California
**Department of
Conservation**
Geologic Energy Management

Well Finder Mapping Application

Quick Reference Card

TOOLS IN WELL FINDER MAPPING APPLICATION

The Well Finder mapping application provides tools for spatial data visualization, filtering, selection, simple analysis, and exportation. The tools are described in Table 1.

Table 1. Tools in Well Finder mapping application

Tool	Icon	Definition
Basemap Gallery		Select a background map.
Layer List		Select data layers to display on the map.
Legend		View symbology for visible layers.
Print		Create a printable map diagram.
Share		Share customized map links.
Add Data		Add user data.
Search	Find address or place	Search for values in map layers.
Measurement		Measure an area or distance.
Select		Select map features
Query		Prebuilt queries for simple analysis.
Filter		Prebuilt and custom map filtering.
Attribute Table		View map layer data in tabular format.

FUNCTION DETAILS

Each tool in the Well Finder mapping application contains several function(s) upon selection.

Functions within Basemap Gallery

The Basemap Gallery tool allows the user to select between multiple background maps. Map features are displayed on top of the background map. Options include topographic, imagery, imagery with labels, street and high contrast.

Functions within Layer List

Functions within the Layer List tool include toggle view, expand view, and more options. Toggle the checkbox to the left of the layer name between checked and unchecked to display or hide the associated data layer. Expand or collapse the caret to the left of the checkbox to view the sublayers within the layer group. The more options button to the right of the layer name provides a layer transparency slider, a button to view the attribute table, or to see a description of the map layers metadata.

Functions within Legend

The Legend tool shows the symbology for visible map layers only.

Functions within Print

The Print widget produces a printable map diagram with static well symbology. Output options include printable page size and orientation.

Functions within Share

The Share tool allows for creating custom web links that can be shared to others. From the "Link Options" selecting various setting to create a custom URL that navigates the map to a specified location. The "main menu" of the Share tool includes a link that can be used to embed the Well Finder map into a web page.

Functions within Add Data

The Add Data tool can be used to add additional map layers to the Well Finder map. Added data can be from URL based web services; or desktop files which include coordinate values. Click the "question" mark icon for requirements; note that uploaded files are limited to 1,000 records maximum.

Example CSV

Example KML/KMZ

Example Shapefile

Functions within Search

The Search tool navigates to a location on the map based on the user entered value,

supported search functions include: address, coordinate, city, or named place; and preconfigured data values from the Well Finder map layers. Select the down arrow caret to choose a specific map layer and data value to locate on the map.

Functions within Measurement

Measurement tool includes three measuring functions: area, distance, and location coordinates. To measure for area or distance, first select the unit of measurement from the dropdown list. Then create an area or a line on the map depicting the area or distance measuring; finish the area or line by double-clicking. The tool displays the measurement.

To view location coordinates, first choose the coordinates units between degrees or degree/minute/second (DMS). The tool displays the mouse cursor coordinates when the cursor is on the map. When a location pin is added on the map, the tool also displays the pin coordinates.

Functions within Select

The Select tools can be used to "select" individual map features. Selected features can be used to create temporary layers, view in the attribute table tool, and export to a downloadable file.

Functions within Query

The Query tool includes several prebuilt options for Well Finder: buffer a selected location on the map by a user specified distance to identify map features that fall within the buffer; generate a list of wells that are within a local government jurisdiction; and navigate to a PLSS section.

Functions within Filter

The Filter tool includes options to limit what is displayed on the map: filter the map with preconfigured filters such as the "Oil and Gas Well" layer by status and type; or create a custom filter based on a map layer's unique data values using the custom filter command.

Functions within Attribute Table

The Attribute table presents tabular data for map layers. A map layer can be added to the attribute table from within the Layer tool's individual layer's more options menu, by selecting, "View in Attribute Table". The Attribute table "Options" menu allows for filtering and exporting of map data. Exporting data is limited to 2,000 records. Before exporting unneeded columns can be turned off by clicking the "plus" icon on the right side of the data table.

Note: Excel formatting may be incorrect such as missing leading zeros, see Excel documentation for best practices when opening csv file type.

BASIC WELL SYMBOLS

Wells are symbolized on Well Finder application by the combination of colors and symbols. Colors are used to represent the status of the wells; symbols represent the type of the wells. Table 2 illustrates the symbology used for wells in Well Finder and its description.
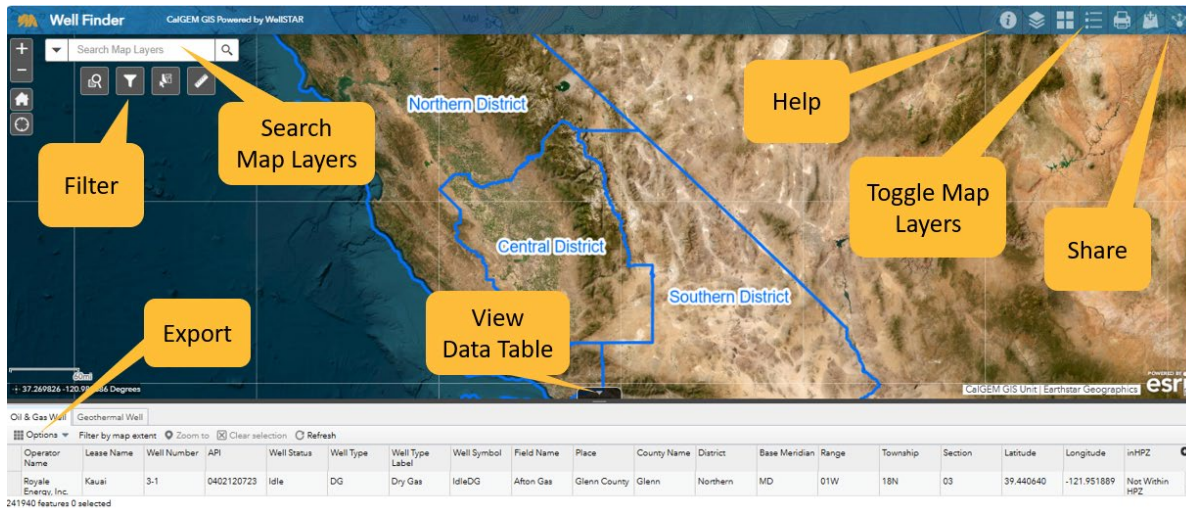
Table 2. Well symbols in Well Finder mapping application.

Well Status or Type	Icon	Description
Active	🟢	Green circle
Canceled	🔴	Red circle
Idle	🟣	Purple circle
Permitted	🟠	Orange circle
Plugged and Plugged Only	⚪	Grey circle
Unknown Status	○	White circle
Not CalGEM Jurisdiction*	⚫	Black circle
Dry Gas, Liquid Gas	☼	Hollow circle with spikes
Oil and Gas	●	Solid black dot
Gas Storage	☼	Hollow circle with spikes and double arrow
Injectors	◕	Solid black dot with single arrow
Cyclic Steam	◕	Solid black dot with double arrow
Water Source	Ⓦ	Hollow circle with letter W
Observation	Ⓞ	Hollow circle with letter O
Multipurpose	Ⓜ	Hollow circle with letter M
Unknown Type	ⓘ	Hollow circle with question mark
Dry Hole	⊕	Cross with large circle inside
Core Hole	✛	Cross with small circle inside
Stratigraphic	Ⓢ	Hollow circle with letter S
EPA Well: Class I*	❶	Black circle with letter I

EPA Well: Class III*	Ⓘ	Black circle with letter III
EPA Well: Class IV*	Ⓘ	Black circle with letter IV
EPA Well: Class V*	Ⓥ	Black circle with letter V
EPA Well: Class VI*	Ⓥ	Black circle with letter VI
Water Supply Well*	Ⓦ	Black circle with arrow and letter W

*Note: Not CalGEM Jurisdiction well status only occurs with EPA Well or Water Supply well types.

SPLASH PAGE REFERENCE IMAGE

This image shows the splash page reference graphic. It is a picture of the Well Finder mapping application with balloon callouts overlayed. Callout text includes arrows pointing to map tools: "Filter", "Search Map Layers", "Help", "Toggle Map Layers", "Share", "Export", and "View Data Table".

GLOSSARY

NOI – Abbreviation for Notice of Intention.