Protecting our families.
Preserving the future.

L Landowners United to Protect Property Rights

E Eminent Domain Reform to Protect Property Rights

D Defend Our Families to Preserve Our Children's Future

R Restrict Foreign Ownership of Private Land

LEDR
LANDOWNERS
for Eminent Domain Reform

CO2 PIPELINE FACTS - WHAT YOU NEED TO KNOW

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The size and scale of these pipeline networks makes them the **first of their kind**. Carbon dioxide (CO2) through a pipeline is concentrated at very high pressures - 2100 psi which is 2-3x higher than a natural gas pipeline. The construction of pipelines can wreck soil structure, disrupt drain tile, and have other serious and long-term impacts on the integrity and productivity of agricultural land.

HAZARDOUS

- CO2 + water = carbonic acid which **eats through metal transport pipes.**
- While the air we breathe contains small amounts of carbon dioxide, (usually around 0.04%), concentrated CO2 is an **asphyxiant/intoxicant** – colorless and odorless – a silent killer.
- **CO2 exposure causes:**
  –2% concentration: confusion, increased blood pressure
  –8% concentration: nausea, vomiting
  –10% and above: suffocation, death

UNTESTED

- It takes **15.6** 8" pipes to carry the volume of **one 24"** inch pipe.
- CO2 pipeline safety valves are proposed every 20 miles apart.
- A 24" pipe 20 miles long is enough CO2 to fill 1,880 Olympic size swimming pools.
- Pipeline **monitoring is done remotely** from out of state.
- US DOT Pipeline & Hazardous Safety Administration (PHMSA) regulates CO2 pipelines.
- PHMSA report (5/26/2022) - **current regulations DO NOT protect citizens.**
- New and updated PHMSA regulations due in fall of 2024

DANGEROUS

- CO2 pipelines do **rupture and pose unique, significant safety hazards.**
- Response to ruptures requires specialized teams, equipment and vehicles.
- CO2 pipeline **incident rate currently is about twice that of natural gas**.
- A leak can open a CO2 pipeline like a zipper.
- CO2 leaks can threaten aquifers, wells, waterways, rivers.
- **Ruptures create a shrapnel** of dry ice, CO2 gas, dirt, rock, and pipe steel.
- One mile long 8" pipe rupture sends gas 197' high, 1,312' wide from pipe center*
- A 12.5" pipe **rupture can travel 4.47 miles** from center.*

*controlled study

Proposed Carbon Pipeline:
What You Need to Know

1) Damaging to land and poses a **significant health and safety threat** to families and communities.

2) CO2 pipelines of this size and length **have never been built before.**

3) Carbon capture companies formed with **foreign investment** to capitalize on Federal US tax credits.

4) CO2 pipelines have a **track record of ruptures.**

5) Burden of oversight and **safety falls to the counties.**

6) Ultimately, little to **no impact on climate change**.

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HAZARDOUS

Carbon dioxide through a pipeline is concentrated at very high pressures 2-3X higher than natural gas.

- CO2 + water = carbonic acid **eats through metal transport pipes**
- Unlike the air we breathe, **concentrated CO2 is an asphyxiant & intoxicant – an odorless, colorless, silent killer**

CO2 Exposure Impact:

CONCENTRATION	EFFECTS
~0.04%	Air we breathe
2%	confusion, increased blood pressure
8%	nausea, vomiting
>10%	suffocation, death

UNTESTED

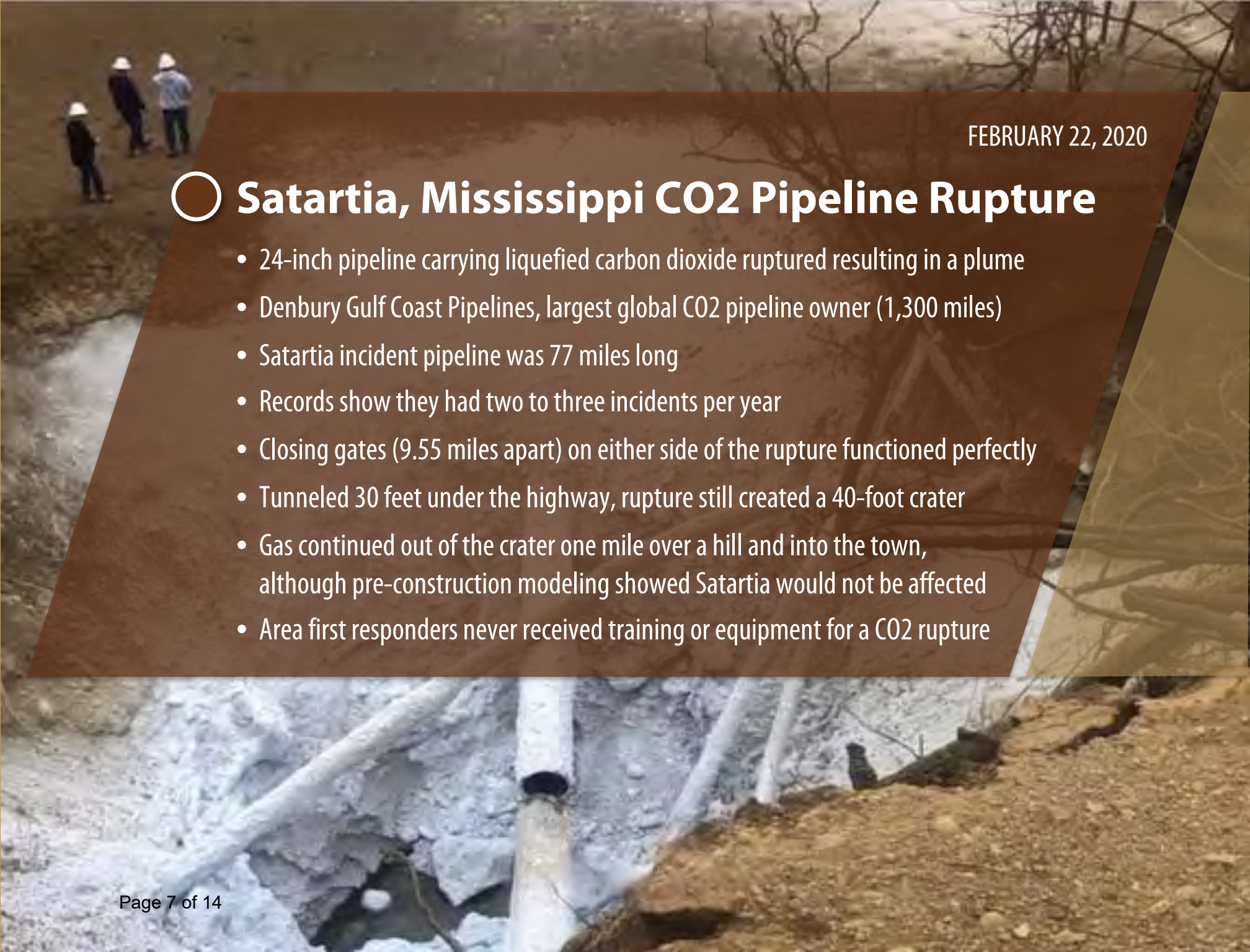
This type of CO2 pipeline has never been built before and would be the largest & longest ever constructed in the United States.

- Very limited existing pipelines in US
- 229,287 total miles of hazardous liquid pipelines
  - 5,100 miles (~2.2%) of those are CO2 (most in the world)
  - Most are less than 100 miles
- Safety valves proposed every 20 miles
  - Leak can open a pipeline like a zipper
  - Leaks can threaten aquifers, wells, waterways, rivers
- It takes more than **fifteen** 8-inch pipes to carry the volume of **one** 24-inch pipe.
- A 20 mile long 24-inch pipe could fill 14,880 Olympic size swimming pools.

DANGEROUS

CO2 pipelines have a history of rupture with devastating impacts to people, communities and the environment.

- Ruptures pose unique, significant safety hazards
- **Create a shrapnel of dry ice, CO2 gas, dirt, rock, and pipe steel**
- Incident rate currently is about **twice that of natural gas**
- One mile long 8-inch pipe rupture sends gas 197 feet high, 1,312 feet wide from pipe center
- 12.5-inch pipe rupture can travel more than four miles from center



FEBRUARY 22, 2020

Satartia, Mississippi CO2 Pipeline Rupture

- 24-inch pipeline carrying liquefied carbon dioxide ruptured resulting in a plume
- Denbury Gulf Coast Pipelines, largest global CO2 pipeline owner (1,300 miles)
- Satartia incident pipeline was 77 miles long
- Records show they had two to three incidents per year
- Closing gates (9.55 miles apart) on either side of the rupture functioned perfectly
- Tunneled 30 feet under the highway, rupture still created a 40-foot crater
- Gas continued out of the crater one mile over a hill and into the town, although pre-construction modeling showed Satartia would not be affected
- Area first responders never received training or equipment for a CO2 rupture

Bankruptcy gives companies a quick and easy exit – leaving the burden to our government and landowners.

SATARTIA, MISSISSIPPI – RUPTURE TO BANKRUPTCY LESS THAN SIX MONTHS

2020

- Bankruptcy can void terms of lease agreements
- Most affected people have yet to receive fair compensation for their injuries
- Most severely affected have become dependent on the state

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Burden of oversight and safety falls to the counties, and ultimately citizens.

1) Pipeline **monitoring is done remotely** from out of state.

2) Response to ruptures requires **specialized teams, equipment and vehicles.**

3) PHMSA's safety oversight **only includes design, construction, and operation**.

   - Report (5/26/2022) - **current regulations DO NOT protect citizens.**
   - New and updated regulations due **fall of 2024**

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Summit Carbon Solutions & Navigator Heartland Greenway

- New private for-profit companies.
- Formed to take advantage of lucrative 45Q Federal tax credits.
- Significant foreign investment and ownership.
  - Summit ties to South Korean company that pleaded guilty and fined multiple times for Government Fraud
  - Navigator is funded by BlackRock (foreign ownership)
- Neither company has experience in building nor management of hazardous CO2 pipelines.

Significant risk with insignificant impact on climate change.

1) A much-promulgated 2020 Princeton University study calls for **65,000 miles of CO2 pipelines by 2050**.

   - 65,000 miles of pipeline could only move about 15% of current annual US CO2 emissions.
   - It would take **2.6 million miles** of new hazardous pipelines to have **any meaningful effect** on reducing emissions.

2) Since 2009 the Department of Energy has doled out **$1.1 billion dollars to carbon** capture and sequestration demonstration projects for 6 coal plants.

   - Only one was built and started operating before closing in 2020. The process was **too costly in energy and water.**

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The current rush to build CO2 pipelines is due to the 45Q tax credits.

"We are getting ahead of ourselves on pipelines. For billions of dollars, you make smart people do incredibly stupid things."

Richard Kuprewicz

INDEPENDENT PIPELINE SAFETY CONSULTANT

Expert witness who has worked
in the oil and gas industry since 1970's

229,287 MILES OF **HAZARDOUS LIQUID PIPELINES** IN THE US.

2X **MORE INCIDENT REPORTS** THAN NATURAL GAS PIPELINES.

5,100 **MILES** OF EXISTING **CO2 PIPELINES** IN US – MOST LESS THAN 100 MILES EACH.

NO **OVERSIGHT** OF CO2 PIPELINE ROUTES BY US REGULATION. IN SOUTH DAKOTA **IT IS THE COUNTY'S RESPONSIBILITY.**

65,000 MILES OF CO2 PIPELINE WOULD **ONLY MOVE 15%** OF CURRENT **ANNUAL US CO2 EMISSIONS.**

$1.1B **SPENT** BY THE DEPARTMENT OF ENERGY ON **CARBON CAPTURE PROJECTS SHUT DOWN AS TOO COSTLY ON ENERGY & WATER.**

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Footnotes:

1) A Review of CO2 Pipeline Infrastructure in the U.S., U.S. Dept. Of Energy, 4/21/15

2) A Roadmap to At Scale Deployment of Carbon Capture, Use and Storage, Chapter 6, Energy Equipment and Infrastructure Alliance

3) US DOT, Pipeline and Hazardous Materials Safety Admin., Office of Pipeline Safety, 5/26/22

4) Accufacts' Perspectives on the State of Federal Carbon Dioxide Transmission Pipeline Safety Regulations as it Relates to Carbon Capture, Utilization and Sequestration within the US. Prepared for the Pipeline Safety Trust, 3/23/22

5) Who's Afraid of a Carbon Capture Pipeline, Sierra, 7/3/22

6) CO2 Pipelines and Carbon Capture: The Satartia, MS Investigation, Climate Investigation Center, 8/30/21

7) Denbury, Inc. Website

8) Plans to Capture CO2 from Coal Plants Wasted Federal Dollars, The Verge, 12/30/21

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