San Pasqual Valley Groundwater Sustainability Plan

Data Management System (DMS): Opti Public User Guide

Opti is a one-stop-shop for transparent data management and analysis that enables integrated performance tracking to support sustainable water management. This Public User Guide has been developed to assist you with navigation and usage of the San Pasqual Valley (SPV) Data Management System (DMS). Please see the Appendix for specific data types and quality codes configured in this implementation.

The DMS may be accessed at:
https://opti.woodardcurran.com/sanpasqual/main/php

Please click on Guest Login to access the DMS as a guest user.

Public usage of the DMS is explained in the following modules:

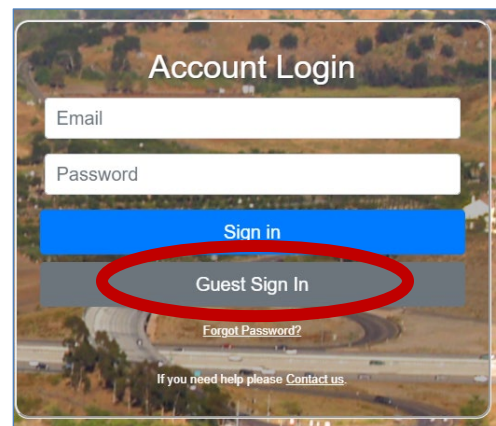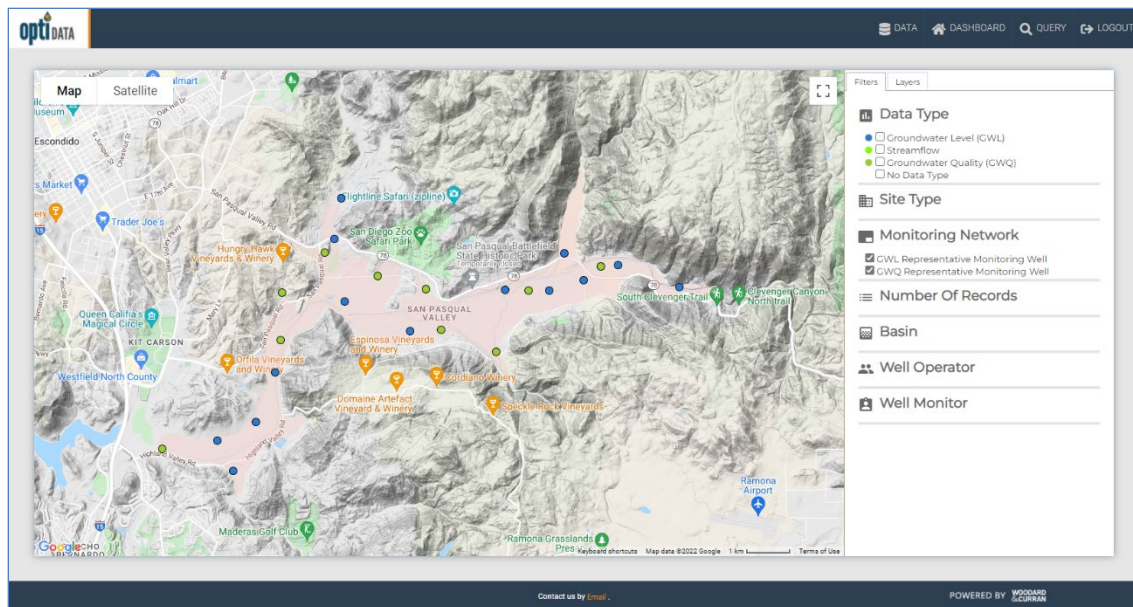- Data
- Query

Module: Data (Top)

The Data module contains two available submodules that allow you to view water resources data and their associated site information: Map and List.

Submodule: Map

The Map submodule displays the sites (wells, stream gages, facilities, etc.) as point locations on the map.

Feature: Change the Google Map display

- To move the location of the map display, use the pan tool to move the focal location of the display.
- To change the base layer of the map display, select an option from the upper l eft-hand side of the map display (Map or Satellite).

## Feature: Filter the results displayed on the map

- On the Filters tab on the right-hand panel, select the checkboxes for the options for which you would like to filter the results.
- Select sites based on:
    - o data type associated with the site,
    - o site type,
    - o number of data records,
    - o entity, or
    - o a combination of any filter.

Please note that sites may have more than one data type associated with them, e.g., groundwater level and groundwater quality.
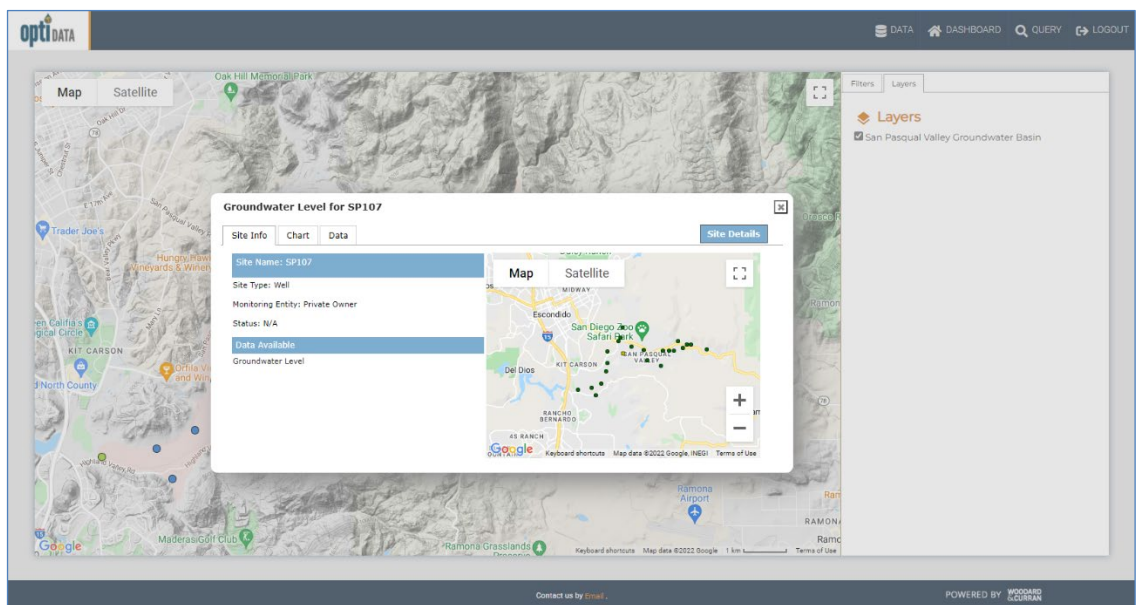

Feature: Change the layers displayed on the map

- Click on the Layers tab on the right-hand panel.
- You may toggle the Basin overlay layer here using the check box.
- You may click on the Basin layer in the map to view information on that feature.
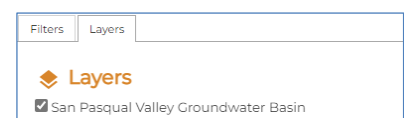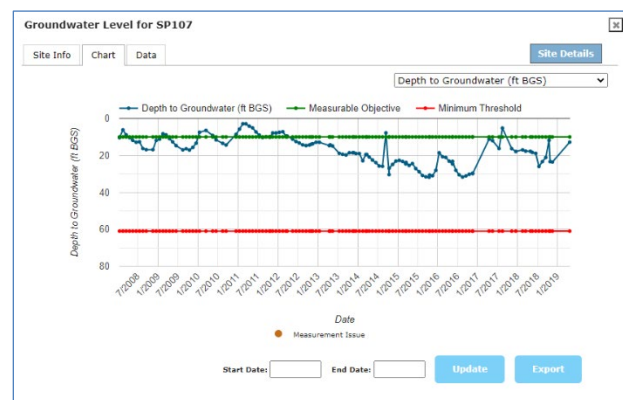
Feature: View site information on the map

- Click on a site on the map. The site information will be displayed with tabs for Site Info, Chart, and Data.
- To view site detailed information, click on the Details link. The Site Details page will open.
- To view a chart of the data, click on the Chart tab. You may change the parameter by selecting a parameter from the drop-down list in the upper right-hand corner. You may update the chart timeline by selecting the Start Date and End Date and clicking Update. You may export the data to Excel by clicking Export.
- To view a table of the data, click on the Data tab. You may change the parameter by selecting a parameter from the drop-down list in the upper right-hand corner. You may narrow the tabular list by selecting the Start Date and End Date and clicking Update. You may export the data by clicking Export.
- To select a different data type for the site, click on the data type available under "Data Available" on the Site Info tab.

Submodule: List

The List submodule contains a list of sites in a sortable, tabular format.

Feature: Filter and/or sort sites

- Select data type, site type, number of records, or entity from the drop-down menu at the top of the table to filter sites.
- Click on the table headers to alphabetically or numerically sort the selected column.

Feature: View site information from list

- Click on the selected site name in the list. The site information will be displayed with tabs for Site Info, Chart, and Data. The Site Details page is available through this dialogue box. The following information may be available:

Basic Info	Well Info	Construction Info
Site Type	State Well ID	Total Well Depth
Local Site Name	CASGEM ID	Borehole Depth
Local Site ID	Ground Surface Elevation	Casing Perforations
Description	Reference Point	Casing Diameter
County	Reference Point Elevation	Casing Modifications
Managing Entity	Reference Point Location	Well Capacity
Monitoring Entity	Reference Point Description	Well Completion Report
Type of Monitoring	Well Use	Number
Type of Measurement	Well Status	Comments
Monitoring Frequency	Well Type	
	Aquifers Monitored	
	Groundwater Basin Name/Code	
	Comments	

Module: Query (Top)

The Query module allows users to search for sites and data using different parameters and values.
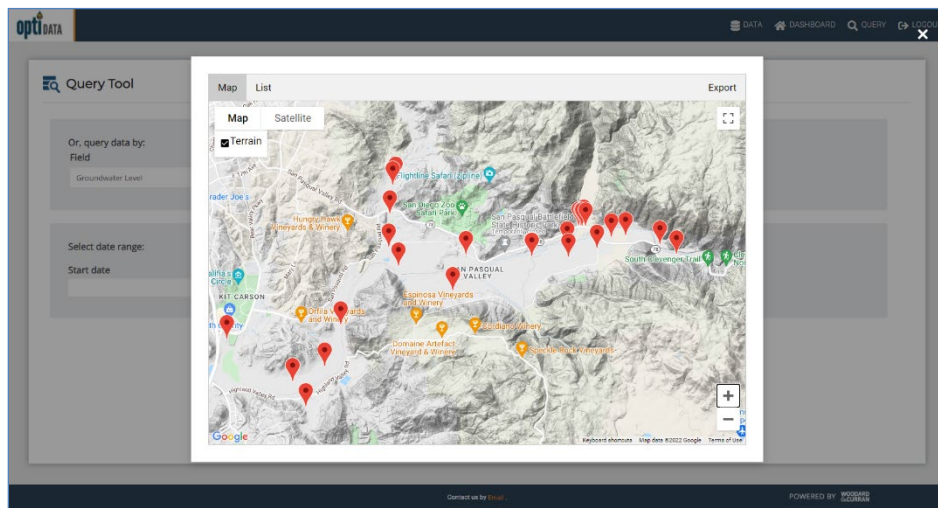
Feature: Create new query

- Click on the Query icon in the menu.
- To create a new query:
    - Select the following options from the drop-down menu under "Or, query data by:":
        - Entity
        - Site Name
        - Groundwater Level
        - Streamflow
        - Precipitation
        - Groundwater Quality
        - Surface Water Quality
    - If the selected option has associated parameters, select a parameter in the second drop-down menu.
    - Select an Operator. Please note that for text searches, you may use the "Like" option with wildcards (%).
    - To add additional rows to the query, click on the blue "+" button and complete.
    - To remove rows from the query, click on the red "-" button.
- To select data within a particular date range, complete the Start date and End date fields.
- Click Run. A window will open with a map view of the results.
    - Click on the site in the map to view the data for the site.
    - Click on the List tab to view the data in a list format. You may click on a site to view the data.
    - Click on Export to export the data to Excel.
- To clear the query, click the Clear button at the bottom of the page.

Appendix – SPV Specific Implementation Information

Data Types

The following data types are currently configured in the DMS. Please note that this list may change as more data becomes available.

Data Type	Parameter	Units	Currently Has Data in DMS
Groundwater Elevation	Depth to Groundwater	Feet	Yes
	Groundwater Elevation	Feet above MSL	Yes
Groundwater Quality	1,1,1-Trichloroethane	ug/L	Yes
	1,1,2,2-Tetrachloroethane	ug/L	Yes
	1,1,2-Trichloroethane	ug/L	Yes
	1,1-Dichloroethylene	ug/L	Yes
	1,2-Dibromo-3-chloropropane	ug/L	Yes
	1,2-Dichloroethane	ug/L	Yes
	1,2-Dichloropropane	ug/L	Yes
	Alachlor	ug/L	Yes
	Aluminum	mg/L	Yes
	Antimony	ug/L	Yes
	Arsenic	ug/L	Yes
	Atrazine	ug/L	Yes
	Barium	mg/L	Yes
	Barium	ug/ L	Yes
	Benzene	ug/ L	Yes
	Beryllium	ug/ L	Yes
	Bicarbonate	mg/ L	Yes
	Cadmium	ug/ L	Yes
	Calcium	mg/ L	Yes
	Carbofuran	ug/ L	Yes
	Carbon tetrachloride	ug/ L	Yes
	Chloride	mg/ L	Yes
	Dicamba	ug/ L	Yes
	Dinoseb	ug/ L	Yes
	Endrin	ug/ L	Yes
	Fluoride	mg/ L	Yes
	Glyphosate	ug/ L	Yes
	Heptachlor	ug/ L	Yes
	Heptachlor epoxide	ug/ L	Yes

Data Type	Parameter	Units	Currently Has Data in DMS
	Magnesium	mg/ L	Yes
	Manganese	ug/ L	Yes
	MBAS	mg/ L	Yes
	Methoxychlor	ug/ L	Yes
	Molinate	ug/ L	Yes
	Nitrate	mg/ L	Yes
	Pentachlorophenol	ug/ L	Yes
	Picloram	ug/ L	Yes
	Potassium	mg/ L	Yes
	Sodium	mg/ L	Yes
	Sulfate	mg/ L	Yes
	Thiobencarb	ug/ L	Yes
	Toxaphene	ug/ L	Yes
	Dissolved Nitrate	mg/ L as N	Yes
	Dissolved Nitrate	mg/ L as NO3	Yes
	1,1-Dichloroethane	TON	Yes
	1,2,4-Trichlorobenzene	ug/L	Yes
	1,2-Dibromoethane (EDB)	ug/L	Yes
Groundwater Quality (*continued*)	1,3-Dichloropropene (Total)	mg/L	Yes
	1,4-Dichlorobenzene	ug/L	Yes
	2,4,5-TP (Silvex)	ug/L	Yes
	2,4'-D	ug/L	Yes
	Aluminum - Total	ug/L	Yes
	Antimony - Total	ug/L	Yes
	Apparent Color		Yes
	Arsenic - Total	ug/L	Yes
	Atrazine (Aatrex)	ug/L	Yes
	Barium - Total	ug/L	Yes
	Bentazon	ug/L	Yes
	Benzo(a)pyrene	ug/L	Yes
	Beryllium - Total	ug/L	Yes
	Bicarbonate Alkalinity	ug/L	Yes
	Boron - Total	ug/L	Yes
	Cadmium - Total	ug/L	Yes
	Calcium	NTU	Yes
	Calcium - Total	mg/L	Yes
	Carbonate Alkalinity	ug/L	Yes

Data Type	Parameter	Units	Currently Has Data in DMS
	Chloride	ug/L	Yes
	Chromium - Total	ug/L	Yes
Groundwater Quality (*continued*)	Chromium (Total)	pCi/L	Yes
	Chromium (VI)	ug/L	Yes
	cis-1,2-Dichloroethylene	pCi/L	Yes
	Copper - Total	ug/L	Yes
	Cyanide, Total	ug/L	Yes
	Dalapon	ug/L	Yes
	DBCP	ug/L	Yes
	Di(2-ethylhexyl)adipate	ug/L	Yes
	Di(2-Ethylhexyl)phthalate	ug/L	Yes
	Diquat	ug/L	Yes
	EDB	ug/L	Yes
	Endothall	ug/L	Yes
	gamma-BHC (Lindane)	ug/L	Yes
	Hexachlorobenzene	ug/L	Yes
	Hexachlorocyclopentadiene	ug/L	Yes
	Iron - Total	ug/L	Yes
	Lab Turbidity	NTU	Yes
	Lead - Total	ug/L	Yes
	Magnesium - Total	mg/L	Yes
	Manganese - Total	ug/L	Yes
	Mercury - Total	ug/L	Yes
	Nickel - Total	ug/L	Yes
	Nitrate - N	mg/L	Yes
	Nitrate (as N)	mg/L	Yes
	Nitrate (as N)	ug/L	Yes
	Odor Threshold	TON	Yes
	Oxamyl (Vydate)	ug/L	Yes
	pH		Yes
	Potassium - Total	mg/L	Yes
	Radium 228	mg/L	Yes
	Selenium - Total	ug/L	Yes
	Silica - Total	mg/L	Yes
	Silver - Total	ug/L	Yes
	Simazine (Princep)	ug/L	Yes
	Sodium - Total	mg/L	Yes

Data Type	Parameter	Units	Currently Has Data in DMS
	Specific Conductance	umhos/cm	Yes
	Specific Conductance	mg/L	Yes
	Strontium - Total	ug/L	Yes
Groundwater Quality (*continued*)	TDS	mg/L	Yes
	Technical Chlordane	ug/L	Yes
	Thallium - Total	ug/L	Yes
	Total Alkalinity	mg/L	Yes
	Total Hardness	mg/L	Yes
	Total PCBs	ug/L	Yes
	Uranium - Total	ug/L	Yes
	Vanadium - Total	ug/L	Yes
	Zinc - Total	ug/L	Yes
	TDS	tons/acre-foot	Yes
	NO3N	mg/L	Yes
	NO3-N	mg/L	Yes
	Total Nitrate	mg/L as NO3	Yes
	Total Nitrate	mg/L as N	Yes
	1,2-Dichlorobenzene	ug/L	Yes
	Dissolved Nitrate	mg/L	Yes
	Various Parameters	Various	
Surface Water Quality	Various Parameters	Various	
Streamflow	Streamflow	cfs	Yes
Precipitation	Precipitation	inches	Yes
	Reference Evapotranspiration (ETo)	inches	Yes
	Average Air Temperature	Degrees F	Yes

Quality Flags for Measurement Data

The following quality flags are currently configured in the DMS. Please note that this list may change as more data becomes available.

ID	Quality Flag	Associated Data Type
1	Caved or deepened	Groundwater Level
2	Pumping	Groundwater Level
3	Nearby pump operating	Groundwater Level
4	Casing leaking or wet	Groundwater Level
5	Pumped recently	Groundwater Level
6	Air or pressure gauge measurement	Groundwater Level
7	Other	Groundwater Level
8	Recharge or surface water effects near well	Groundwater Level
9	Oil or foreign substance in casing	Groundwater Level
10	Acoustical sounder	Groundwater Level
11	Recently flowing	Groundwater Level
12	Flowing	Groundwater Level
13	Nearby flowing	Groundwater Level
14	Nearby recently flowing	Groundwater Level
15	Measurement Discontinued	Groundwater Level
16	Pump house locked	Groundwater Level
17	Tape hung up	Groundwater Level
18	Can't get tape in casing	Groundwater Level
19	Unable to locate well	Groundwater Level
20	Well has been destroyed	Groundwater Level
21	Special/Other	Groundwater Level
22	Casing leaking or wet	Groundwater Level
23	Temporarily inaccessible	Groundwater Level
24	Dry well	Groundwater Level
25	Flowing artesian well	Groundwater Level
26	Questionable measurement	Groundwater Level
27	No measurement	Groundwater Level
28	Equal to	Groundwater Quality
29	Less than	Groundwater Quality
30	No data	Groundwater Quality
31	Presence verified but not quantified	Groundwater Quality
32	Analyzed for but not detected	Groundwater Quality
33	Approved for publication	Streamflow
34	Value has been estimated	Streamflow
35	Provisional data subject to revision	Streamflow

ID	Quality Flag	Associated Data Type
36	Unspecified	Streamflow
37	Missing	Precipitation
38	Missing or a comparative sensor is severe or sensor is out of service or data is out of sensor threshold	Precipitation
39	Data is far out of historical limits	Precipitation
40	Quality test pending	Precipitation
41	Data is moderately out of historical limits	Precipitation
42	Historical average	Precipitation
43	Special/other	Precipitation
44	Temporarily inaccessible	Precipitation