

HYDROGEOLOGIC DATA VIEWER

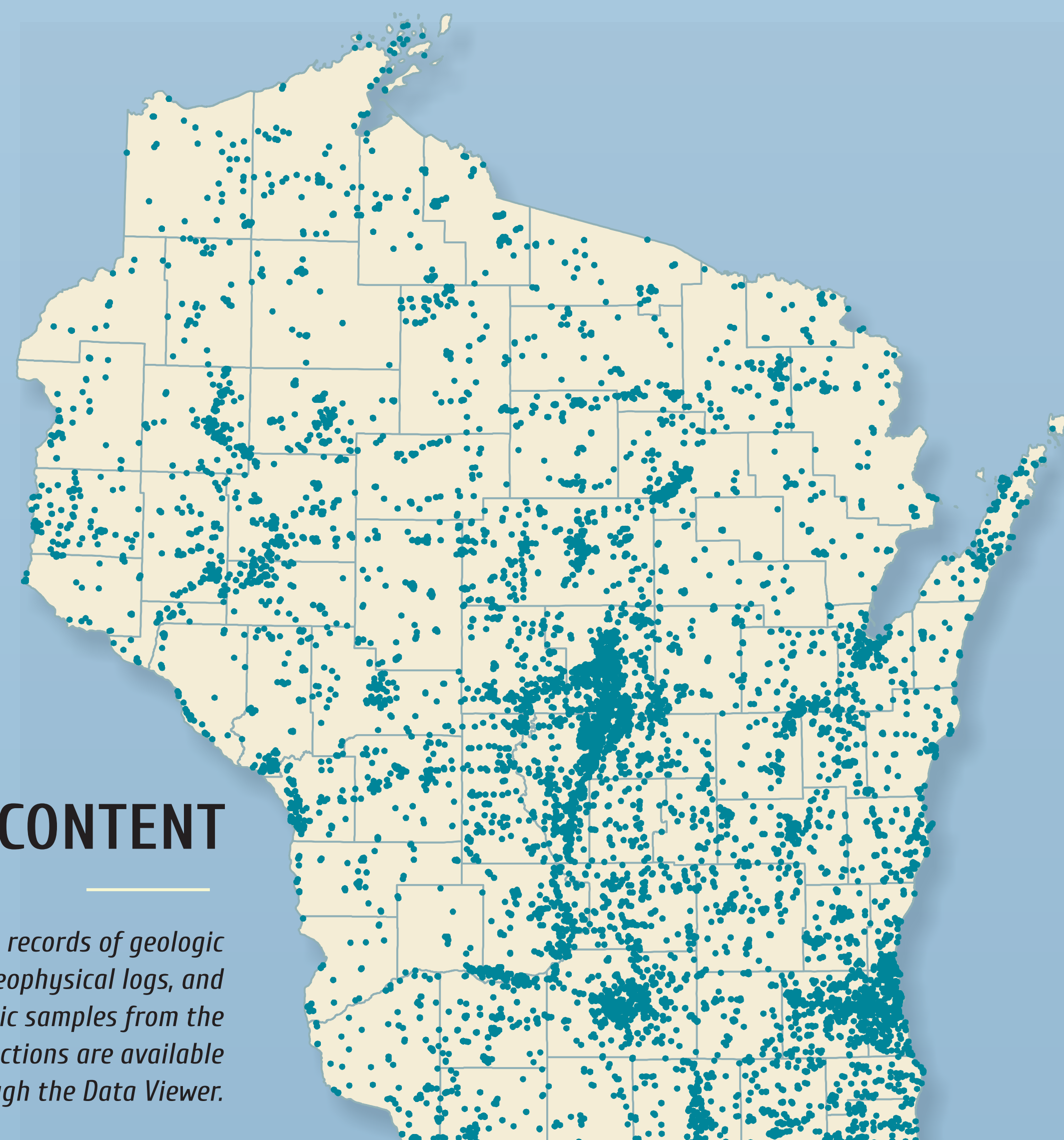
MAP-BASED ACCESS TO WISCONSIN'S HYDROGEOLOGIC INFORMATION

Peter Schoephoester¹ and Madeline Gotkowitz²

Abstract

QUANTITATIVE ANALYSIS AND MODELING in aid of water management is standard practice in the hydrologic sciences, and in Wisconsin, such analyses benefit from a wealth of geologic and hydrogeologic data from across the State. The Wisconsin Geological and Natural History Survey (WGNHS) and the Wisconsin Department of Natural Resources (WDNR) cooperatively developed a map-based catalog to improve the organization and access to this information.

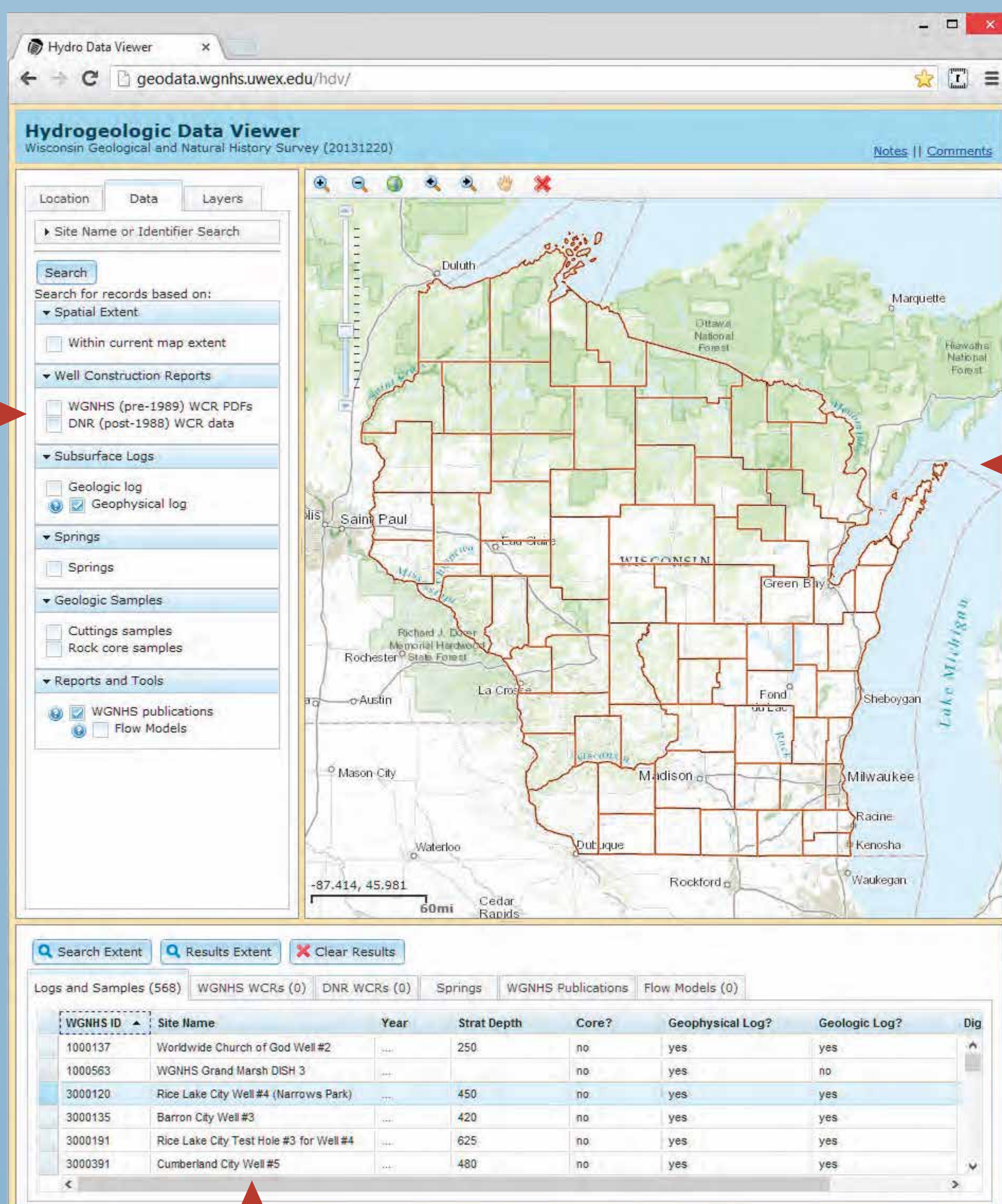
Hydrogeologic data viewer is an interactive web map developed on the ESRI ArcGIS Javascript programming interface. The Viewer provides timely and efficient access to a variety of data types. Users can search for data by area of interest, address, or public land survey system description. Searches may be limited to a category of information, such as well construction reports, geologic logs, geophysical logs, published reports, graduate student theses, maps, models. The Data Viewer includes access to a database of Wisconsin's springs, and links to the State's long-term groundwater monitoring network. Much of this information can be accessed and downloaded through the web tool. A goal of the project is to provide this web-based catalog to other state and local agencies and the general public in 2016.



CONTENT

Over 13,000 records of geologic logs, geophysical logs, and geologic samples from the WGNHS collections are available through the Data Viewer.

WEB APPLICATION



2

Search for information such as data or reports. Also change display of map layers from topography, air photos, or streets.

1

Find your area of interest by longitude and latitude, township and range, or county. Pan and zoom on the map to locate an area-of-interest. If it is relatively small (on the order of several square miles), all records for that area are displayed. A larger search window, such as an entire county, results in fewer data types displayed.

3

See the results. Search results are summarized in a table; many results contain links to more information.

Geologic Logs and Samples

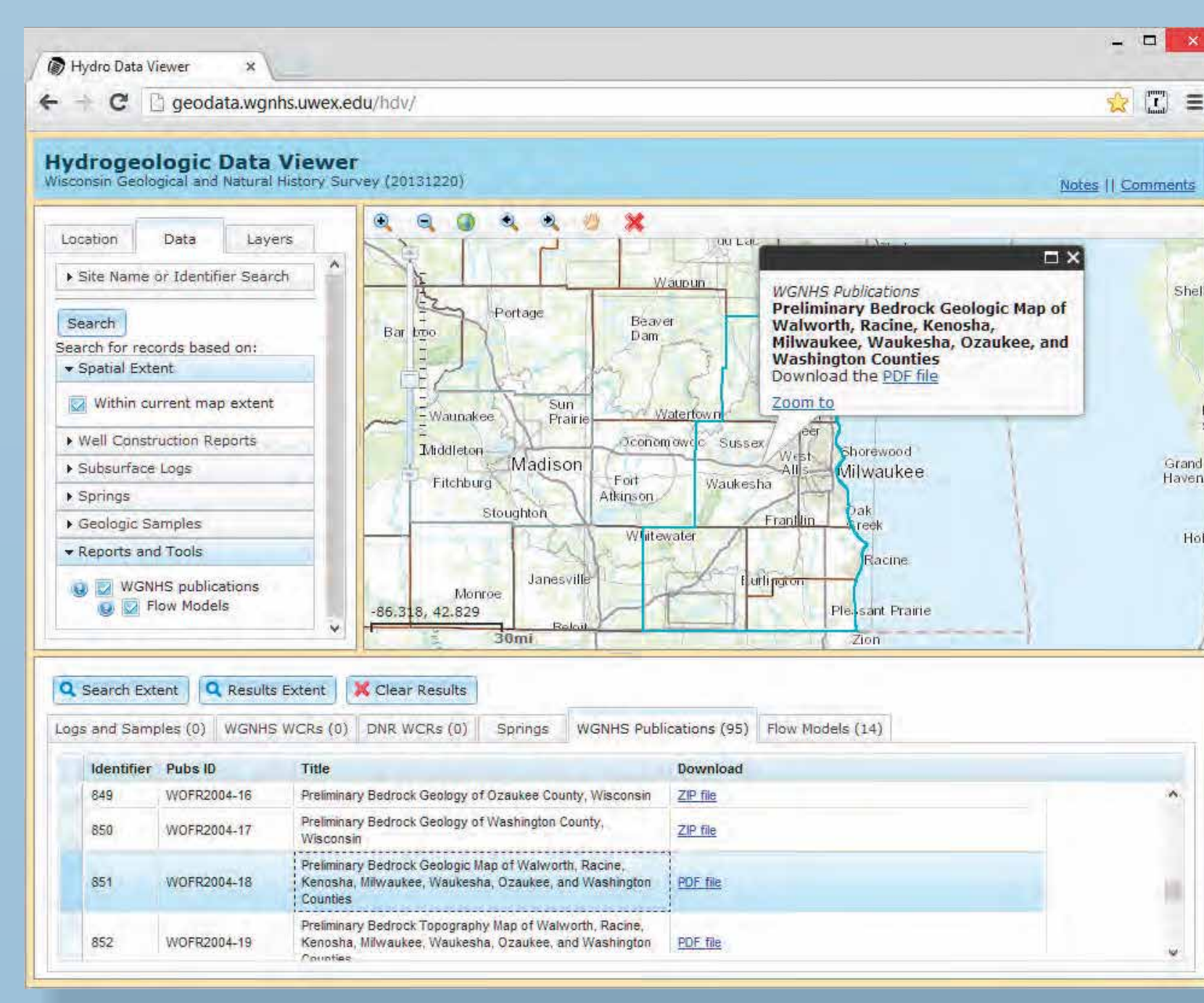
WGNHS develops detailed geologic logs from examination and analysis of drill cuttings and core. The Data Viewer provides direct and immediate access to over 8,500 PDFs of these logs. In addition, the Data Viewer contains an index to the sample holdings at the WGNHS. Access to these samples may be obtained by contacting the WGNHS.

Depth	Geologic	Rock Type	Color	Matrix	Stratig	Site Name: Madison City Test Hole for Well #51
288-289	bedrock	gpf gnf	sh/br	sh/br	14/8	Missisquoien Chert/ortho
289-290	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone (over thin beds)
290-291	bedrock	gpf gnf	sh/br	sh/br	14/8	Yellow shaly sandstone
291-292	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone
292-293	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone
293-294	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone
294-295	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone
295-296	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone
296-297	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone
297-298	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone
298-299	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone
299-300	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone
300-301	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone
301-302	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone
302-303	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone
303-304	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone
304-305	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone
305-306	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone
306-307	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone
307-308	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone
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415-416	bedrock	gpf gnf	sh/br	sh/br	14/8	Thin bedded sandstone



Rock core collected by WGNHS for a bedrock mapping project in Columbia County. The Data Viewer provides a record of the location of the core and associated data, such as geophysical logs and published geologic descriptions or stratigraphic logs.

Geologic log developed from well cuttings collected during drilling of a municipal test well.

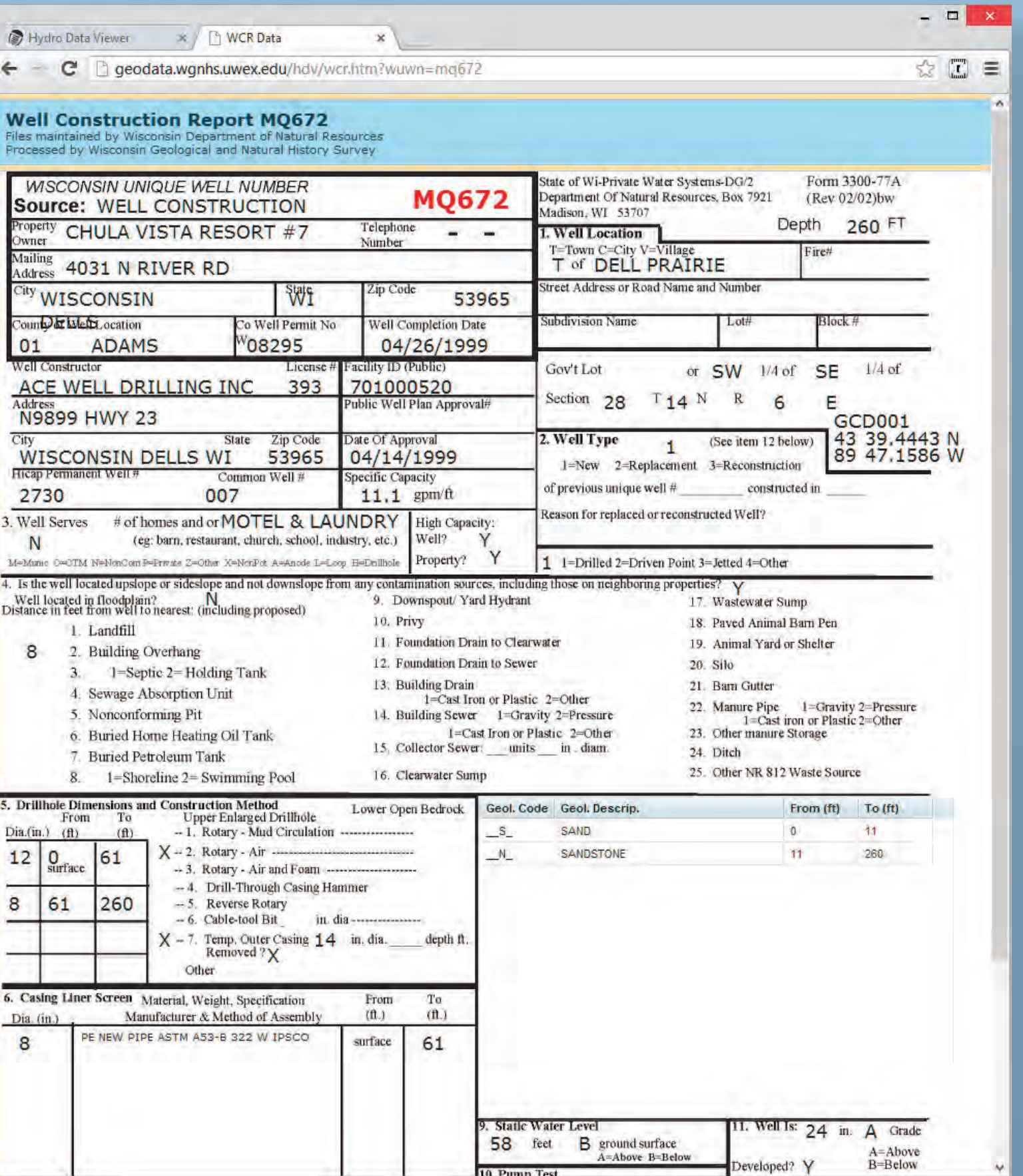


Reports, Maps, and Models

The Data Viewer provides links to many WGNHS publications, including reports and maps, and an index to groundwater flow models. Users can get quick access to a variety of geologic information based on area of interest and are able to determine if maps, reports or models are available for a specific region in the state. Many models and reports published by the U.S. Geological Survey are also included in the Data Viewer.

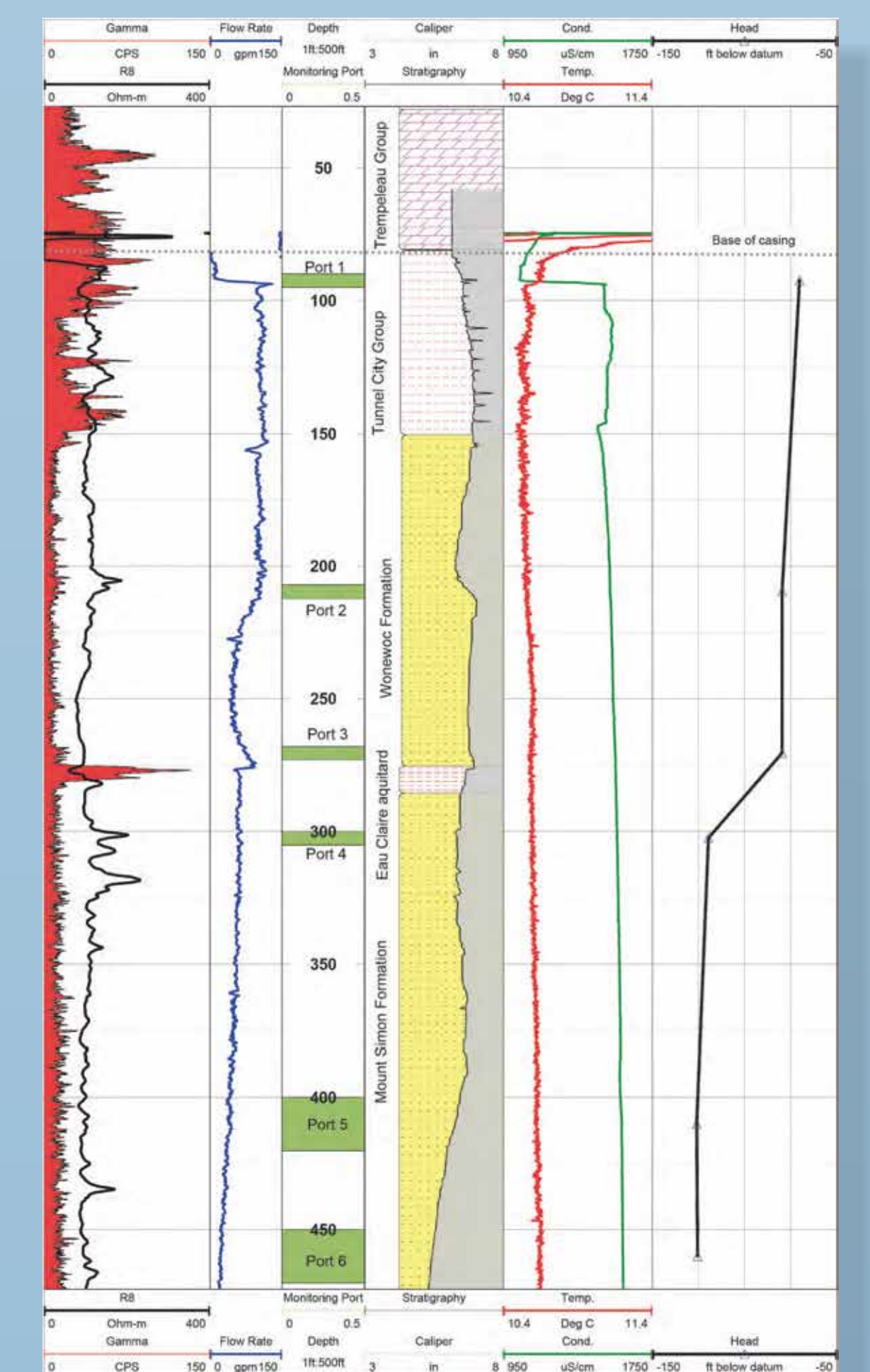
Well Construction Reports (WCRs)

The Data Viewer provides access to the two primary sets of well construction reports from Wisconsin. WGNHS maintains a collection of over 350,000 images of WCRs from wells drilled prior to 1990. The Wisconsin DNR maintains a database of approximately 360,000 WCRs from wells drilled since 1990. The Data Viewer enables access to PDFs of the older WCRs and tabular data from the newer records.

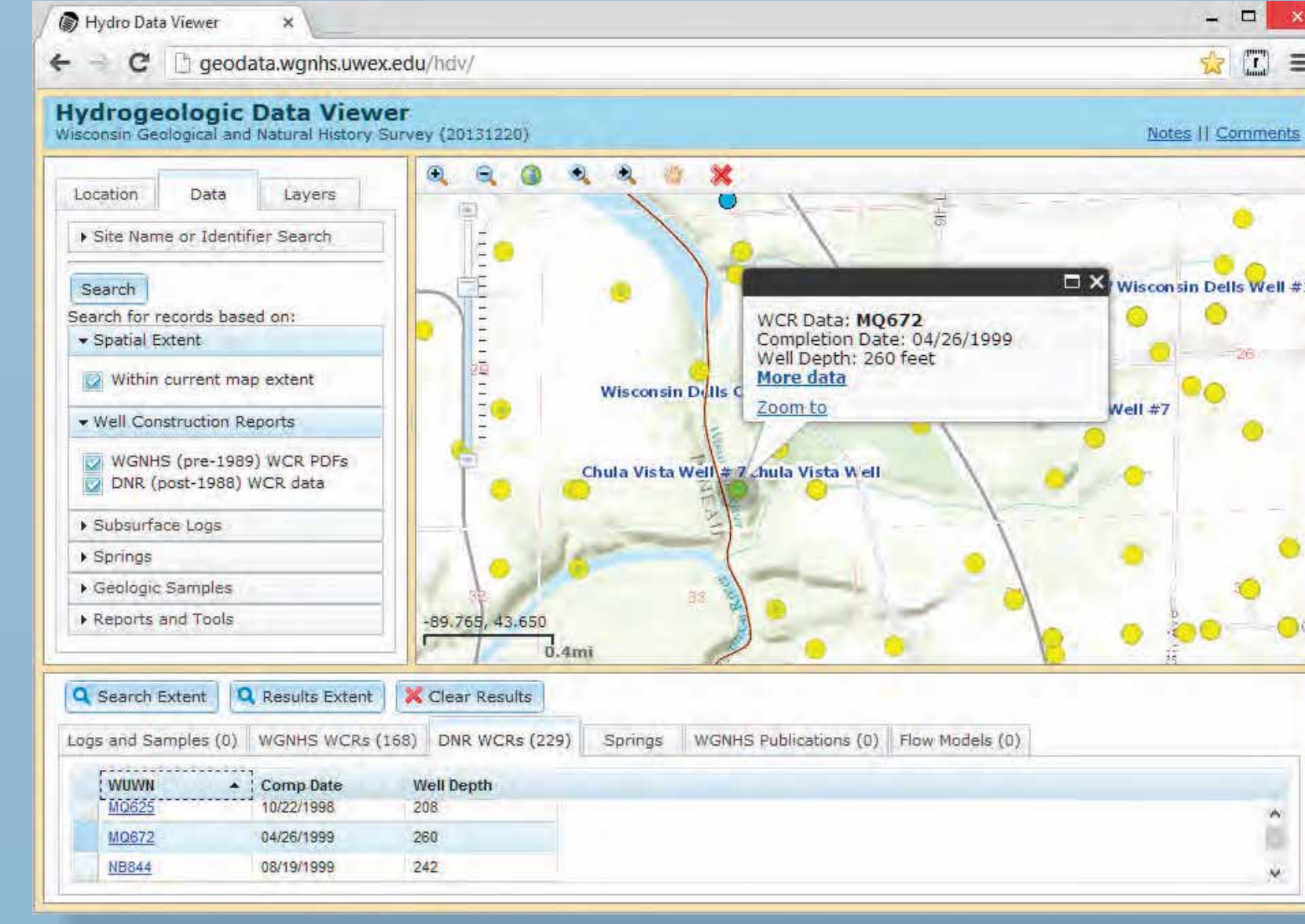


Geophysical Logs

Search for geophysical logs to view locations with logs within the search area. Access the logs through a direct link from each data point.



Geophysical logs display measurements of lithologic and hydrologic properties of the subsurface. Over 500 logs collected by WGNHS are accessible as PDFs through the Data Viewer. Raw data files may be obtained by contacting the WGNHS.



Search for well construction reports in an area of interest and view results. Tabular information is displayed for the newer set of records.

Click on a data point or link to view a single WCR.

Hydrogeologic Data Viewer: Map-Based Access to Wisconsin's Hydrogeologic Information

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Quantitative analysis and modeling in aid of water management is standard practice in the hydrologic sciences, and in Wisconsin, such analyses benefit from a wealth of geologic and hydrogeologic data from across the state. The Wisconsin Geological and Natural History Survey (WGNHS) and the Wisconsin Department of Natural Resources (WDNR) cooperatively developed a map-based catalog to improve the organization and access to this information.

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