



June 14, 2023

David Albright
Manager, Groundwater Protection Section
United States Environmental Protection Agency Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Re: Response to Administrative Review – Notice of Incomplete Application
Carbon TerraVault Holdings LLC (CTV) IV Project
Underground Injection Control (UIC) Permit Application
Class VI Pre-Construction Permit Application No. R9UIC-CA6-FY23-3.1 to 3.8

Dear Mr. Albright:

Carbon TerraVault Holdings LLC (CTV) has prepared this response to the U.S. Environmental Protection Agency Region IX (“EPA”) CTV IV Class VI Permit Application Administrative Review request for Additional Information in your letter dated May 25, 2023.

Sincerely,

Faisal Latif

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Technical Manager
Carbon TerraVault Holdings LLC (CTV)

Enclosure Response to EPA Administrative Review – Notice of Incomplete Application

Cc (via email): Miguel Cabrera, CalGEM Northern District
 Alex Olsen, Central Valley Regional Water Quality Control Board
 Janice Zinky, CA State Water Resources Control Boards

Response to EPA Administrative Review – Notice of Incomplete Application

General Information

Follow-up Questions/Requests for the Applicant:

40 CFR 146.82(a)(2) requires that the application includes a map showing the injection wells, the Area of Review (AoR), and the below list of items:

- Injection wells,*
- Producing wells,*
- Abandoned wells,*
- Plugged wells or dry holes,*
- Deep stratigraphic boreholes,*
- State- or EPA-approved subsurface cleanup sites,*
- Surface bodies of water,*
- Springs,*
- Mines (surface and subsurface),*
- Quarries,*
- Water wells,*
- Other pertinent surface features,*
- State, Tribal, and Territory boundaries, and*
- Roads.*

Figure 2.1-7 within the "Att A - CTV IV Narr_v1" document shows the injection wells and additional wells with log data, but the types of existing wells (i.e. producing, abandoned, etc.) are not specified. Please update Figure 2.1-7, or create a new figure, that includes all the applicable items in the list above, and/or clarify if specific features on the list are not present.

> RESPONSE: Att. A Section 2.2.3 was updated to include detailed description of where the above information is located as follows:

40 CFR 146.82(a)(2) requires that the application includes a map showing the injection wells, the AoR, and the below list of items:

- Existing injection wells, producing wells, abandoned wells, plugged wells or dry holes, deep stratigraphic boreholes (Figure 2.2-1).*
- Surface bodies of water, springs, mines (surface and subsurface), quarries, State, Tribal, and Territory boundaries, roads and other pertinent surface features (Figure 2.2-9).*
- State- or EPA-approved subsurface cleanup sites (Figure 2.2-10).*
- Water wells (Figure 2.7-6)*

Figure 2.2.-1 is a new figure that identifies the existing oil/gas wells. Figures 2.2-9, 2.2-10, and 2.7-6 were updated to include injector well locations.

Geologic Narrative/Site Characterization Information

Follow-up Questions/Requests for the Applicant:

- *40 CFR 146.82(a)(5) requires that the Hydrologic Information/Maps and Cross Sections of underground sources of drinking water (USDWs) show the positions of the USDWs relative to the injection zones. Figure 2.7-1 through Figure 2.7-5 within the "Att A - CTV IV Narr_v1" document do not explicitly include USDWs. Please update the application to provide aerial and cross section maps that show the positions of the USDWs relative to the injection zones.*

> RESPONSE: A cross section of the of base of the lowermost underground source of drinking water (USDW) is shown on Figure 2.2-5 (formerly Figure 2.2-4) of Attachment A. A new figure (2.7-3) showing an aerial map of the depth to base of the lowermost USDW and its relationship to the AoR and injection wells has been added to the Attachment A.

Injection Well Construction Plan

Follow-up Questions/Requests for the Applicant:

- *40 CFR 146.86(b)(1)(ii) requires that the application includes the injection pressure, external pressure, internal pressure, and axial loading. The "Appendix 4 CTV IV Op Procedure_v1" document includes the injection pressure but should also explicitly identify the external pressure, internal pressure, and axial loading parameters. Please update the application accordingly.*

> RESPONSE: A footnote was added to Table 1 of each Att G. Construction and Plugging Plan documents with the following language:

"Note: Burst pressure is the same as internal pressure, collapse pressure is the same as external pressure, and tensile strength is the same as axial loading."