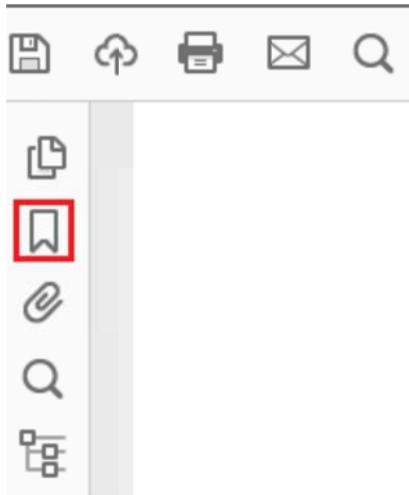


[Help / About](#)

## Welcome to the Data Mining System

### System Overview

Thank you for utilizing the Data Mining System. To view the contents of the help manual, reference the Table of Contents, or enable the Bookmark pane by clicking on the Bookmark icon, then clicking the sub-topic you wish to view.



Depending on how you opened the manual, you may first need to display your PDF-reader application toolbar; in Adobe Acrobat Reader DC.



The Data Mining System is best viewed in Chrome, Firefox, Internet Explorer 10 and above, or Safari.

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## Getting Started

The Data Mining System home page contains the following page-level tools:



Opens the agency's website in a new tab



Clears all current selections and reloads the webpage




Displays alerts related to the Data Mining System



Opens the Data Mining System Help file in a new tab



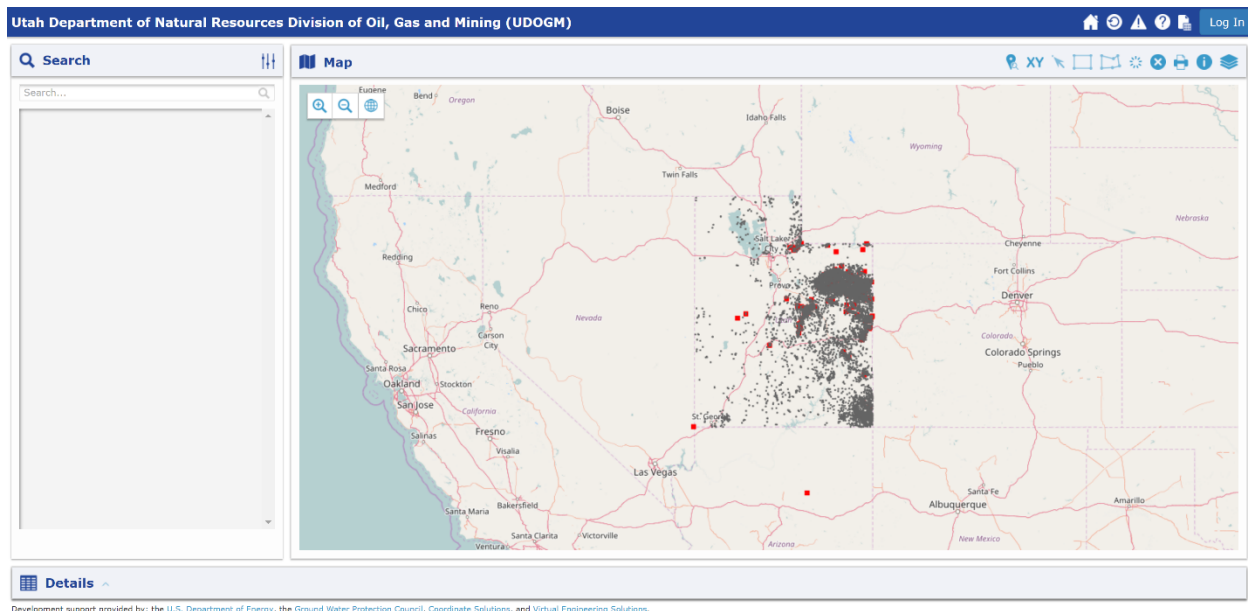
Opens the Data Mining Reporting menu; click the  icon for instructions on running a report

Log In

For agency-users only; non-agency users will not login to view records

## Page Layout

Upon accessing the Data Mining System, you are presented with three panes. The first pane is the Search pane. There is also an interactive Map (GIS) pane and a Details pane, which displays details of selected records.



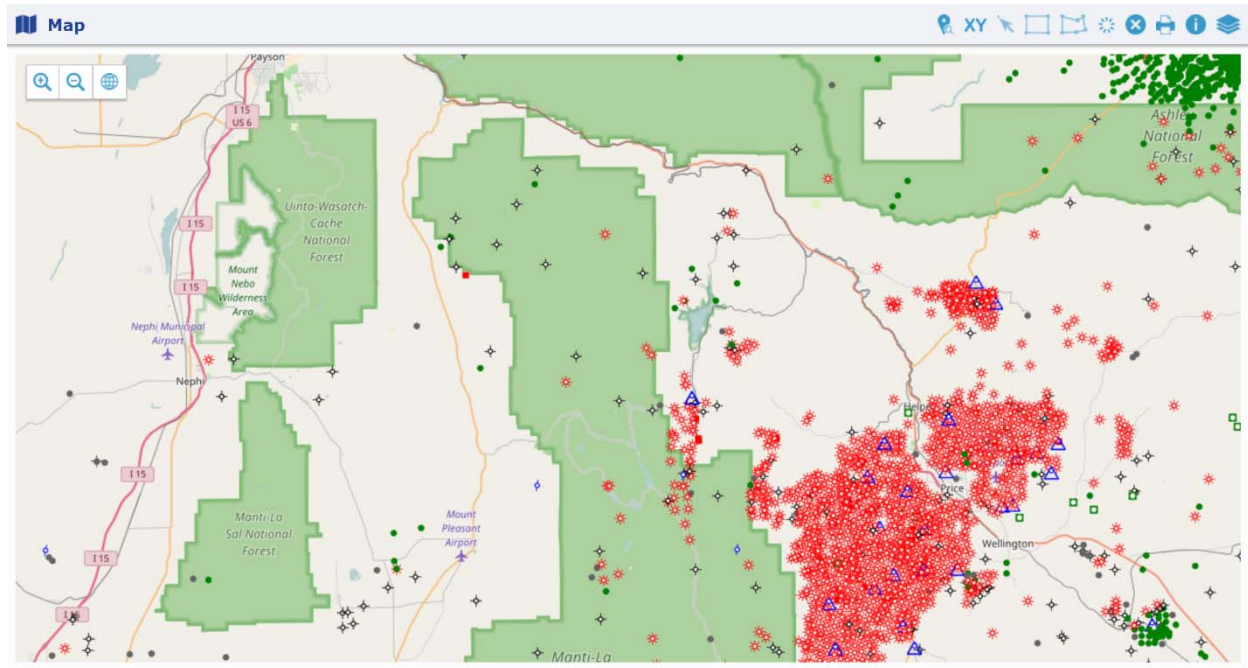
## Search Pane

The search pane is comprised of a search engine with a full text search and filter search option. Upon successful return of records, the search pane will be populated with a list, organized in a tree view structure, of all records that met the search criteria.




## Map Pane

The interactive map pane displays a map of data layers, such as counties, highways, cities, and wells. With the various tools, a user can zoom in and out of the map, select and identify features, control which data layers are displayed, and more. Additionally, when a record is selected in the tree view, the corresponding feature is also selected in the map and the map automatically zooms to that feature.



## Details Pane

The details pane lists detailed information about selected records. When a record is selected in the search pane, the details of that record are displayed in the details pane.


- Click the various tab titles to scroll through the information in the details pane
- Click the  icon to expand or collapse the details pane

Well Information												
API	43-003-20028	UIC Permit	Name	ROZEL STATE 8	Operator	UNION PETROCHEMICAL	Type	Oil Well	Status	Location	Abandoned	Wellbore View
General	Surface Location		Construction		Permits	Production		Production Entities				
Surface Owner	State	Confidential	No	Tribe								
Unit/EOR Group		Wildcat Approved	No	Commingled Approved	No							
Cumulative Oil Production	0	Cumulative Gas Production	0	Original Field Type	Development							

## Searching the Data Mining System

The Data Mining System enables users to search for data related to wells, APDs, clients, forms, groups, production entities, and surface facilities using two primary methods: A full text search in which users can search for records using any combination of search terms, and a filter search in which users can filter data using specific search criteria.

### Full Text Search

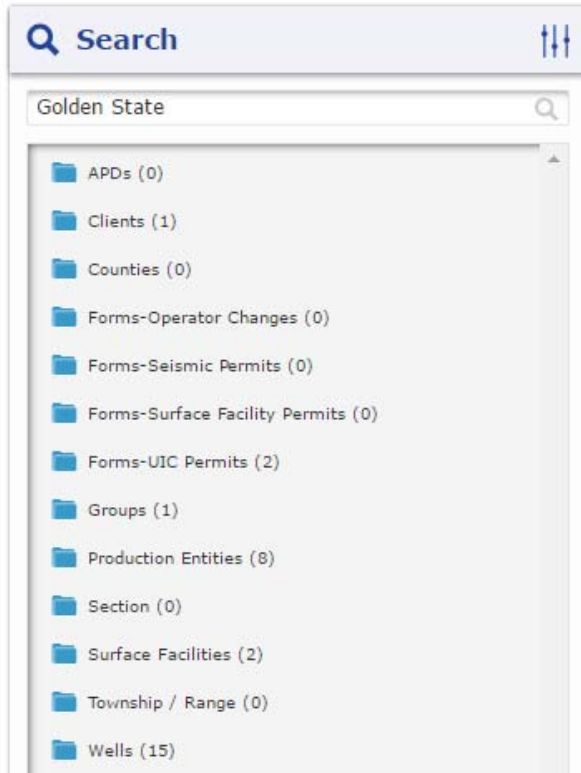
A full text search can be run by entering any of the following terms or combination of terms into the search text box and clicking the <Enter> key or Search icon .

- Well Name
- API Number (with or without dashes)
- APD Number
- Client Name
- Client Number
- Permit Number
- OGEX Number (seismic projects)
- Group Name
- Production Entity Name
- Production Entity Number
- Surface Facility Name

Geographic searches can be performed in the same manner. A geographical search will return a list of wells within that geographical area.

- Section – Search format: Section [space] Township with Direction [space] Range with Direction; omit leading zeros –  
Enter as “9 9S 22E”, not “09 09S 22E”
- Township & Range – Search format: Township with Direction [space] Range with Direction; Omit leading zeros –  
Enter as “8S 5E”, not “08S 05E”

An example of a full text search is shown below.



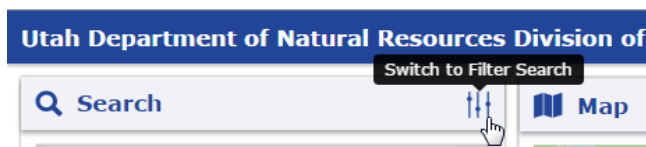
### Filter Search

With the filter search, you can select specific database table fields, such well type, well status, and/or operator name, by which to search and filter data.

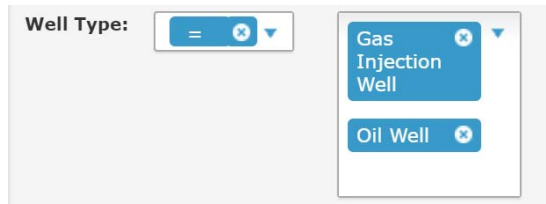
By default, the filter search option presents well-related filters. You can change the dataset to search by selecting another option in the Search dropdown box.

You also have the option to add additional search criteria by adding fields from a dropdown list.

- In the search pane, click the Switch to Filter Search icon



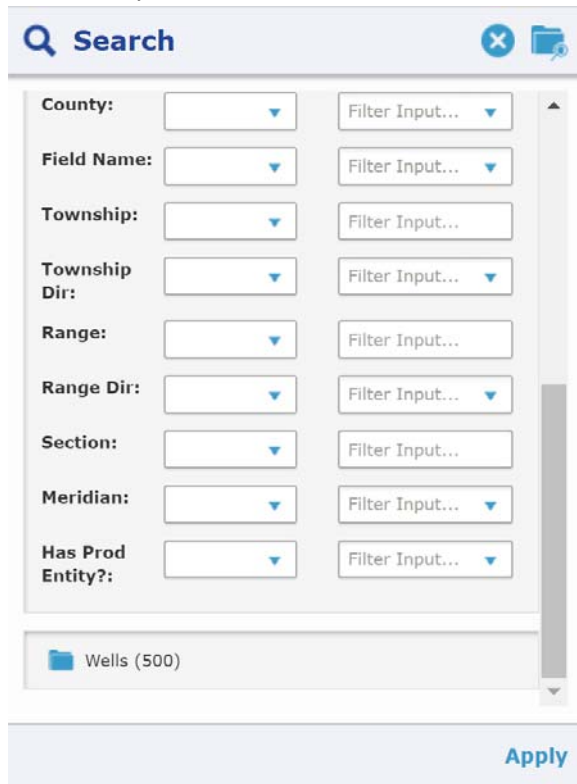
- In the dropdown box next to the chosen field, select the comparison method (e.g. less than, greater than, equals)
- In the text box, enter or select the value for your filter
- If the filter is a dropdown, you can add multiple values to your filter set by clicking back into the field and selecting an additional value
  - When you filter for multiple values for the same filter, the filters are ran using an OR clause, not an AND clause. For example, if you run a search using the following filters, the Data Mining System will return wells whose Well Type is Gas Injection Well OR Oil Well.



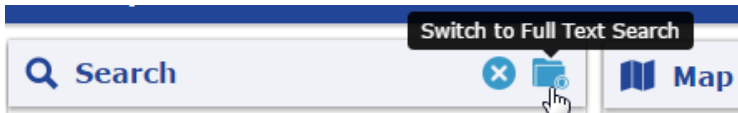
- If multiple filters of different types are applied, the search will be ran using an AND clause. For example, if you run a search using the following filters, the Data Mining System will return clients whose Client Status is Active AND Client Type is Company.



- To remove a value, click the field's "x" button
- Once all criteria are entered, click the **Apply** button
  - The search pane will display a tree view of your results below the filters. You may have to vertically scroll down to see the results.



- To switch back to a full text search:
  - Click the Switch to Full Text Search icon



## Understanding the Tree View

When a search is executed the results are returned in a tree view. A tree view is simply a hierarchical ordering of elements. Each item (also called a branch or a node) in the tree view may contain a number of sub-items. These sub-items represent an individual row in a given table. The total number of sub-items returned for each branch will be displayed at the end of the branch's label. Expand the branch to select a sub-item; the data from that row will be displayed in the details pane.

The possible branches are: APDs, Clients, Counties, Forms-Operator Changes, Forms-Seismic Permits, Forms-Surface Facility Permits, Forms-UIC Permits, Groups, Production Entities, Section, Surface Facilities, Township / Range, and Wells.

## Expand/Collapse Branches

Once a search is executed and the tree view is populated

- Click the folder icon next to any branch to expand it

A list of available records (sub-items) will be displayed.



Click the folder icon next to any expanded branch to collapse it

## Select a Record

To view detailed information about a record:

- Expand a branch in the tree view
- Single click a record (sub-item)

The details pane will be populated with detailed information about the selected item and, if applicable, the map will zoom into the feature representing the selected item. (The selected item will also be highlighted in the map.)



Utah Department of Natural Resources Division of Oil, Gas and Mining (UDOGM)

Search

Golden State

- Surface Facilities (3)
- Township - Range (0)
- Wells (15)
  - 43-047-15397 - AVU 04 - Oil Well - Producing
  - 43-047-15398 - ASHLEY VALLEY FED 2-A - Gas Well -
  - 43-047-15400 - AVU 03 - Oil Well - Producing
  - 43-047-15401 - AVU 02 - Oil Well - Producing
  - 43-047-15403 - AVU 01 - Oil Well - Producing
  - 43-047-15409 - AVU 08 - Oil Well - Producing
  - 43-047-15490 - H and T TE HALL 2 - Oil Well - Producing
  - 43-047-15591 - AVU 07 - Oil Well - Producing
  - 43-047-15592 - AVU 11 - Gas Injection Well - Active

Map

Details

Well Information API 43-047-15397 UIC Permit Name AVU 04 Operator GOLDEN STATE OPERATING, LLC Type Oil Well Status Producing Wellbore View

General	Surface Location	Construction	Permits	Production	Production Entities	Groups	Dates	APDs	Well History
Surface Owner	Private	Confidential	No Tribe						
Unit/EOR Group	ASHLEY VALLEY	Wildcat Approved	No Commingle Approved						
Cumulative Oil Production	13564123	Cumulative Gas Production	0	Original Field Type	Development				

## Working with the Interactive Map (GIS)

The interactive map component, known as a Geographic Information System (GIS), enables you to visualize and analyze geographic data pertaining to regulatory activities. With the GIS, you can zoom in and out of the map, select features, and obtain information (attribute values) about features.

### GIS Overview

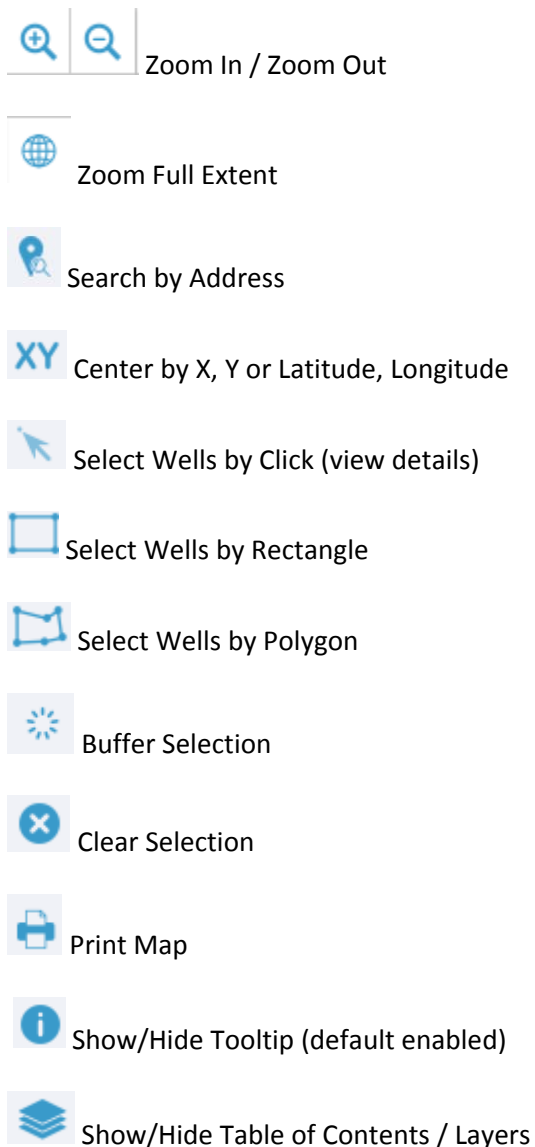
A GIS, short for Geographic Information System, is a collection of hardware, software, and geographic and non-spatial data with which individuals interact to integrate, visualize, and analyze geographic data.

A GIS organizes data into layers. A layer is a visual representation of geographic data in a digital map environment. Typically, a single layer is defined by some sort of aggregation of features that share some type of attribute. For instance, all features representing roads may be aggregated into a single layer, while all features representing oil wells may be aggregated together in another layer. As such, a layer is roughly analogous to a legend item in a traditional paper map. However, a GIS enables users to control which layers are displayed at any particular time. Through the process of toggling layers on and off, a user may be able to discover geographic associations that were not otherwise readily apparent.

The true power of a GIS, though, lies in its ability to do analysis. All geographic features in a GIS are linked to a database by a unique identifier. By selecting a feature, a user can bring up detailed information about each geographic dataset. Additionally, through the process of spatial queries and/or visualization, a user can begin to find specific patterns in their geographic data. For instance, one can determine whether there is a specific geological formation in which a particular type of well regularly occurs or whether certain oil and gas activity occurs in the vicinity of environmentally sensitive areas.

### Toolbar

The GIS consists of a number of tools which enable you to better interact with the map. The following tools are on the GIS toolbar:



The specific functionality and how to use each is discussed in turn in the proceeding sections.

### Navigating the Map


Unlike a paper map, a GIS enables a user to change the scale of display in the map, as well as change the area of focus. The following tools are designed for navigation purposes:

#### To move the map:


- Single click in the map, hold the left mouse button down, and drag the map to the area in which you wish to view
- Release the mouse button

#### To zoom in:


- Scroll up using the mouse scroll-wheel or

- Select the Zoom In tool 
- The map will zoom to the selected area.


#### To zoom out:

- Scroll down using the mouse scroll-wheel or
- Click the Zoom Out tool 
- The map will automatically zoom out.

#### To zoom to the full extent of the data (original extent):

- Click the Zoom Full Extent button 
- The map will return to the full extent (original extent) of the data.


#### To zoom to specific X,Y coordinates (e.g. latitude and longitude):

- Click the Center by X,Y or Latitude, Longitude button 
- In the dialog box, select a coordinate system (Decimal Degrees, Decimal Minutes, Degrees Minutes Seconds, or UTM 12N) to use
- Enter the appropriate values for latitude and longitude in the text boxes
- Click the Go button
- The map will re-center based on the specified X,Y coordinates.

### Select and Query Features


There are three primary methods to find out information about features.

#### To select a single feature:

- If necessary, zoom into an area of the map
- Select the Select Wells by Click (view details) tool 
- Click on a designated feature in the map
- Add to your selection set by holding down the <Ctrl> key and clicking on an additional feature


The feature will be selected in the map and added to the tree view in the search pane. Additionally, the details pane will automatically populate with the information about the selected feature.

#### To select multiple features:

- If necessary, zoom into an area of the map
- Select the Select Wells by Rectangle tool 
- Holding the left mouse button down, drag a box around the features you wish to select
- Release the mouse button


- Add to your selection set by holding down the <Ctrl> key and dragging another box around the features you wish to add

Or

- If necessary, zoom into an area of the map
- Select the Select Wells by Polygon tool 
- Add vertices around the features you wish to select by single-clicking the left mouse button
- Double-click the left mouse button to end your drawing
- Add to your selection set by holding down the <Ctrl> key and dragging another box around the features you wish to add

#### To query features by an address:

- Click the Search by Address button 
- An address settings window will open, allowing you to set and run your search parameters




The features will be selected in the map and added to the tree view in the search pane.


- Click the folder icon next to any branch to expand it
- Click on a record for one of the selected features

The details pane will be populated with the information about the selected feature.

#### To clear a selection:

- Click the Clear Selection button 

#### To show details about a feature:

- If necessary, zoom into an area of the map
- If necessary, select the Show/Hide Tooltip button to enable the tool 
- Hover your mouse over a designated feature in the map to display a link to the feature's details pane
- Click the link



The Details will be populated with the information about the feature, but the feature will not be added to the tree view (i.e. feature will not be considered selected).

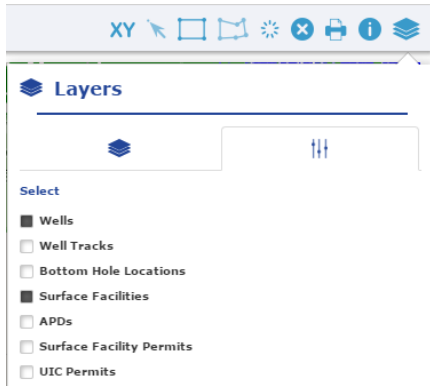
#### Layer Controls

The GIS includes a few tools for layer and legend control. These enable you to apply active layers, apply a buffer to active layers, display the table of contents (where individual layers and layers controls are listed), and display a standard map legend.

**To apply an active layer:**

Active means that the layer can be queried (i.e. features in the layer can be selected). The Data Mining System defaults to applying the Wells and Surface Facilities layers as active. If you wish to apply additional active layers:

- Click the Show/Hide Table of Contents / Layers button 
- Click on the filters tab 
- Click the checkbox next to the desired layer to select an additional layer (repeat as needed)




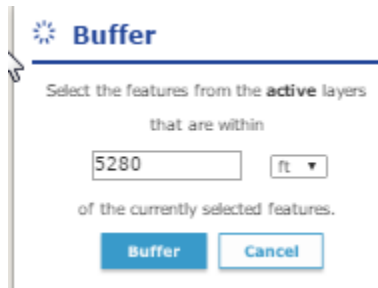
To remove an active layer:

- Click the checkbox next to the layer to uncheck it

**To apply a layer buffer:**

If you wish to apply a buffer for the active layers to your selected features:

- Click the Buffer Selection button 
- A buffer settings window will open, allowing you to set and run your buffer parameters



**To view the table of contents/legend:**

If you wish to display the table of contents/map legend:

- Click the Show/Hide Table of Contents / Layers button 
- Click on the layers tab 

For each non-base map layer, there will be one checkbox that controls the layer's visibility. Visible indicates whether or not the layer is currently displayed in the map.

- Click the appropriate checkbox to toggle the layer's visibility

#### Miscellaneous

##### **To print the map:**

- Click the Print Map button 

A print settings window will open, allowing you to set and run your print parameters.