

# 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



**LEDNR**  
**LANDOWNERS**  
*for Eminent Domain Reform*

# CO2 PIPELINE FACTS - WHAT YOU NEED TO KNOW



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.

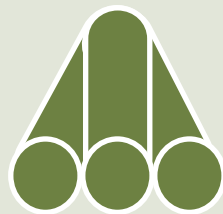
## HAZARDOUS



- 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



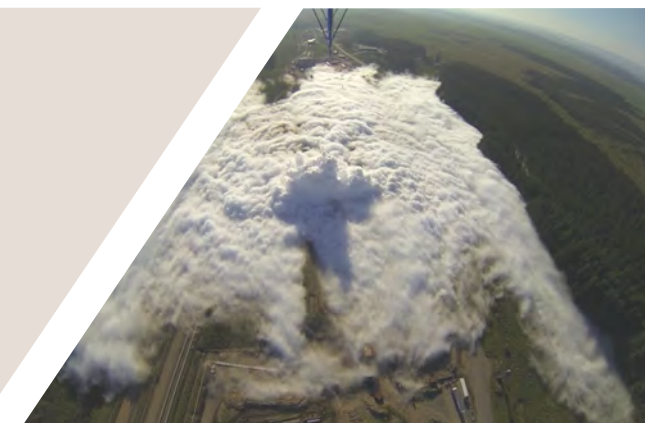
- It takes **15.6** 8" pipes to carry the volume of **one 24"** inch pipe.
- CO2 pipeline safety valves are proposed every 20 miles apart.
- A 24" pipe 20 miles long is enough CO2 to fill 1,880 Olympic size swimming pools.
- Pipeline **monitoring is done remotely** from out of state.
- US DOT Pipeline & 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.**



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

- CO<sub>2</sub> + water = carbonic acid **eats through metal transport pipes**
- Unlike the air we breathe, **concentrated CO<sub>2</sub> is an asphyxiant & intoxicant – an odorless, colorless, silent killer**

### CO<sub>2</sub> Exposure Impact:

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

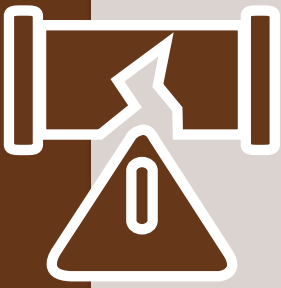




## This type of CO2 pipeline has never been built before and would be the largest & longest ever constructed in the United States.

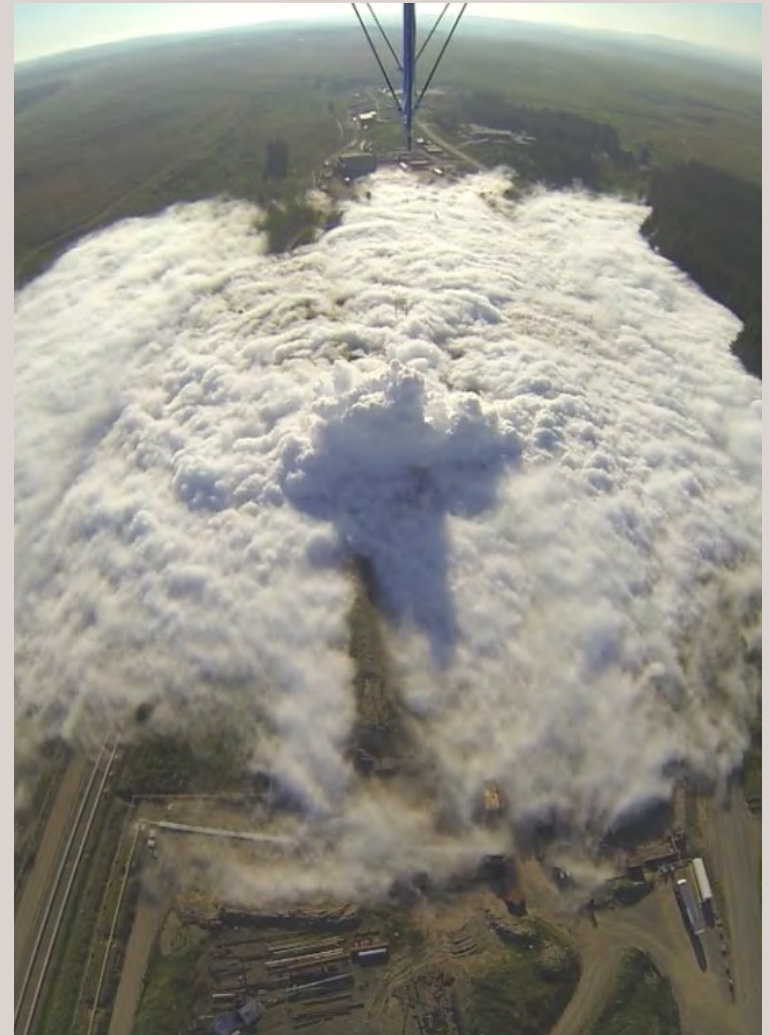
- Very limited existing pipelines in US
  - 229,287 total miles of hazardous liquid pipelines
    - 5,100 miles (~2.2%) of those are CO2 (most in the world)
    - Most are less than 100 miles
  - Safety valves proposed every 20 miles
    - Leak can open a pipeline like a zipper
    - Leaks can threaten 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
- Page 5 of 14880 Olympic size swimming pools.



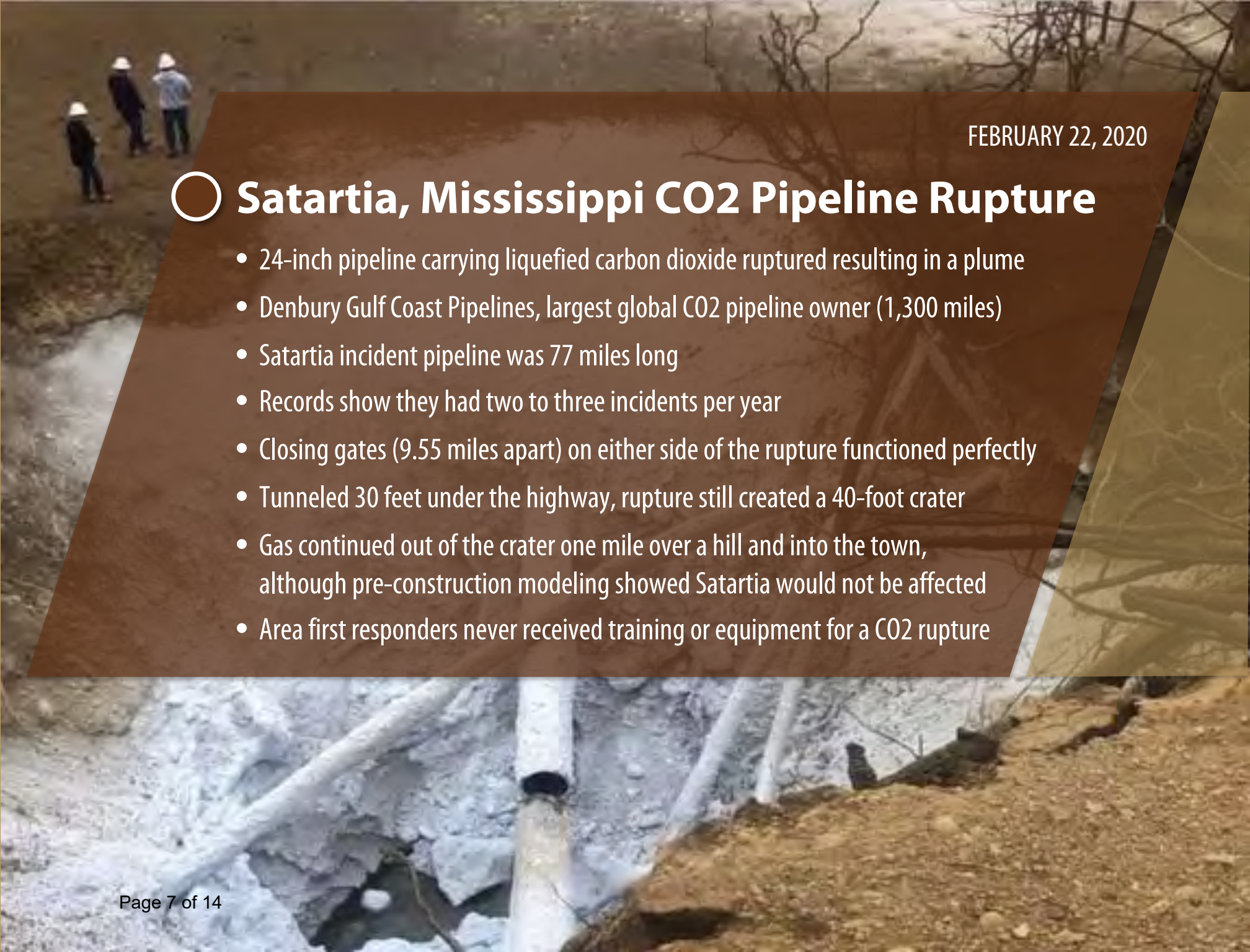


## CO2 pipelines have a history of rupture with devastating impacts to people, communities and the environment.

- 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



# 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**

# 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.**



**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.**

# 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