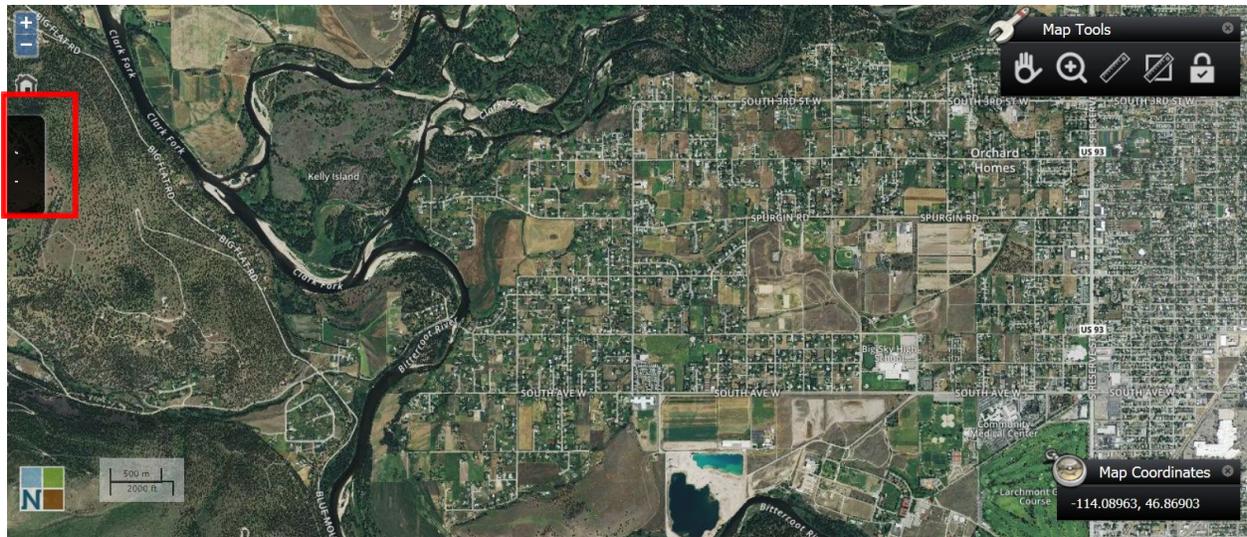


## TARGET RANGE SEWER & WATER DISTRICT GIS MAP INSTRUCTIONS

The following instructions are to be used when accessing the Target Range Sewer and Water Districts GIS Map. These instructions are intended to allow the user to view the information that the District has gathered in protecting our aquifer.

When accessing this portion of our web site it is important for you to understand the base functions of the GIS map. You may want to print the following instructions prior to accessing the map. The GIS map contains a lot of information that the District has gathered which includes: district borders, streets, addresses, well information, septic information, aquifer information, test sites and more.

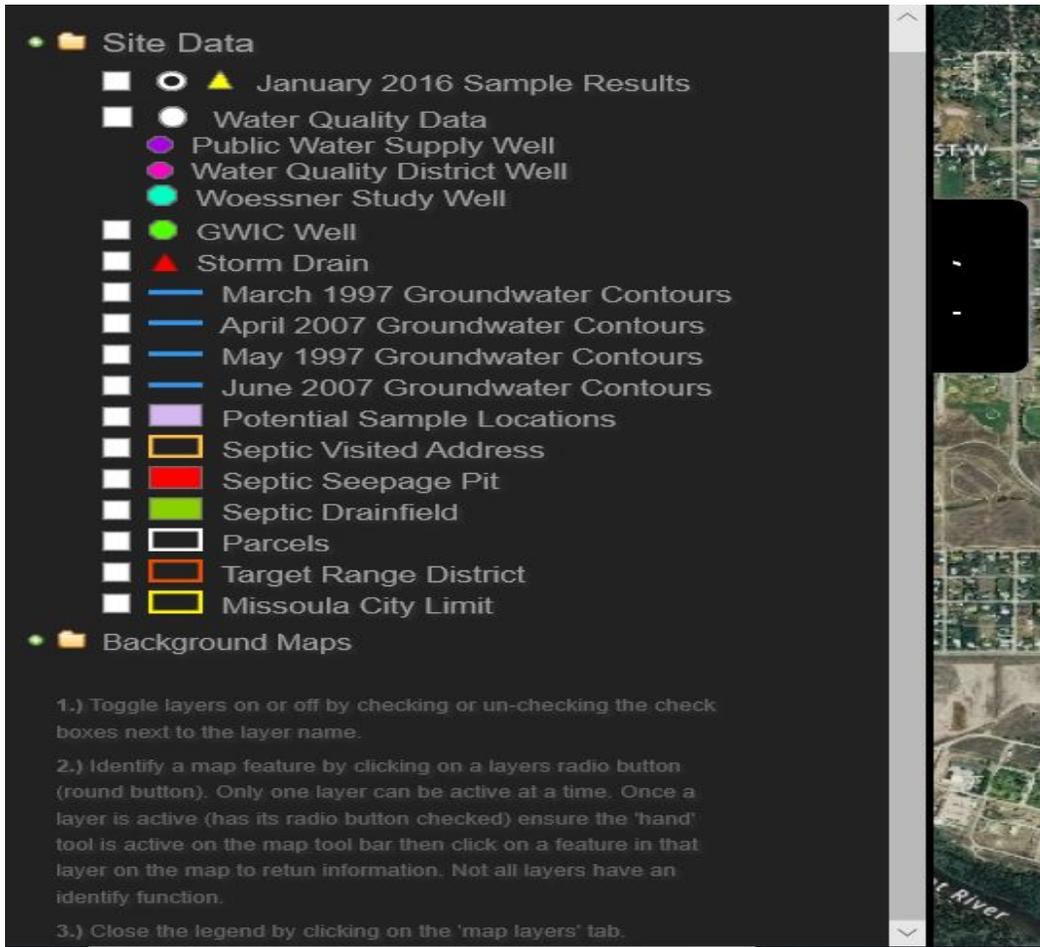


The access begins with selecting options on the left side of the screen just below the plus minus symbol as shown:

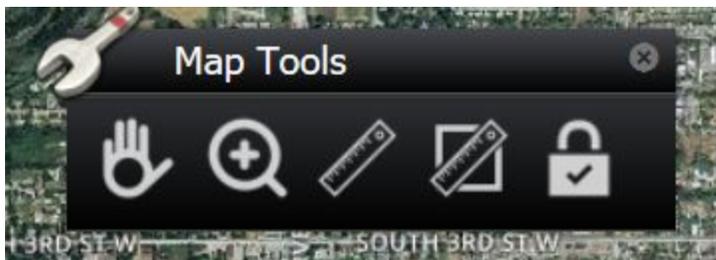


This portion of the screen is for the user to place the cursor and press enter which opens an additional window. Outlined in red.

This is the selection menu as displayed below. The selection menu displays several types of information that can be displayed on the GIS map. These queries allow the user to select from several different Site Data that the District GIS map can display:



During these selections you will have also have noticed that there is an additional option that is displayed in the upper right corner of the screen display called "Map Tools":



These options of “Map Tools” are used for moving, increasing display, measurement and refreshing display. These options will be discussed latter in Map Tools instructions.

## SITE DATA SELECTION

The following describes the way in which information pertaining to the Districts GIS Map can be displayed individually or multiple selections. The Data Selection identifies the several types of selection criteria that are available in viewing information that the District has gathered. This information can be retrieved by the user to place the cursor in the box associated with the information to be displayed:



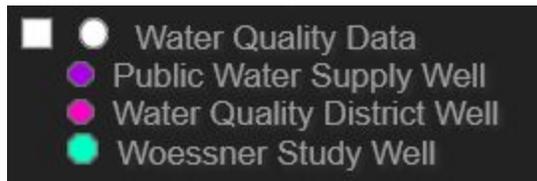
Types of Site Data meaning:



When selected this option will identify those wells that were sampled in 2016 by a yellow triangle on the map. The sample results can be displayed by positioning cursor on the appropriate yellow triangle and pressing tab:

Sample Result	
<b>Sample Collection Date</b>	2016-01-12
<b>Sample Address</b>	3720 S 3RD ST W
<b>Well Owner</b>	KESEL
<b>Arsenic (mg/L)</b>	<0.001
<b>Chloride (mg/L)</b>	4
<b>Nitrate (mg/L)</b>	0.35
<b>Phosphorus (mg/L)</b>	0.01
<b>Coliform Bacteria (Present vs Absent)</b>	Absent

The following Water Quality Data can be displayed by position cursor on the box  and marking the box. This will display those well locations identified by color that identifies the types of well water.



The following is used when identifying GWIC Wells and Storm Drains located within the District.

Place cursor on the appropriate box  to select required option.



What is a GWIC Well? - The meaning of a GWIC are those wells located in the District that are used periodically for water sampling.

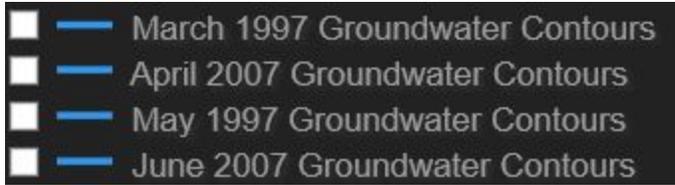
What is a Storm Drain? – The meaning of a Storm Drain also referred to as a French Well, Dry Well, Wet Well and other terms is a collection point of surface water from rain, melting snow and other sources that is captured into a below surface well (cavity). The water that is collected in the well is not connected to any other system for the disbursement of the water. The well is an individual disbursement of the water into the surrounding soil.

This is why a storm drain or other names attributed to the collection of surface water is so very important to avoid contamination of any source of drinking water. Refer to The Districts home page for more information concerning the Aquifer.

The following is used when Groundwater Contours information is required.

What is Groundwater Contours? - A water-level contour map is a common tool used by a hydrogeologist to indicate groundwater flow directions and to test the continuum approach. Todd (1959) asserts that under steady state conditions, flow lines lie perpendicular to water table contours.

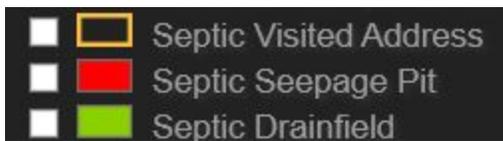
Why multiple years of Groundwater Contours? - This shows any differences between years as to the flow of water in the aquifer.



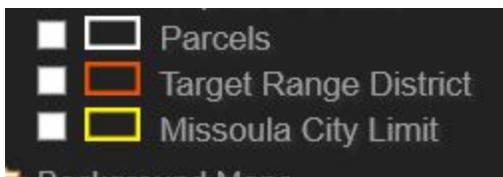
Why have sample locations? – These locations will allow the District to monitor the well water throughout the area. These samples will be compared with prior samples to see if there is any change in the quality of the water in the aquifer.



What is Septic information? - Refer to Districts main web site and select Septic information. This will give you information that is contained in this option.

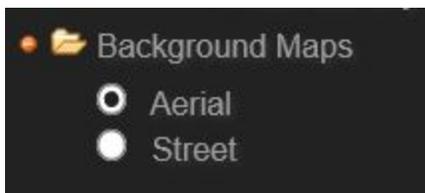


What is this option Parcels, Target Range District and Missoula City Limits? – This option when selected outlines on the map the District and the property within the District and property that is within the Missoula City limits.

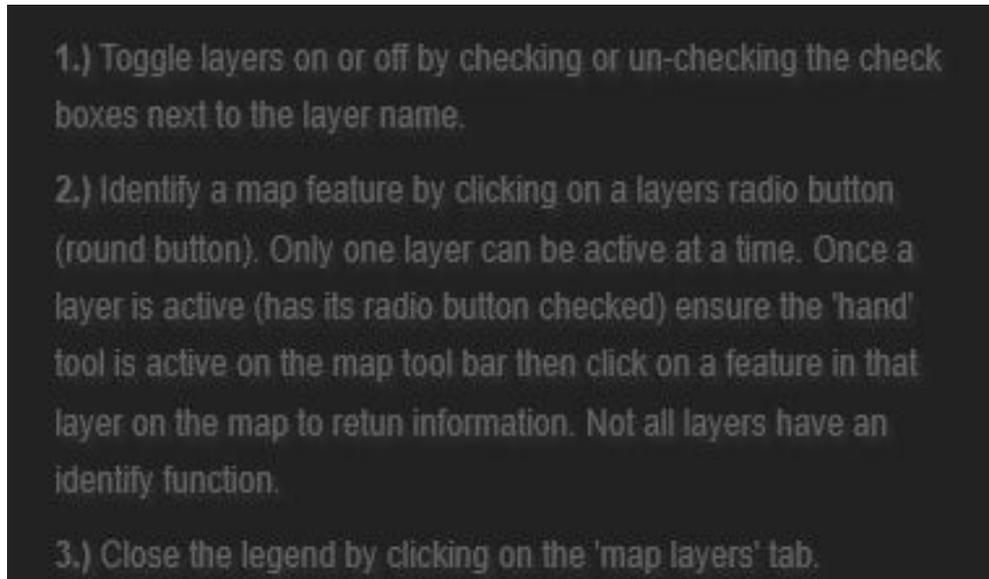


### Background Maps

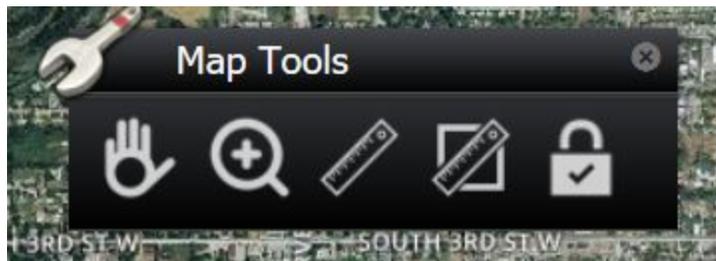
Aerial or Street - This option displays in GIS Google Earth representation and without.



The following are instructions that have been displayed that give you a quick reference in how to move between the GIS layers. You may also close and open individual layer information by selecting or removing selections by removing those items you have checked.



## MAP TOOLS:

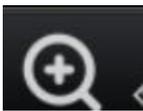


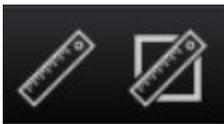
The following information is how the Map Tools are used in navigating and being able to zoom, measure lineal distances on certain areas of the map. Navigating the map in the WebGIS can be accomplished in several ways and is similar to many commercial map products (e.g., Google Earth). The following methods can be used to change the zoom level and center of the map in the WebGIS To activate a tool in the Map Tools box, click on an icon in the box and a red circle will appear around the icon to show that it is active. The navigation tools (panning and zoom box) are described and the measuring and log out tools are described.



The  symbol allows you to move to areas on the map. Panning – the user can adjust the center of the map (panning) by clicking on the map, holding the click, and then moving the mouse to adjust the map. If one of the map tools is activated (see description below), the user will need to click on the hand in the Map Tools box so a red circle appears around it as shown below. This will activate the panning tool and allow the user to adjust the map.



The  allows you to increase the display of the map. Changing the zoom level on the map can be accomplished using the following three methods: 1 Mouse Roller: if the user's mouse has a roller, the zoom level can be adjusted by moving the mouse over the map, and then using the roller to change the zoom level. 2 Zoom Buttons: the zoom buttons are located in the upper left hand corner of the WebGIS. 3 Clicking on the plus sign will zoom in on the map to show a smaller, more detailed area. The minus sign will zoom out on the map showing a larger area.



The  allows you to see measurements of the property selected on the map. The measure tool allows the user to measure linear distances on the map. To use this tool, click on the measure tool, and then click on the starting point of the linear feature to be measured. Add additional points to the line with a single click, and end the line with a double click. The distance measured will be displayed in the 'measure results' box in the lower right corner of the WebGIS, next to the 'map coordinates' box. The distance measured is presented in miles. The measure tool allows the user to measure linear distances on the map. To use this tool, click on the measure tool, and then click on the starting point of the linear feature to be measured.

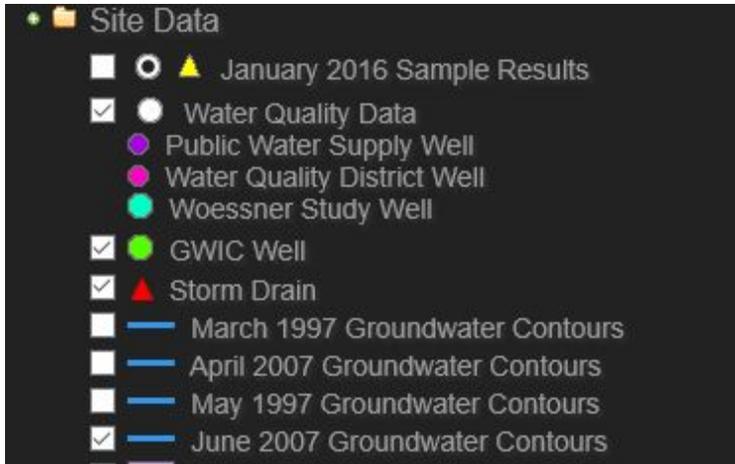


The  clears all selections and prompts you back for new selections as previously defined within the GIS portion of documentation.

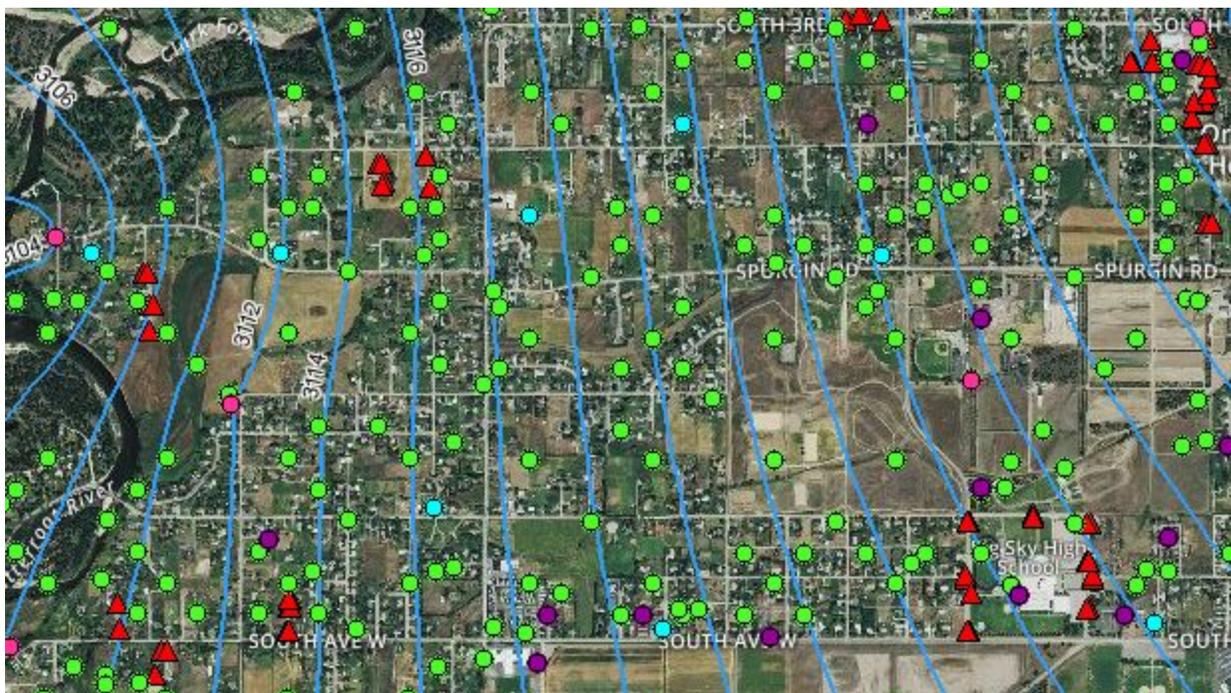
This is a brief description of user information that we feel will help you in viewing the information that District has gathered. This is a view only option and you cannot alter any of the information. There for you can execute these options as many times as necessary in retrieving the information you desire.

The following is a portion of District's GIS Map with multiple options selected.

The options are marked:



The results:



You can mark as many site layer items as you want. To clear selected items you

May click on the ones you do not want and turns the option off or you can clear all of them by selecting  in the Map Tools that will clear all of the options.

**TARGET RANGE SEWER & WATER DISTRICTS GIS MAP LINK:**

You may want to print this section before executing the following link to the map or keep this open in another window. Hope you have an interesting and awarding visit to the District's GIS MAP.

<http://apollo.newfields.com/bfb/targetrange.php>