

Restore the Delta
2616 Pacific Ave #4296, Stockton, CA 95204
209-479-2559
www.restorethedelta.org



To EPA Region 9
Sent via email to nord.elise@epa.gov

November 5th, 2024

RE: Concerns Regarding Levee Breach on Victoria Island

Dear Sir or Madam:

We submitted a letter to the EPA on 10/21/24 highlighting our concerns with the Carbon TerraVault Holdings LLC (CTV) II application for a US EPA Class VI CO₂ injection well permit at Union Island in the Sacramento San-Joaquin Delta. Those concerns included 1) failure to submit the source(s) of the CO₂ stream, 2) failure to disclose the well construction materials to be used, 3) an inadequate emergency response plan, 4) an inadequate corrective action plan and 5) lack of transparency on pore space ownership and rights to injection operations.

As a follow-up, we would like to bring to the attention of the EPA a near-miss levee failure that occurred on the 21st of October 2024 on Victoria Island, where an additional Class VI permit application for CO₂ injection is under consideration.

The near-miss levee failure occurred at the southern tip of the island, adjacent to the Clifton Court Forebay, which provides storage and regulation of flows into the Banks Pumping Plant, which pumps water from the Delta into the California Aqueduct. We learned from local Delta engineers that a full levee break was very close: the initial report was that 180 feet of levee had dropped in elevation by approximately 4 to 5 feet, with large fissure cracks and a boil flowing more than 5,000 gallons per minute at the toe of the levee. Engineers reported this was indicative of a classical failure mode that typically leads to a complete collapse of the levee, then a full breach, similar to a levee failure at Upper Jones Tract in 2004.

To save and reconstruct the levee, engineers worked late into the night coring the levee on the waterside slope placing bentonite gel (expansive clay) and levee seal material in the trench. Since this initial filling effort could not stop the seepage, responders had to barge in additional material and equipment. It took three days of nonstop labor to reconstruct the levee and rebuild the failed fill section fully. The cause of the near breach was attributed to under-seepage much deeper in the levee section, likely through a sand boil.

The images below show part of the levee fracture. In the first image, whirlpools in the river demonstrate movement of water into the levee.



This event highlights the ongoing challenges of maintaining critical infrastructure in the Delta region. The complex nature of Delta levee systems requires constant monitoring, maintenance, and swift response to potential failures. These infrastructure challenges create significant considerations for safe and effective geologic storage operations.

The Sacramento-San Joaquin Delta is under extreme flood risk from two directions: sea level rise from the Bay and more rapidly melting snowpack from the Sierra Nevada. Should a complete levee breach occur it would result in complete or partial flooding of islands and possibly damage existing surface infrastructure. Any resulting CO2 leakage could have extended impacts beyond individual project sites given the interconnected nature of Delta waterways.

We believe that flood impacts can be managed holistically with a combination of responsible levee maintenance and floodplain restoration along the San Joaquin River in consultation with CA native tribes, environmental justice communities, and area farmers. Proper land management from sustainable, holistic agricultural practices and native plant restoration can also sequester carbon and reverse land subsidence, bolstering levee protection.

Given the Delta's unique circumstances, we believe Class VI permits warrant special considerations. Specifically, operators should be required to 1) demonstrate that levees are being well maintained in compliance with U.S. Army Corps standards and 2) characterize flood risks to injection operations, mitigation plans, and emergency response plans in the event of flooding impacts on injection operations.

We urge the EPA to carefully consider the concerns we have raised carefully. Given the Sacramento-San Joaquin Delta's ecosystem, communities, and critical importance as a water resource, it is important that these issues are thoroughly addressed before any permits are granted. We call for stronger safeguards to protect the Delta. The EPA has a crucial role to play in ensuring that carbon capture projects do not compromise environmental integrity or community safety and well-being. We look forward to seeing these concerns addressed in detail and remain committed to advocating for the protection and the restoration of the Sacramento-San Joaquin Delta.

Sincerely,



Davis Harper
Carbon and Energy Program Manager
Davis@restorethedelta.org



Esther Mburu
Carbon Policy Analyst
Esther@restorethedelta.org



Barbara Barrigan-Parrilla
Executive Director
Barbara@restorethedelta.org