



**CITY COUNCIL EXECUTIVE COMMITTEE MEETING
CITY COUNCIL CHAMBERS, THIRD FLOOR, CITY HALL,
#1 CITY HALL PLACE, PUEBLO, COLORADO 81003.**

**MONDAY, SEPTEMBER 25, 2023
5:30 PM**

Individuals Requiring Special Accommodations Should Notify the City's ADA Coordinator at (719) 553-2295 by Noon on the Friday Preceding the Meeting.

Executive Committee meetings are special meetings of the City Council and are informal Council meetings for the purpose of receiving information and discussion among Council Members; no official action is taken at such meetings. The public is invited to attend, but public comment is generally not received unless otherwise noted.

Agenda

CALL TO ORDER

PRESENTATIONS

- | | |
|--|-----------|
| A. CITY UPDATES | 5:30 p.m. |
| Laura Solano, Chief of Staff | |
| 5 minute presentation | |
| B. COMCAST OVERVIEW | 5:35 p.m. |
| Gary Amella - Director of Government Affairs for Comcast | |
| 15 minute presentation | |
| C. CARBON AMERICA UPDATE | 6:00 p.m. |
| John Brown - External Relations Manager | |
| 15 minute presentation | |
| D. SPEEDING - POSSIBLE DETERRENTS | 6:25 p.m. |
| Chris Noeller, Chief of Police | |
| Andrew Hayes, Public Works Director | |
| 15 minute presentation | |

ADJOURNMENT

Comcast Overview for Pueblo Colorado

Presented by
Gary Amella– Director, Government Affairs



Agenda

- Introduction to Comcast
- Comcast's Brilliant Network
- Digital Equity/Project UP



Global Media and Technology
Company



A leading video, high-speed
internet, and mobile provider for
residential customers



Providing businesses, the advanced
network they need to stay
connected



One of Europe's leading media and
entertainment companies



A premier motion picture company,
news, television, and entertainment



Our Platforms



Xfinity Internet and xFi

*Speed. Coverage.
Control. Security.*



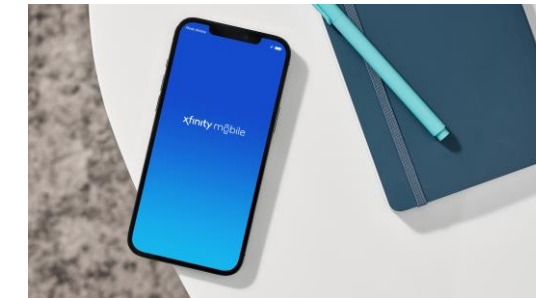
Flex

*Integrated Streaming
Access in 4K*



X1 Video Platform

*Ultimate Entertainment
Experience.*



Mobile

*Network combining 5G
and millions of secure
WiFi hotspots.*



Home

*Connected,
Protected Home.*



Voice

*IP-enabled, digital quality
home phone.*

Technology Leader

Comcast Business

Comcast Business provides advanced communications solutions to help companies of all sizes be more productive and outmaneuver the competition.

Services

- **Data** – Ethernet, Business Internet, WiFi, SD-WAN
- **Voice** – Business Voice, ISDN PRI, SIP Trunks, VoiceEdge
- **Managed Services** – Connectivity, Security, Business Continuity
- **Video** – X1 for Business
- **Cloud Solutions**

Comcast Network

- More than 150,000 fiber route miles and extended reach through its Hybrid-Fiber-Coax (HFC) network
- Comcast offers national reach and capacity that scales up to 100 Gigabits per second (Gbps).
- Comcast owns and operates its network, which is completely separate from telco/carrier networks.
- Comcast has four Network Operations Centers (NOCs) monitoring the Comcast and our customers' networks 24/7/365 basis.



Comcast Business was named the Most Innovative Technology Company of the Year by the American Business Awards in 2021 and 2022

Comcast Brilliant Network



Looking toward the future

Road to 10G: 10G = 10 Gig

Nation's Largest and Fastest Multi-Gig Network Deployment

In the Fall of 2022, Comcast announced it has begun a nationwide rollout of multi-gig Internet speeds – that will reach more than 50 million homes and businesses before the end of 2025.

- Will reach everyone connected to Comcast's network, not just select neighborhoods and customers.
- Will be achieved over customers' existing connections, minimizing construction disruptions.

COMCAST

MULTIGIGABIT



Denver-Boulder DMA and CO Springs Announced in 2022:

- Comcast currently rolling out download speeds up to 2 Gigs – combined with up to 5x-to-10x faster upload speeds – to millions of homes and businesses.
- Comcast initiated this in 34 markets before the end of 2022, and this included the Denver-Boulder DMA and Colorado Springs.
- For Xfinity customers: extending new multi-gigabit network speeds throughout the home with the multi-gig-capable Wi-Fi 6E Gateway, xFi connected home platform, and xFi Pod Wi-Fi extenders.

Technology Leader

Speed

Pueblo is a Gigabit+ community today.
Comcast offers residential speed tiers ranging from 75 Mbps download speeds to 6 Gbps.

Residential Speed Tiers	Download / Upload
Internet Essentials*	50 Mbps / 10 Mbps
Internet Essentials Plus*	100 Mbps / 20 Mbps
Connect	75 Mbps / 10 Mbps
Connect More	200 Mbps / 10 Mbps
Fast	400 Mbps / 10 Mbps
Superfast	800 Mbps / 20 Mbps
Gigabit	1 Gbps / 20 Mbps
Gigabit Extra	1.2 Gbps / 35 Mbps

* Low-cost options available to eligible households



The Road to 10G
10G – or 10 Gigabit – is technology which will allow Comcast to deliver multigigabit upload and download speeds to tens of millions of Americans over the cable connections already installed in their homes and businesses.

Keeping Our Customers Connected - Always

Comcast's Network Investment

\$20B

In the past five years (2017-2021), we've invested nearly \$20 billion - \$4.2 billion in 2021 alone - to evolve and grow our network. In Colorado, we've invested \$1.2 billion just in the last 3 years.

2x

We've doubled our network capacity every 2.5 years to stay well ahead of demand.

+50K

Since 2017, we have built over 50k new miles of fiber into our network.

60M

Nation's largest provider of 1.2 gig speeds available to 60M homes and businesses.



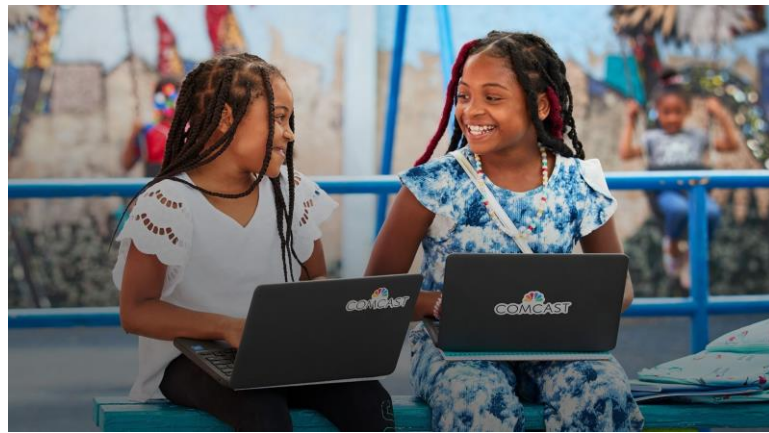
Project Up/Digital Equity



Comcast's Commitment to Digital Equity



Comcast's \$1 Billion Commitment to Advance Digital Equity and Build a Future of Unlimited Possibilities



Access & Connectivity

internet
essentials



Adoption & Skills



Addressing Access & Connectivity

Internet Essentials



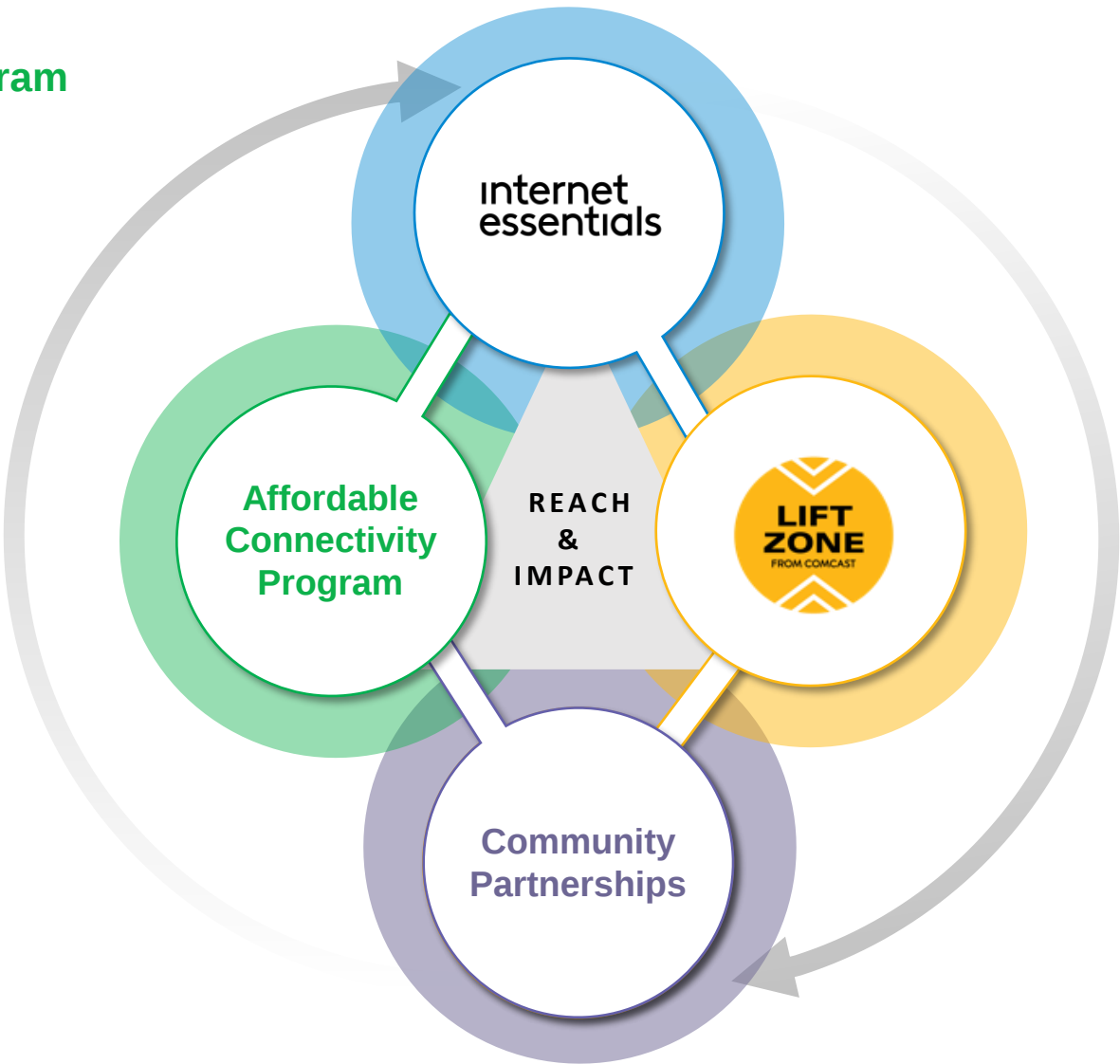
Affordable Connectivity Program



Lift Zones



Community Partnerships



Internet» essentials

FROM COMCAST

Internet Essentials has connected more than 10 million low-income Americans – and nearly 600,000 in Colorado – to low-cost, high-speed Internet at home so that everyone can be ready for anything.



Low-Cost & Free Service: We provide low-cost, high-speed broadband to low-income households across our service area. Customers can choose between two speeds of service:

- 50/10 Mbps for \$9.95
- 100/20 Mbps for \$29.95

Both tiers are free when customers apply their \$30/month Affordable Connectivity Program credit.



Equipment: Internet Essentials customers can purchase a new Dell Laptop (includes Microsoft Office) or Chromebook for \$149.99 through our partnership with Dell Technologies, Inc.



Awareness & Training: We work with a network of partners to offer free in-person, online, and printed digital literacy training materials and classes.



Affordable Connectivity Program (ACP)

Xfinity is proud to participate in the Affordable Connectivity Program (ACP), which provides eligible households a credit of up to \$30/month towards your Internet and mobile services.

We're making it simple for both new and existing customers to apply this credit towards Xfinity Internet, Internet Essentials and Xfinity Mobile services.

What is the ACP? The ACP is a Federal program which provides qualified households with a monthly credit of up to \$30/month (up to \$75/month for customers in Tribal lands) towards their Internet and mobile services.

How to Apply for this Benefit Households interested in the program can go to [Xfinity.com/acp](https://xfinity.com/acp) for more information and the steps to apply.



IE and ACP

Customers can get Internet Essentials completely FREE with ACP

- Now customers can sign up for Internet Essentials in Xfinity stores, online, or through any Center of Excellence.
- Eligible households can now add Xfinity Mobile to Internet Essentials and use any remaining ACP funds to cover their mobile bill.
- **Eligibility:** Customers who are eligible for programs like the Federal Pell Grant, National School Lunch Program, SNAP, Medicaid, housing assistance, and others may qualify for ACP. A household is also eligible if the household income is at or below 200% of the [Federal Poverty Guidelines](#)



New and existing customers can visit xfinity.com/acp or call 844-389-4681 for more information, to check eligibility, and sign up.

Lift Zones

Working with our network of nonprofit, community, and municipal partners **Comcast has equipped nearly 100 locations across Colorado with WiFi-connected “Lift Zones.”** Comcast Lift Zones offer:

- Robust, free WiFi in safe spaces for students and adults to get online
- Enables participation in digital literacy and workforce development trainings
- Provides access to hundreds of hours of educational and digital skills content.

Lift Zones compliment **Comcast’s Internet Essentials** program.

A million thanks!! Our kids had a great time because all the folks from Comcast and the Broncos were so friendly and engaging with our kids and teens. I heard more than once, "this is the best day of my life", you all made that possible.

Angela Giron- President & CEO of Boys and Girls Clubs of Pueblo County



Comcast’s Lift Zones were awarded the SXSW’s 2022 People’s Choice Award for “Innovation in Connecting People”

Investing in the Communities We Serve

- **\$42.6 Million in cash and in-kind contributions** to Colorado communities over the past 3 years.
- **Nearly 600,000 Coloradans** connected to the internet through **Internet Essentials** (since 2011)
- **COVID-19 Response** included two free months of **Internet Essentials** service, access to WiFi hotspots, free educational resources, access to NBC and Universal News Networks.
- **Launched 1,250 Lift Zones** across the country, including over 100 in Colorado.



Thank You





Contact Info

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Director, Government Affairs

gary_amella@comcast.com

(719) 258-7917





A collaboration among

Exploring the potential
to develop commercial
carbon storage for
Southern Colorado



Pueblo City Council – Sept 24, 2023

Unified collaboration toward the mission



Principal Investigator
Manika Prasad

- Rock Physics and Geomechanics
 - Reservoir Modeling
 - Community Benefits



Principal Investigator
Chris Cassle

- Project Management
- Regulatory & Environment
- Commercialization Plan



Senior Scientist
Bailian Chen

- CO2 Source Feasibility Study
 - Pipeline FEED Study
 - Capture Engineering

DEPT OF ENERGY
\$2.25B
CarbonSAFE Funding

**Carbon Storage Assurance Facility
Enterprise (CarbonSAFE)**
program to identify and characterize
geology capable of sequestering

50 million
metric tons of CO₂
over 30 years

Project EOS one of nine projects selected by DOE as part of a \$242 million nationwide investment to accelerate the development of large-scale, commercial carbon storage projects.

\$32.6 million

Phase III: Site Characterization and Permitting

- Detailed site characterization (seismic/wells)
- Prepare/submit Class VI permit to construct
- CO₂ Source feasibility study
- CO₂ Pipeline FEED study
- Storage field development and commercialization plan
- NEPA
- Community Benefits Plan

Outcome:
**CO₂ storage site
permitted and ready for
construction**

**Potential
Opportunities**

Decarbonization of
existing industry

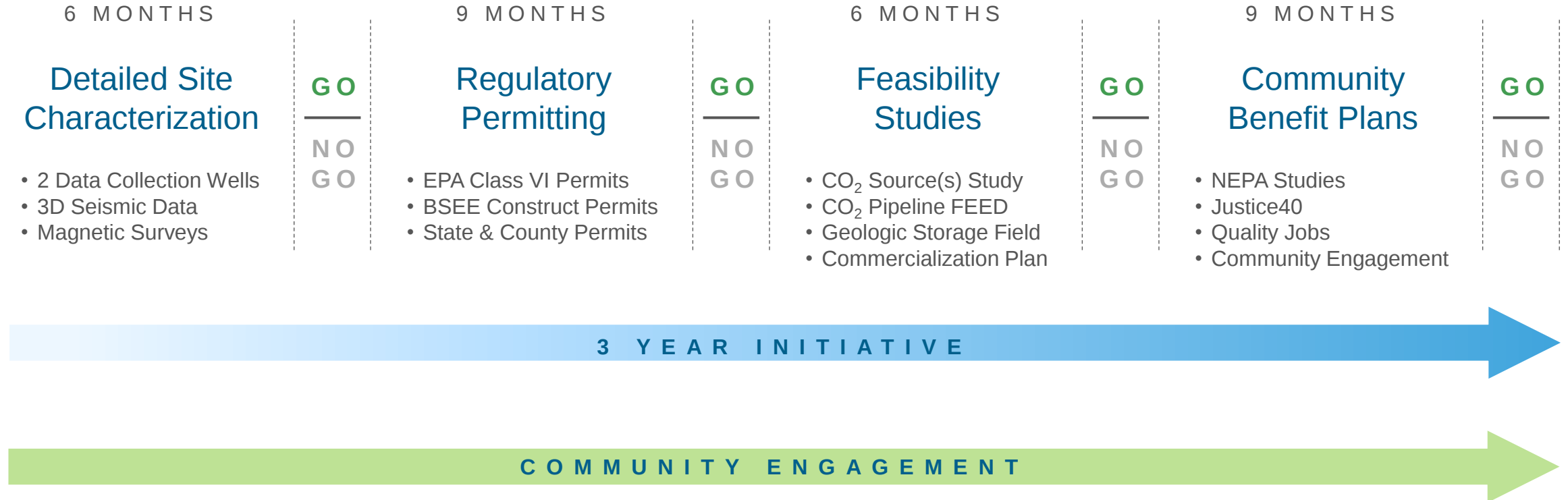
Plug-and-play for
new industrial
investments

Direct air capture
Hydrogen, biomass

Nexus of low carbon
technology
manufacturing

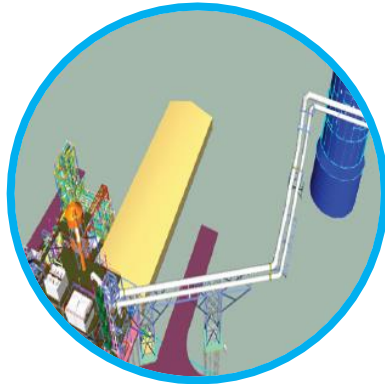
Path to Certainty for CO2 Storage

Significant time and investment required for data analysis and permitting



Next milestone: Collecting 3D seismic data at potential storage location

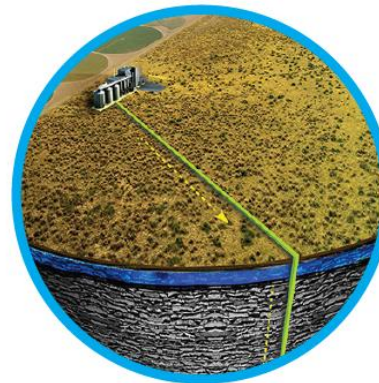
CAPTURE



Discussions with local existing and CO₂ sources.

Goal: Pilot new technology that captures over 99% of CO₂, plus sulphur oxides (SO_x), nitrogen oxides (NO_x), mercury, particulate matter. Separate Direct Air Capture (DAC) deployment with DOE funding.

TRANSPORT



Pipeline prefeasibility based on underground CO₂ sequestration being located 25 to 60 miles northeast of city center.

Social, economic and environmental considerations part of pipeline route studies.

GEOLOGIC STORAGE



Existing scientific data indicates ideal geology for CO₂ storage over 4,000 ft underground.

Planning for 3D seismic data collection and geologic sampling wells to validate storage capacity and structural integrity of potential storage site.



CO2 Storage Exploration

- State Lands on Chico Basin Ranch
- About 35 miles northeast of Pueblo
- Location of first geologic sampling well
- Second location to be explored on Brett Gray Ranch in northeast corner of fairway

Carbon Storage new revenue source for education

State Lands Revenue

\$61M

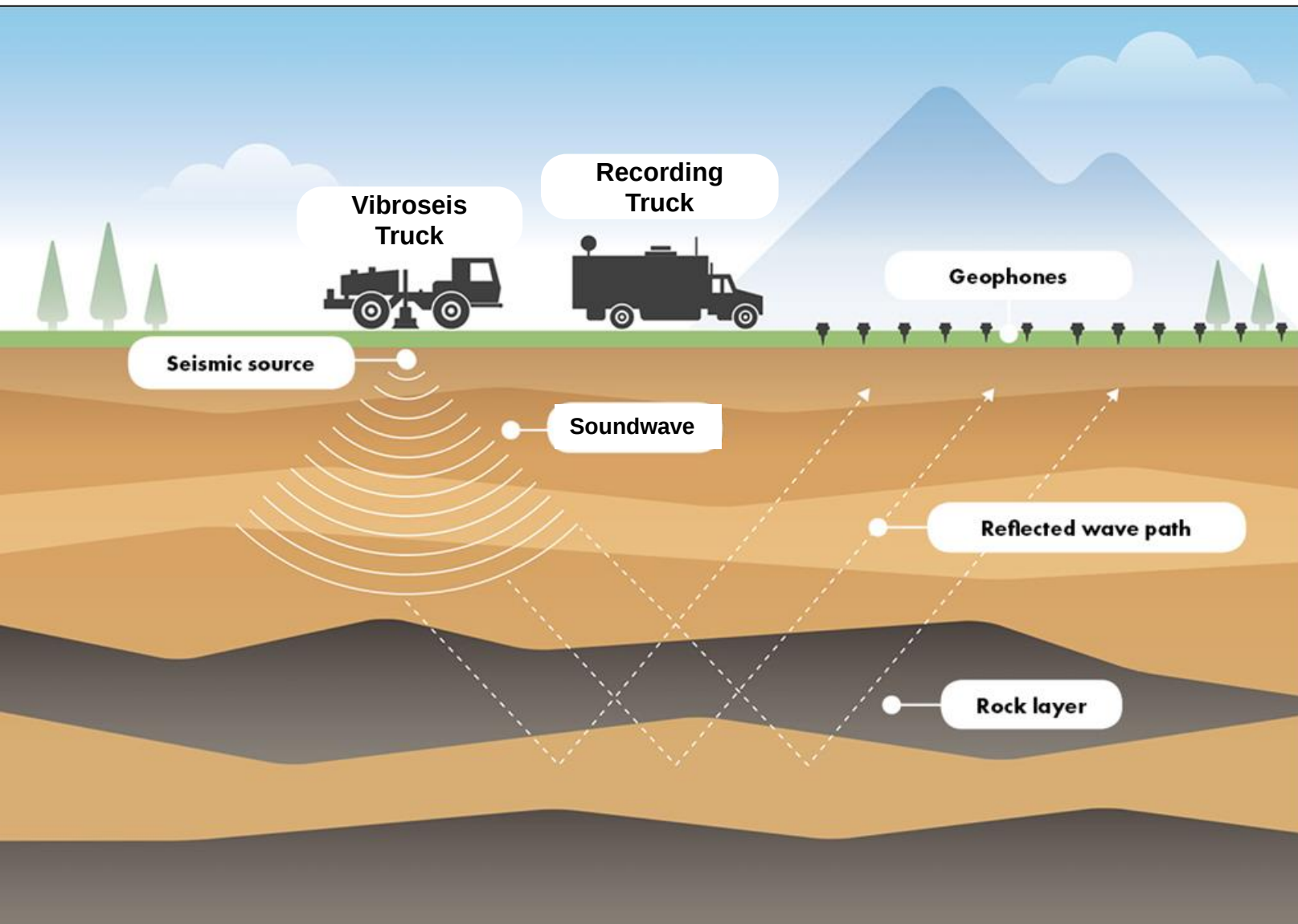
Pueblo County Schools

**Carbon Storage has
potential to generate**

Millions

Of dollars in new
education funding

Seismic Survey



A vibrating pad applies low-frequency signals to the ground for several seconds at regular stops along the survey route.

The strength and frequency of the vibrations can be controlled, to tune a vibroseis truck to avoid negative impacts to road surfaces or nearby structures and underground utilities.

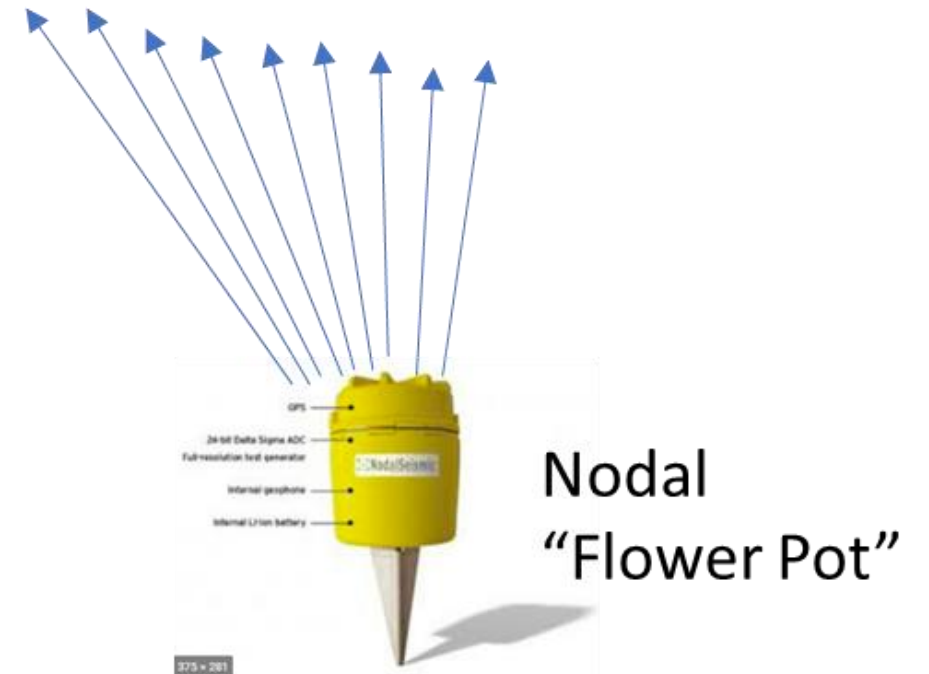
Seismic Survey: receivers (geophones)



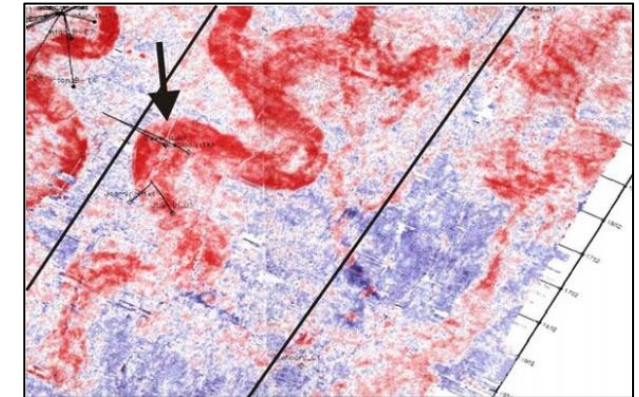
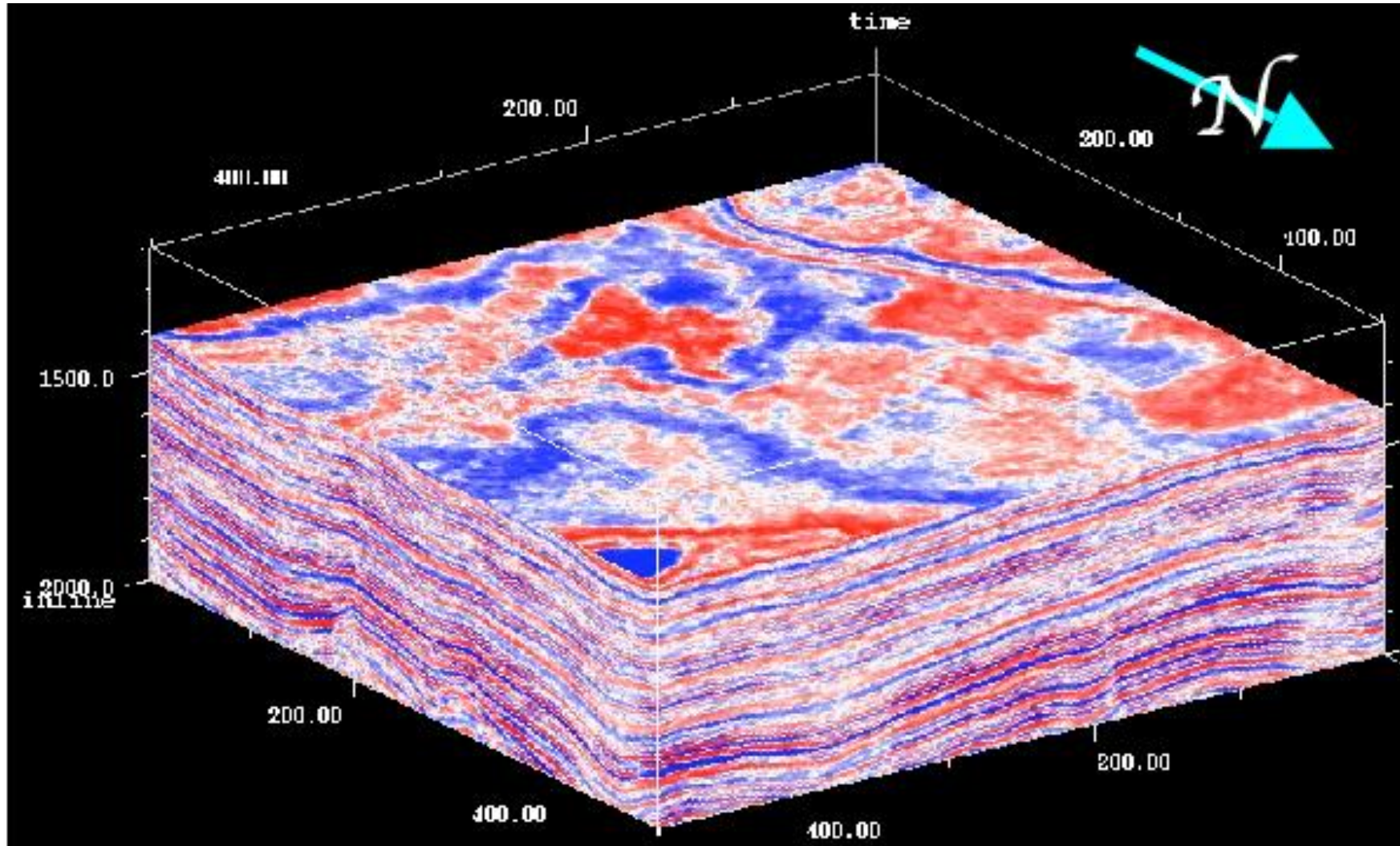
Geophone Truck



Geophone & Data Storage



Seismic Survey



Geologic sampling well drilling operations

Before a final CO₂ storage site is determined, a geologic sampling well is used to validate the structural integrity and CO₂ storage capacity of a geologic storage location.

FLUID SAMPLES

Collect samples from potential underground sources of drinking water (salinity < 10,000 ppm)

CORE SAMPLES

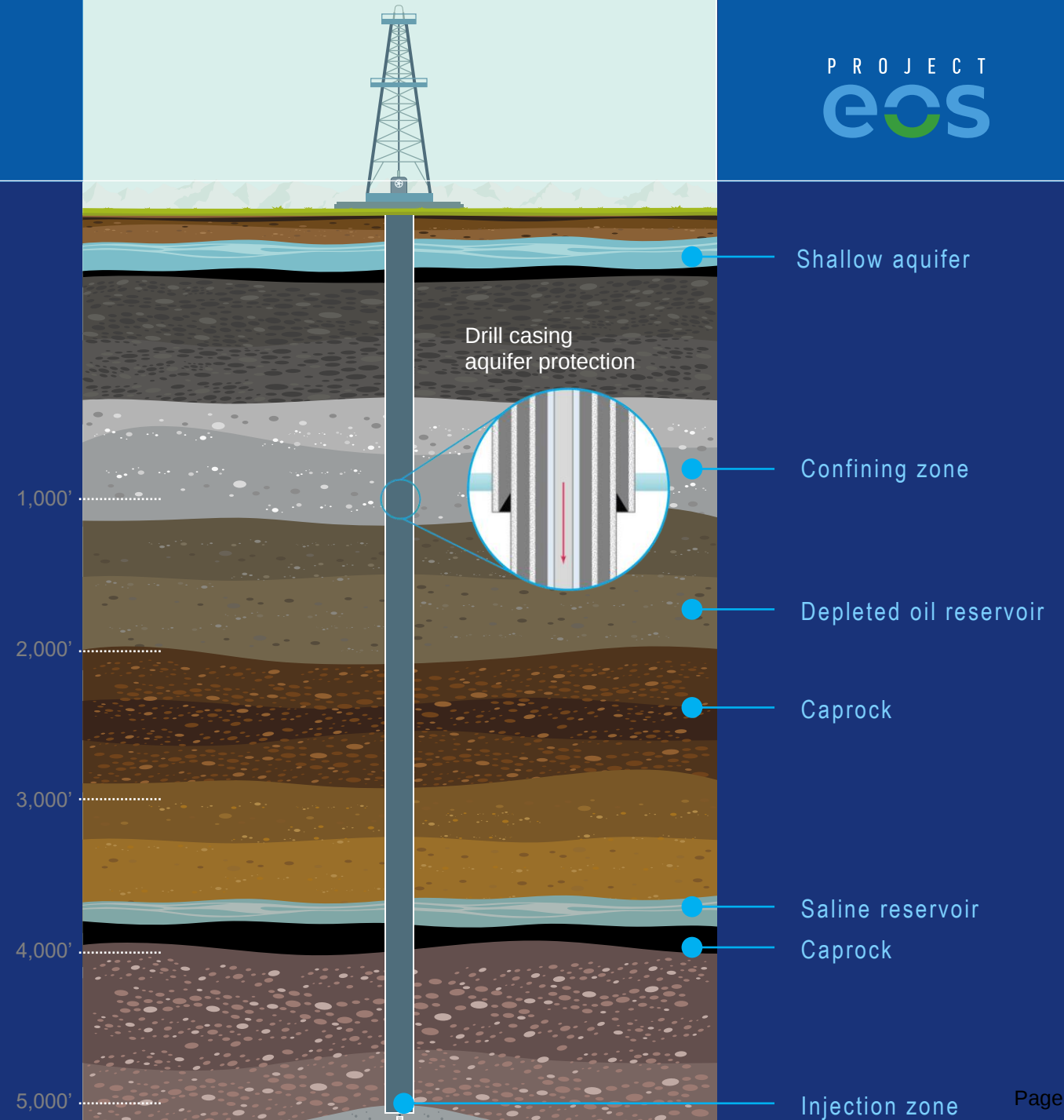
Collect geologic core during drilling to conduct lab analysis to understand reservoir and confining zone properties

WIRELINE LOG DATA

Collect wireline log data to characterize all formations for the entire storage complex

VALIDATE DATA & FORMATION

Integrate learnings into 3D geocellular model to evaluate CO₂ storage footprint and migration



Thank You and Questions

PROJECT
ecos

ProjectEos.org

RIVERWALK PUEBLO

APPENDIX



Position Pueblo as a role model in a just energy future

COMMUNITY-CENTRIC SOLUTIONS

Drive public-private CCS projects
focused on local input and
benefits.

LOCAL IMPACT, GLOBAL ATTENTION

Demonstrate how CCS can enable
broader clean energy and
environmental justice solutions.

ECONOMIC DEVELOPMENT

Support industry that can benefit
from regional decarbonization
efforts.

Carbon Capture and Storage (CCS)

CCS is a proven technology to reduce CO₂ emissions and permanently trap it in geological formations deep underground.

- 50+ years of capture system operating experience due to gas pipeline specifications
- Over 40+ year process used in oil recovery is the basis of CO₂ injection techniques for sequestration (100s of CO₂ injection wells in US)
- No loss of life or significant environmental incidents
- Over 5,000 miles of CO₂ pipeline in the US
- Regulated by the EPA and other federal, state and local permitting
- Well known geology: 141,000 wells in Carbon America's DJ Basin Database
- 21 large-scale projects under development in the U.S.

Carbon Capture and Storage (CCS)

CARBON CAPTURE

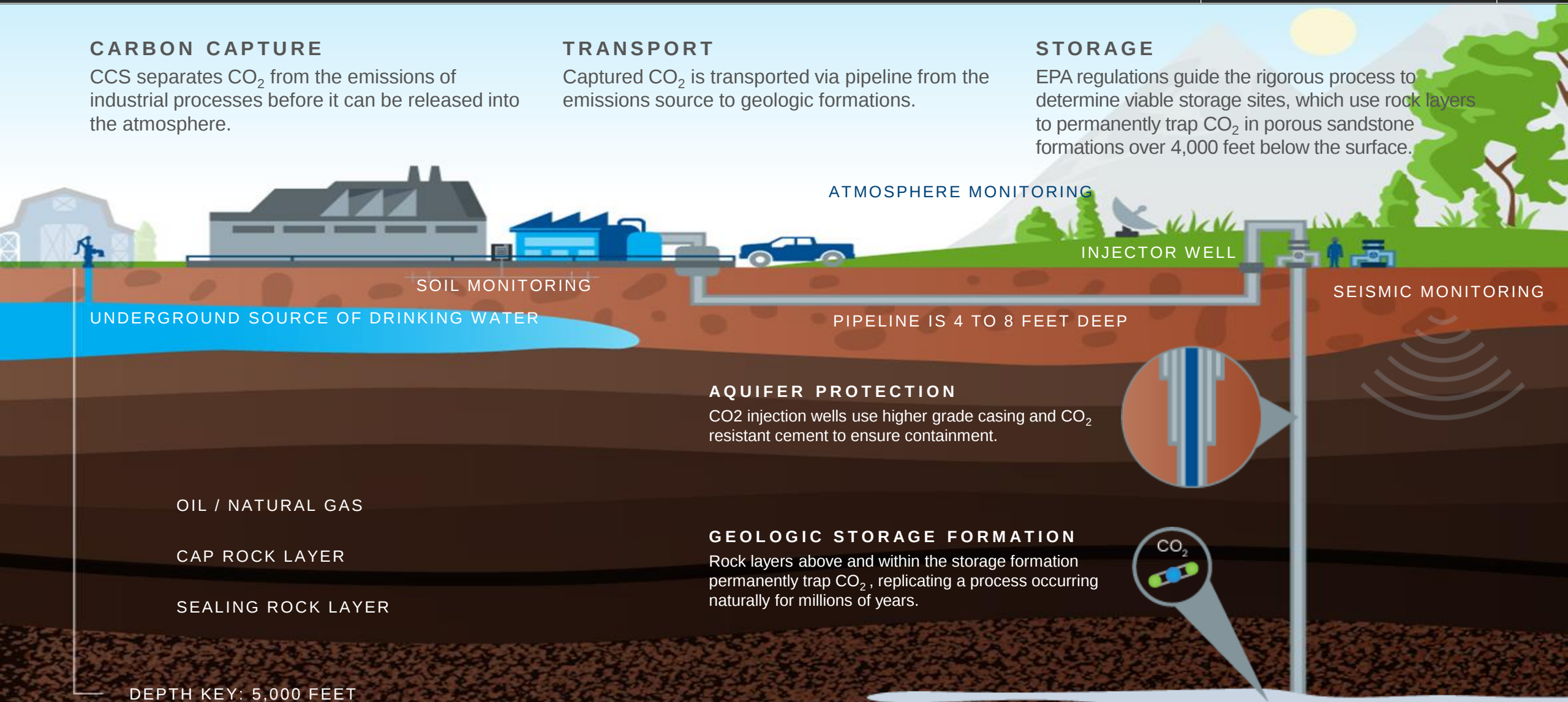
CCS separates CO₂ from the emissions of industrial processes before it can be released into the atmosphere.

TRANSPORT

Captured CO₂ is transported via pipeline from the emissions source to geologic formations.

STORAGE

EPA regulations guide the rigorous process to determine viable storage sites, which use rock layers to permanently trap CO₂ in porous sandstone formations over 4,000 feet below the surface.



Case Study: Yuma Ethanol in Northeast Colorado



175,000 tons of CO₂ captured annually



38,000 passenger vehicles off the road.

Geologic Sampling Well

- Colorado State Lands in Washington County
- Collected three primary forms of data:
 - Well logs
 - Core samples
 - Fluid samples
- Submit for EPA Class VI Well by Q1 2024

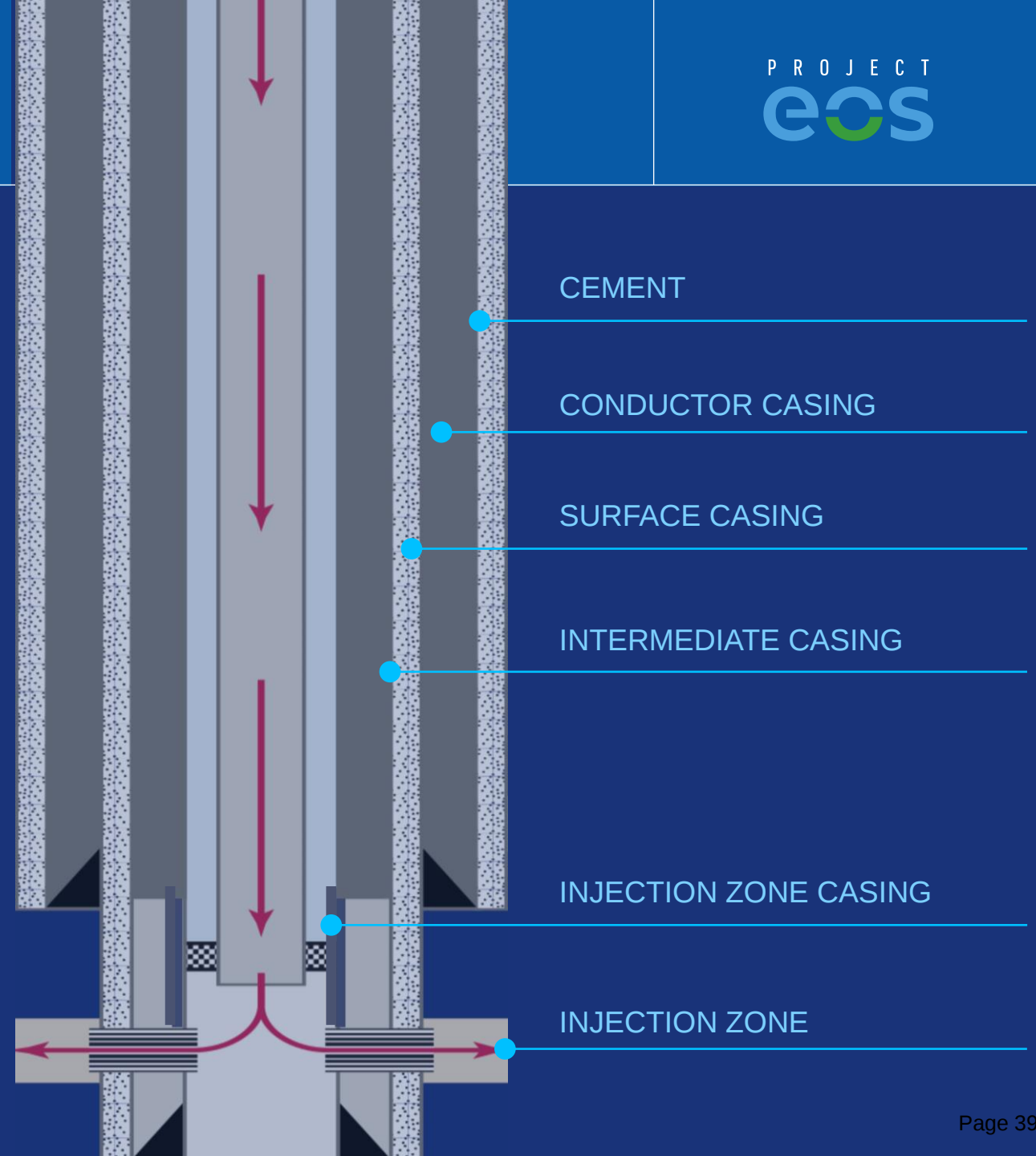
Geologic sampling well drilling operations

Well Bore Cement & Casing Aquifer Projection

Each casing layer is pressure tested to certify integrity.

Cement bond log verifies cement bonding properly with no leaks

Real-time monitoring during injection includes pressure gauges at well bore to detect leaking



CO2 injection well commercial operations

What makes an ideal CO2 storage complex?

CONTAINMENT

Sealed container (sealing or cap rocks above the storage zone)

CAPACITY

More than enough space to hold all the injected CO2

STABILITY

No geologic faults in the surrounding rock

DEPTH

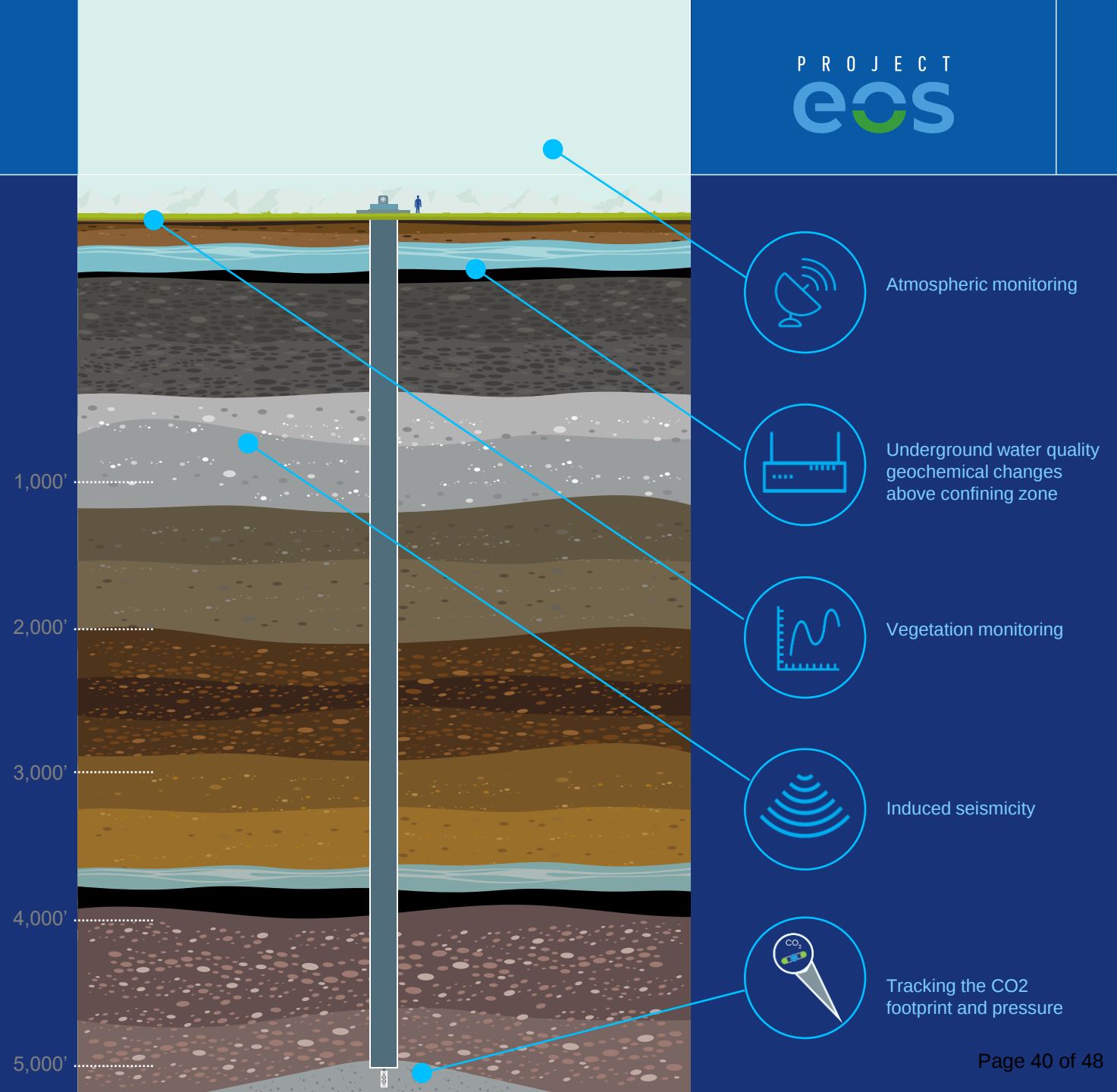
Ample barriers between the storage zone and sources of drinking water

CHEMISTRY

Rock compatible with CO2 injection and fluid over 10,000 mg/l total dissolved solids

PRESSURE

Injection pressure won't break rock layers



Protecting Drinking Water Resources

The EPA's Class VI well requirements are designed to protect underground sources of drinking water (USDW).

- Siting
- Construction
- Operation
- Testing
- Monitoring
- Closure



CarbonSAFE Project Eos Objectives



DEVELOP COMMERCIALIZATION PLAN

Prove up two anchor locations to establish a sequestration fairway with the potential to offer the most cost-effective solution for industrial facilities to accelerate CO₂ emission reduction goals.

STAKEHOLDER ENGAGEMENT

Incorporate two-way engagement and stakeholder feedback for development and planning of a long-term commercial sequestration hub in support of sustainable economic and social development goals.

Key Community Partnerships Envisioned



Supporting Stakeholders



Geologic Sampling Well

WATER SAMPLES

Collect samples from potential underground sources of drinking water (salinity < 10,000 ppm)

CORE SAMPLE

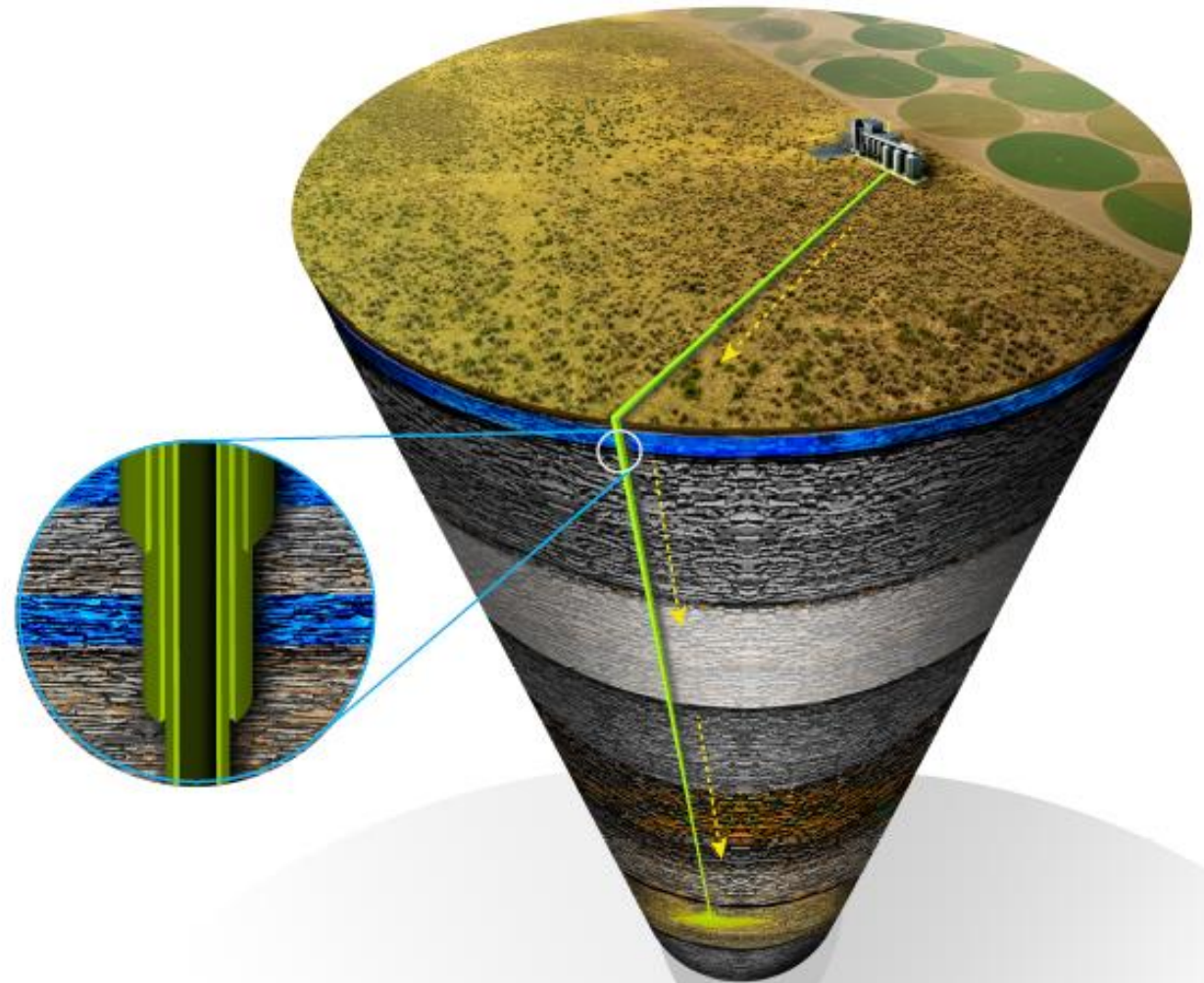
Collect geologic core during drilling to conduct lab analysis to understand reservoir and confining zone properties

WIRELINE LOG DATA

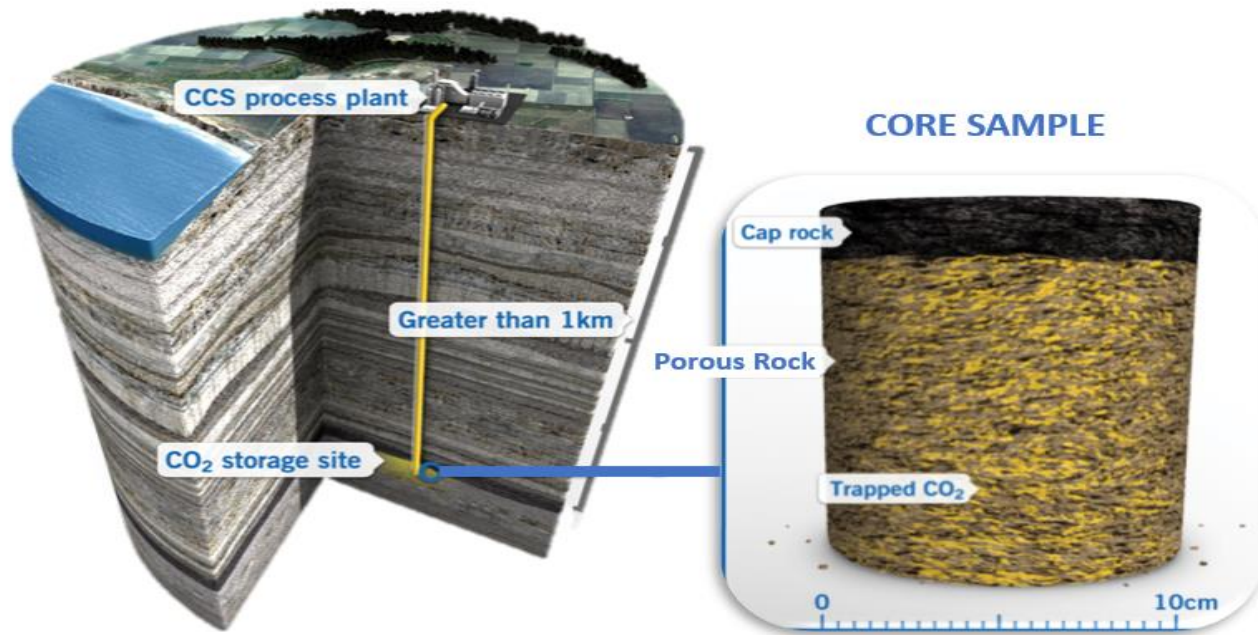
Collect wireline log data to characterize all formations for the entire storage complex

VALIDATE DATA AND FORMATION

Integrate learnings into 3D geocellular model to evaluate CO₂ storage footprint and migration



Geologic Sequestration Requirements



Source: Global Carbon Capture & Storage

CONTAINMENT

Sealed container (sealing or cap rocks above the storage zone)

CAPACITY

More than enough space to hold all the injected CO₂

STABILITY

No geologic faults in the surrounding rock

DEPTH

Ample barriers between the storage zone and sources of drinking water

CHEMISTRY

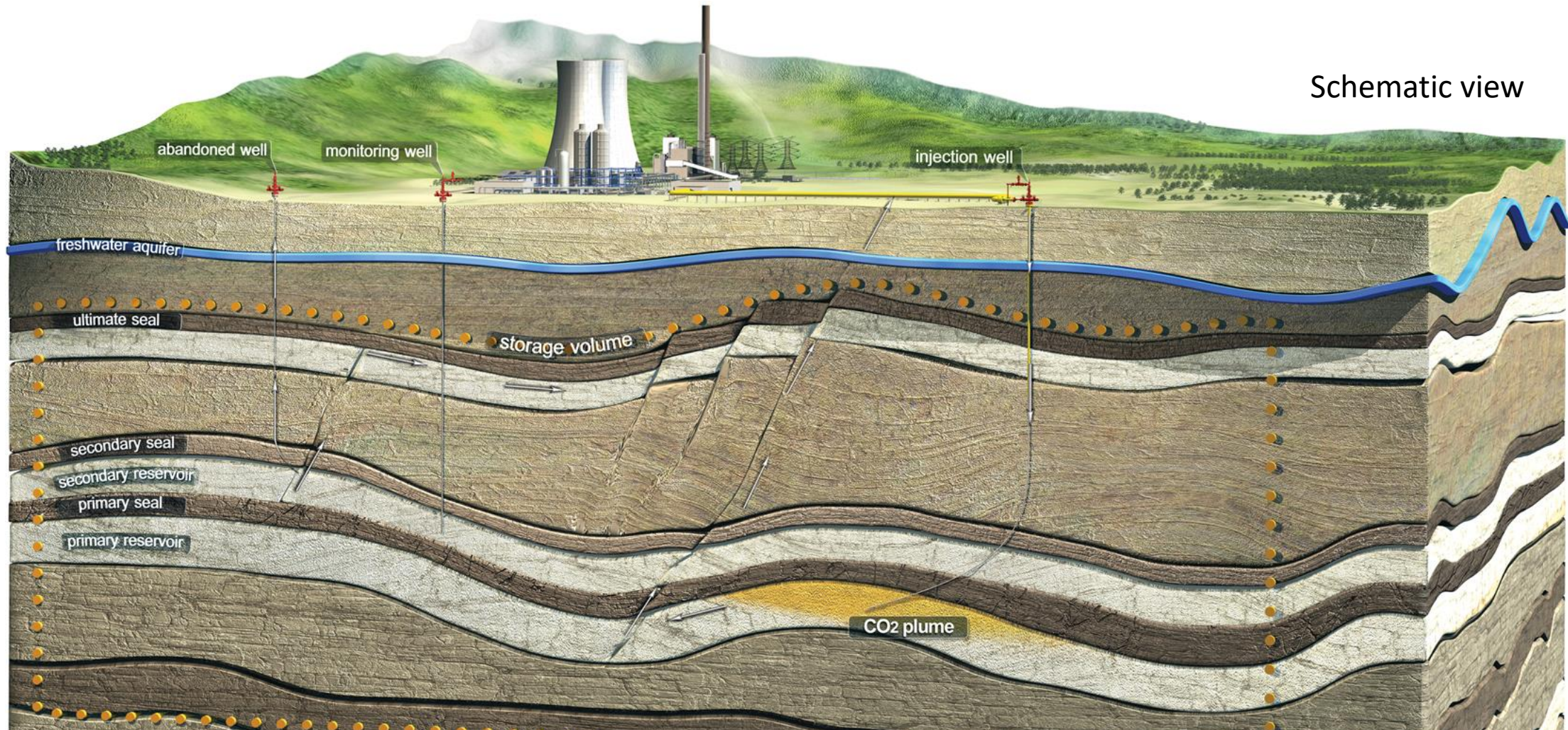
Rock compatible with CO₂ Injection

PRESSURE

Injection pressure won't break rock layers

Key questions: quantity and location

How much and where does the fluid reside?



New Colorado laws for CCUS

The Colorado Legislature enacted legislation this year to:

- Allow the state to seek **Class VI primacy** for permitting Class VI injection wells (**SB 23-016**)
- Make carbon management projects eligible for funding under the **clean air grant program** (**HB23-1210**)
- Develop a state **carbon management roadmap** (**SB 23-285**)
- Change the name and scope of the Colorado Oil and Gas Conservation Commission to the **Energy and Carbon Management Commission** (**SB 23-285**), with authority over geothermal as well
- Establish **investment tax credits for industrial decarbonization**, including near-term studies (**HB23-1272**)

CCS Agency Oversight

Colorado Department of Public Health and Environment	Colorado Department of Water Resources	Colorado Parks and Wildlife	Colorado State Land Board
Department of Energy	Department of Transportation	El Paso County	Lincoln County
Pueblo County	Energy and Carbon Management Commission	EPA GHG Federal	EPA Region 8 Denver
Pueblo Stormwater Utility Department	Pueblo Wastewater Department	United States Army Corps of Engineers	United States Fish and Wildlife Service

Permitting Process State ECMC

30-day Notice to Local Government	GIS Shapefiles	Reference Area Pictures
Access Road Map	Hydrology Map	Soil Unit Map
Colorado Parks & Wildlife	Interim Reclamation	State Land Board Consultation
Consultation Summary	Layout Drawings	Summary
County Consultation Summary	Light Mitigation Plan	Stormwater Management
Cultural Features Map	Location Pictures	Surface Use Agreement
Cumulative Impacts	Noise Mitigation Plan	Topsoil Protection
Dust Mitigation	NRCS Soil Unit Descriptions	Waste Management
Emergency Response	Operations Safety Management	Water Use Plan
Fluid Leak Detection Plan	Process Flow Diagram	Wildlife Habitat Map
Geologic Hazard Map	Reference Area Map	Wildlife Protection

