

## MPES Report 380: Aggregate Resource Potential in Parts of Northern St. Louis and Lake Counties, MN - MGS County Well Index Well Locations June 2009 - report380\_cwiwells0609

*This page last updated: 2011*

*Metadata created using [Minnesota Geographic Metadata Guidelines](#)*

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### Metadata Summary

<b>Originator</b>	Minnesota Geological Survey
<b>Abstract</b>	This dataset consists of the locations of wells drilled within MPES Report 380 project boundary in northern St. Louis County and Lake County, Minnesota. The County Well Index (CWI) is a database that contains geologic information about wells drilled throughout Minnesota. Locations were used to look at the geological descriptions of these wells. This CWI dataset was downloaded from the Minnesota Geological Survey (MGS) in June of 2009 and contained 1452 wells within the project's spatial extent. 48 of these wells were located from the MGS unlocated CWI well database and merged into this dataset. This is indicated in the attribute table under field 'DNRLOCATED' with a 'Yes'. Further information on the methodology for locating unlocated wells can be found at the bottom of this document in the attribute table descriptions.
<b>Browse Graphic</b>	none available
<b>Time Period of Content Date</b>	2009
<b>Currentness Reference</b>	2009
<b>Access Constraints</b>	
<b>Use Constraints</b>	Acknowledgement of the Minnesota Geological Survey and Minnesota Department of Health are appreciated for products derived from these data.
<b>Distributor Organization</b>	Minnesota Geological Survey
<b>Ordering Instructions</b>	<p>Go to the website of the Minnesota Geological Survey, <a href="http://www.geo.umn.edu/mgs">http://www.geo.umn.edu/mgs</a>, to find the link describing CWI and to download the current version of CWI. To download this subset of the CWI data, which was used for this project and downloaded in 2009, go to <a href="http://www.dnr.state.mn.us/lands_minerals/aggregate_maps/completed/index.html">http://www.dnr.state.mn.us/lands_minerals/aggregate_maps/completed/index.html</a> where it is part of the MPES Report 380 project data zip file.</p> <p>The MPES Report 380's spatial datasets (shapefiles &amp; file geodatabase) are included in the file report380data.zip, accessible from the MN DNR Aggregate Mapping web page: <a href="http://www.dnr.state.mn.us/lands_minerals/aggregate_maps/completed/index.html">http://www.dnr.state.mn.us/lands_minerals/aggregate_maps/completed/index.html</a></p> <p>The spatial datasets include: sand and gravel resource potential, clay and silt resource potential, field observations, aggregate pits, Minnesota Geological Survey (MGS) County Well Index (CWI) data points, MGS CWI stratigraphy table, sieve analysis database, Mn/DOT Aggregate Source Information System (ASIS) points, and Mn/DOT ASIS pit quality table.</p>
<b>Online Linkage</b>	none available

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### Full Metadata

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Section 1	Identification Information		<a href="#">Top of page</a>
<b>Originator</b>	Minnesota Geological Survey		
<b>Title</b>	MPES Report 380: Aggregate Resource Potential in Parts of Northern St. Louis and Lake Counties, MN - MGS County Well Index Well Locations June 2009 - report380_cwiwells0609		
<b>Abstract</b>	This dataset consists of the locations of wells drilled within MPES Report 380 project boundary in northern St. Louis County and Lake County, Minnesota. The County Well Index (CWI) is a database that contains geologic information about wells drilled throughout Minnesota. Locations were used to look at the geological descriptions of these wells. This CWI dataset was downloaded from the Minnesota Geological Survey (MGS) in June of 2009 and contained 1452 wells within the project's spatial extent. 48 of these wells were located from the MGS unlocated CWI well database and merged into this dataset. This is indicated in the attribute table under field 'DNRLOCATED' with a 'Yes'. Further information on the methodology for locating unlocated wells can be found at the bottom of this document in the attribute table descriptions.		
<b>Purpose</b>	The CWI database maintained by MGS is updated quarterly. This subset was downloaded in June of 2009 and provides part of the background information that was used in developing the aggregate resource mapping for MPES Report 380.		
<b>Time Period of Content Date</b>	2009		
<b>Currentness Reference</b>	2009		
<b>Progress</b>	Complete		
<b>Maintenance and Update Frequency</b>	The CWI database maintained by MGS is updated quarterly. This subset was downloaded in June of 2009.		
<b>Spatial Extent of Data</b>	Northern St. Louis County and Lake County, Minnesota		
<b>Bounding Coordinates</b>	-92.30 -91.65 47.92 47.45		
<b>Place Keywords</b>	St. Louis County, Lake County, Minnesota		
<b>Theme Keywords</b>	CWI, water wells, county well index, geological descriptions, Minnesota Geological Survey		
<b>Theme Keyword Thesaurus</b>			
<b>Access Constraints</b>			
<b>Use Constraints</b>	Acknowledgement of the Minnesota Geological Survey and Minnesota Department of Health are appreciated for products derived from these data.		
<b>Contact Person Information</b>	Aggregate Resource Mapping Program, Industrial Minerals Geologist or GIS Specialist Minnesota Department of Natural Resources, Division of Lands and Minerals 500 Lafayette Road St. Paul, MN 55155-4045 Phone: 651-259-5959 FAX: 651-296-5939 E-mail: <a href="mailto:aggregatemap@state.mn.us">aggregatemap@state.mn.us</a>		
<b>Browse Graphic</b>	none available		
<b>Browse Graphic File Description</b>			
<b>Associated Data Sets</b>	The MPES Report 380's spatial datasets (shapefiles & file geodatabase) are included in the file report380data.zip, accessible from the MN DNR Aggregate Mapping web page: <a href="http://www.dnr.state.mn.us/lands_minerals/aggregate_maps/completed/index.html">http://www.dnr.state.mn.us/lands_minerals/aggregate_maps/completed/index.html</a> The spatial datasets include: sand and gravel resource potential, clay and silt resource potential, field observations, aggregate pits, Minnesota Geological Survey (MGS) County Well Index (CWI) data points, MGS CWI stratigraphy table, sieve analysis database, Mn/DOT Aggregate Source Information System (ASIS) points, and Mn/DOT ASIS pit quality table.		
Section 2	Data Quality Information	<a href="#">Top of full metadata</a>	<a href="#">Top of page</a>

### ***Attribute Accuracy***

### ***Logical Consistency***

### ***Completeness***

The locational accuracy of these points varies. Some of the points were field checked down to the meter, while others are located to the centroid of a 40-acre parcel. Download CWI from the Minnesota Geological Survey for a complete and up-to-date version. For the 48 wells located by the MN DNR see the attribute table description at the bottom of this document for methodology.

### ***Horizontal Positional Accuracy***

### ***Vertical Positional Accuracy***

Not applicable.

### ***Lineage***

The geological descriptions associated with the well locations were used to make interpretations and test interpretations about the geology, aggregate resources, and glacial and bedrock history of the area.

### ***Source Scale Denominator***

Section 3	Spatial Data Organization Information	<a href="#">Top of full metadata</a>	<a href="#">Top of page</a>
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***Native Data Set Environment*** ArcGIS 9.3.1 from ESRI

### ***Geographic Reference for Tabular Data***

***Spatial Object Type*** Point

***Vendor Specific Object Types*** Point

***Tiling Scheme*** MPES Report 380 Project Boundary

Section 4	Spatial Reference Information	<a href="#">Top of full metadata</a>	<a href="#">Top of page</a>
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***Horizontal Coordinate Scheme*** UTM

***Ellipsoid*** GRS80

***Horizontal Datum*** NAD83

***Horizontal Units*** Meters

***Distance Resolution***

***Altitude Datum*** Not applicable

***Depth Datum*** Not applicable

***UTM Zone Number*** 15E

Section 5	Entity and Attribute Information	<a href="#">Top of full metadata</a>	<a href="#">Top of page</a>
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***Entity and Attribute Overview*** These points represent the locations of individual wells drilled throughout parts of northern St. Louis County and Lake County.

***Entity and Attribute Detailed Citation*** Attribute values can be found in a table at the bottom of this document (report380\_cwiwells0609.pdf). If you are viewing this metadata in ArcCatalog, from the .xml file, the attribute table is not displayed. You will have to refer to the 'report380\_cwiwells0609.pdf' document included in the project zip file report380data.zip, which can be found at the following folder directory: report380data\resource\shapefiles\mgs\metadata report380\_cwiwells0609.shp contains a field (doh\_path) that is used to hyperlink to the Minnesota Department of Health's County Well Index Online webpage. This web page provides detailed information (i.e., Drillers Description, Stratigraphy, etc.) regarding the associated well, via its 'relateid' or unique id. The shapefile can be hyperlinked utilizing ESRI software like ArcView 3.3 and ArcGIS 9. An additional table, report380\_cwistrat0609.dbf, is a subset of the STRAT table of the CWI database. The report380\_cwiwells0609 shapefile relates to the mpes380\_cwistrat0609.dbf table as a one-to-many relate on the relateid field. The additional table contains only those fields that were considered directly applicable to developing aggregate resource mapping units for this

project. Descriptions can vary from well to well, due to different individuals completing the well logging. As an example of the detail found in these descriptions: detailed descriptions often cover 5 to 10 feet of thickness per glacial material type or bedrock type. Less detailed descriptions may say 0-240 feet glacial drift and 240-360 feet sandstone. The definition of the fields found in report380\_cwistrat0609.dbf are included in the report380\_cwiwells0609.pdf document.

Section 6	Distribution Information	<a href="#">Top of full metadata</a>	<a href="#">Top of page</a>
<b><i>Publisher</i></b>	Minnesota Geological Survey		
<b><i>Publication Date</i></b>	Periodically revised		
<b><i>Contact Person Information</i></b>	<p>Minnesota Geological Survey  2642 University Avenue West  St. Paul, MN 55114-1057  Phone: 612-627-4782  FAX: 612-627-4778  E-mail: <a href="mailto:mgs@umn.edu">mgs@umn.edu</a></p>		
<b><i>Distributor's Data Set Identifier</i></b>	CWI		
<b><i>Distribution Liability</i></b>			
<b><i>Transfer Format Name</i></b>			
<b><i>Transfer Format Version Number</i></b>			
<b><i>Transfer Size</i></b>			
<b><i>Ordering Instructions</i></b>	<p>Go to the website of the Minnesota Geological Survey, <a href="http://www.geo.umn.edu/mgs">http://www.geo.umn.edu/mgs</a>, to find the link describing CWI and to download the current version of CWI. To download this subset of the CWI data, which was used for this project and downloaded in 2009, go to <a href="http://www.dnr.state.mn.us/lands_minerals/aggregate_maps/completed/index.html">http://www.dnr.state.mn.us/lands_minerals/aggregate_maps/completed/index.html</a> where it is part of the MPES Report 380 project data zip file.</p> <p>The MPES Report 380's spatial datasets (shapefiles &amp; file geodatabase) are included in the file report380data.zip, accessible from the MN DNR Aggregate Mapping web page: <a href="http://www.dnr.state.mn.us/lands_minerals/aggregate_maps/completed/index.html">http://www.dnr.state.mn.us/lands_minerals/aggregate_maps/completed/index.html</a></p> <p>The spatial datasets include: sand and gravel resource potential, clay and silt resource potential, field observations, aggregate pits, Minnesota Geological Survey (MGS) County Well Index (CWI) data points, MGS CWI stratigraphy table, sieve analysis database, Mn/DOT Aggregate Source Information System (ASIS) points, and Mn/DOT ASIS pit quality table.</p>		
<b><i>Online Linkage</i></b>	none available		

Section 7	Metadata Reference Information	<a href="#">Top of full metadata</a>	<a href="#">Top of page</a>
<b><i>Metadata Date</i></b>	2011		
<b><i>Contact Person Information</i></b>	<p>Aggregate Resource Mapping Program, Industrial Minerals Geologist or GIS Specialist  Minnesota Department of Natural Resources, Division of Lands and Minerals  500 Lafayette Road  St. Paul, MN 55155-4045  Phone: 651-259-5959  FAX: 651-296-5939  E-mail: <a href="mailto:aggregatemap@state.mn.us">aggregatemap@state.mn.us</a></p>		
<b><i>Metadata Standard Name</i></b>	Minnesota Geographic Metadata Guidelines		
<b><i>Metadata Standard Version</i></b>	2.1		
<b><i>Metadata Standard Online Linkage</i></b>	<a href="http://www.lmic.state.mn.us/gc/stds/metadata.htm">http://www.lmic.state.mn.us/gc/stds/metadata.htm</a>		

Table Name	Field Name	Begin Column	Definition	Valid Values	Descriptions
report380_cwiwells0609.dbf	RELATEID		Text, 10	e.g., 000190049, 000152240	Unique identifiers for the wells (Relate item with report380_cwistrat0609.dbf).
	UNIQUE_NO		Text,8	e.g., 00190049, 00152240	Unique identifier for each well
	TOWNSHIP		Number,9,0	117 to 121	Public Land Survey Township Number
	RANGE		Number,9,0	29 to 31	Public Land Survey Range Number
	SECTION		Number,9,0	1 to 36	Public Land Survey Section number
	SUBSECTION		Text, 6	e.g., ABBCAA, CABBAB, DCCBBC, DCDDD	Subsection. Indicates from largest to smallest, the quarter, quarter-quarter, quarter-quarter-quarter, ... (A = NE, B = NW, C = SW, D = SE).
	DEPTH2BDRK		Number,19,11	e.g., 10, 71, 154, 510. -999 indicate no data.	Describes in feet the depth to the first bedrock encountered.
	DOH_PATH		Text, 125	e.g., <a href="http://mdh-agua.health.state.mn.us/cwi/well_log.asp?wellid=0000732429">http://mdh-agua.health.state.mn.us/cwi/well_log.asp?wellid=0000732429</a>	A URL hyperlink that links, using ESRI software like ArcView 3.3 or ArcGIS 9, to the associated well's information (i.e., stratigraphy, drillers description) displayed via the county well index online web page, provided by the Minnesota Department of Health. Some wells are not available on this site. More information about this page can be found at: <a href="http://www.health.state.mn.us/divs/eh/cwi/">http://www.health.state.mn.us/divs/eh/cwi/</a>
	DNRLOCATED		Text, 3	Yes, No	The MN DNR's Mineral Potential Section located 48 wells from the MGS's CWI unlocated wells database downloaded in June of 2009. Within this database these wells were given the tabular attribute of 'Yes'. These wells were located using a variety of GIS layers and online resources. <b>GIS sources include:</b> <i>Public Land Survey Control Point Generated:</i> DNR generated, used to reference township, range, section, and forty description of well. GIS file name -Pls_fortpy3; <i>Statewide compiled County Parcel Data</i> – DNR compiled parcel layer of county parcel data sets. St. Louis County and Lake County were used, however St. Louis County only included the PIN (Parcel ID), thus there was no owner name. St. Louis County online parcel information was queried to determine owner name from PIN. Lake County did include owner name, however the Lake County website was still referenced due to having updated and greater information that was used to located wells. GIS File name –own_parcelpy4; <i>Rockford Plat Books:</i> Scanned and rectified county parcel maps. This data is dated, but is used for historic reference. Usually applied for older wells that are not found in the up to date county parcel data. Lake County was not covered in this layer. GIS File name - map_platim2; <i>2009 DNR Northeast MN 50cm Resolution True Color Imagery</i> - 2009 color air photo imagery used to place wells near owners residence or within parcel if no residence is on the property. GIS File name - wms_dnr09ancim4; <i>Minnesota DOT Roads Geodatabase</i> – MN DOT Road transportation classes used for referencing highway and street names. GIS File name - road_mndot; <i>Scanned Image Basemaps</i> – Scanned and rectified basemaps; USGS 24K topographic maps (ags_ngstopo2d) and MNDOT County Hiway Maps (map_dotrdim3). The basemaps were used for referencing highway and street names. <b>Online resources include:</b> <i>CWI Online Well and Boring Records:</i> <a href="http://mdh-agua.health.state.mn.us/cwi/">http://mdh-agua.health.state.mn.us/cwi/</a> ; <i>Online County Parcel Web Pages:</i> <a href="http://www.parcelinfo.com/main.php">http://www.parcelinfo.com/main.php</a> - Lake County Parcel Data & <a href="http://www.co.st-louis.mn.us/slcportal/SiteMap/HomePage/Departments/Auditor/TestParcelInfoframe/tabid/1652/Default.aspx">http://www.co.st-louis.mn.us/slcportal/SiteMap/HomePage/Departments/Auditor/TestParcelInfoframe/tabid/1652/Default.aspx</a> - St. Louis County Parcel Information; <i>Online Address Locator Maps:</i> <a href="http://maps.google.com/">http://maps.google.com/</a> & <a href="http://www.bing.com/maps/explore/?org=aj#">http://www.bing.com/maps/explore/?org=aj#</a> ; <i>Online People Information Locator:</i> <a href="http://infospace.com">http://infospace.com</a>
mpes380_cwistrat0609.dbf					Associated table for use with olmscwiwells0607.shp. Relate the table with the shape on the field relateid. There is a one-to-many relationship between the shapefile and this table. This table is a subset of the data stored in the C4ST (i.e., driller's description, interpreted stratigraphy) of the MGS CWI database.
	RELATEID		Text, 10	e.g., 0000102256, 0000524753	These are the unique identifiers for the wells (Relate item with <b>report380_cwiwells0609</b> shapefile).
	DEPTH_TOP		Number,19,5	e.g., 15, 100, 260, 420	Depth to the top of the bedrock.
	DEPTH_BOT		Number,19,5	e.g., 1, 38, 117, 254, 818	Depth to bottom of the bedrock.
	DRILLR_DESC		Text, 34	e.g., CLAY, SAND + CLAY + GRAVEL, BOULDER	The driller's description, interpreted stratigraphy.