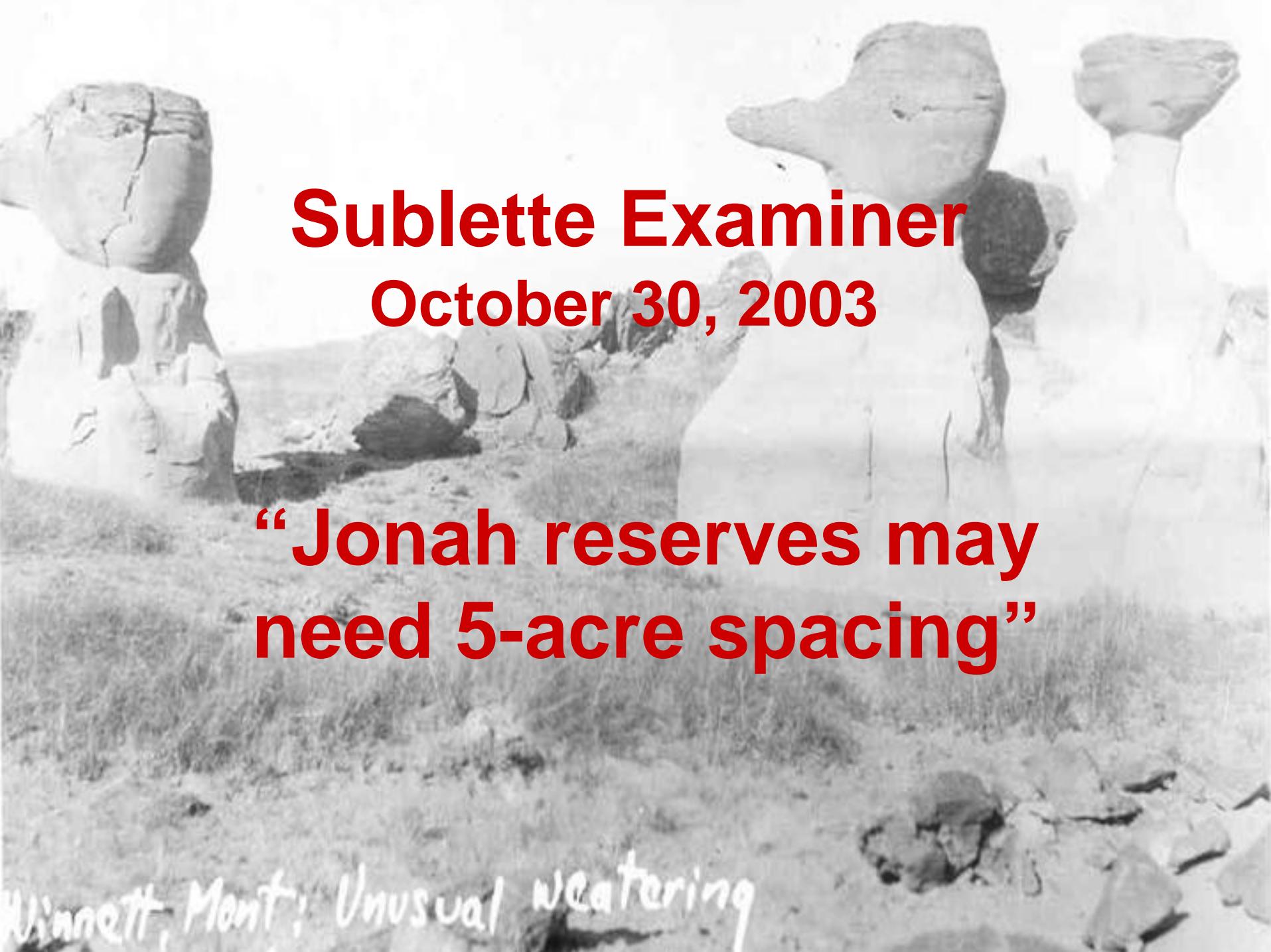




# **U.S. PROVED GAS RESERVES**

- 5th Pinedale Field
- 7th Jonah Field
- 14th Fogarty Creek Field
- 30th Lake Ridge Field
- 32nd Mesa Unit

Hannett, Mont.: Unusual weathering



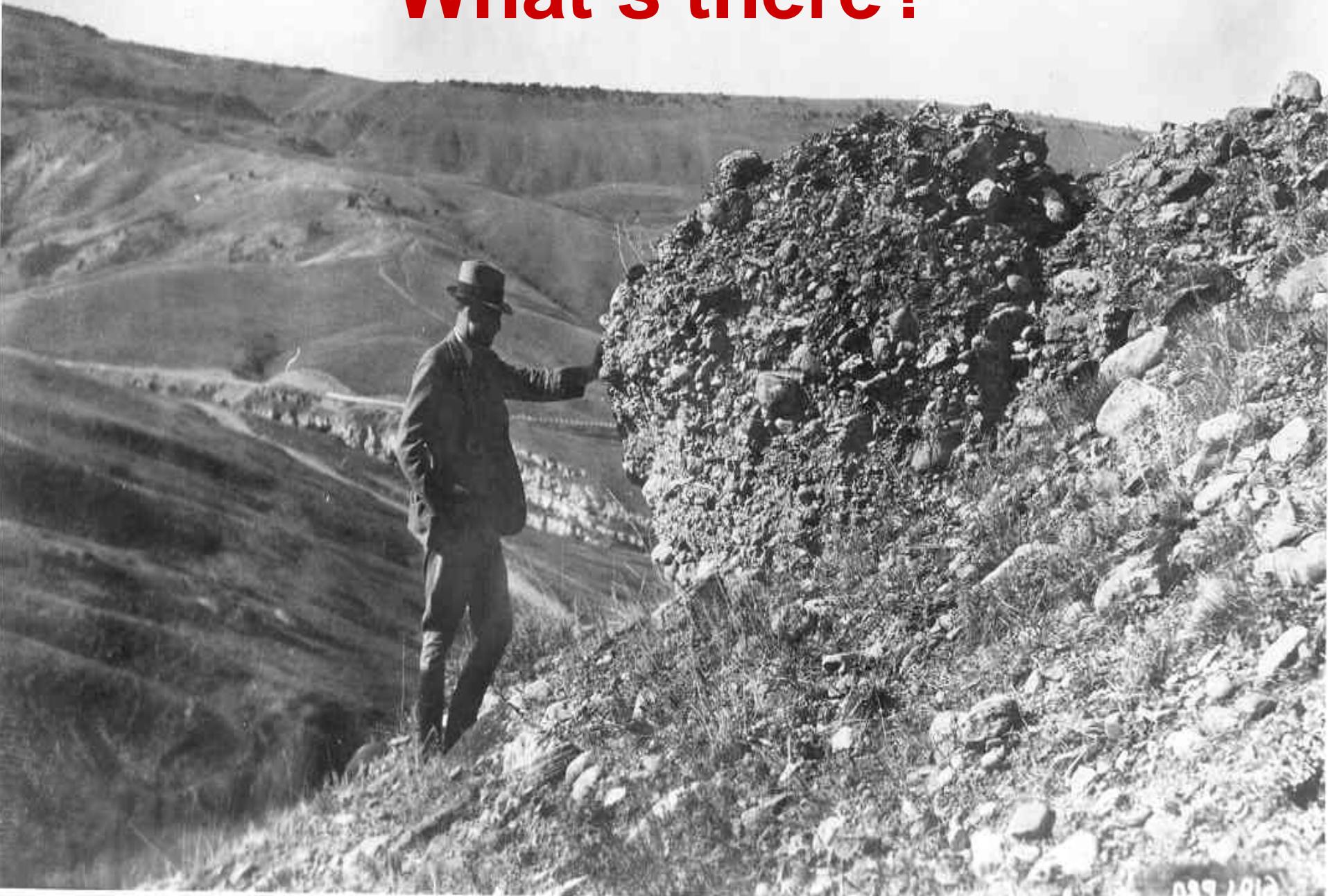
# **Sublette Examiner**

## **October 30, 2003**

**“Jonah reserves may  
need 5-acre spacing”**

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# What's there?



**“Charles Lackey, ...located a  
160-acre claim ...he had  
struck oil at a depth of 150  
feet, and noting indications of  
gas, struck a match near the  
opening, and was surprised to  
see the flame shoot 100 feet  
into the air”**

**May 20, 1916**

# Rawlins



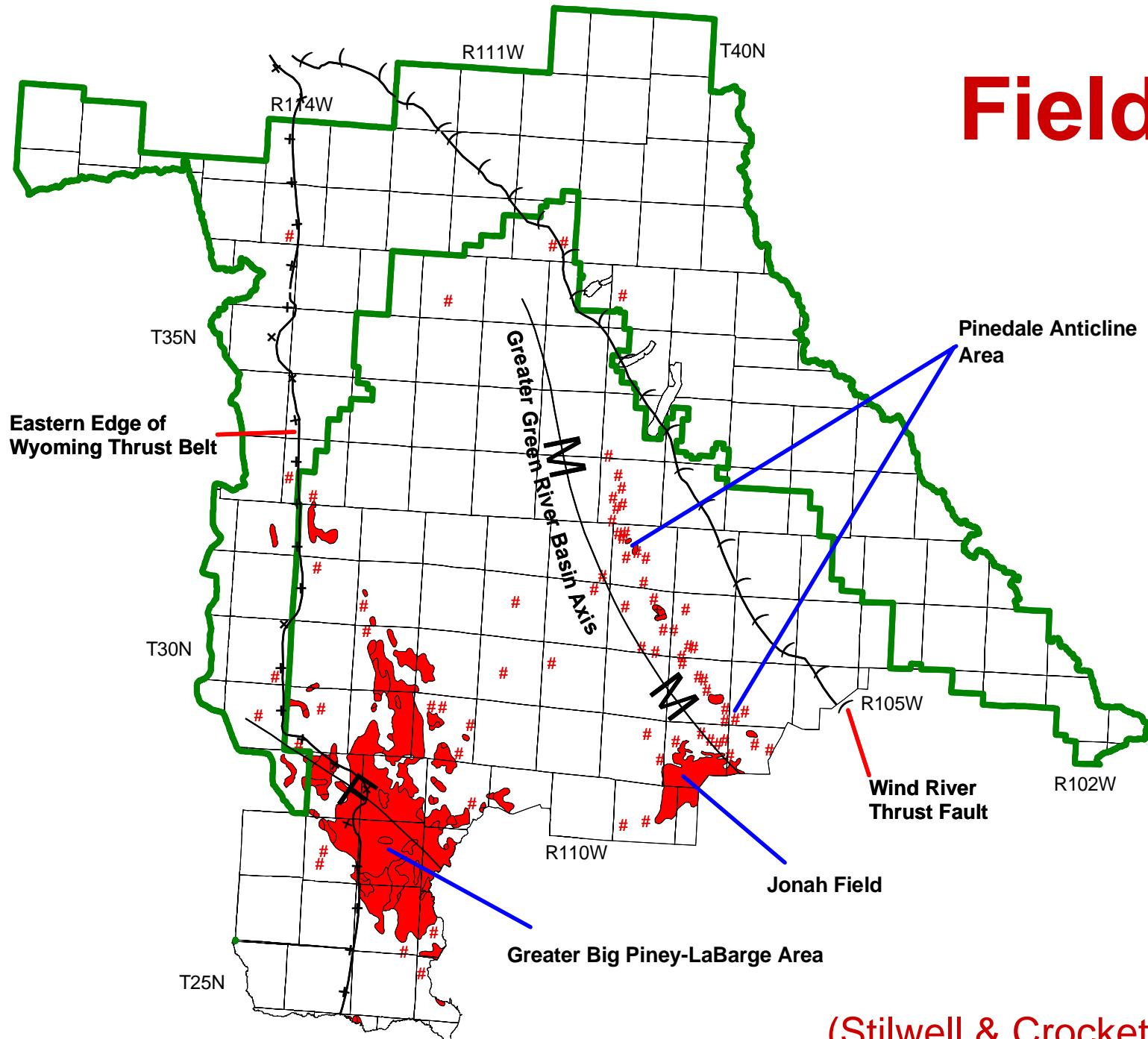
# San Juan River, Utah



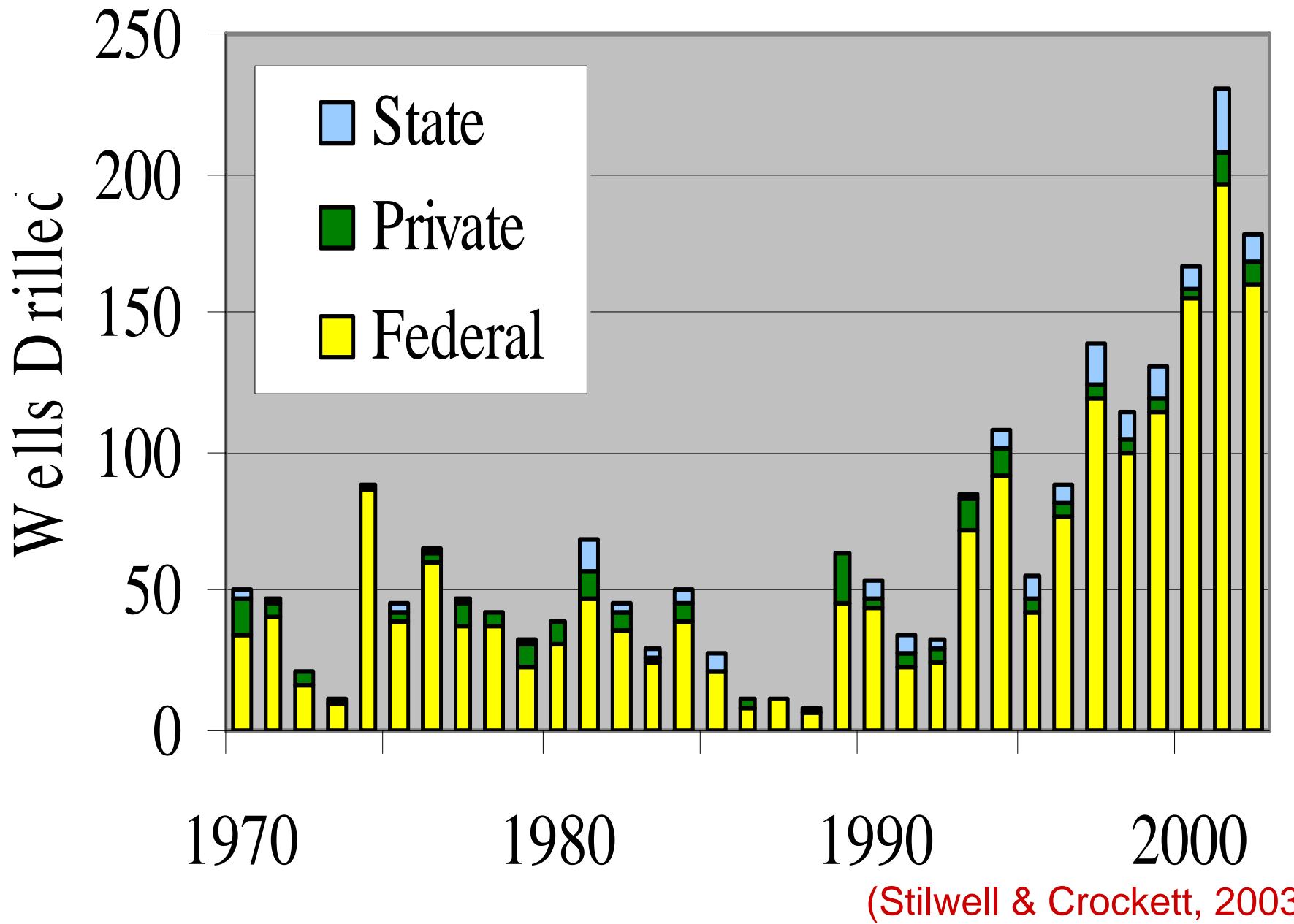
210.7 P32



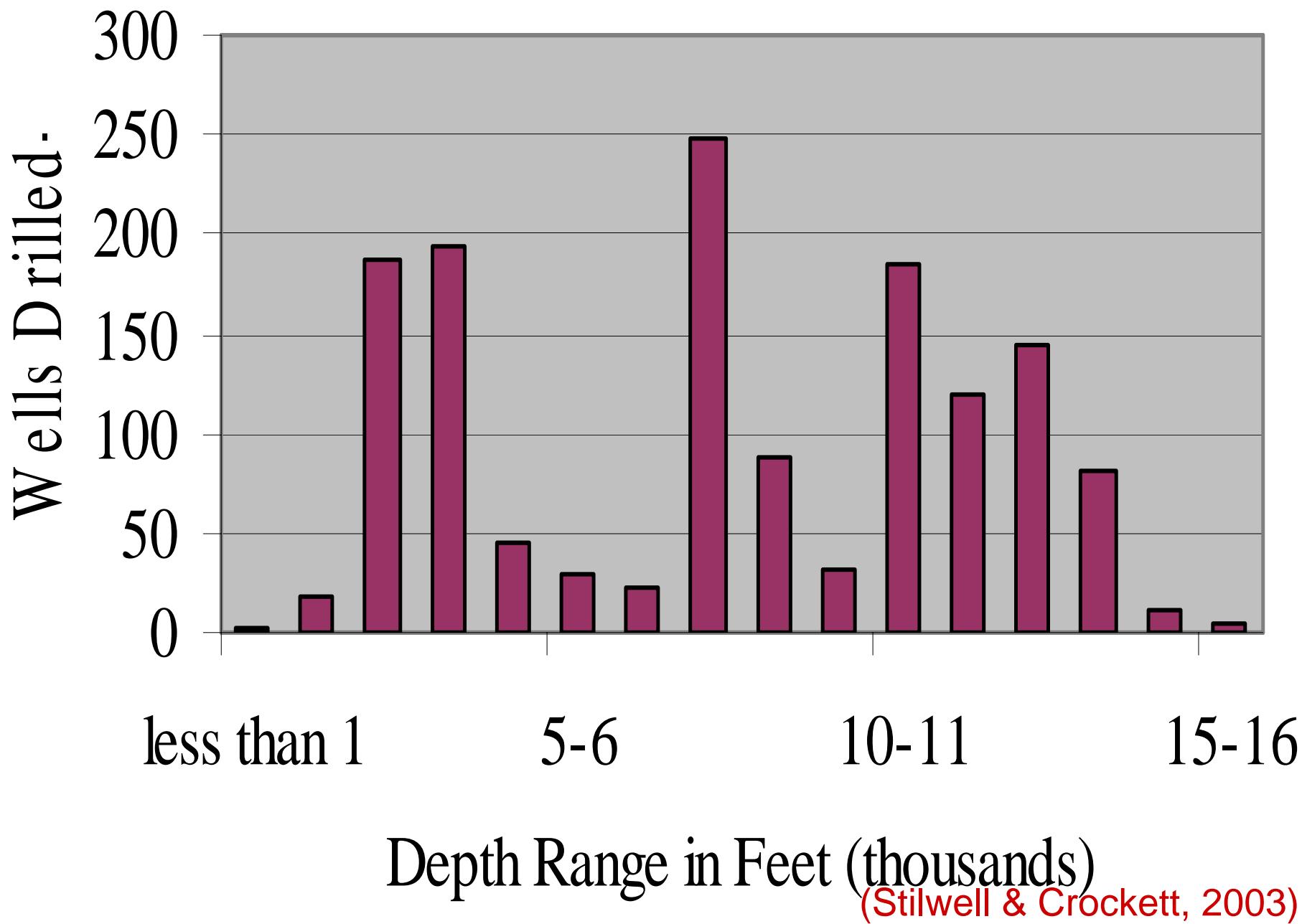
# Fields

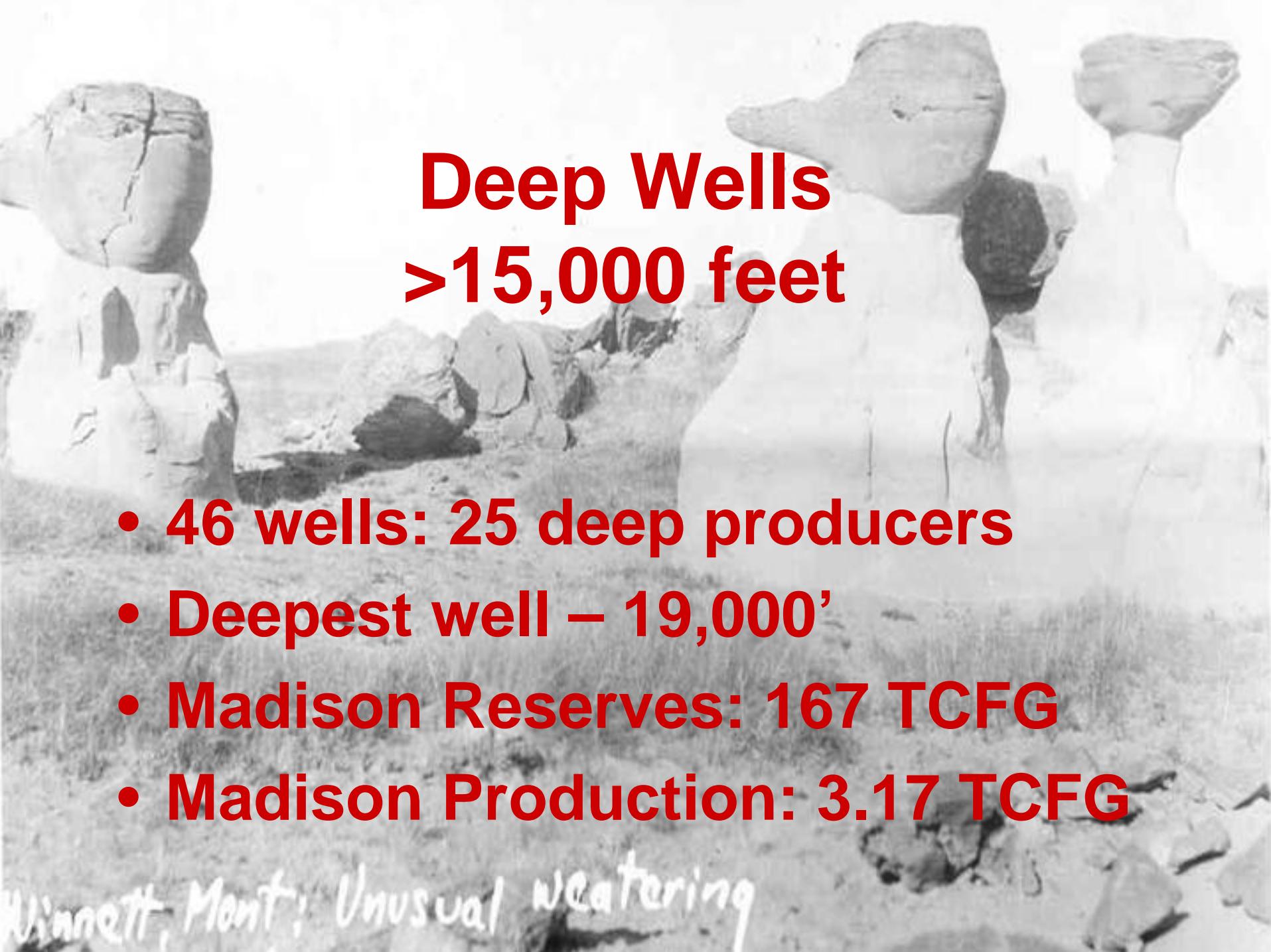


(Stilwell & Crockett, 2003)



(Stilwell & Crockett, 2003)





# **Deep Wells**

**>15,000 feet**

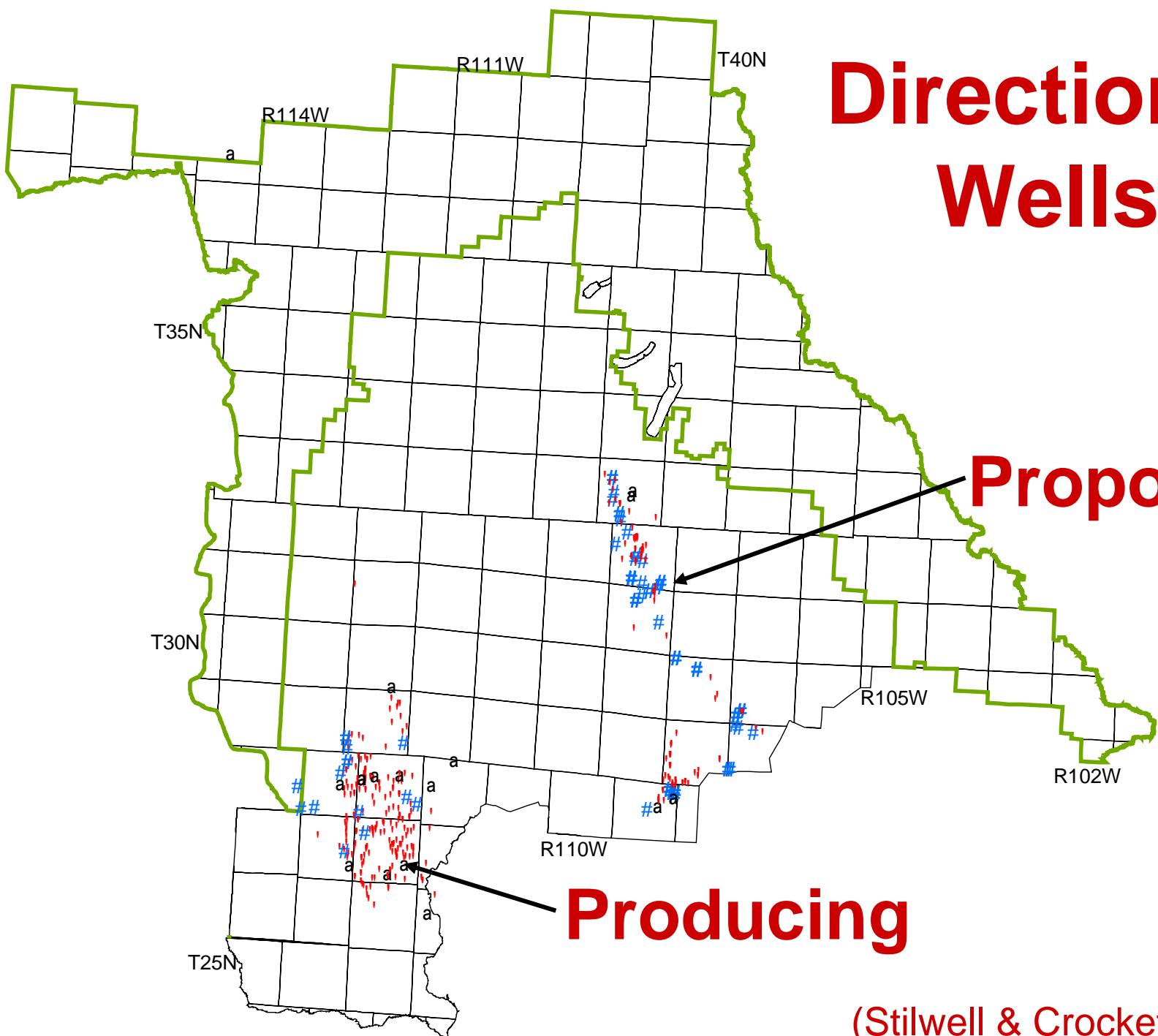
- 46 wells: 25 deep producers
- Deepest well – 19,000'
- Madison Reserves: 167 TCFG
- Madison Production: 3.17 TCFG

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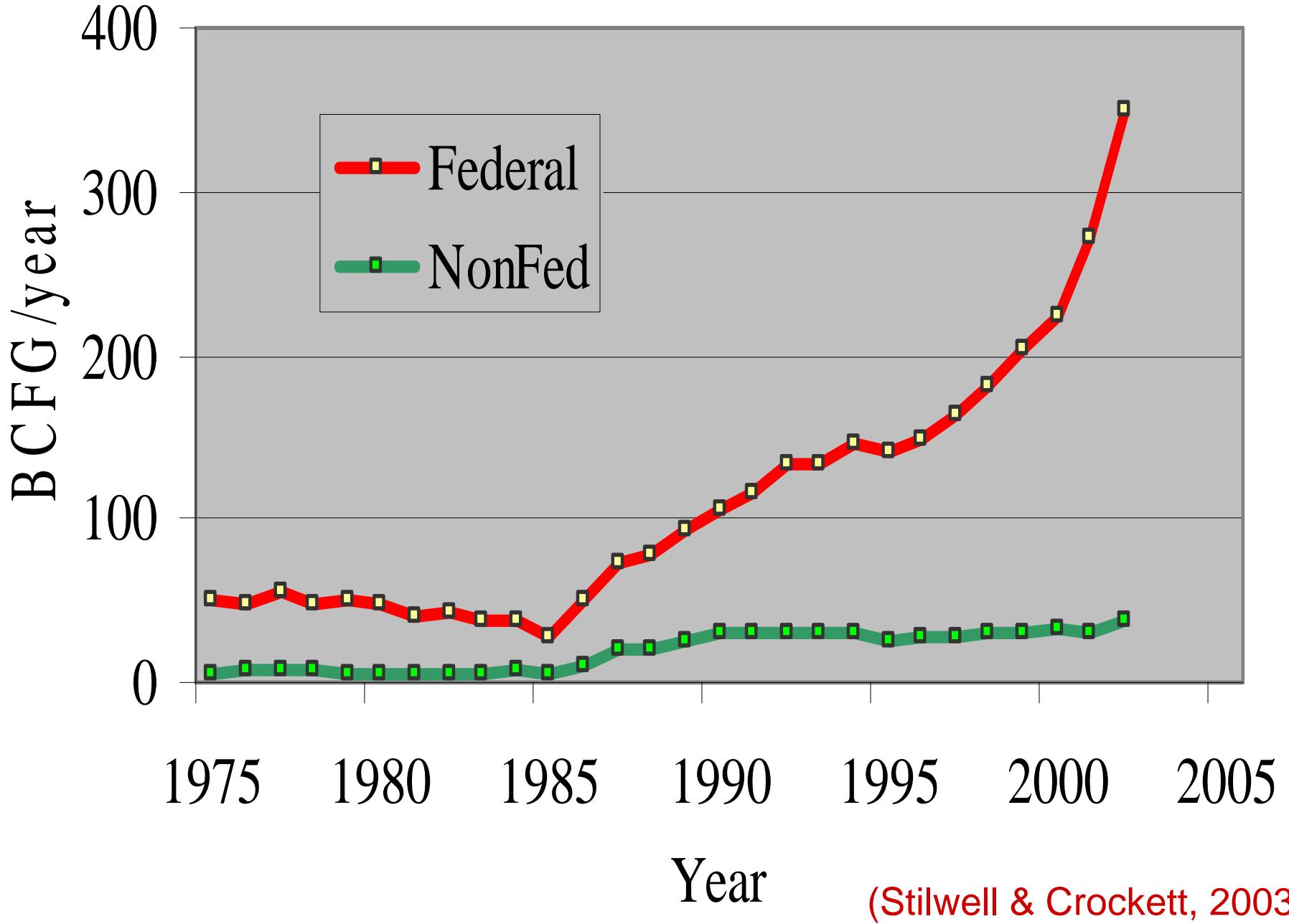
**Questar has 354 wells to  
drill on the Pinedale  
Anticline and will almost  
exclusively drill them  
directionally.**

**Casper Star Tribune  
June 9, 2004**

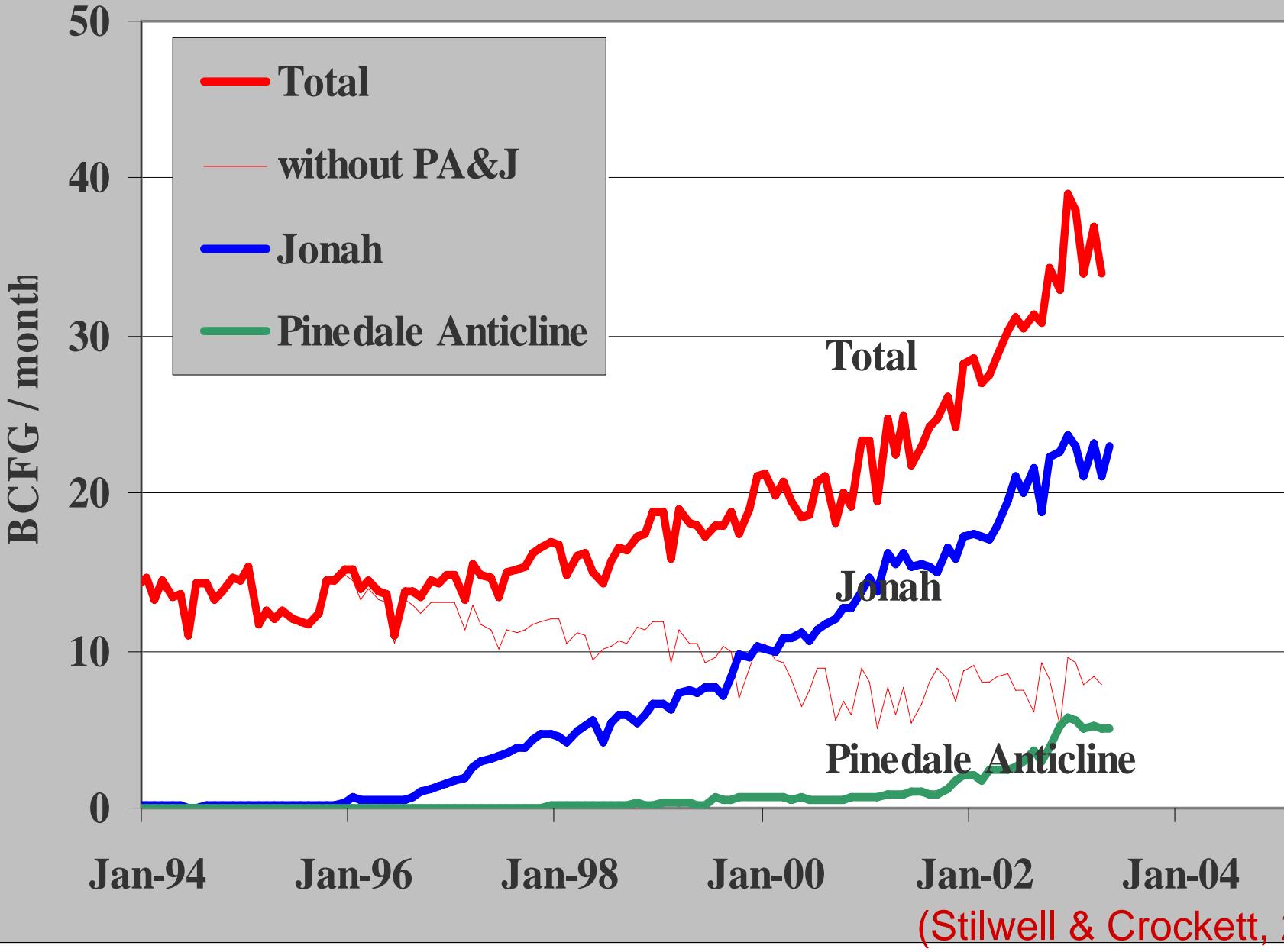
# Directional Wells



(Stilwell & Crockett, 2003)



# Hydrocarbon Gas Production from the Pinedale Field Office Area



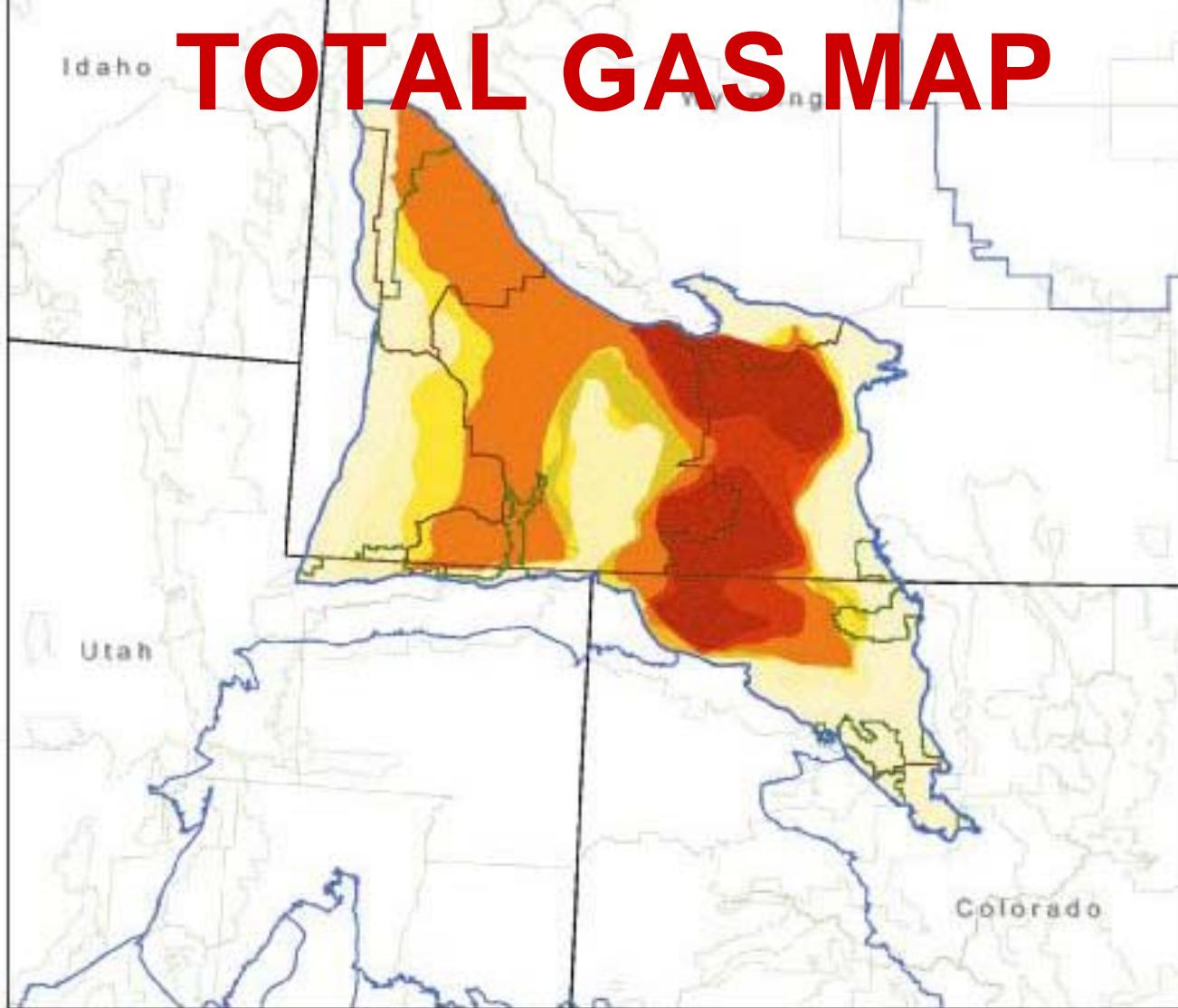
# What's the potential resource?



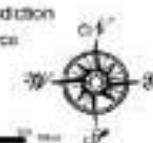
Big Sand Draw - Lander

11.11 PB V2

# TOTAL GAS MAP



— BLM Jurisdiction  
— Forest Service Jurisdiction  
— Oil and Gas Resource Study Areas



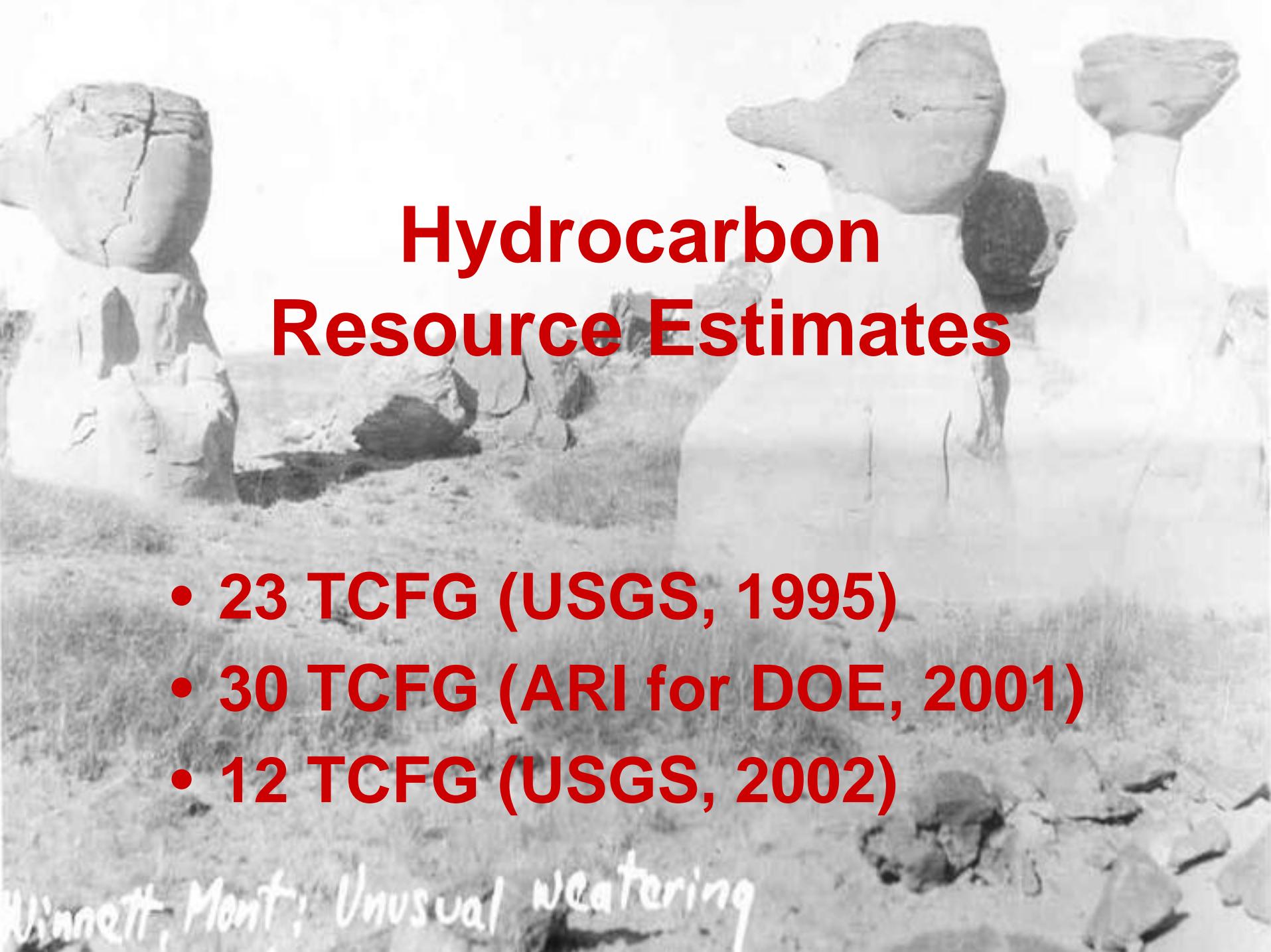
0 10 20 Miles



Total Gas  
Millions of Cubic Feet Per Square Mile



2003

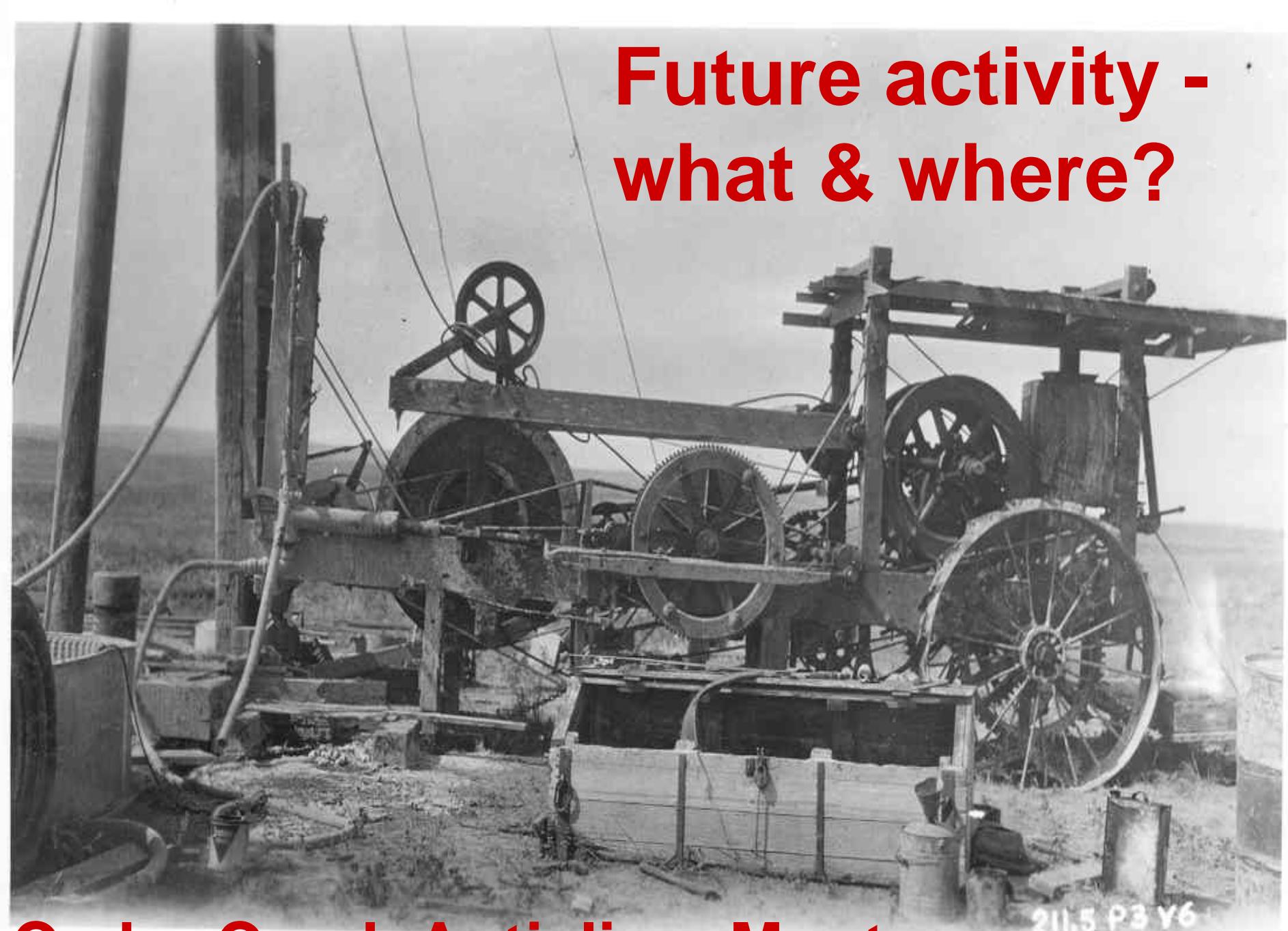


# **Hydrocarbon Resource Estimates**

- **23 TCFG (USGS, 1995)**
- **30 TCFG (ARI for DOE, 2001)**
- **12 TCFG (USGS, 2002)**

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Future activity -  
what & where?

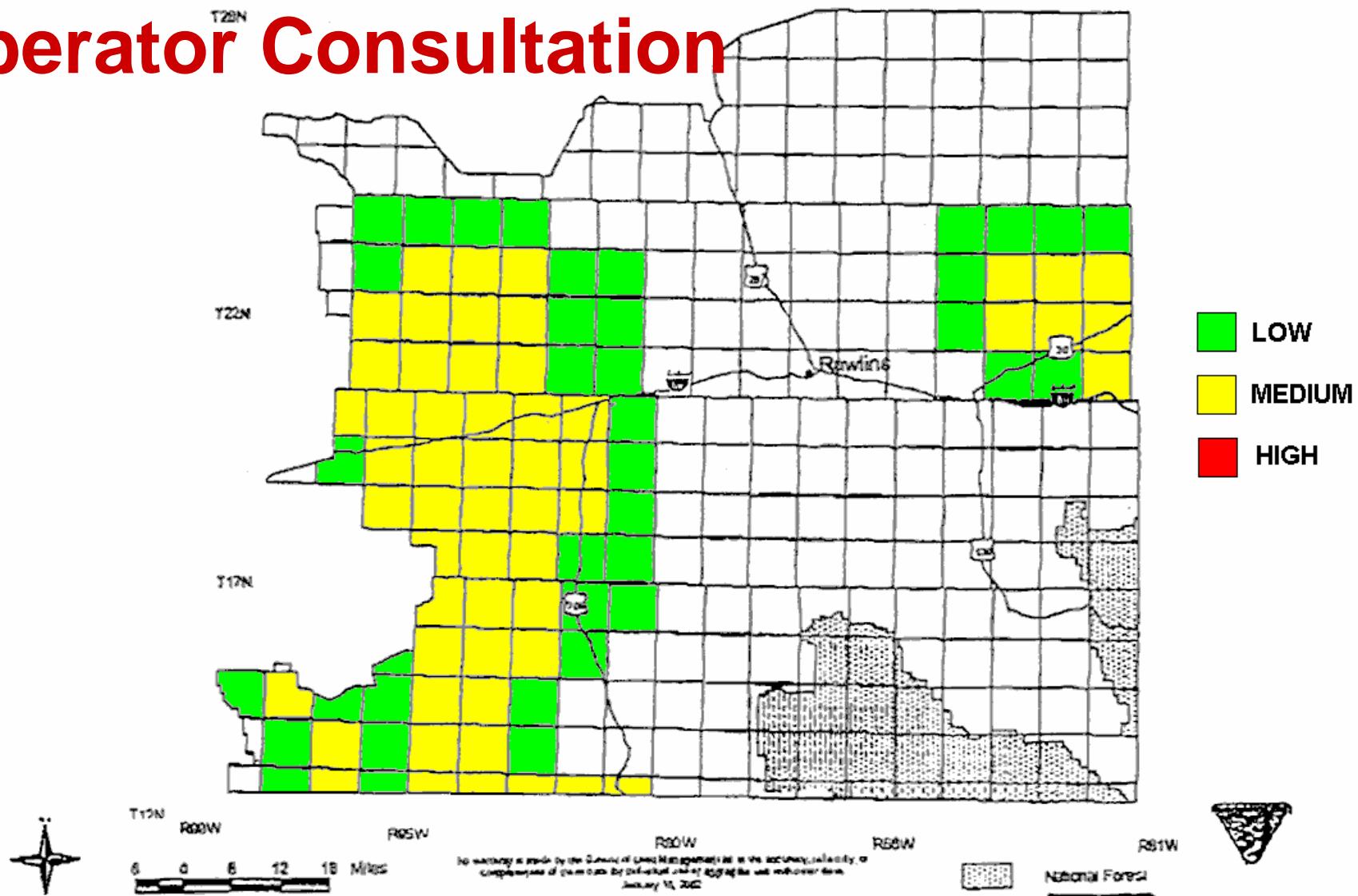


Cedar Creek Anticline, Montana

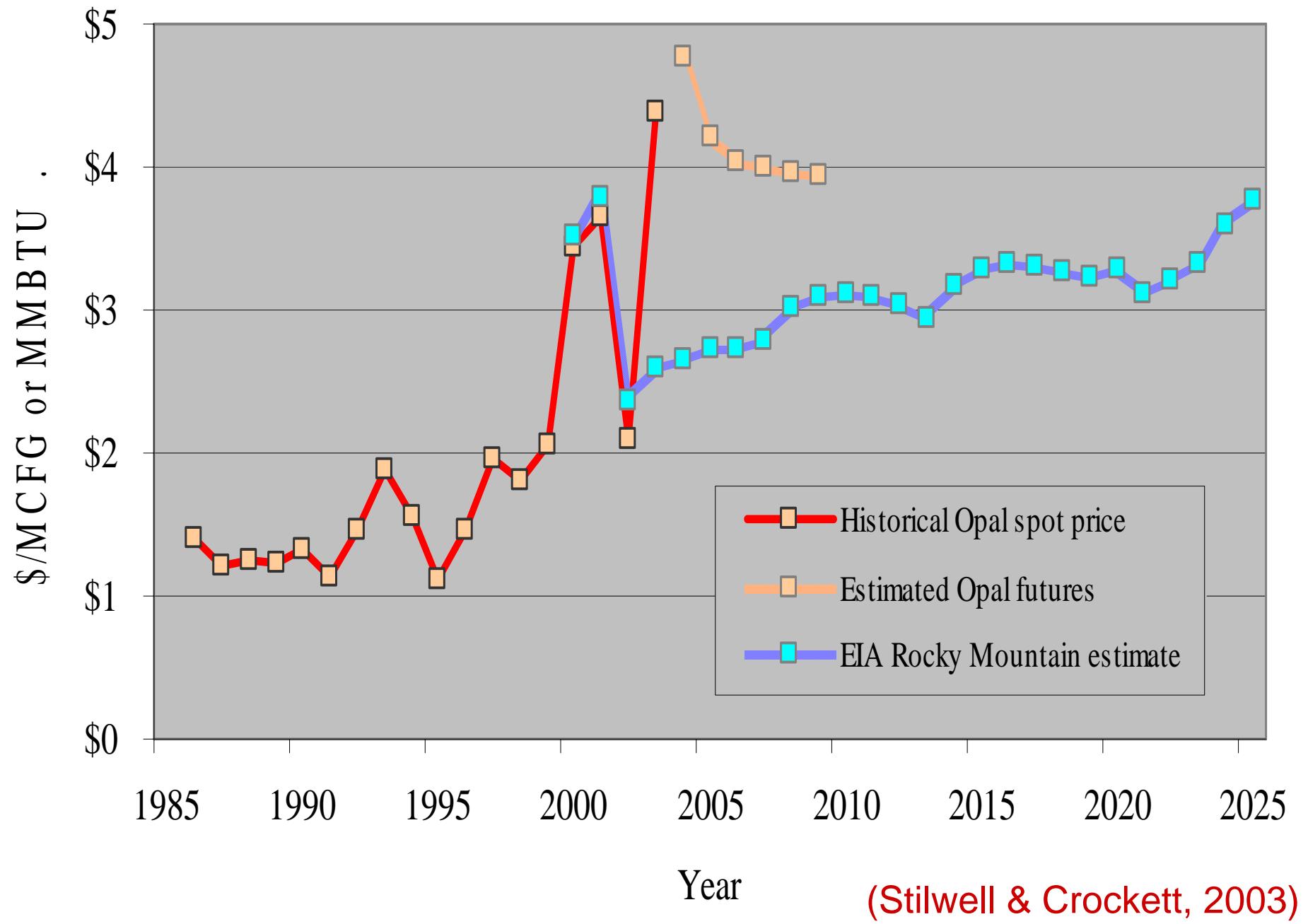
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Rawlins Field Office Resource Management Plan Area of Study  
West Half

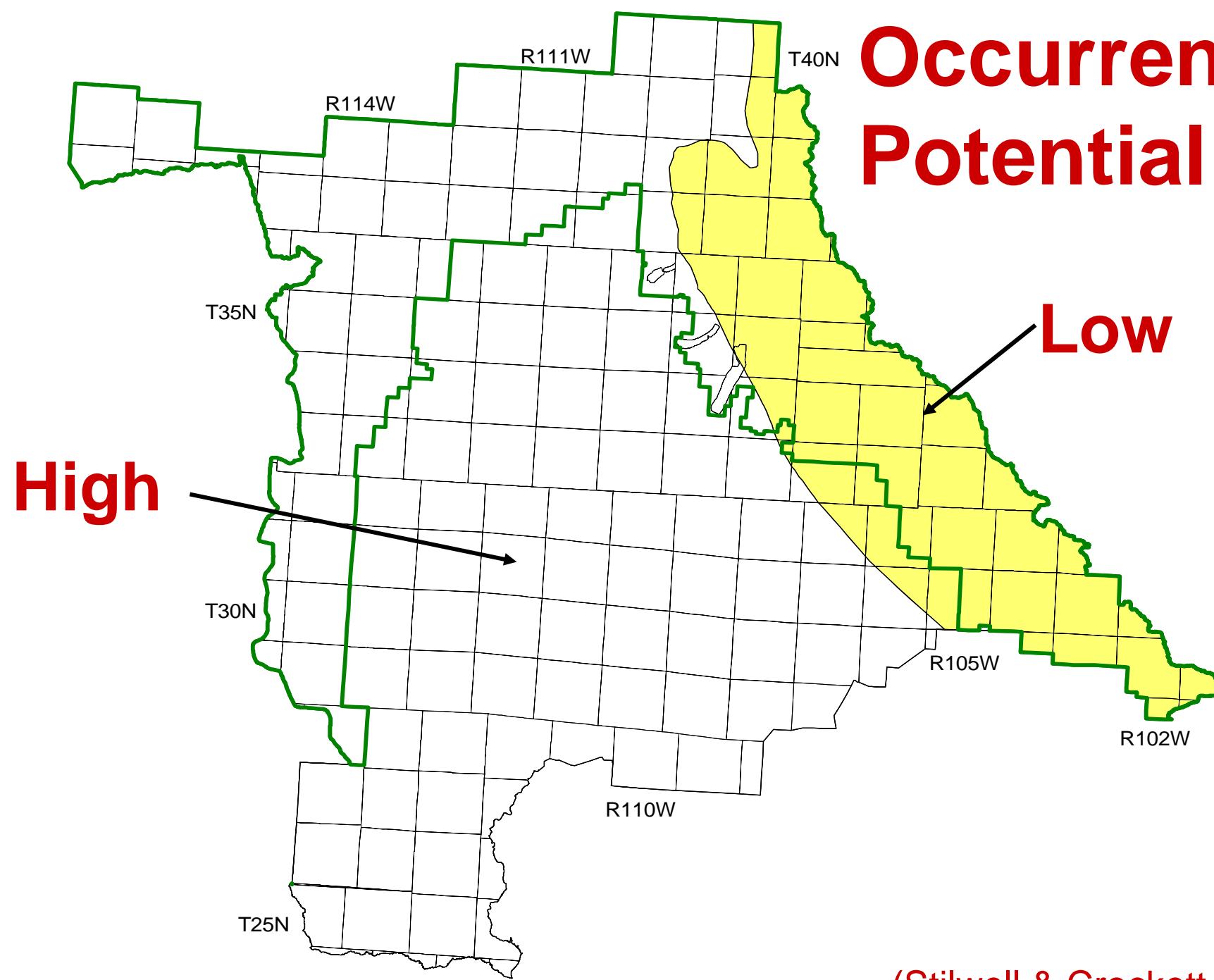
# Operator Consultation



Map of the west half of the BLM planning area, Carbon and Sweetwater counties, Wyoming. Please use this map to show anticipated oil and gas activity for 2002-2021. Make additional copies as needed.



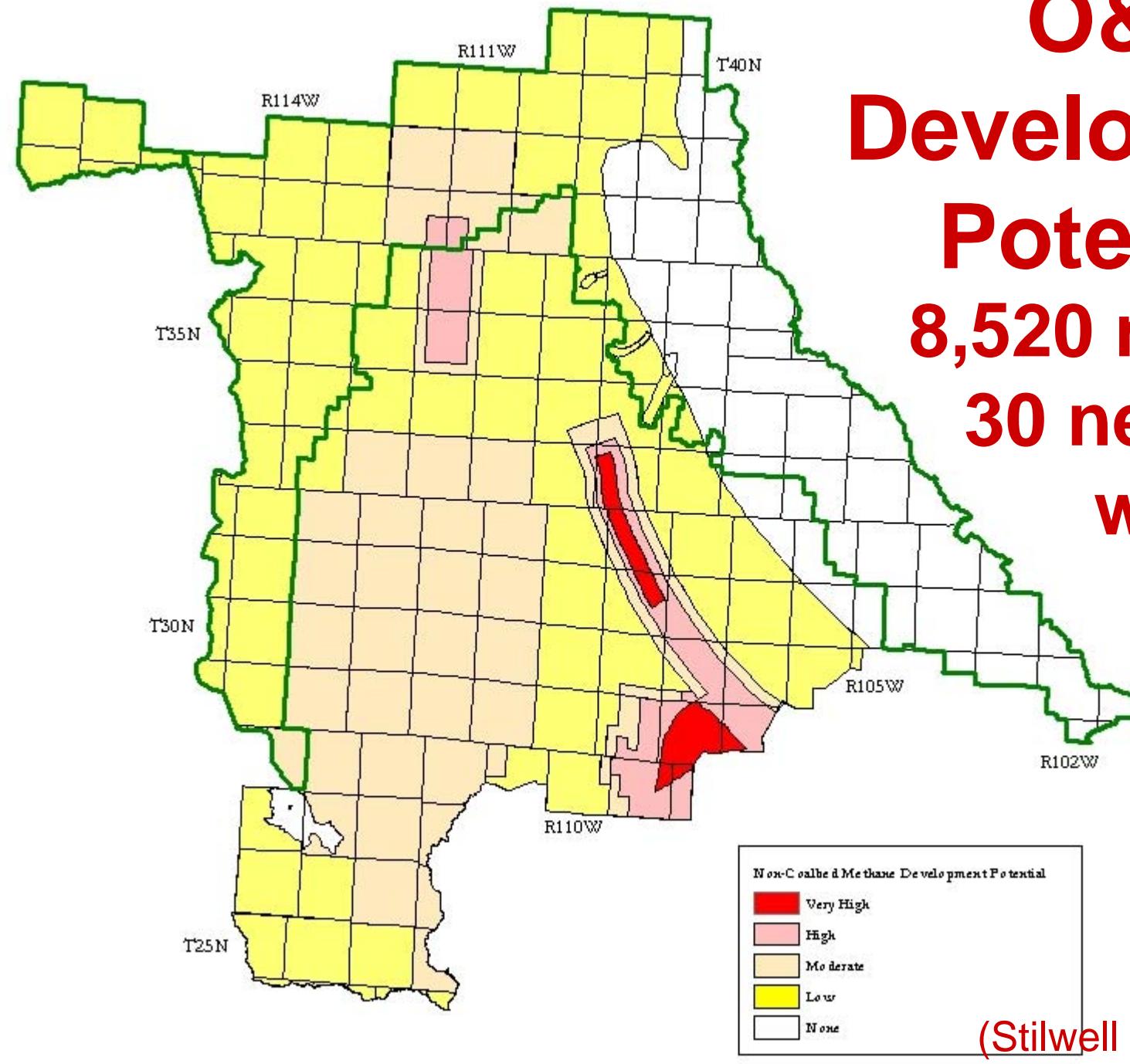
# Occurrence Potential



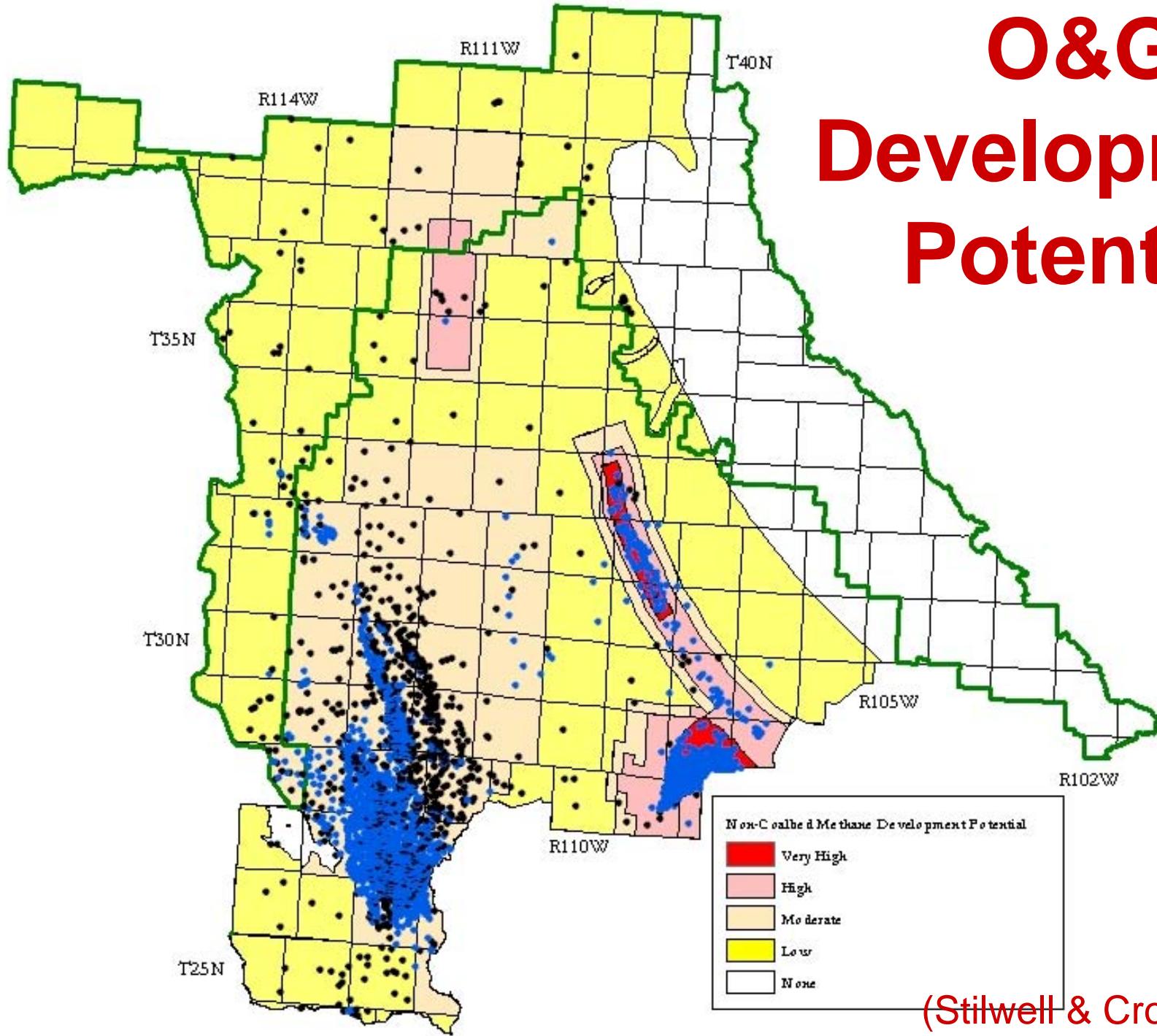
(Stilwell & Crockett, 2003)

# O&G Development Potential

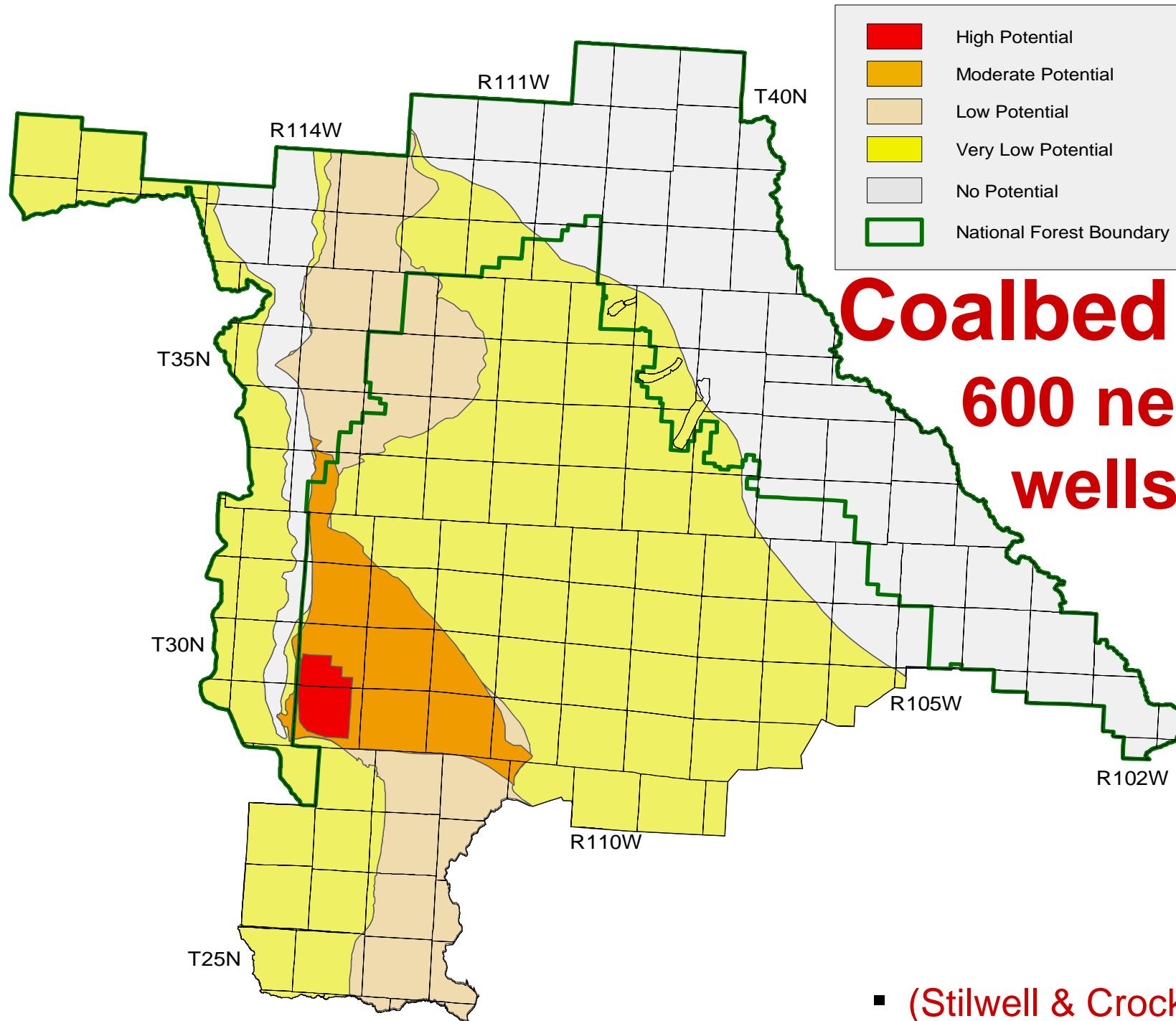
**8,520 new wells**  
**30 new deep  
wells**



# O&G Development Potential



(Stilwell & Crockett, 2003)



# Coalbed Gas

**600 new wells**

▪ (Stilwell & Crockett, 2003)

	2001	Short-term 2010	Long-term 2020
Drilled Wells	3,722	8,297	12,872
Abandoned Wells	1,549	3,026	4,113
Active Wells	2,173	5,271	8,759
Acres of Disturbance	5,737	13,915	23,124

(Stilwell & Crockett, 2003)

# Production

	<b>Oil (MMBO)</b>	<b>Gas (TCFG)</b>
<b>Historical 1974-2002</b>	60	4.0
<b>Existing wells 2003-2020</b>	31	1.5
<b>Existing + new wells 2003-2020</b>	144	17.4

**MMBO = million barrels of oil**

**TCFG = trillion cubic feet of gas.**

(Stilwell & Crockett, 2003)

# **Our Future Activity Projections Used**

- Historical data
  - Consultation with active operators
  - Published resource assessments
- and**

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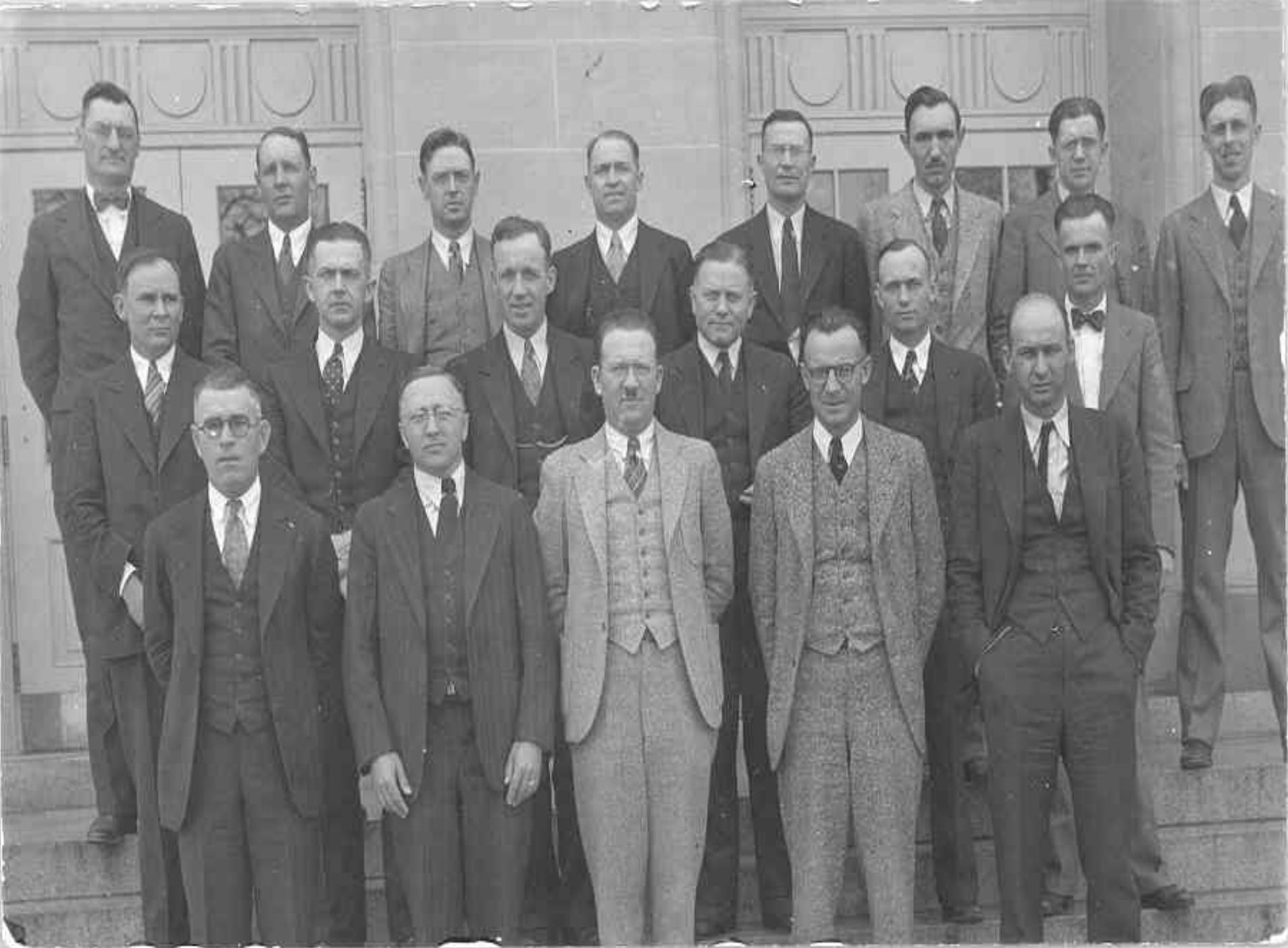
# **Our Future Activity Projections Used**

- Statistical analysis
- Reservoir analysis
- Consultation with State Geol. Survey
- Professional experience

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## Reservoir Management Group

Wyoming State Office