



Thursday's (Dec 8th) Brief Recap of the Wednesday Short Course Entitled:

“Carbon Capture and Geological Storage:
Preserving Sound Practices in the Field”

Steve Melzer, 2022 CO₂ Conference Director

Schedule of Events: 2022 CO₂ Conf Week: Midland, Texas

(Venue: Midland's Downtown Bush Convention Center)

	Mon 12/5	Tues 12/6	Wed 12/7	Thur 12/8	Fri 12/9
7am					
7:30am		Check-in: Bush Convention Center (BCC)	Check-in: Bush Convention Center (BCC)	Check-in: Bush Convention Center (BCC)	
8am	Check-in BCC	Session I: CCS & CCUS Workshop - Morning Keynote by Brad Crabtree, Ass't Sec of Fossil Energy and Carbon Mgmt - State & Federal Policy Updates, and Market Developments	AM Short Course Session: CCS Project Drivers, CCS vs CO ₂ EOR Project Experience	Session III: CO ₂ EOR Case History Examples, US and International CO ₂ EOR Case Histories	No Conference Activity
9am	2022 Field Trip - CapturePoint LLC (Host) at the Emma CO ₂ Project in Ector Co., TX				
10am					
11am					
12pm		Luncheon - Keynote Speaker: Chuck McConnell, Executive Director, Carbon Management and Energy Sustainability, Univ Houston	Luncheon and Marketing Break - No Luncheon Speaker	Luncheon and Marketing Break - No Luncheon Speaker	
1pm		Session II: CCUS Workshop - Key Elements of Large Scale CCS & CCUS Project Planning	PM Short Course Session: CCS vs CO ₂ EOR Storage Risks, Project Considerations, Hurdles	Session IV: CO ₂ EOR Case History Examples, US and International CO ₂ EOR Case Histories & CO ₂ EOR Stry Update	
2pm					
3pm					
4pm					
5pm				Bush Portion of Conf Wk Ends 5:00 PM	
6pm	No Evening Reception	Evening Reception - Bush Center Honeyman Exploration as Sponsor 5:00-7:30	Evening Reception - Permian Basin Petr Museum: Sponsors: Kinder Morgan & SPE PB Section (5:30-7:45)	LEGEND CCS/CCUS & Carbon Mgmt Workshop CO ₂ EOR Heavy Composition	
7pm					
8pm				SHARED EVENTS	



The Wednesday Agenda

“Carbon Capture and Geological Storage: Preserving Sound Practices in the Field”

While it is true that many subsurface reservoir sites are effectively risk free with long term CO₂ secure storage, there are also many sites where a full consideration of the reservoir attributes will require early exclusion of a site. Who is to rank the site risks and avoid the poorly conceived projects? It will require broadly experienced geotechnical geoscientists and engineers. But broad experience is very difficult to find. The 2022 CO₂ Conference will describe the risks, is seeking to gather the experts and rapidly fill the void in rankings for CO₂ site security that currently exists.

Carbon Capture and Geological Storage: Preserving Sound Practices in the Field

Morning Agenda

- I. **Introductions and Course Overview.....Melzer, Conference Director (8:15-8:30)**
- II. **Lessons from Large Scale CO₂ Injection Projects in the North Sea.....Philip Ringrose, Norwegian University of Science & Technology (8:30-9:10)**
- III. **A Panel Format Review of the Multiple Drivers for Emission Reductions: U.S. and Abroad, Moderators: John “Bunkie” Westerheid and Mike Moore, EWSA (9:10-10:30)**
 - a. Accelerating Levels of U.S. CCS & CCUS Activity
 - b. Voluntary CO₂ Drivers
 - i. ESG and Climate Change
 - ii. Gov’t Incentives (e.g., 45Q, ISO 27914)
 - iii. Markets (e.g., Credits, Offsets, Low Carbon Oil)
 - c. Central Gov’t Carbon Taxes & Levels of Canadian Activity
 - d. Panelists Comments on Relative Effectiveness of Drivers

PANEL SPEAKERS

Sally Greenberg, Illinois Geological Survey

Mike Godec/Vello Kuuskraa, ARI

Maris Densmore, American Carbon Registry

Richard Baker, BRE Group (Calgary)

All Speakers + Plains CO₂ Reduction Partnership

10:30-10:45 Networking Break

- IIIb. **Continuation of ‘Drivers’ Panel as Necessary.....Above Speakers & Patrick McGuire, IRT (10:45-11:00)**
- IV. **Perspectives.....Stephen Guillot, EERC and PCOR, Stephen Lee, La DNR (11:00-12:00)**

12:00-1:00 Lunch



Insights from large-scale CO₂ storage injection projects offshore Norway

Prof. Philip Ringrose

Norwegian University of Science and Technology (NTNU)

CGF

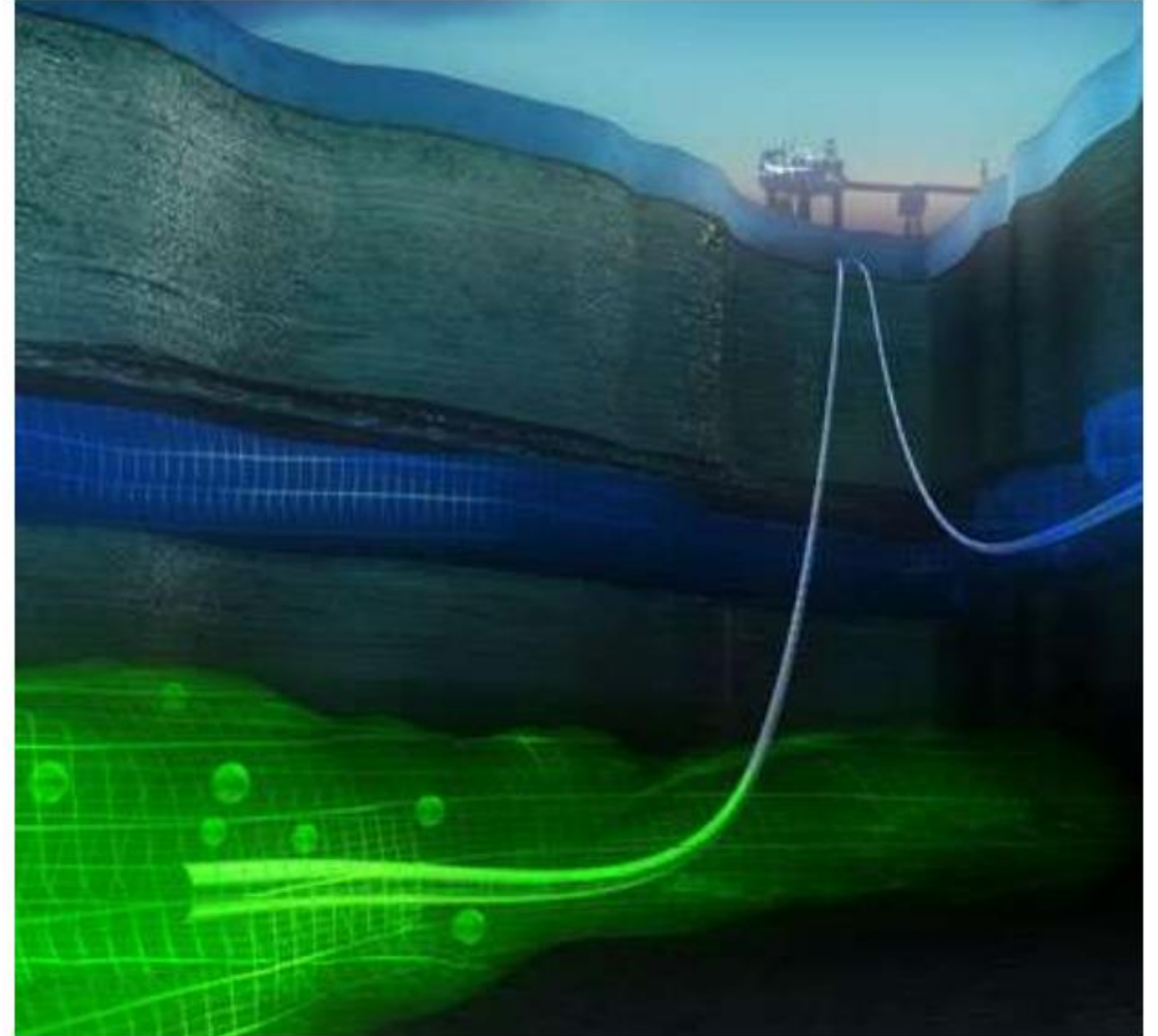
SFI Centre for
Geophysical
Forecasting



**Special thanks to Equinor
for use of data from projects**



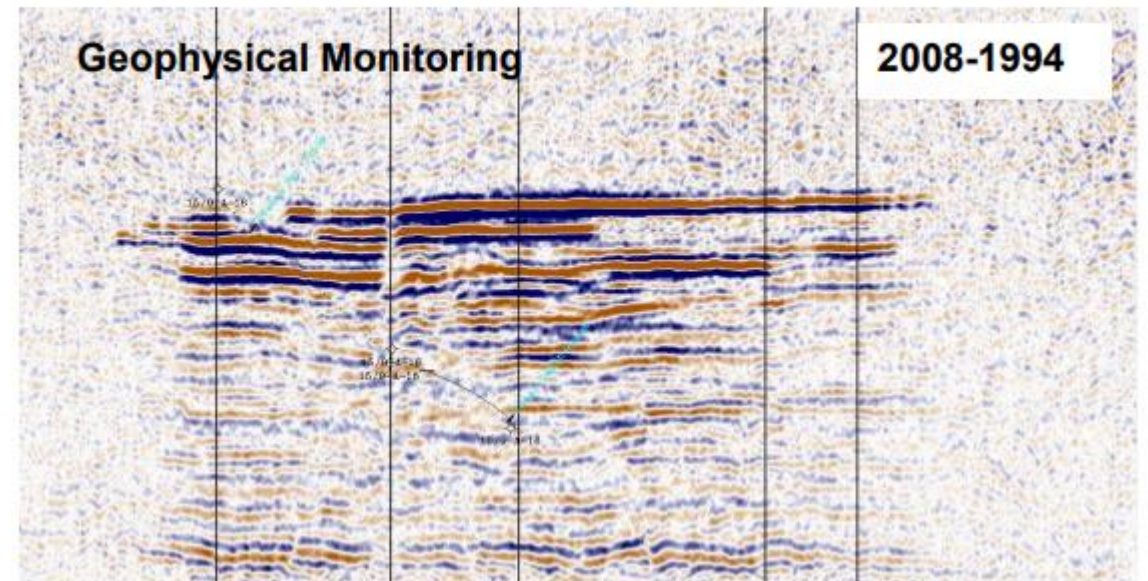
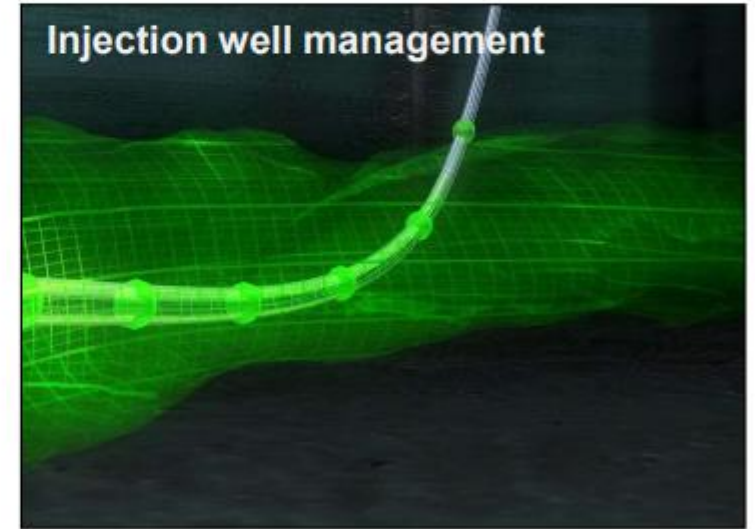
The Sleipner project (Equinor)



Summary of experience from Norway CO₂ Storage projects

Operational experience reveals several important learnings:

- Injection rates of 0.3 - 1.0 Mt CO₂/year/well
- Injectivity and capacity highly dependent on reservoir properties revealed during site operation
- Geological heterogeneity means that flexible well solutions will be required
- Many insights from 4D seismic surveys at Sleipner



- There are currently >27 Large-scale CCS projects in operation globally (most using CO₂EOR, but increasing number using saline aquifer storage) – see GCCSI co2re.co/
- But is a 'climate-significant' level of CCS going to be achieved?

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What is Causing All the New CO₂ Excitement, i.e., the ‘Drivers Panel’)?

PANEL SPEAKERS

Sally Greenberg, Illinois Geological Survey

Mike Godec/Vello Kuuskraa, ARI

Maris Densmore, American Carbon Registry

Richard Baker, BRE Group (Calgary)

All Speakers + Plains CO₂ Reduction Partnership

10:30-10:45 Networking Break

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DECARBONIZATION

SIX INDUSTRY LEADERS COLLABORATE TO ACCELERATE DEVELOPMENT OF CARBON CAPTURE & SEQUESTRATION (CCS) MARKET

INDUSTRY-LEADING COLLECTIVE FORMED BY KEY PLAYERS IN THE ENERGY
INDUSTRY TO FOCUS ON DATA-DRIVEN MRV ACROSS THE CCS VALUE-CHAIN.



ENERFLEX



ESG Driver – Sally Greenberg



Criteria are a set of standards for socially conscious investors, or How a Company...

- Environment - performs as a steward of nature
- Social - manages relationships with employees, suppliers, customers, and communities where operate
- Governance - governs leadership, fiduciary responsibility, advisory boards, stakeholder/shareholder rights



Drivers and Potential Trip Wires Impacting CO₂ Storage -- Based on Recent Project and Regulatory Experience

Prepared for:
Midland CO₂ Conference 2022

Presented by:
Michael Godec, Vice President

Advanced Resources International, Inc.
Arlington, VA USA

December 7, 2020
Midland, Texas

Why is CCS Important?

“Reaching net zero will be virtually impossible without CCS.”

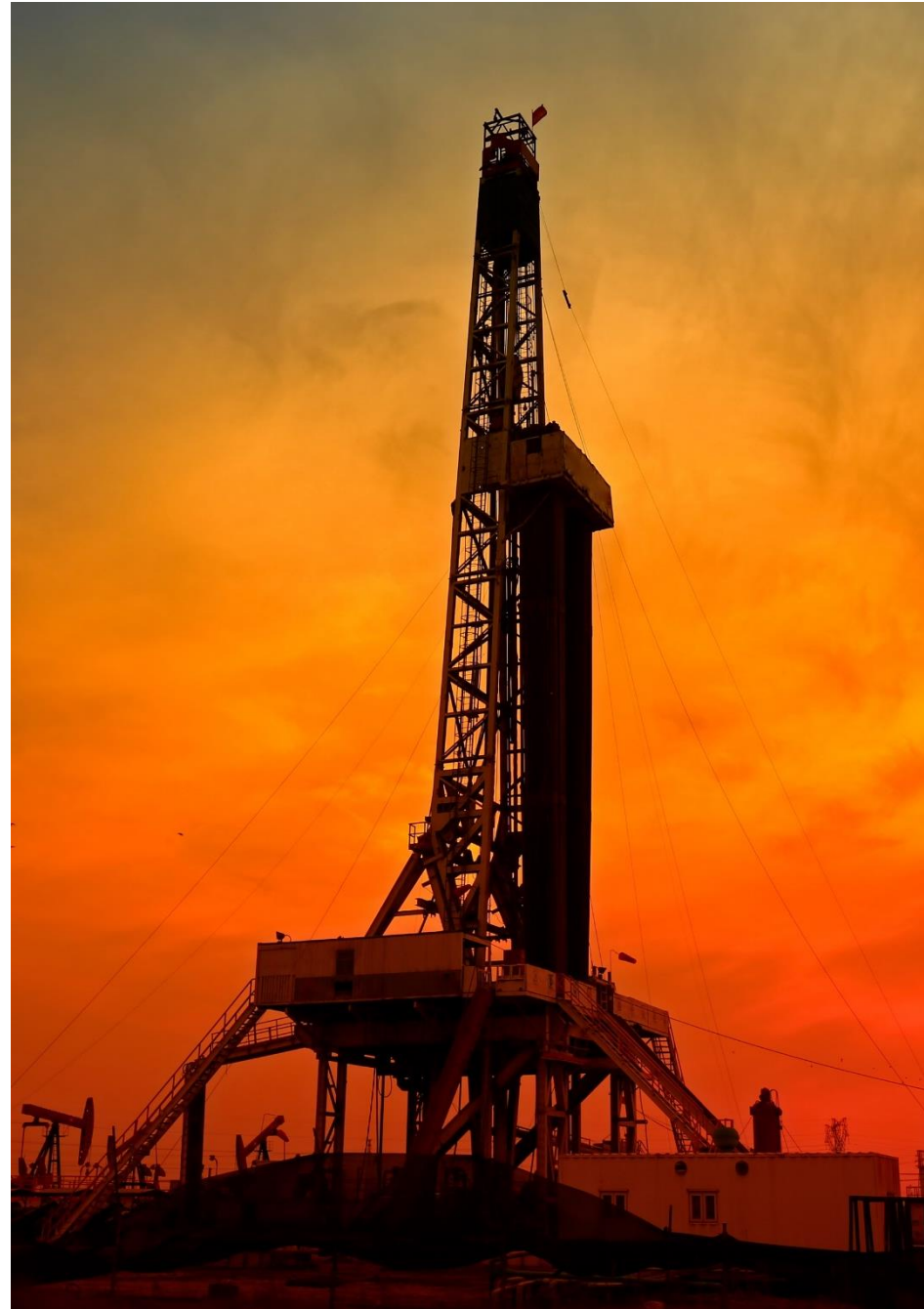
International Energy Agency, 2020

Methodology for the Quantification, Monitoring, Reporting and Verification of GHG Reductions and Removals from Carbon Capture and Storage Projects

Maris Densmore, Director Industrial and Engineered Solutions
ACR at Winrock

Presentation Agenda

- Introduction
- Existing Methodology
- Methodology Updates
- Key Methodology Elements
- Questions and Discussion



CCS at American Carbon Registry

- Current methodology was published in 2015
 - Covers capture, transportation, and geologic storage of anthropogenic CO₂ through Enhanced Oil Recovery
- Updated to Version 1.1 in late 2021, no substantial changes
- Expansion from Version 1.1 to 2.0 to incorporate additional project types and locations

Richard
Baker
(Canada):
Comparing
Carrot and
Stick
Approaches

Economics of CCS/CCUS: Carrot vs. Stick: Executive Summary

- In USA you get tax credit (45Q/IRA) for volumes (mass) injected
- In Canada you get
 - Will be getting investment tax credits for CAPEX expenditure
 - tax benefits (carbon tax) later for volumes injected
- Difference between **CCUS** (U is Utilization of CO₂, CO₂ EOR) and **CCS** (Saline Aquifer + Depleted Gas Reservoir + Depleted Oil Reservoir)
- **Scale effects** (Mega tonnes^{***}/yr) dramatically change projects (be careful when comparing analogs)
 - Economics (cost drivers change at scale)
 - Subsurface Capacity, Injectivity Change with Scale (size or volume)
 - **Source of CO₂** (Mega tonnes/yr) can dramatically change projects



*** Same as a metric ton (MT)

Richard Baker (Comparing Carrot and Stick Approaches)

CO₂ emissions are an externality, we need a forcing function

A project needs a market with economic drivers to make it viable

- Either we Pay Firms Who do it (Carrot)
Or
- Penalize Firms who don't (Stick)

Image Source <https://feltmagnet.com/drawing/How-to-draw-a-carrot>



Summary

- In USA you get tax credit for volumes (mass)
- In Canada you get tax credits for CAPEX expenditure + tax credits (carbon tax) later
- Volumes (mass) incentives vs. capex based + carbon tax credits based
 - USA model Encourages efficiency for both capture and permanent storage
 - Canadian Model does rely on CAPEX but there is incentive to have good capital efficiency
- Small vs. large companies
 - USA model would encourage more projects and includes smaller ones
 - Cdn model may encourage larger projects with larger CAPEX
- CO₂ **source and scale** are critical variables
 - Most CCS projects worldwide are still in natural gas processing
- Both Systems Rest Incentives or Tax Liabilities with Surface Plants
- **Subsurface Storage Permanence Gets Secondary Considerations!!...
The tail wags the dog**
- *The rule book is still changing*

U.S. INCENTIVES

Kevin Connors, Energy & Environmental Research Center

U.S. Progress in the Great Plains

Internal Revenue Code §45Q

Tax Credits*

- Qualifying projects beginning construction before January 1, 2033, can claim credits for 12 years after operations begin.
- Direct payment option for receiving the credit.
- Transferability of all or a portion of the credit value to any third-party, tax-paying entity in exchange for cash value during 12-year credit window.
- Tax credit for CO₂ stored in a qualified EOR project (\$60/tonne).
- Tax credit for CO₂ stored in a saline formation (\$85/tonne).

West Coast LCFS+ Markets

- Credits trading up to \$60–\$150 per ton (Jan. 2022 – Oct. 2022)
- Stacked with 45Q

State Incentives

- State tax (e.g., no sales tax on capture-related infrastructure)

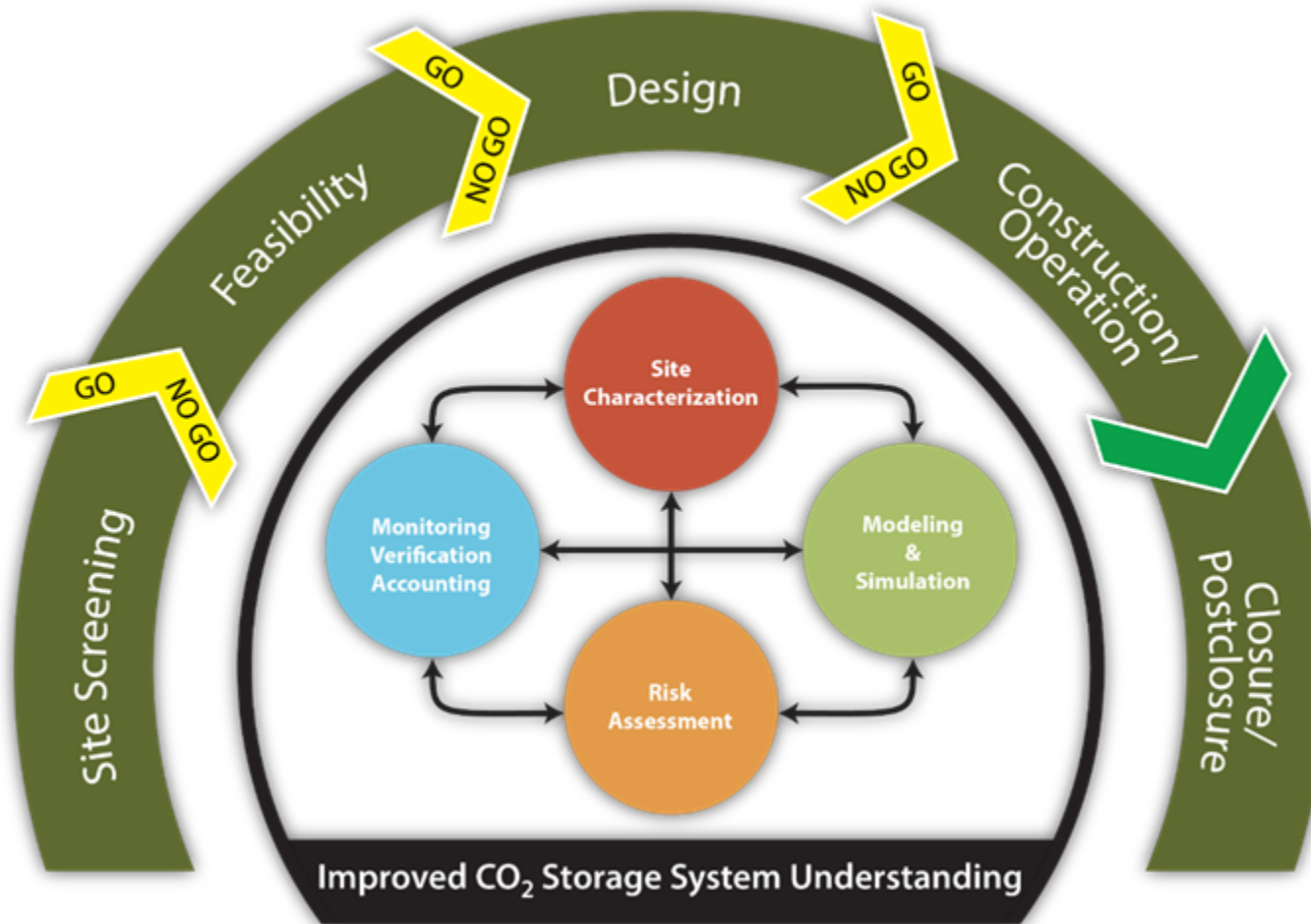
*Inflation Reduction Act of 2022

+Low Carbon Fuel Standard

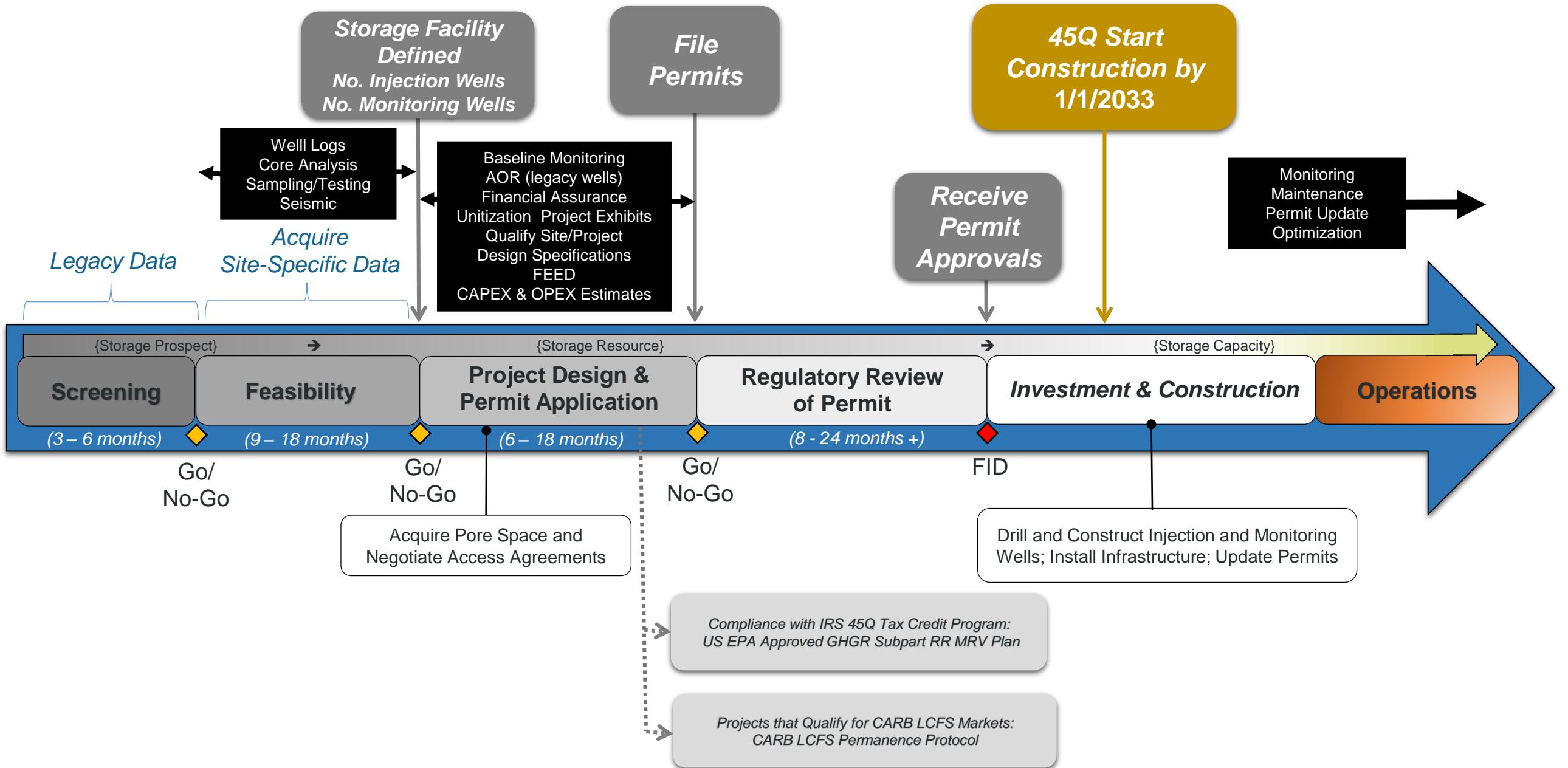


ADAPTIVE MANAGEMENT APPROACH TO PROJECT IMPLEMENTATION

- Staged approach to manage uncertainty and inform investment strategy.
- Implementation can be accelerated.
 - Higher investment needed at lower levels of confidence.
 - Concurrent vs. sequential development.
 - Balance financial and technical risk.
 - Site qualification
 - Permitting
 - Investment
 - 45Q start of construction



GENERALIZED TIMELINE TO IMPLEMENT GEOLOGIC CO₂ STORAGE



Carbon Capture and Geological Storage: Preserving Sound Practices in the Field

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Richard Baker, BRE Group (Calgary)

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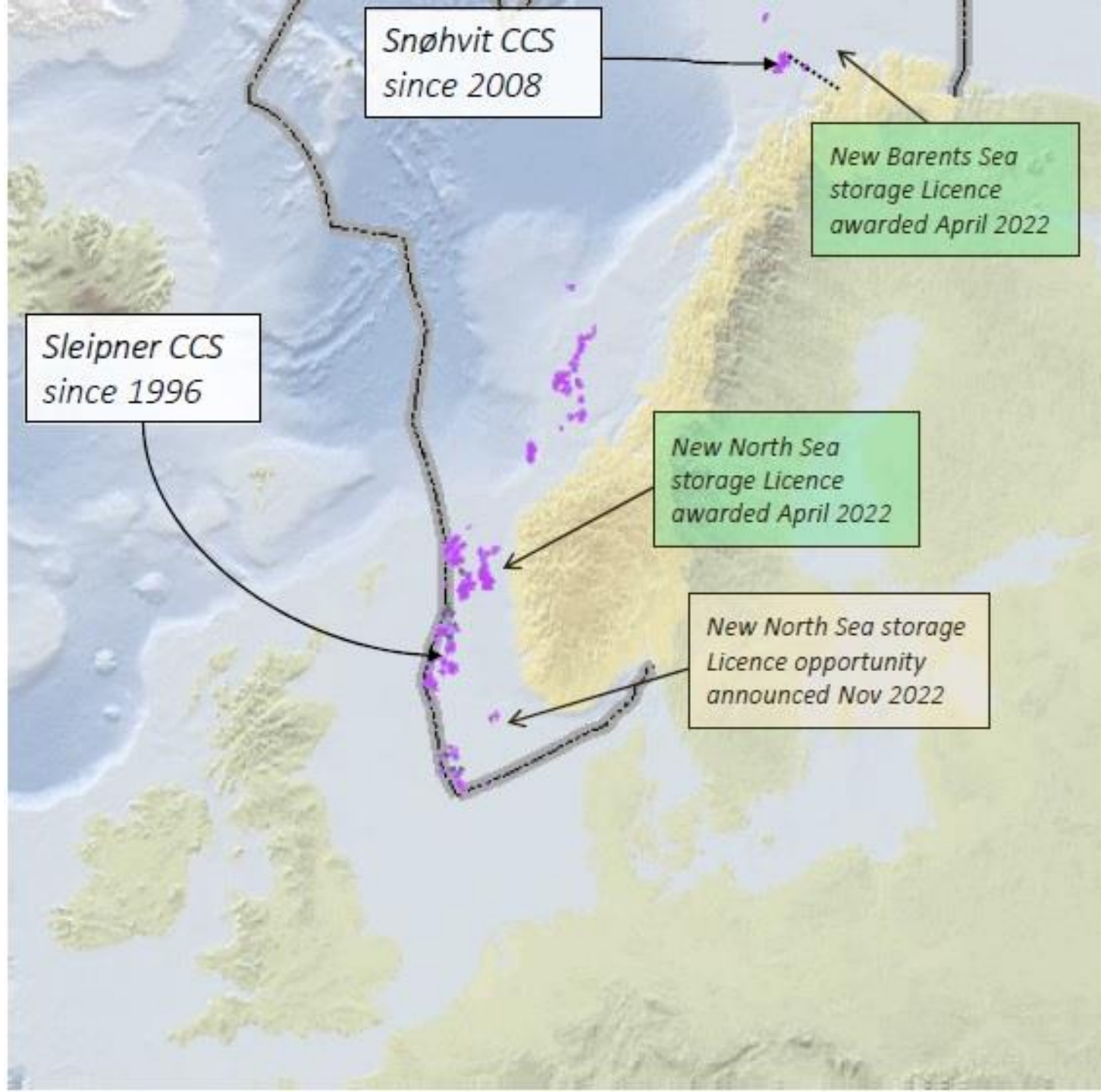




Lessons from Large Scale CO₂ Injection Projects in the North Sea

Philip Ringrose, Norwegian University of Science & Technology

Slides Available on Request Only



Arctic Gas EOR Overview

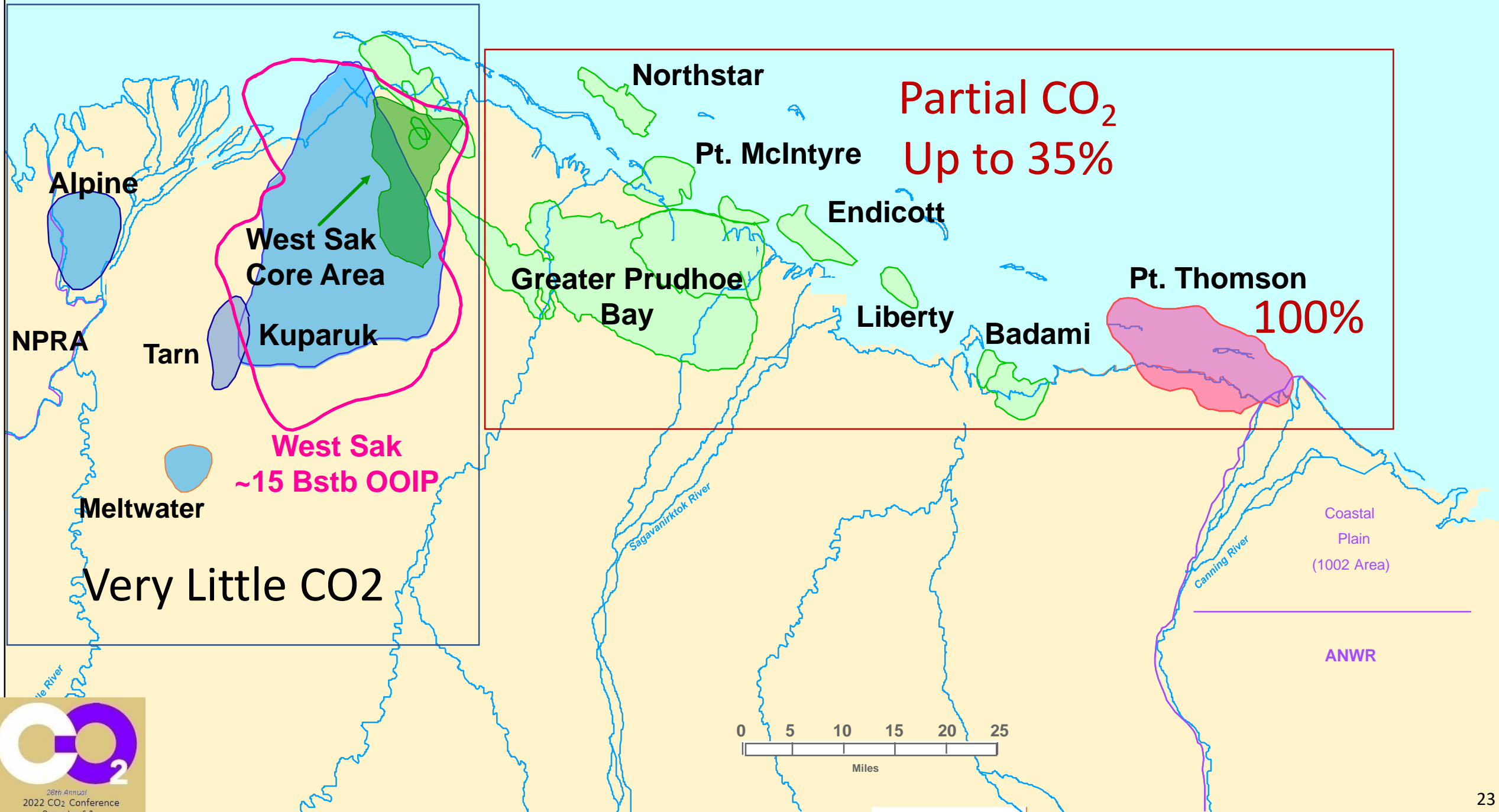
Lessons from Large Scale Injection on the Alaskan North Slope

The Full set of Slides Presented on Thursday Dec 8th

Patrick L. McGuire

International Reservoir Technologies, Inc.

8 December 2022, Midland, Texas



Perspectives from a Regulator's Perch

Steve Lee, Louisiana Department of Natural Resources

- Stopped Counting at mid-year the Growing Number of LA CCS Projects at 50
- Applied for Class VI Primacy from EPA Early in the Year
- Relationship with Region VI EPA is Strong: Processing of Primacy Application is Moving Along Slowly
- The Available LA Staff to Review Attributes of Projects is Inadequate
- Pressures on the Department are Intense
 - To Accelerate the Permitting to Allow Projects to Proceed Beyond FEED Studies
 - To be Comfortable that Projects will Result in Secure & Long-Term Storage
- These can be Exciting Times for Projects Advancing to Construction

Steve Guillot – EERC

Comparing CO₂ EOR (Incidental Storage) with Deep Saline Reservoir Storage

EOR VS. SALINE STORAGE

Risk Category	Saline Risk	EOR Risk	Comments
Lateral CO ₂ Migration	x		Saline: higher uncertainty due to lack of data and extent of CO ₂ plume EOR: plume extent is function of project well spacing
Lateral Pressure Propagation	xx		Saline: higher uncertainty due to lack of data and expected distance of pressure propagation away from injector; EOR: material balance honored
Pressure Interference	x		Same as above
Leakage – Legacy Wellbores		xx	Saline: depends on well location relative to oil and gas fields EOR: numerous inactive wells that must be monitored and, if necessary, remediated
Leakage – Project Wellbores		x	Saline: fewer wells; EOR: more wellbores but prudent operation would incorporate continuous monitoring and numerous mitigations
Well Control Events		x	Saline: fewer wells; EOR: more wellbores and remedial activity in EOR project
Leakage – Faults/Fractures	x		Saline: lower geologic data density EOR: trapped hydrocarbons confirm seal quality
Leakage – <u>Geomechanical Seal Failure</u>			Saline: pressure increased above normal pressure over larger area EOR: pressure above normal only near injectors
Induced Seismic Activity			No significant difference
Injectivity	x		Saline: higher uncertainty due to lack of data EOR: extensive data set to use for prediction and material balance maintained
Leakage – Surface Infrastructure		x	Saline: simpler surface facilities; EOR: more complex surface facilities but releases are quickly detected and mitigated

Lunch Break

Carbon Capture and Geological Storage: Preserving Sound Practices in the Field

Afternoon Agenda

- | | | |
|-------------|---|--|
| V. | Panel on Useful Analogs and Case Histories (100-2:00) <ul style="list-style-type: none">a. Lessons from the Horizontal Drilling Boomb. Depressurized Pore Space (hard and soft formations)c. CO₂ EOR, Lessons Learned and Net CO₂ Utilization Factorsd. Deep Saline Formations | PANEL SPEAKERS

Melzer Consulting
George Koperna, ARI

Philip Ringrose (Moved to First of Day due to Time Difference) |
| VI. | Challenges Ahead.....Melzer, moderator (2:00-4:30, Break 2:30-3:00) <ul style="list-style-type: none">a. Geohazards<ul style="list-style-type: none">i. Induced Seismicityii. Formation Overloadiii. Seal Integrityb. Symmetric Plumesc. Insuranced. Rights Aggregation | PANEL SPEAKERS

Lund Snee, J.-E., US Geological Survey

Richard Baker, BRE Group (Calgary)

Amanda Livers-Douglas, Plains CO ₂ Reduction Partnership

Kenneth Hallacy, IMA Corp

Marcella Burke, Evershed-Sutherland |
| VII. | Closing & Conclusions - Adjourn to Petroleum Museum Reception, Mike Moore & Steve Melzer(4:30-5:00) | |

Afternoon Kickoff by Melzer

Lessons of Large Volume Injections

A CCGS* Framework & Terminology

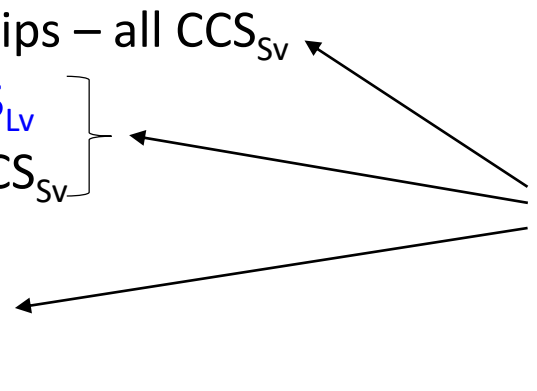
with Special Attention to **Large Volume** Analogs in Geological Storage

- Carbon Capture and Storage (aka Deep Saline Formations) - CCS
- Carbon Capture Utilization and Storage - CCUS
 - Small Volume Options (CCUS_{Sv})
 - Large Volume Options (CCUS_{Lv})
- What About Field Analogs?
 - US DOE Sequestration Partnerships – all CCS_{Sv}
 - A Few International Projects CCS_{Lv}
 - Private Acid Gas Injection - all CCS_{Sv}
 - Salt Water Disposal (SWD_{Sv})
 - Large (SWD_{Lv})
 - Small Volumes (SWD_{Sv})
 - CO₂ EOR – both **Large** and Small Projects

Kelly and Jens will Address



Enhanced Reservoir Pressures



* Carbon Capture and Geological Storage



Kelly Bennett, B3 Insight

Analog of Large Volume Water Disposal to
Large Volume CO₂ Disposal

George Koperna – ARI

“Where Do Things Stand with CCS?”

Let's Play!



CCS Project “Family Feud”

Prepared for:
Carbon Capture and Geological Storage - Preserving Sound Practices in the Field

Panel on Useful Analogs and Case Histories

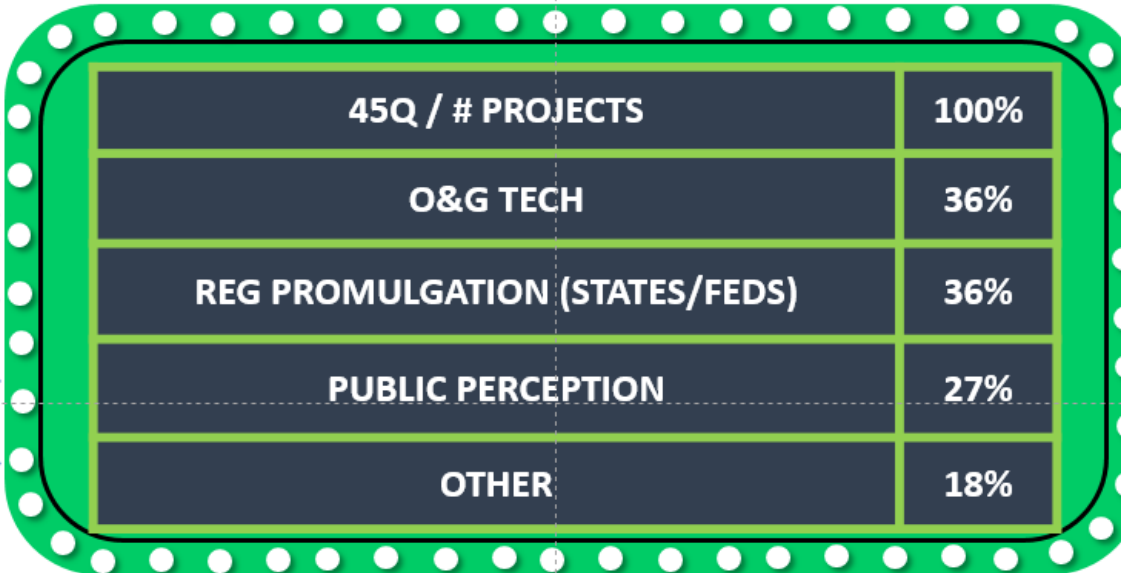
Prepared By:
George J. Koperna, Jr., Vice President
Advanced Resources International, Inc.
Arlington, VA

December 7th 2022
28th Annual CO₂ Conference Week
Midland, TX

- I have surveyed about a dozen CCS experts within my firm to provide fodder for discussion today.
- This represents nearly 125 years of CCS expertise!
- Only two, simple questions regarding CCS:
 - What is working?
 - What keeps you up at night?
- Audience interaction will be encouraged

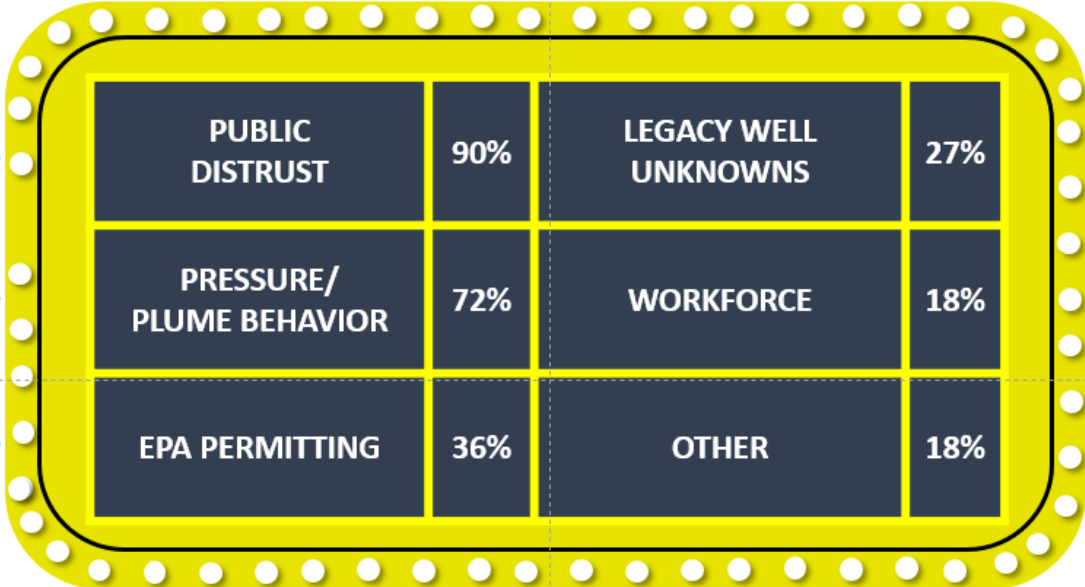
CCS Survey Results

CCS Projects – What’s Gone Right



1	45Q / # PROJECTS	100%
2	O&G TECH	36%
3	REG PROMULGATION (STATES/FEDS)	36%
4	PUBLIC PERCEPTION	27%
5	OTHER	18%

CCS Projects – What We Worry About



1	PUBLIC DISTRUST	90%	LEGACY WELL UNKNOWNNS	27%	4
2	PRESSURE/ PLUME BEHAVIOR	72%	WORKFORCE	18%	5
3	EPA PERMITTING	36%	OTHER	18%	6

Carbon Capture and Geological Storage: Preserving Sound Practices in the Field

Afternoon Agenda

- V. **Panel on Useful Analogs and Case Histories (100-2:00)**
- a. Lessons from the Horizontal Drilling Boom
 - b. Depressurized Pore Space (hard and soft formations)
 - c. CO₂ EOR, Lessons Learned and Net CO₂ Utilization Factors
 - d. Deep Saline Formations

PANEL SPEAKERS

Henry Petroleum & Melzer Consulting
George Koperna, ARI

- VI. **Challenges Ahead.....Melzer, moderator (2:00-4:30, Break 2:30-3:00)**

- a. Geohazards
 - i. Induced Seismicity
 - ii. Formation Overload
 - iii. Seal Integrity
- b. Symmetric Plumes
- c. Insurance
- d. Rights Aggregation

PANEL SPEAKERS

Lundstern, US Geol Survey
Bennett, B3 Insight
Melzer, Melzer Consulting
Amanda Livers-Douglas, Plains CO₂ Reduction Partnership
Kenneth Hallacy, IMA Corp
Marcella Burke, Evershed-Sutherland
Caroline Magee, Consultant

- VII. **Closing & Conclusions - Adjourn to Petroleum Museum Reception, Mike Moore & Steve Melzer(4:30-5:00)**





CCS Challenges Ahead

(“Macro”) Site Risks for Storage

Critical Subsurface Storage Considerations to Evaluate and Quantify

1. Challenges in Determining Lateral Continuity of Reservoirs and....
2. Reservoir over-pressure Management
3. Reservoir Seal Maintenance
4. Wellbore Integrity in the Area of Review (AoR)
5. Horizontal Drilling and Transmissive Natural Fracture Identification (‘Our Modern Lessons’)
6. Today’s Induced Seismicity Lessons
7. Strike-Slip Faulting/Lineaments
8. Non-technical Factors Important for CO₂ Storage



Geological Storage: Risk Factors to Consider aka “Geohazards”

- Seal Integrity
- Lateral Continuity
- Fluid Transmissive Fractures
- Asymmetry of Plume Expansion
- Induced Seismicity ← Introduction to Jens Lundstern, USGS
- Formation Overload
 - Soft Sediments
 - Hard Rocks
- Leaky Wellbores
 - Soft Sediments
 - Hard Rocks

CO₂ Conference
Short course on *Good sites, Bad sites*



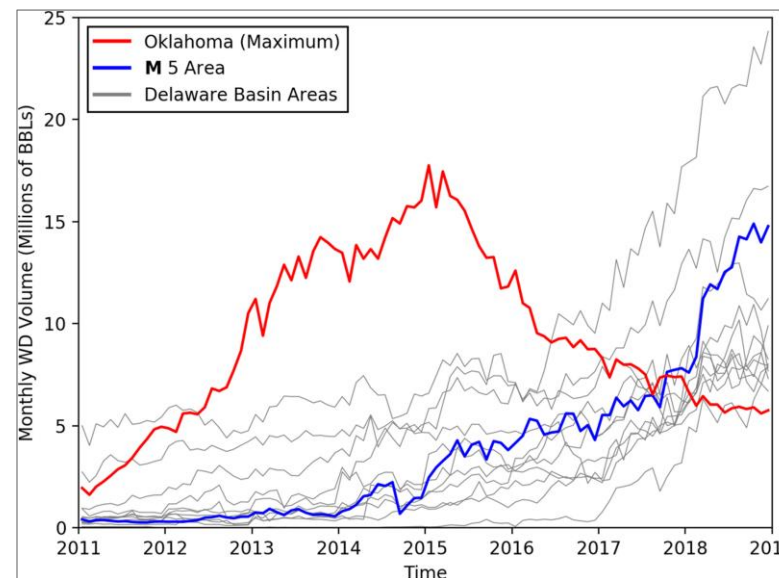
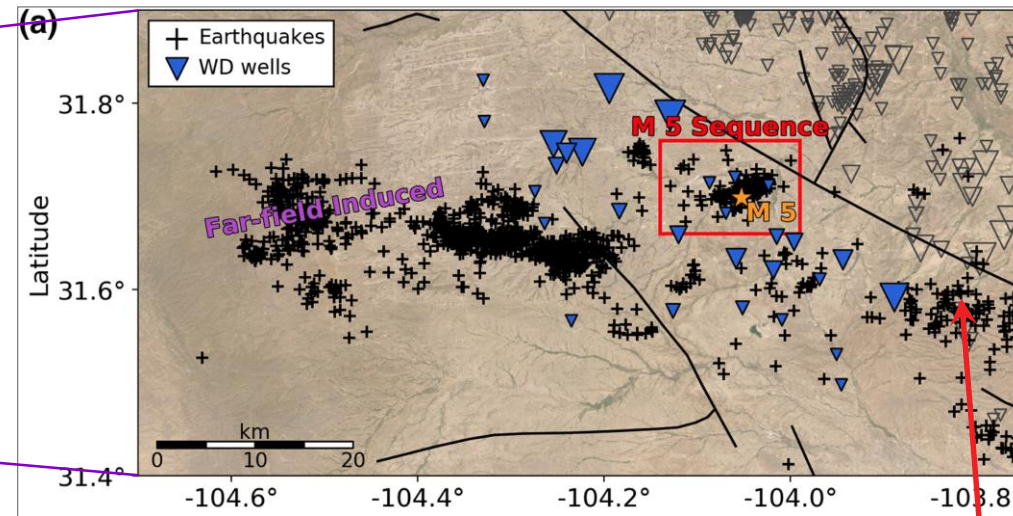
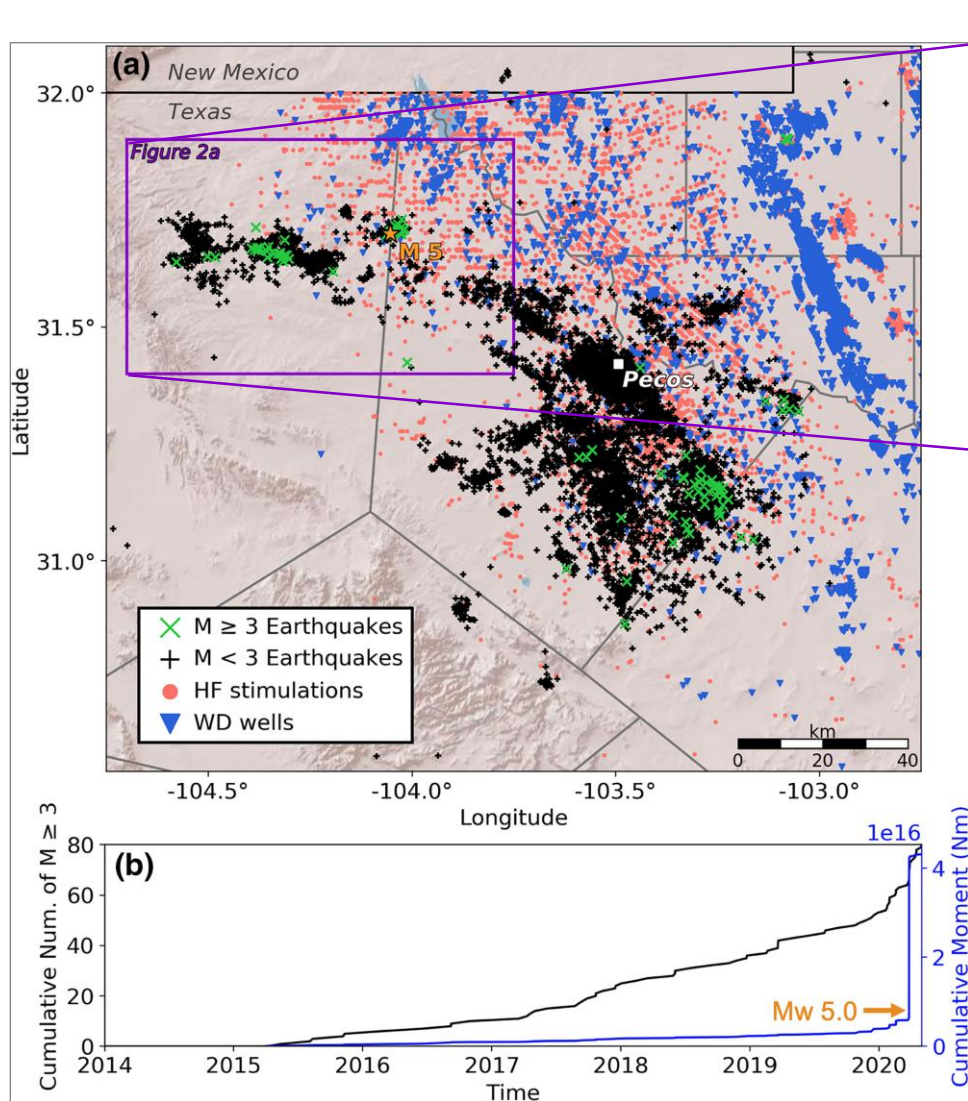
Geomechanical considerations for CO₂ storage site selection



Jens-Erik Lundstern (Lund Snee)

7 December 2022

The November $M_{5.4}$ in the Delaware Basin occurred near events attributed to deep disposal



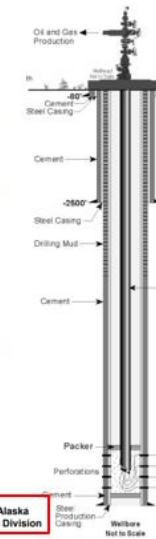
Example of Potential Issues in Soft Sediments

1. Column Shortening

WELLBORE LEAKAGE RISKS

Why do wells leak?

- Pre-Production**
 - Formation damage during drilling (caving)
 - Casing centralization (incomplete cementing)
 - Adequate drilling mud removal
 - Incomplete cement placement (pockets)
 - Inadequate cement formation, cement casing bond
 - Insufficient cement coverage of well length
 - Cement shrinkage
 - Contamination of cement by mud or formation fluids
- Post-Production**
 - Mechanical or thermal stress/strain
 - Formation of micro-annulus at casing/cement interface
 - disruption of cement-formation bond
 - Fracture formation within cement
 - Geochemical attack
 - Corrosion of steel casing
 - Degradation of Portland cement
 - Carbonation
 - Hydrogen sulfide
 - Sulfate attack
 - Acid attack



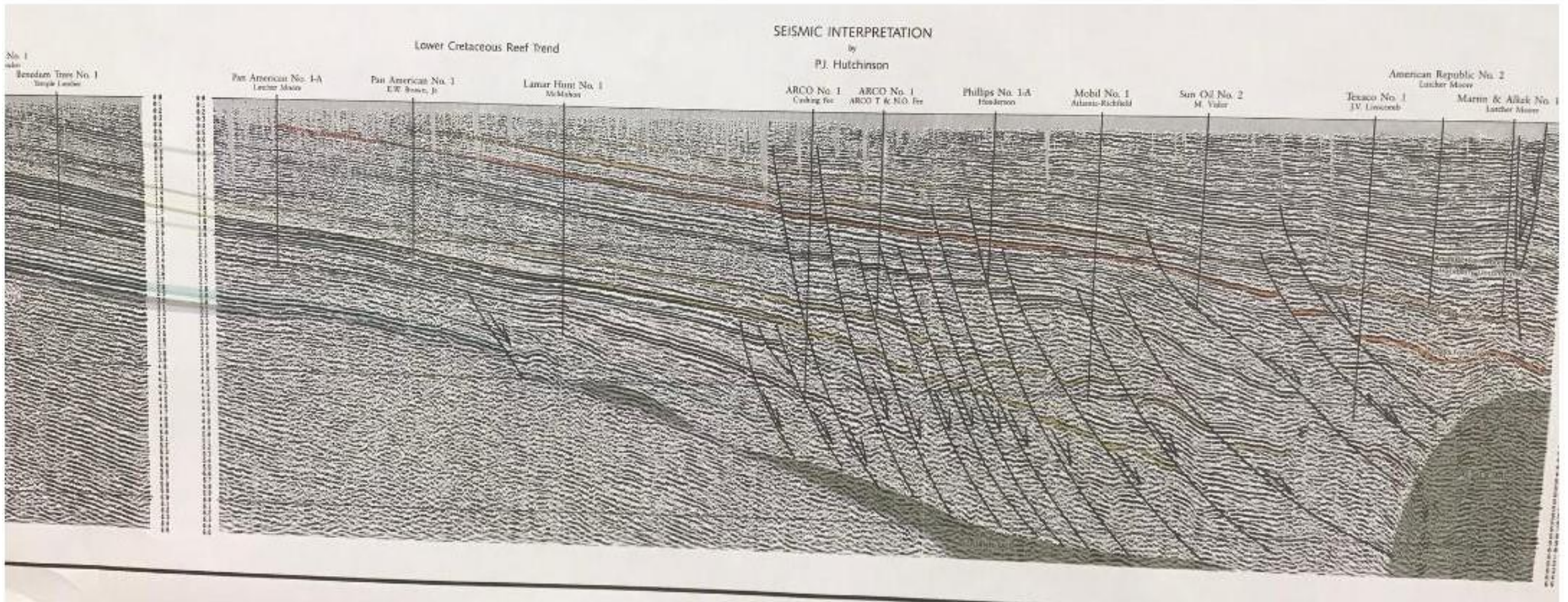
Depressured
Formation:
Compaction /
Subsidence

2. Formation Overload (Next Slide)



Melzer Consulting

Another Example Issue in Soft Sediments 'Formation Overload'

Example Gulf Coast Cross Section



The Plume Assymmetry Challenge

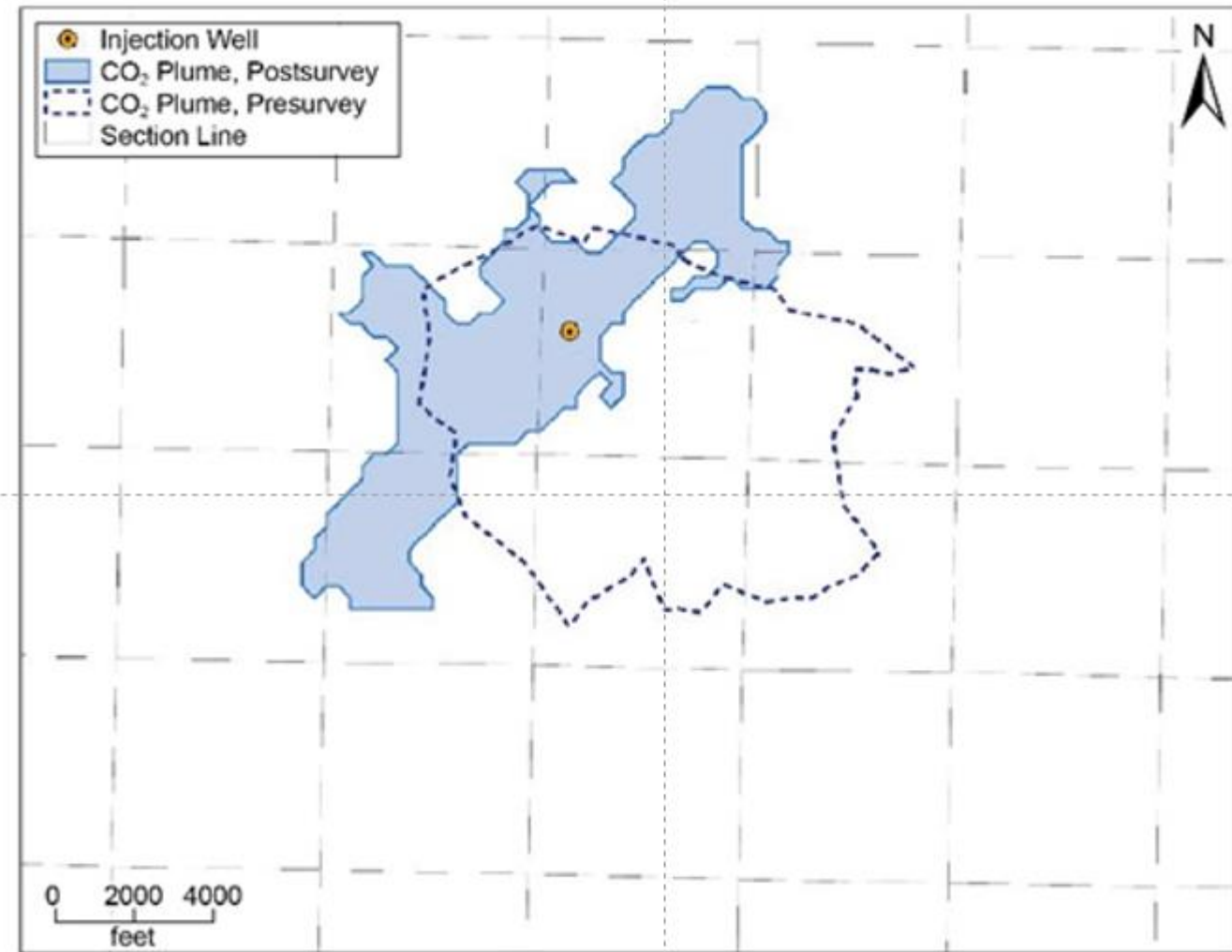
 **EERC** |  **UNIVERSITY OF NORTH DAKOTA**
Energy & Environmental Research Center (EERC)

SYMMETRIC CO₂ PLUMES

2022 CO₂ Conference
Midland, TX
December 2022

Amanda Livers-Douglas
Assistant Director for Integrated Subsurface Projects

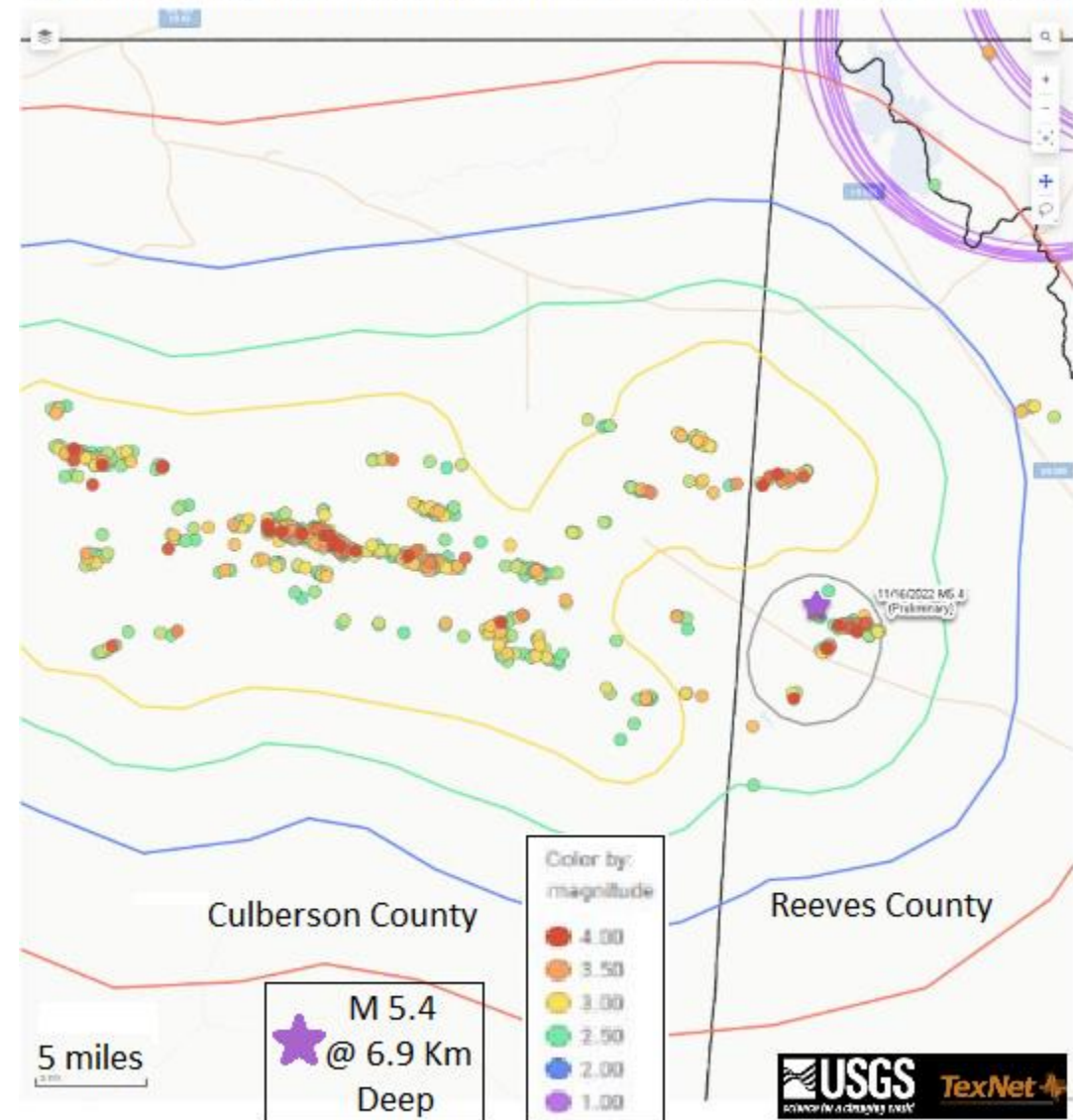
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Lessons for Large Volume Water Disposal in the Permian Basin and the November 16, 2022 Quake Cluster

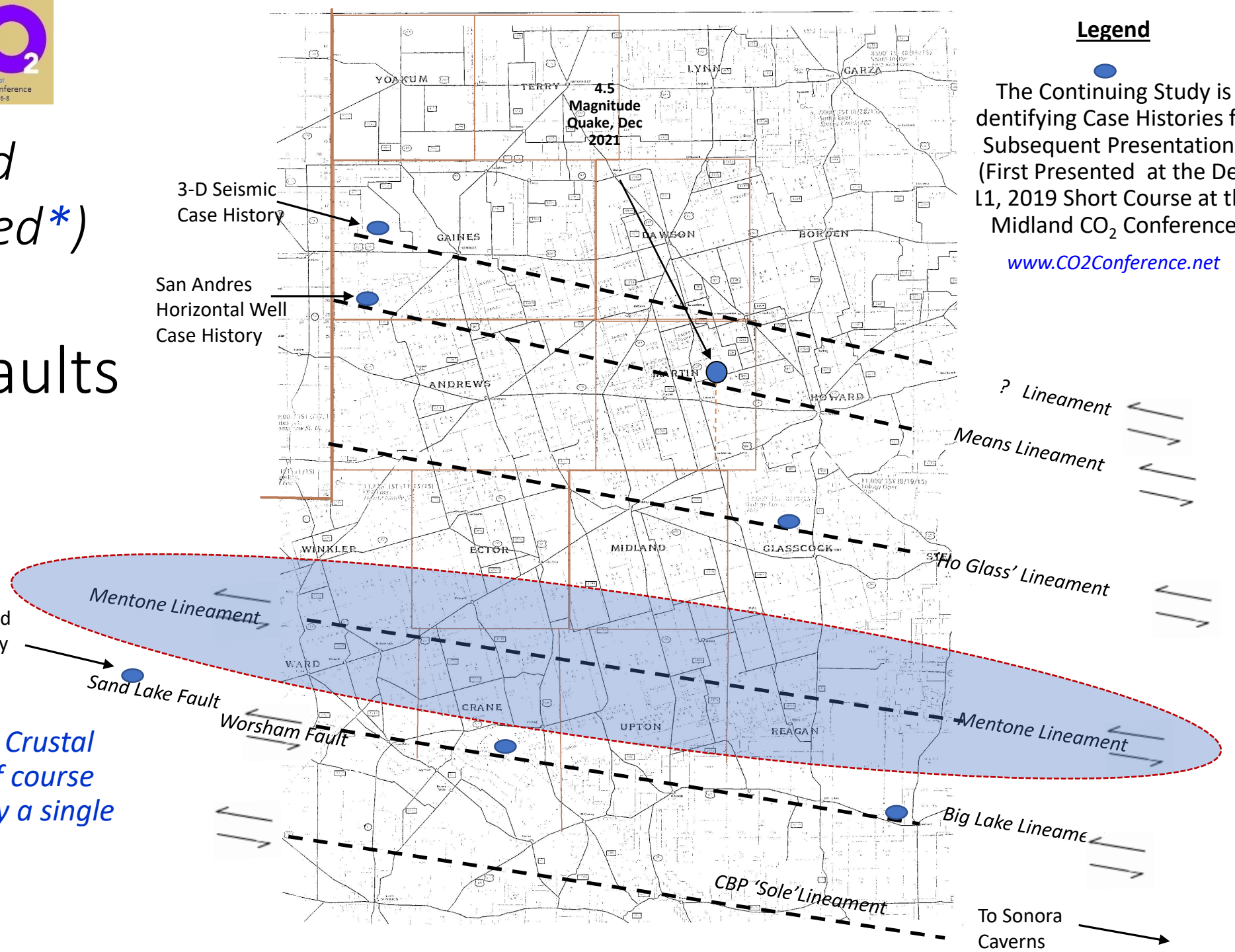
The Nov 16, 2022 Quake Cluster & the M 5.4 Event WSW of Mentone, TX

Event depth ~ 20,000' (into the basement) and is aligned with previous event depths in the region.



Selected (*and Linearly Idealized**) Recurrent Basement Faults (aka Crustal Lineaments)

** None of these identified Crustal Faults are exactly linear of course and neither will they be only a single fault plane*





Basement Faults

- All Reviewed Crustal Faulting Maps Seem to Miss Many of the Strike-slip (Transverse) Faults due to their Common Attribute of Minor Vertical Fault Offsets
- Many of these Weaknesses in the Crust have Repeatedly moved over Geological Time and these Faults Usually Extend into the Overlying Sedimentary Section
- The Strike-Slip Areas Where Oil is Produced and Many Wells exist, These Faults can Occasionally be Located even in the Age of Vertical Wells
- In this New Age of Horizontal Wells, the Discovery of these Faults is Becoming More Common and Location of the Major Fault Systems and their 'Sister' Faults
- Because the Transverse Faults are Episodic in Movement, they can be Fluid Transmissive
- Injection Fluids Can Proceed Upward or Down into the Basement if not Re-sealed by Ductile Shales or Evaporites



Flipping the Dialogue from Potential CCS
Geological Risks to:

The (Near-) Perfect, Large Volume Geologic Storage Site *Will Possess*

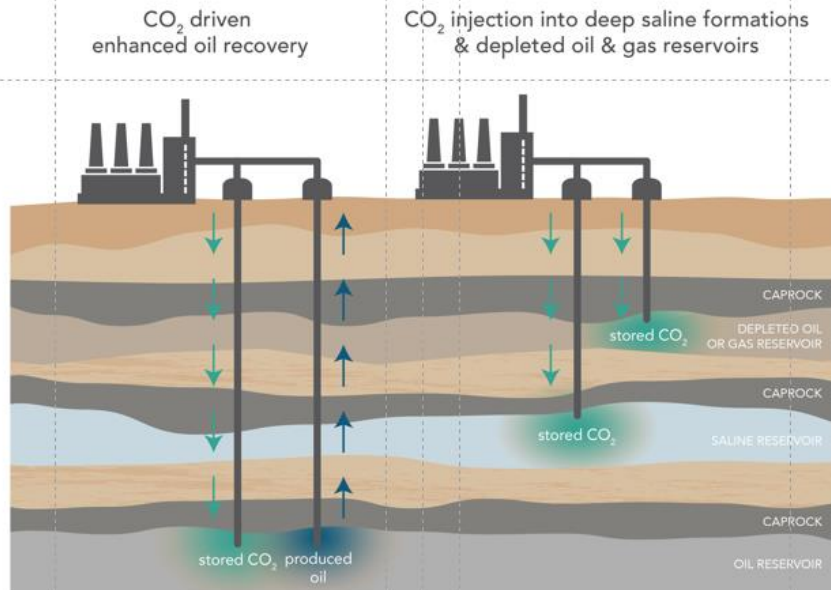
1. Excellent archive of widespread geologic data & understanding
2. Thick, high porosity, high permeability storage capacity
3. Expansive lateral formation continuity
 - a) In an Open Aquifer System but no USDW connection
 - b) In a Huge but Closed Aquifer System
4. Perfect seals, both above and below injection formation
5. Location in Aseismic Region



Those Were the Geotechnical Risk
Features, Now for the Possible Non-
technical Ones

CARBON CAPTURE - INSURANCE

- + Who is IMA?
- + Who am I and why am I talking about Carbon Capture?
- + What are the biggest insurance obstacle(s)? Solutions?
- + What are future obstacles that CCS solves for?



CARBON CAPTURE - INSURANCE

45Q Enhancements in the Inflation Reduction Act



The IRA increased credit values across the board, with full value realized only if prevailing wage and apprenticeship requirements are met:

- 45Q incentives increase from \$50 to \$85/tonne for storage in saline geologic formations from carbon capture on industrial and power generation facilities.
- 45Q incentives increase from \$35 to \$60/tonne for utilization from industrial and power generation carbon capture.
- 45Q incentives increase from \$50 to \$180/tonne for storage in saline geologic formations from DAC.
- 45Q incentives increase from \$50 to \$130/tonne for utilization from DAC.
- The credit can be realized for 12 years after the carbon capture equipment is placed in service and will be inflation-adjusted beginning in 2027 and indexed to base year 2025.

+ **There is** an insurance product available



...and what are Some of the Legal Considerations for a CCS Project?

CO₂ Storage: Legal Considerations

Marcella Burke, Esq.
Partner, Eversheds Sutherland

Caroline Magee, Esq.
Consultant

Considering a CO₂ storage project?

- **Geology First.** Thoughtful choice of geology likely reduces liability risk and supports project success.
- **Jurisdictional Laws and Incentives.**
 - Location-specific and may vary depending on the type of project you are contemplating.
 - Relationships matter. Building relationships in the project location and with permitting authorities may reduce friction over the project's life.
- **Contracts among Stakeholders.** Parties can often agree to allocate rights and provide compensation among themselves, so long as not prohibited or otherwise controlled by statute. Consult with an attorney about what's possible.
- **Insurance.** As CO₂ storage projects expand, insurers' approach may evolve as well. Stay in communication with your insurers.



Remember: Location, Location, Location!

Laws affecting carbon storage projects will vary by jurisdiction.

CO₂ Storage legal considerations are generally in four categories:

- 1) **Real Property Rights.** Who owns what parts of the land? Who may be entitled to compensation for land use?
- 2) **Regulations.** Federal? State?
- 3) **Liability.** Who is liable, for what, and for how long?
- 4) **Tax & other incentives.** Federal (i.e. 45Q) and state (i.e. TX & MT tax incentives)



Thank you.....

Much More Detail Can be Found in the Full
Presentations for the Wednesday Short
Course

We Must Move On Now to the Thursday
Theme Session Agenda and Presentations

Speaker Moderation Duties for the Day are
Handled by Lance Vasicek and Greg West