DNR – The Business of CO_2-EOR & Impediments to CCUS

Carbon/CO_2-EOR Conference

Midland, TX - December 2016

NYSE:DNR

Denbury

Cautionary Statements

Forward Looking Statements: The data and/or statements contained in this presentation that are not historical facts are forward-looking statements that involve a number of risks and uncertainties. Such forward-looking statements may be or may concern, among other things, financial forecasts, future hydrocarbon prices and timing and degree of any price recovery versus the length or severity of the current commodity price downturn, current or future liquidity sources or their adequacy to support our anticipated future activities, our ability to reduce our debt levels, possible future write-downs of oil and natural gas reserves, together with assumptions based on current and projected oil and gas prices and oilfield costs, current or future expectations or estimations of our cash flows, availability of capital, borrowing capacity, future interest rates, availability of advantageous commodity derivative contracts or the predicted cash flow benefits therefrom, forecasted capital expenditures, drilling activity or methods, including the timing and location thereof, estimated timing of commencement of CO_2 flooding of particular fields or areas, or the timing of pipeline or plant construction or completion or the cost thereof, dates of completion of to-be-constructed industrial plants and the initial date of capture of CO_2 from such plants, timing of CO_2 injections and initial production responses in tertiary flooding projects, acquisition plans and proposals and dispositions, development activities, finding costs, anticipated future cost savings, capital budgets, interpretation or prediction of formation details, production rates and volumes or forecasts thereof, hydrocarbon reserve quantities and values, CO_2 reserves and supply and their availability, helium reserves, potential reserves, barrels or percentages of recoverable original oil in place, the impact of regulatory rulings or changes, anticipated outcomes of pending litigation, prospective legislation affecting the oil and gas industry, mark-to-market values, competition, long-term forecasts of production, rates of return, estimated costs, estimates of the range of potential insurance recoveries, changes in costs, future capital expenditures and overall economics, worldwide economic conditions and other variables surrounding our operations and future plans. Such forward-looking statements generally are accompanied by words such as "plan," "estimate," "expect," "predict," "forecast," "to our knowledge," "anticipate," "projected," "preliminary," "should," "assume," "believe," "may" or other words that convey, or are intended to convey, the uncertainty of future events or outcomes. Such forward-looking information is based upon management's current plans, expectations, estimates, and assumptions and is subject to a number of risks and uncertainties that could significantly and adversely affect current plans, anticipated actions, the timing of such actions and our financial condition and results of operations. As a consequence, actual results may differ materially from expectations, estimates or assumptions expressed in or implied by any forward-looking statements made by us or on our behalf. Among the factors that could cause actual results to differ materially are fluctuations in worldwide oil prices or in U.S. oil prices and consequently in the prices received or demand for our oil and natural gas; decisions as to production levels and/or pricing by OPEC in future periods; levels of future capital expenditures; effects of our indebtedness; success of our risk management techniques; inaccurate cost estimates; availability of and fluctuations in the prices of goods and services; the uncertainty of drilling results and reserve estimates; operating hazards and remediation costs; disruption of operations and damages from well incidents, hurricanes, tropical storms, or forest fires; acquisition risks; requirements for capital or its availability; conditions in the worldwide financial and credit markets; general economic conditions; competition; government regulations, including tax and environmental; and unexpected delays, as well as the risks and uncertainties inherent in oil and gas drilling and production activities or that are otherwise discussed in this quarterly report, including, without limitation, the portions referenced above, and the uncertainties set forth from time to time in our other public reports, filings and public statements including, without limitation, the Company's most recent Form 10-K.

Note to U.S. Investors: Current SEC rules regarding oil and gas reserves information allow oil and gas companies to disclose in filings with the SEC not only proved reserves, but also probable and possible reserves that meet the SEC's definitions of such terms. We disclose only proved reserves in our filings with the SEC. Denbury's proved reserves as of December 31, 2014 and December 31, 2015 were estimated by DeGolyer and MacNaughton, an independent petroleum engineering firm. In this presentation, we may make reference to probable and possible reserves, some of which have been estimated by our independent engineers and some of which have been estimated by Denbury's internal staff of engineers. In this presentation, we also may refer to estimates of original oil in place, resource or reserves "potential", barrels recoverable, or other descriptions of volumes potentially recoverable, which in addition to reserves generally classifiable as probable and possible (2P and 3P reserves), include estimates of resources that do not rise to the standards for possible reserves, and which SEC guidelines strictly prohibit us from including in filings with the SEC. These estimates, as well as the estimates of probable and possible reserves, are by their nature more speculative than estimates of proved reserves and are subject to greater uncertainties, and accordingly the likelihood of recovering those reserves is subject to substantially greater risk.

A Different Kind of Oil Company

Operating Areas

~6.7 Tcf

Gross proved CO_2 reserves As of 12/31/2015

Over 1,100 miles of CO_2 pipelines

3Q16 Tertiary Production
37,199 Bbls/d

3Q16 Total Production
61,533 BOE/d

2015 Proved Reserves
289 MMBOE
~98% oil

Produced over
135 Million
gross barrels from EOR to date

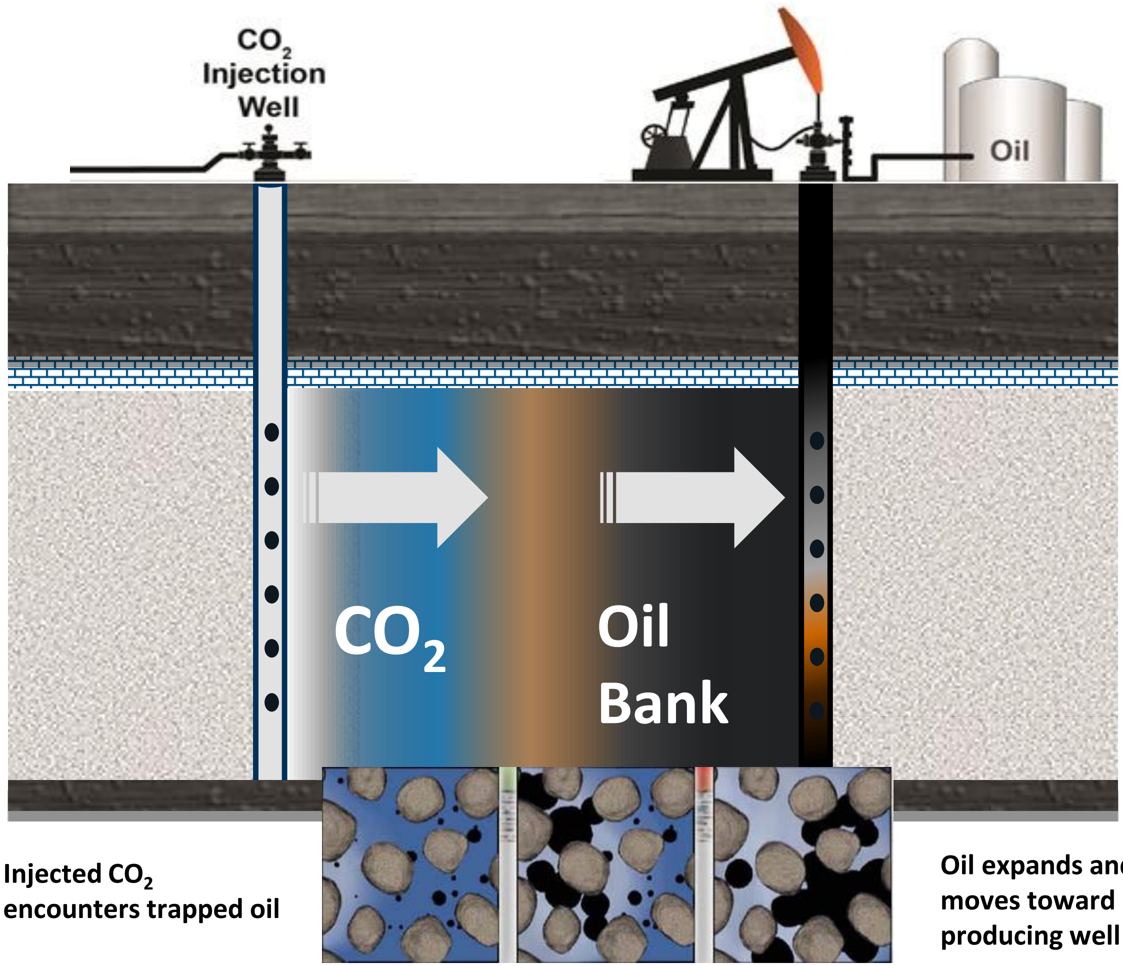
918 Million Barrels (net)
EOR Resource Potential

Denbury's Profile:

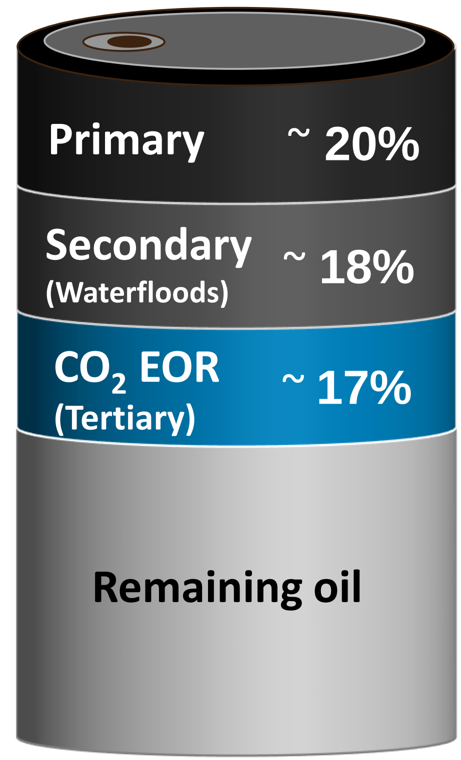
- CO_2 enhanced oil recovery ("CO_2 EOR") is our core focus
- We have uniquely long-lived and lower-risk assets with extraordinary resource potential
- Owning and controlling the CO_2 supply and infrastructure provides our strategic advantage
- *"We bring old oil fields back to life!"*

CO_2 EOR Process

CO_2 EOR delivers almost as much production as primary or secondary recovery[1]



Recovery of Original Oil in Place ("OOIP")

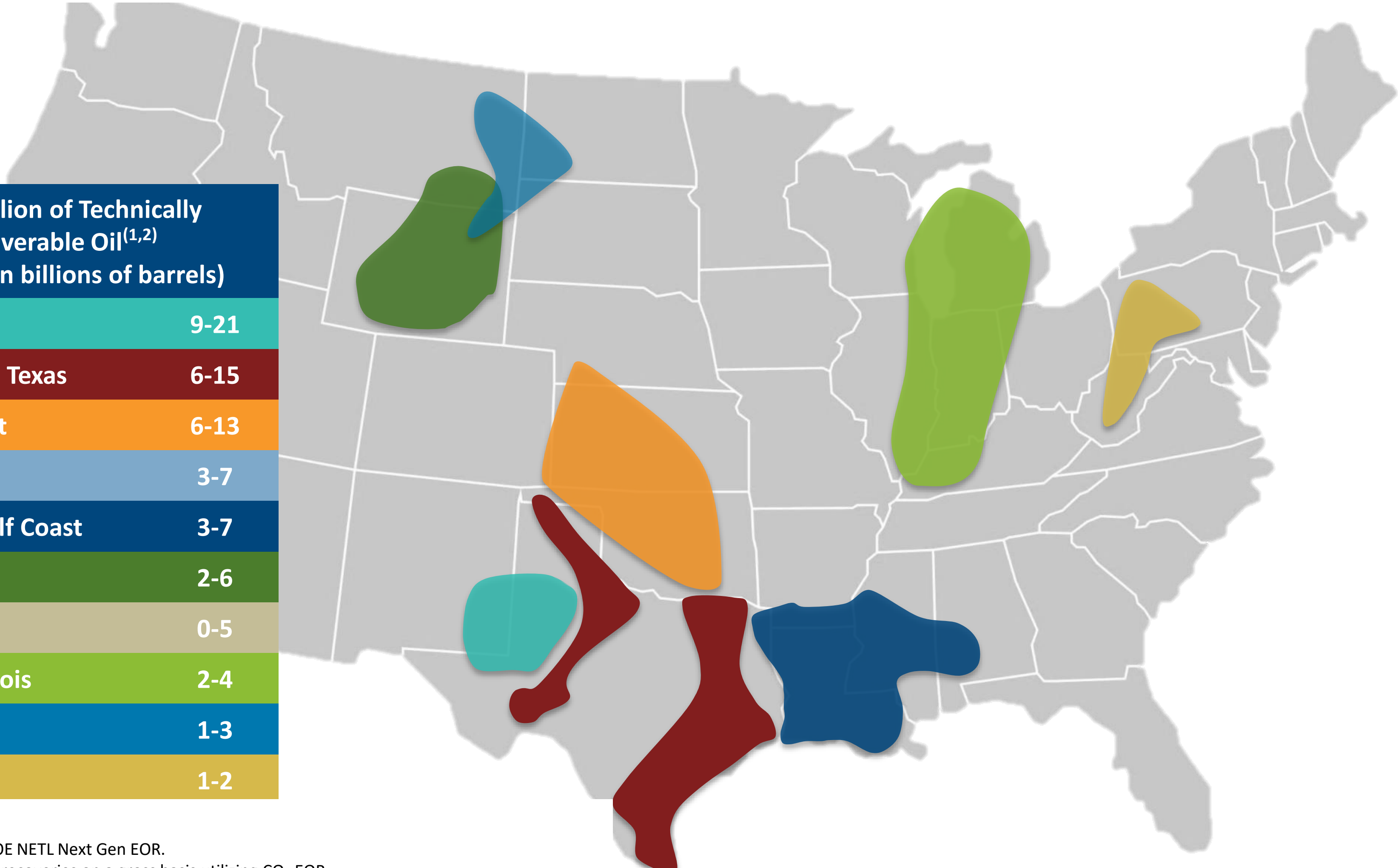


(1) Based on OOIP at Denbury's Little Creek Field

U.S. Lower-48 CO_2 EOR Potential

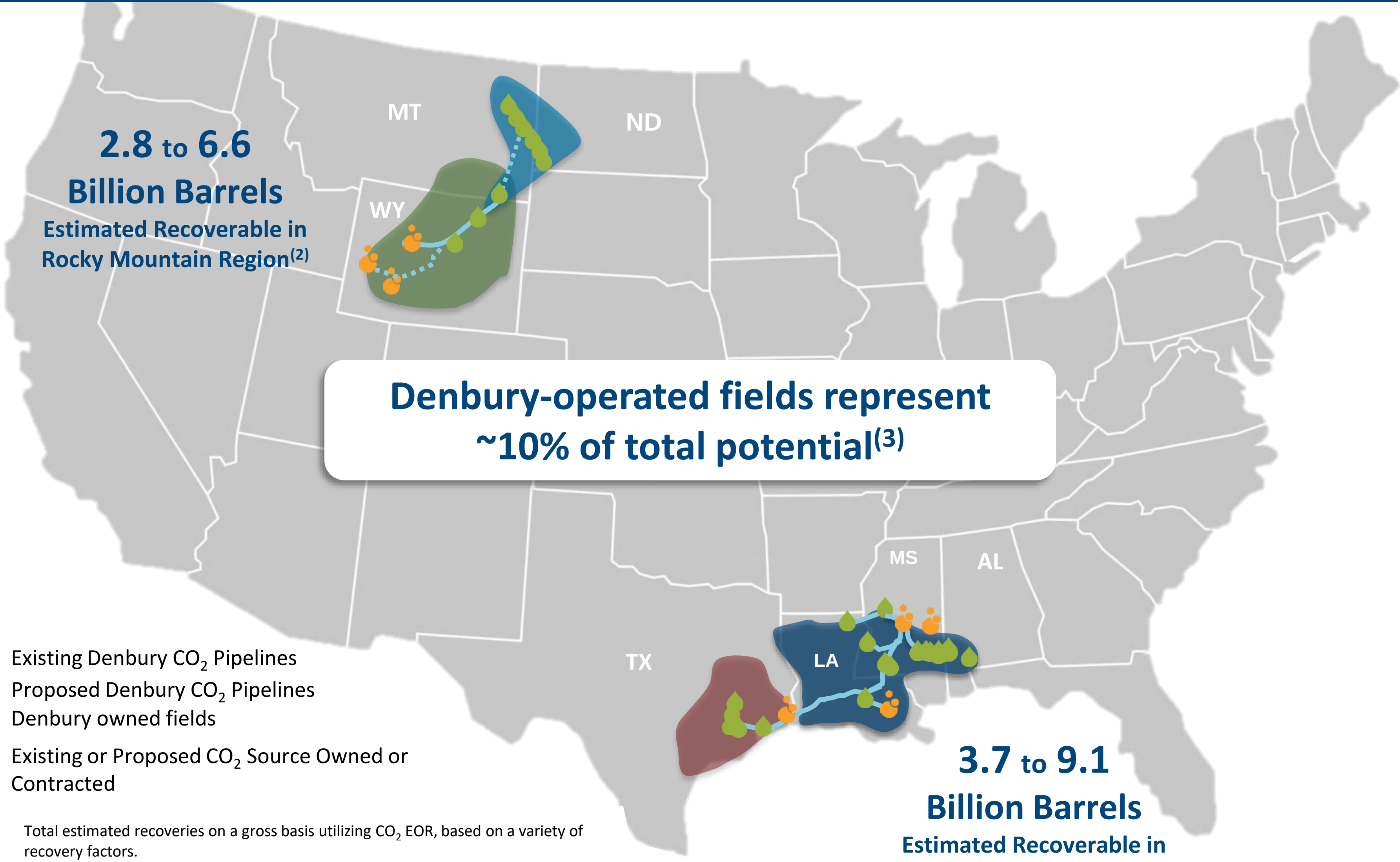
Up to 83 Billion Barrels of Technically Recoverable Oil[(1)(2)]

33-83 Billion of Technically Recoverable Oil[(1,2)] (amounts in billions of barrels)	
Permian	9-21
East & Central Texas	6-15
Mid-Continent	6-13
California	3-7
South East Gulf Coast	3-7
Rockies	2-6
Other	0-5
Michigan/Illinois	2-4
Williston	1-3
Appalachia	1-2



1) Source: 2013 DOE NETL Next Gen EOR.
2) Total estimated recoveries on a gross basis utilizing CO_2 EOR.

Up to 16 Billion Gross Barrels Recoverable[1] in Our Two CO_2 EOR Target Areas



2.8 to 6.6
Billion Barrels
Estimated Recoverable in Rocky Mountain Region[2]

Denbury-operated fields represent ~10% of total potential[3]

3.7 to 9.1
Billion Barrels
Estimated Recoverable in Gulf Coast Region[2]

- Existing Denbury CO_2 Pipelines
- Proposed Denbury CO_2 Pipelines
- Denbury owned fields
- Existing or Proposed CO_2 Source Owned or Contracted

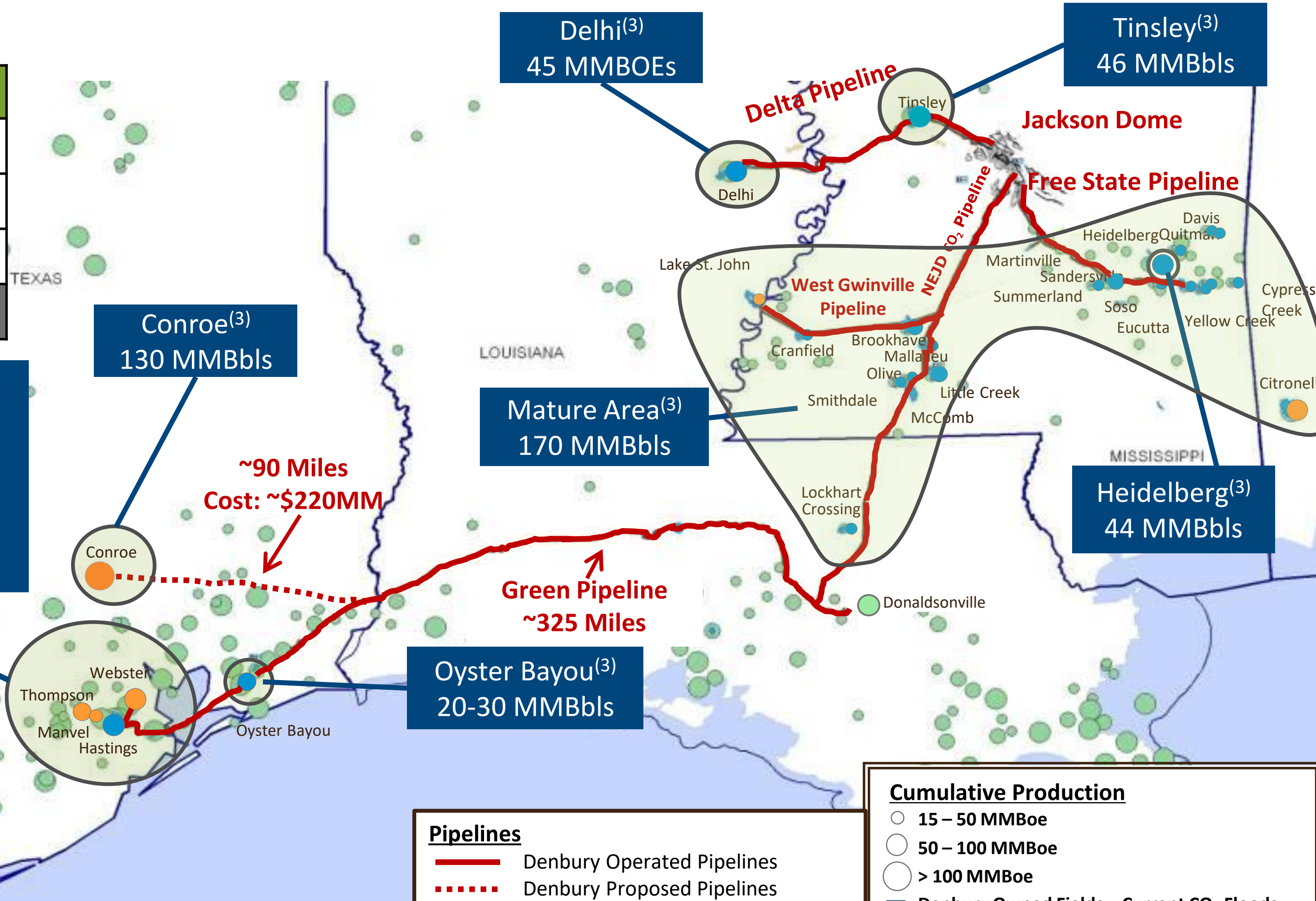
1) Total estimated recoveries on a gross basis utilizing CO_2 EOR, based on a variety of recovery factors.
2) Source: 2013 DOE NETL Next Gen EOR
3) Using approximate mid-points of ranges, based on a variety of recovery factors.

CO_2 EOR in Gulf Coast Region

Control of CO_2 Sources & Pipeline Infrastructure Provides a Strategic Advantage

Summary[1]	
Proved	144
Potential	396
Produced-to-Date[2]	113
Total MMBOEs[3]	653

Houston Area[3]	
Hastings	60 - 80 MMBbls
Webster	60 - 75 MMBbls
Thompson	30 - 60 MMBbls
Manvel	8 - 12 MMBbls
	158 - 227 MMBbls

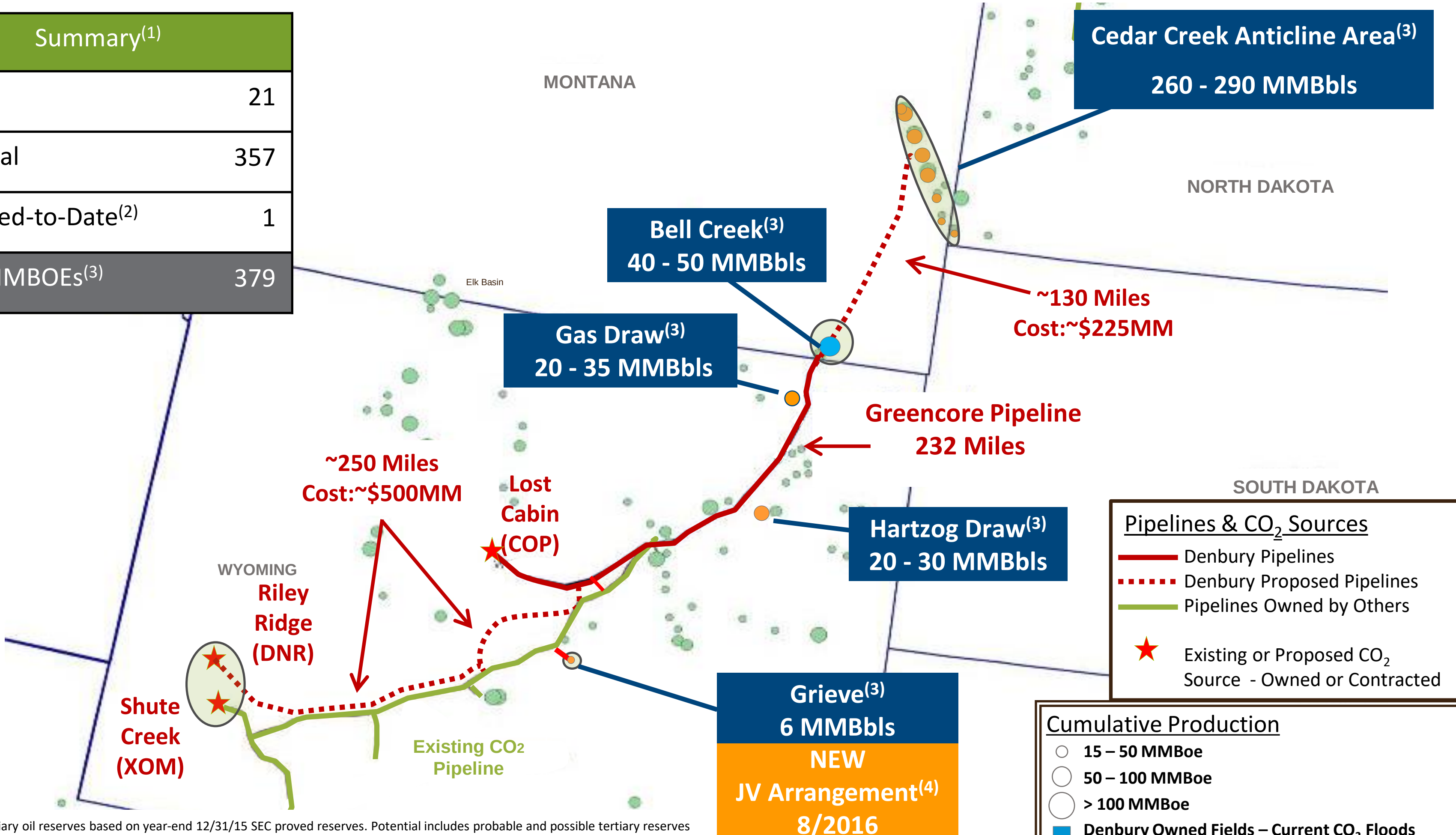


1) Proved tertiary oil reserves based on year-end 12/31/15 SEC proved reserves. Potential includes probable and possible tertiary reserves estimated as of 12/31/14, using mid-point of ranges, based on a variety of recovery factors and long-term oil price assumptions.
2) Produced-to-date is cumulative tertiary production through 12/31/15.
3) Field reserves shown are estimated total potential tertiary reserves, using mid-point of ranges, including cumulative tertiary production through 12/31/15.

CO_2 EOR in Rocky Mountain Region

Control of CO_2 Sources & Pipeline Infrastructure Provides a Strategic Advantage

Summary[1]	
Proved	21
Potential	357
Produced-to-Date[2]	1
Total MMBOEs[3]	379



1) Proved tertiary oil reserves based on year-end 12/31/15 SEC proved reserves. Potential includes probable and possible tertiary reserves estimated by the Company as of 12/31/14 (with the exception of Gas Draw Field, estimated as of 8/1/16) using approximate mid-points of ranges, based on a variety of recovery factors and long-term oil price assumptions.
2) Produced-to-date is cumulative tertiary production through 12/31/15.
3) Field reserves shown are estimated total potential tertiary reserves, using mid-point of ranges, including cumulative tertiary production through 12/31/15.
4) The new JV arrangement provides for the Company's joint venture partner to fund the remaining estimated capital of $55 million to complete development of the facility and fieldwork in exchange for a 14% higher working interest and a disproportionate sharing of revenue during the first 2 million barrels of production. Currently anticipate production start-up by mid 2018.

Ample CO_2 Supply & No Significant Capital Required for Several Years

Gulf Coast CO_2 Supply

Jackson Dome

- Proved CO_2 reserves as of 12/31/15: ~5.5 Tcf(1)
- Additional probable and possible CO_2 reserves as of 12/31/15: ~2.5 Tcf
- Currently producing at less than 60% of capacity

Industrial-Sourced CO_2

- Air Products: hydrogen plant - ~40-50 MMcf/d
- PCS Nitrogen: ammonia products - ~20 MMcf/d
- Mississippi Power: power plant - ~160 MMcf/d(2)

Rocky Mountain CO_2 Supply

LaBarge Area

- Estimated field size: 750 square miles
- Estimated recoverable CO_2: 100 Tcf

Shute Creek - ExxonMobil Operated

- Proved reserves as of 12/31/15: ~1.2 Tcf
- Denbury has a 1/3 overriding royalty interest and could receive up to ~115 MMcf/d of CO_2 by 2021 at current plant capacity

Riley Ridge – Denbury Operated

- Probable CO_2 reserves as of 12/31/15: ~2.8 Tcf(1)
- Future plans to construct a CO_2 capture facility to develop significant CO_2 reserves at Riley Ridge and in surrounding acreage

Lost Cabin – ConocoPhillips Operated

- Denbury could receive up to ~40 MMcf/d of CO_2 at current plant capacity

1) Reported on a gross (8/8th's) basis.
2) Estimated startup in late 2016. Volumes presented are based upon preliminary projections from Mississippi Power and represent maximum volumes once the power plant is running at full capacity.

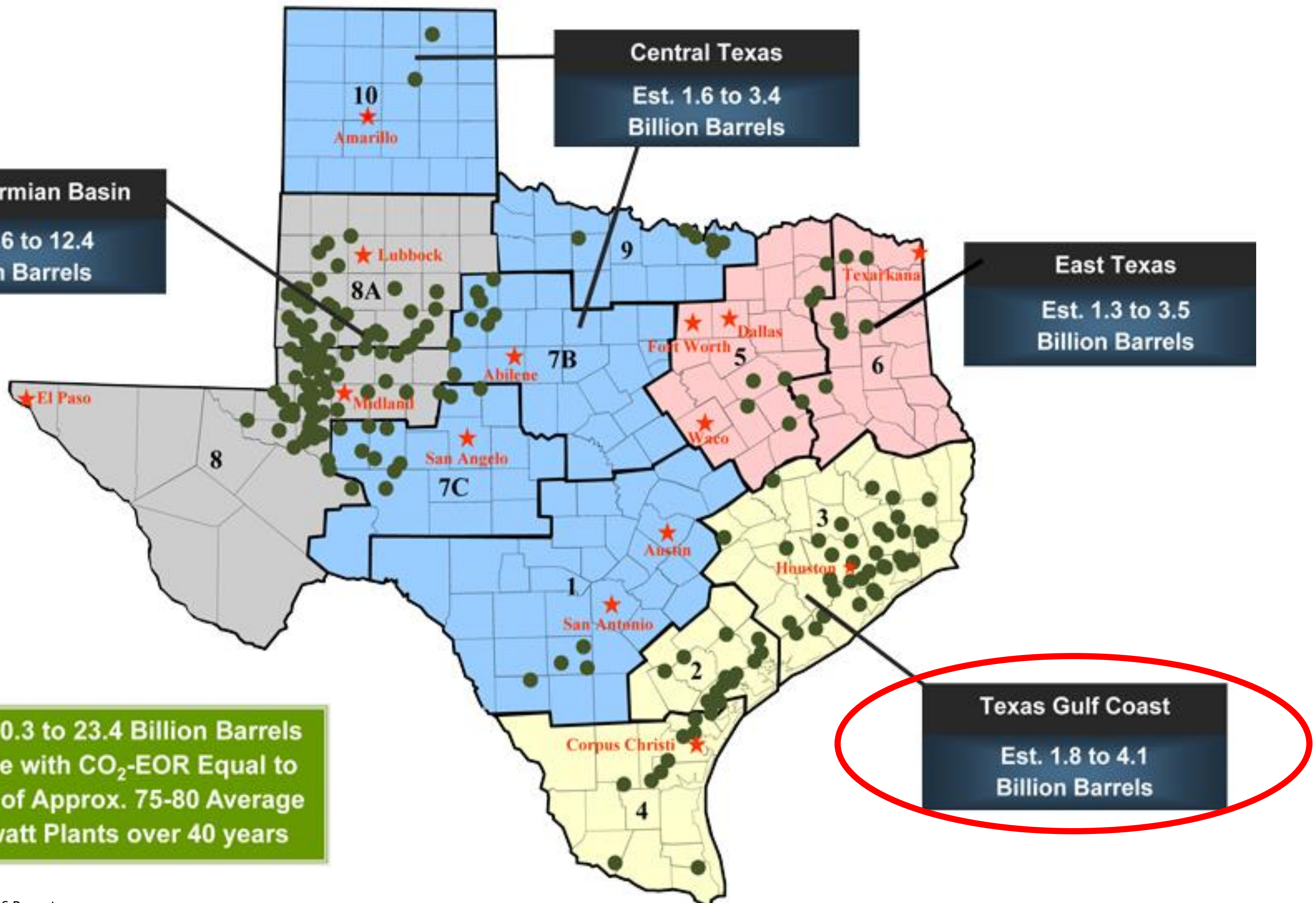
CO_2 EOR Sources and Networks in the U.S. Lower 48

Constraints on CO_2 EOR in Texas[1]

- Lack of Statutory Unitization Procedure due to 1931 prohibition
- Only in Texas is CO_2 EOR production of older nearly depleted fields limited by the requirement to have 100 percent of the working, mineral and royalty interest owners' ratifications of the unit.
- Currently, voluntary unitization allows a single minority interest owner to override the interests of all other majority owners who desire development resulting in waste of the hydrocarbon resource.
- Texas needs to replace its antiquated 85 year old system of voluntary unitization for nearly depleted oilfields to attract large volumes of industrial CO_2 needed for CO_2 EOR projects in the Texas Gulf Coast Region.

(1) Louis Berger, Oct. 2014 "Technical Memorandum: Economic Benefit Evaluation of CO_2 EOR Development in Texas"

Texas Estimated Recoverable Barrels with CO_2 EOR[1]



Estimated 10.3 to 23.4 Billion Barrels Recoverable with CO_2-EOR Equal to CO_2 Output of Approx. 75-80 Average 600 Megawatt Plants over 40 years

(1) U.S. Department of Energy 2006 Reports

Potential Economic Benefits of Increased CO_2 EOR[1]

RRC Districts 2, 3, and 4:

129 FIELDS IN 36 GULF COAST COUNTIES WITH HIGH EOR POTENTIAL[2]

POSITIVE IMPACTS:

- » 2.3 Billion Barrels of Potential Oil Production
- » $28.5 Billion in Total Capital Investment
- » 25,346 New Annual Jobs Created Across Texas
- » $9 Billion Increased Severance Taxes to Texas
- » $23 Billion Increased Ad Valorem Taxes

Development: 2015-2039

Revenues: Through 2072

(1) Louis Berger, Oct. 2014 "Technical Memorandum: Economic Benefit Evaluation of CO_2 EOR Development in Texas"
(2) U.S. DOE and University of Texas BEG

State Required Ratification

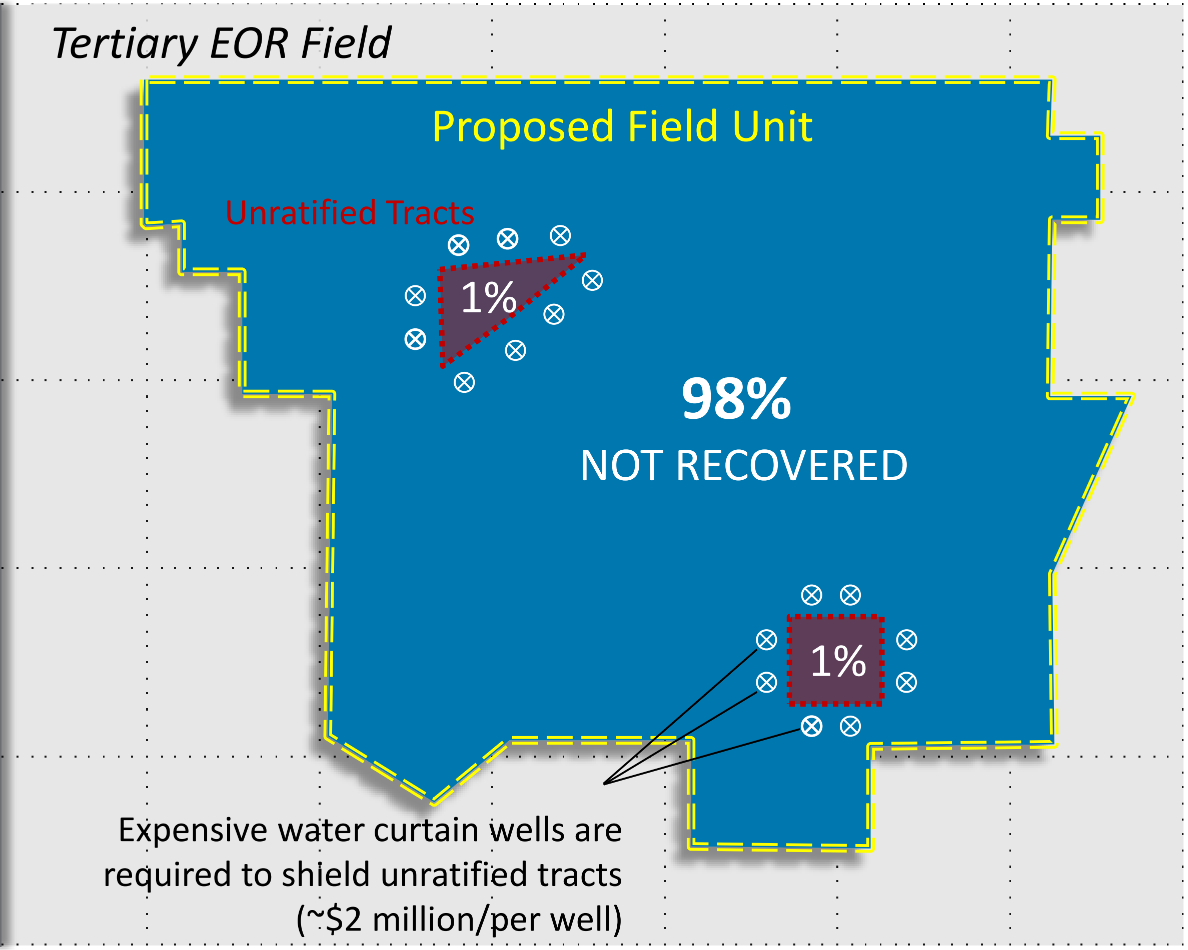
State	%	Remarks
Alabama	$66_{2/3}$	
Alaska	0	State/Federal mineral ownership Dominate procedure
Arizona	63	
Arkansas	75	
California	65 or 75	
Colorado	80	
Florida	75	
Illinois	51	Water floods only
Indiana	0	No ratification required
Kansas	63 RI; 75 WI	
Kentucky	51/75	Shallow fields/deep fields
Louisiana	75	
Maryland	-	Has no unitization statute
Michigan	75	
Mississippi	75	Allows 12 months
Montana	80	
Nebraska	65/75	Working interest/royalty interest
Nevada	-	No ratification is required
New Mexico	75	
New York	60	
North Dakota	60	
Ohio	65	
Oklahoma	63	
Pennsylvania	0	No ratification is required
South Dakota	75	
Texas	100	No statutory unitization
Utah	70	
Virginia	0	No ratification is required
West Virginia	75	
Wyoming	80	

Result of Voluntary Unitization: Unnecessary Waste of Natural Resources

Shielding unratified tracts with water curtain wells is very expensive and can destroy the economics and justification for the entire project.

UNRATIFIED TRACTS

- Often a very small percentage of the field unit
- Require expensive water curtain wells to shield each tract at a cost of ~$2 million per well
- Diminishes reserve recovery
- Waste of resource potential. Economic loss for Texas and its residents, other unit owners, and operators

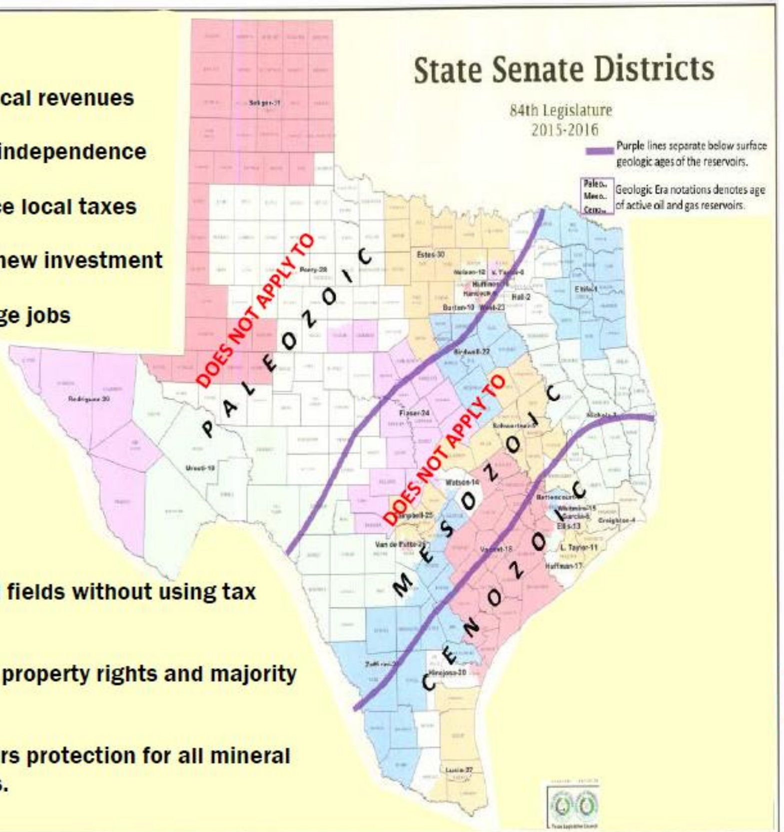


85-Year-Old Texas Law Prohibiting Full Field Unitization

Texas Natural Resources Code Title 3, Subtitle B, Chapter 85, **Subchapter A, Sec. 85.046(7)**		Texas Natural Resources Code Title 3, Subtitle B, Chapter 85, **Subchapter F, Sec. 85.201**
Expressly prohibits the Commission to require field wide unitization, a method used by all top U.S. producing states to protect against waste, maximize efficient production of natural resources and protect the rights of each owner in the field.	Directly conflicts with RRC mandate preventing waste of resource	Mandates that the Commission "shall make and enforce rules and orders for the conservation of oil and gas and prevention of waste of oil and gas."

Texas House Bill 1392

- New state and local revenues
- Promote energy independence
- Potentially reduce local taxes
- Bring billions in new investment
- Support high wage jobs



- Clean up old oil fields without using tax dollars
- Protect private property rights and majority rule
- Not MIPA. Offers protection for all mineral interest owners.

WILL HB 1392 APPLY TO MY DISTRICT?

You own a working interest and/or royalty interest in a nearly depleted Cenozoic Era reservoir (65 million years or newer). — NO / YES

OR / AND

The unit operator contacts you seeking your ratification to unitize a nearly depleted Cenozoic Era reservoir to increase recovery of oil, gas, oil and gas using tertiary only recovery methods. — NO / YES

OR / AND

The unit operator obtains approval of the proposed unitization from at least 70% of the working interest owners and 70% of the royalty interest owners based on a unit participation basis. — NO / YES

OR / AND

An application is filed with the Railroad Commission of Texas seeking an order for unit operations in a nearly depleted Cenozoic Era reservoir using tertiary only recovery methods. — NO / YES

OR / AND

After notice and hearing, the Railroad Commission of Texas determines that all requirements have been met including that the plan of unitization is reasonably necessary to conduct unit operations and prevent waste, protect correlative rights and promote the conservation of oil, gas, or oil and gas and issues an order to that effect. — NO / YES

IF THE RESPONSE TO ANY STATEMENT ABOVE IS A NO, HB 1392 WILL NOT APPLY TO YOU.

IF AND ONLY IF EACH RESPONSE TO THE STATEMENTS ABOVE IS A YES WILL HB 1392 APPLY TO YOU.

Consequences

- Fields Deplete
- Leases Expire
- Fields Permanently Abandoned
- Billions of Barrels of Oil Unrecovered / Waste of the Resource
- Job Losses
- Tax Revenue Losses

Louis Berger, Oct. 2014 “Technical Memorandum: Economic Benefit Evaluation of CO2 EOR Development in Texas”

Federal Constraints on CO_2 EOR in USA

- Clean Power Plan (as applied to CCUS)
  - 27 states file challenge – CPP "tramples state mineral property laws and private mineral leases"
- Sec. 45Q <u>as it exists today</u> is problematic
  - EOR cannot comply: legal conflicts with state mineral property/surface/resource conservation laws and private mineral leases
  - Implies GHG Reporting under Subpart "RR"
  - Unworkable Safe Drinking Water Act Class VI requirements

Federal Government Determines CO_2 is a Pollutant

Under Clean Air Act and Massachusetts vs. EPA (2007)

» **The atmospheric release of Greenhouse Gases (CO_2)**

"fit well within the [Clean Air] Act's … definition of air pollutant"

» **2009 EPA issues the "*Endangerment*" finding – prerequisite for implementing GHG emission standards**

» **EPA issued the "*Tailoring Rule*" in 2010; a phased-in approach for GHG emissions for stationary sources and Title V operating permitting**

» **As a regulated New Source Review pollutant (NSR), CO_2 become subject to requirements that major emitters apply "Best Available Control Technology" (BACT); in 2011 EPA issued guidance discussing emission control technologies that should be evaluated by permitting authorities on applying the BACT requirement**

- Under Federal Law, CO_2 is now a regulated air pollutant for all major emitters
- EPA determines CCS to be a pollution control technology for Greenhouse CO_2
- EPA recognized a CO_2 pipeline as a "main component" of CCS Control System

Federal Government Determines CO_2 is a Pollutant

» **2012 U.S. Court of Appeals D.C. Circuit rules EPA was "*unambiguously correct*" in its effort to address global warming through regulatory programs**

» **2013 Supreme Court agrees to hear if prior legal determination in MA vs. EPA as applied to mobile sources can be extended to stationary sources governed under separate programs**

» **2014 US Supreme Court substantially upholds EPA GHG regulatory authority under the CAA. EPA may not treat GHG's as an air pollutant for purposes of determining whether it is a major source required to obtain a PSD or a Title V permit; however, PSD permits that are otherwise required may continue to require limitations on GHG's based on BACT**

U.S. Federal Regulation Distinguishes Role of CO_2 EOR[1]

» **Geologic storage of CO_2 can continue to be permitted under the UIC Class II program**

"CO_2 storage associated with Class II wells is a common occurrence, and CO_2 can be safely stored where injected through Class II-permitted wells for the purpose of oil or gas-related recovery."

» **Use of anthropogenic CO_2 in ER operations does not necessitate a Class VI permit**

"ER operations can continue to be permitted as Class II wells, regardless of the source of CO_2. An owner or operator of an ER operation can switch from using a natural source to an anthropogenic source of CO_2 without triggering the need for a Class VI permit."

» **Class VI site closure requirements are not required for Class II CO_2 injection operations**

"The most direct indicator of increased risk to USDW's is increased pressure in the injection zone related to the significant storage of CO_2. Increases in pressure with the potential to impact USDWs should first be addressed using tools within the Class II program. Transition to Class VI should only be considered if the Class II tools are insufficient to manage the increased risk."

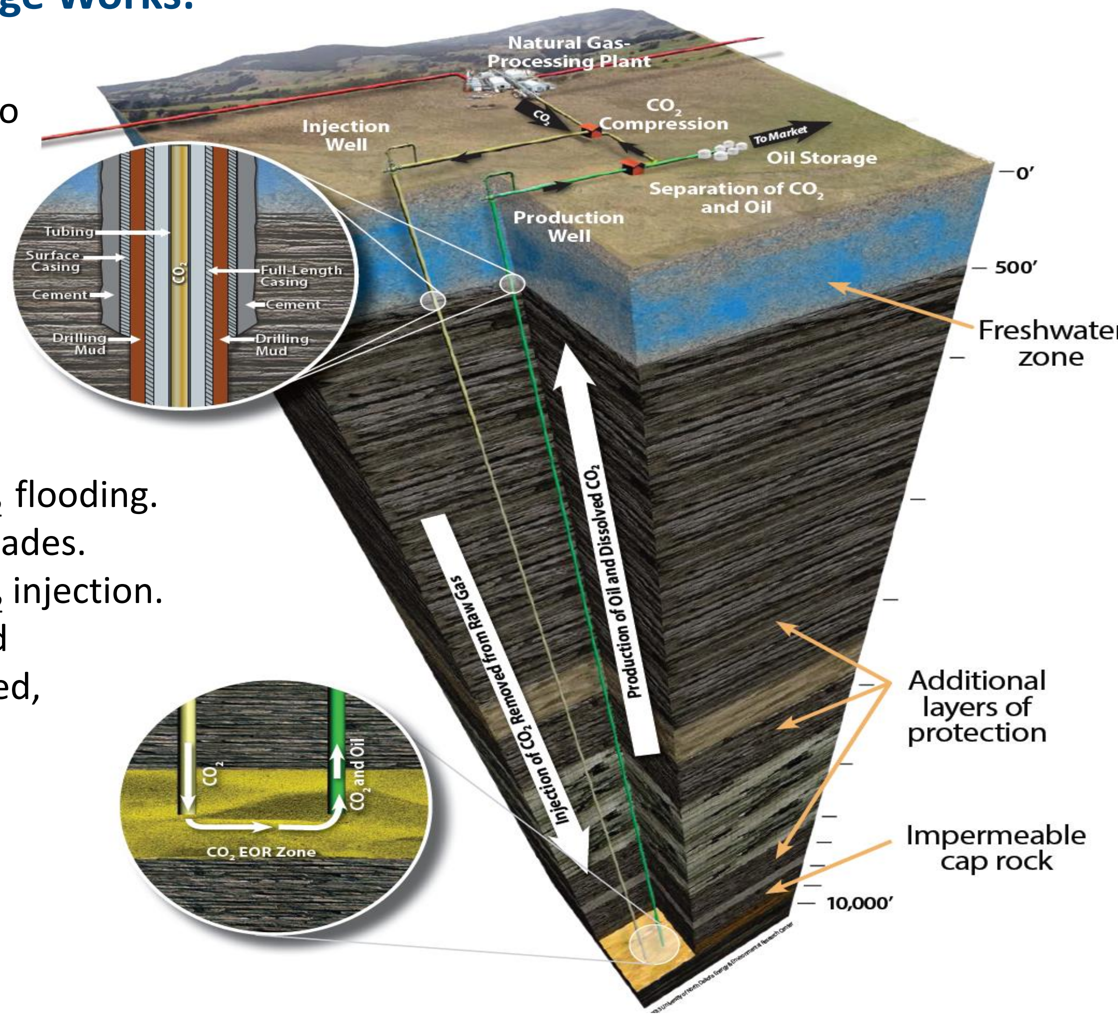
(1) EPA Office of Ground Water and Drinking Water Memorandum, April 2015

CO_2 EOR Associated Storage Incidental to Hydrocarbon Recovery

How CO_2 EOR and Associated Storage Works:

When CO_2 comes into contact with oil, a significant portion of the CO_2 dissolves into the oil, reducing oil viscosity and increasing the oils mobility. This, combined with the increased pressure, can result in increased oil production rates as well as an extension of the operational lifetime of the oil reservoir.

In an oil field, this EOR method is called CO_2 flooding. CO_2 floods are designed to be active for decades. Over the years there are many cycles of CO_2 injection. With each cycle, another portion of injected CO_2 becomes permanently trapped, or stored, in the oil reservoir. As a result of ongoing CO_2 EOR projects since the 1970s, hundreds of millions of tons of CO_2 are now permanently contained in oil fields.



Associated Storage of CO_2 is Incidental to EOR

» Mineral leases and unit operating agreements do not convey some freestanding right to “storage space” or “pore space” for use by others not the operator

» The authorized and primary purpose of injecting CO_2 in an EOR operation is the recovery of oil

» Active oilfields are not CO_2 storage sites unless you “opt in”

» SDWA and CAA rules today provide a “bright line” that allows CO_2 EOR to accept and utilize anthropogenic CO_2 (except CPP CO_2)

Associated Storage of CO_2 Incidental to EOR Vs. Dedicated Capture & Storage

BASE CASE

- **Single gasification project emitting 200 MMcf/d of CO_2**
- **30 year life**
- **Total CO_2 Emissions : 2.2 Tcf of CO_2**

ASSOCIATED STORAGE OF CO_2 INCIDENTAL TO ENHANCED OIL RECOVERY OPERATIONS

A. <u>Oil Field Example (approximate values)</u>

- 6,500’
- Reservoir Pressure: 3,000 psi
- Areal Extent: 20,000 acres
- Max CO_2 Utilization: 1.6 Tcf

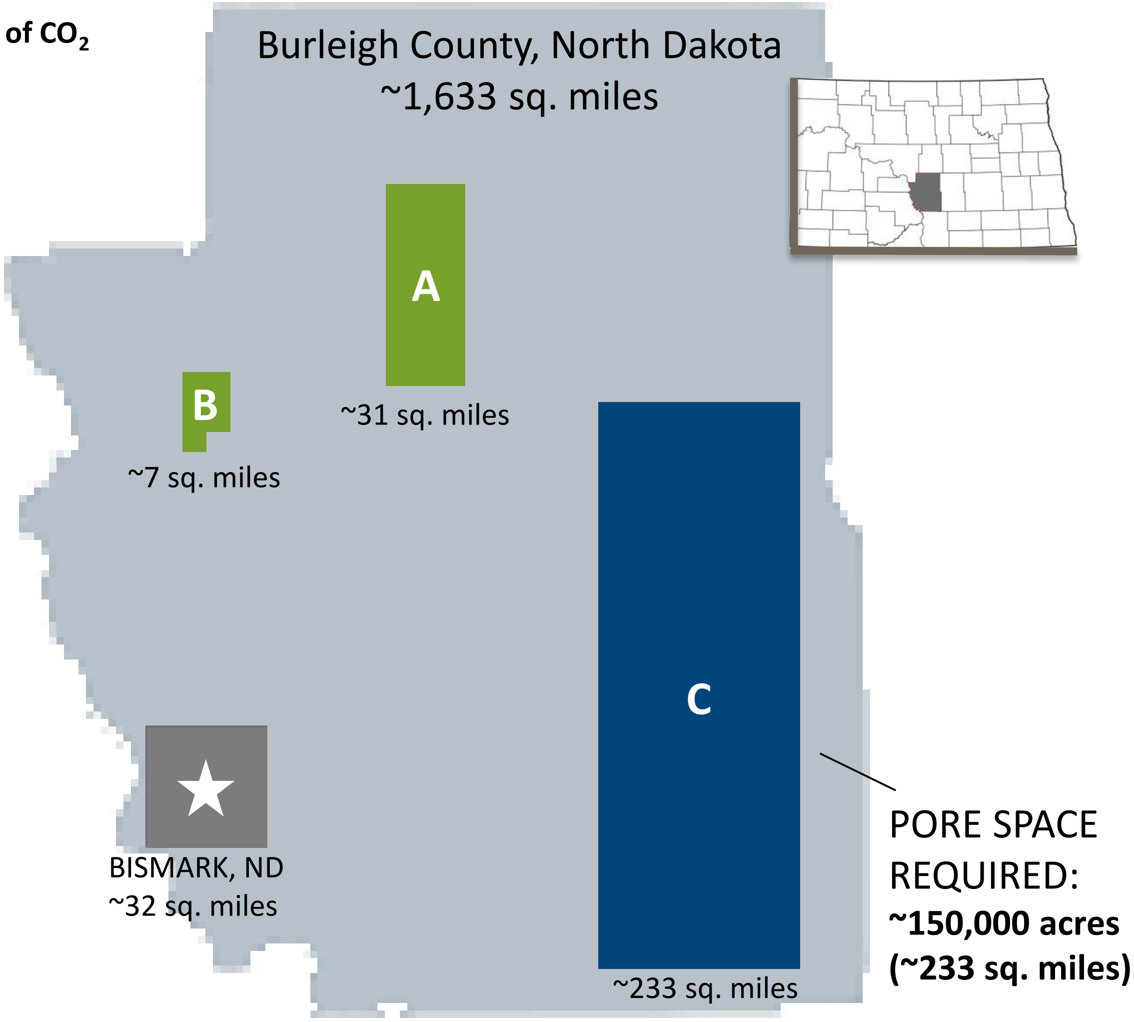
B. <u>Oil Field Example (approximate values)</u>

- 5,500’
- Reservoir Pressure: 2,500 psi
- Areal Extent: 4,600 acres
- Max CO_2 Utilization: 1.0 Tcf

DEDICATED CARBON CAPTURE & STORAGE SITE – SALINE EXAMPLE

C. <u>Saline Reservoir (approximate values)</u>

- CO_2 to be sequestered: 2.2 Tcf
- 6,500’
- Reservoir Pressure: 3,000 psi
- Thickness: 125’
- Porosity: 20%
- Percent of pore space utilized: 4% (versus avg. 40% for EOR)



Carbon Pollution Standards/Clean Power Plan

EPA's Final Rule and Plan Creates Obstacles for EOR

» **Conflicting objectives of resource conservation and waste disposal**

- Subpart RR will transform EOR operations from resource recovery operations to waste disposal operations

» **Subpart RR compliance will conflict with state mandates to conserve natural resources, prevent waste and protect correlative rights**

- Classifying CO_2 as a waste will preclude future timely access to any future technologies and access to the remaining oil at the end of EOR operations (i.e. Quaternary Recovery)

» **Subpart RR reporting is a vehicle for litigation and substantive regulation under the yet undefined Monitoring, Reporting and Verification (MRV) plans**

- CO_2 injected as a waste will require the operator to obtain approvals by the EPA for a MRV plan. The MRV plans are open for public comment, debate and litigation
- The EPA will control MRV plan not the oil operator or the developer of the generating project

45Q CCS Tax Credits

» **Provides for $10/metric ton credit for CO_2**

- Captured by the taxpayer at an industrial facility;
- Used as a tertiary injectant in an enhanced oil or gas recovery project; and
- Disposed of by the taxpayer in secure geological storage

Not usable in EOR unless amended

An <u>Extension</u> of the Credit Alone Does Not Permit O&G Compliance

O&G Industry will continue to have issues as long as CO_2 is treated as both a Commodity & Waste!

Texas Adopts CO_2 Management Rules

ADOPTED RULES

Adopted rules include new rules, amendments to existing rules, and repeals of existing rules. A rule adopted by a state agency takes effect 20 days after the date on which it is filed with the Secretary of State unless a later date is required by statute or specified in the rule (Government Code, §2001.036). If a rule is adopted without change to the text of the proposed rule, then the *Texas Register* does not republish the rule text here. If a rule is adopted with change to the text of the proposed rule, then the final rule text is included here. The final rule text will appear in the Texas Administrative Code on the effective date.

TITLE 16. ECONOMIC REGULATION

PART 1. RAILROAD COMMISSION OF TEXAS

CHAPTER 5. CARBON DIOXIDE (CO_2)
SUBCHAPTER C. CERTIFICATION OF GEOLOGIC STORAGE OF ANTHROPOGENIC CARBON DIOXIDE (CO_2) INCIDENTAL TO ENHANCED RECOVERY OF OIL, GAS, OR GEOTHERMAL RESOURCES

16 TAC §§5.301 - 5.308

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