Challenge:
To date, more than 67 Class VI permits for the geologic sequestration of carbon dioxide under the Underground Injection Control (UIC) Program have been submitted to the Environmental Protection Agency (EPA), encompassing a total of over 161 wells. The number of Class VI well permits is expected to increase, with the availability of the 45Q tax credit program for initiating construction before 2023. The acquisition of both open-source data (spatial, narrative, tabular) and site-specific field data are a prerequisite for Class VI permits. Despite the accessibility of much of the required data through open-source outlets like state geologic surveys, the information remains scattered across numerous websites and various state and federal entities.

Outcome:
The Mapping Inquiry Tool (MapIT) is a user-friendly web tool offering access to essential data from authoritative sources to help with development of EPA permit applications for Class VI wells. The associated Class VI Data Support Tool Geodatabase, meticulously curated for credibility, provides comprehensive resources for stakeholders in the initial stages of well site selection and permitting. MapIT empowers users with categorized data navigation, documentation links, and query tools, to discover available public resources to be applied in the UIC Class VI well site selection process.

Methodology:
1. Reviewed EPA Class VI documentation.
2. Identified datasets based on relevance, completeness, credibility, and spatial format.
3. Collected relevant data from authoritative national, state, and local sources.
4. Categorized and organized selected datasets into the Class VI Data Support Tool Geodatabase.
5. Publicly released Class VI Data Support Tool Geodatabase on EDX.
6. Integrated the geodatabase and authoritative online resources into the MapIT tool.
7. Organized data into categories within the MapIT tool for easy navigation and exploration.
8. Included detailed descriptions of each tool page to guide users through use of the tool.
9. Enabled users to explore spatial data with filter and query capabilities.
10. Enabled users to download and export maps and data (when available).
11. Provided additional resources within MapIT, including links to additional data, a query tool for USGS publications, and EPA Class VI documentation.
12. Created comprehensive how-to documentation with screenshots and video examples.

Value Delivered:
• Provides a tool to find spatial data that can help in site selection.
• Discovers public data, and develop maps without being part of the regulatory permit submission process.
• Increases efficiency through a centralized tool that streamlines data discovery, collection, organization, and exploration from authoritative data sources.
• Creates a streamlined, user-friendly experience with categorized data, enhancing ease of navigation and exploration.
• Provides a centralized hub for data, reducing the time and effort required for stakeholders to gather essential information.
• Supports transparency by providing a robust metadata catalog that includes citations and links to original data.
• Includes detailed descriptions of each tool page to guide users through use of the tool.

Limitations:
• Data are not always available, particularly in the smaller extent ranges.
• Some data are not in easy-to-use formats like shapefiles and must be found in reports and other non-spatial tabular formats.

Class VI Data Support Tool Geodatabase available for download on EDX.

Geodatabase Key Features:
• Geodatabase with original NETL derived datasets.
• Supports data catalog of publicly available NETL and external data, including geologic structure, environmental, and social justice, and United States drinking water resources (USGS).
• Comprehensive cataloging of data availability with filter and query capabilities in downloadable Excel Workbook.
• Robust groundwater data availability information with citations, data links, and data accessibility options when available.

Anticipated Release 2024 on