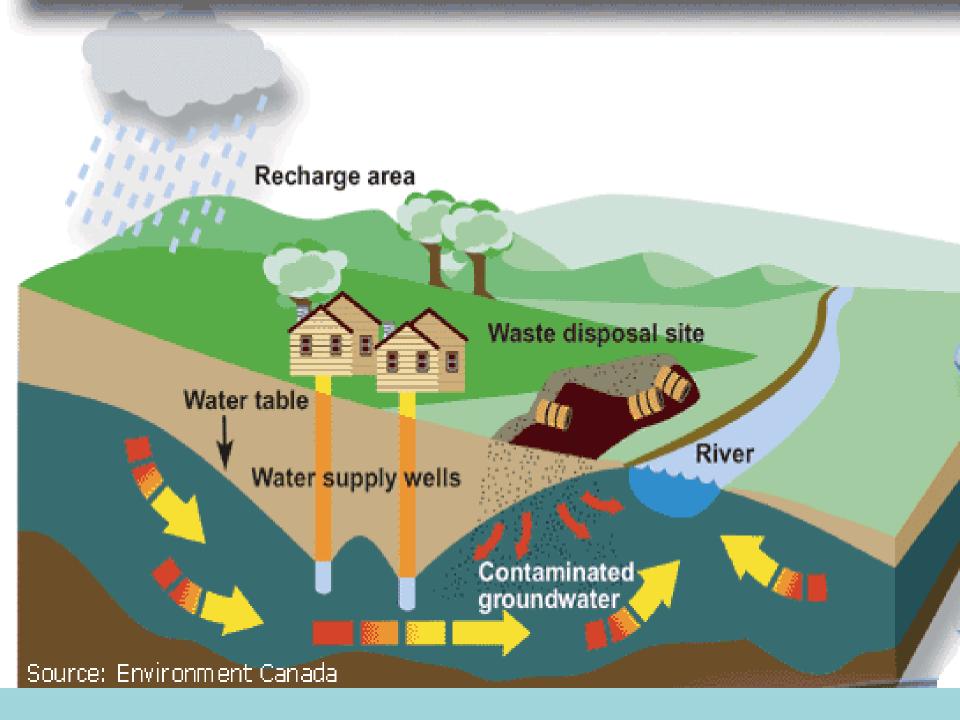
# Taking Advantage of Existing Water Quality Data

MGWA 2006 Fall Conference Cathy O'Dell





# What kind of Data Do We Need?

- Usually, it's data that's not available
- We want:
  - Recent data
  - Analyzed for the "right" chemical parameters using the "right" analytical methods
  - From a nearby location
  - Collected from the "right" aquifer/depth
  - And the "right" kind of well

# Finding Existing WQ Data

• Two main pathways:

- 1 Internet accessible WQ data
- 2 Internet tools for locating WQ data

## Internet Accessible WQ Data

- Not a lot of "ready to use" data out there
- But there is SOME!
- Whether it is useful depends on what you need

## Internet Accessible WQ Data

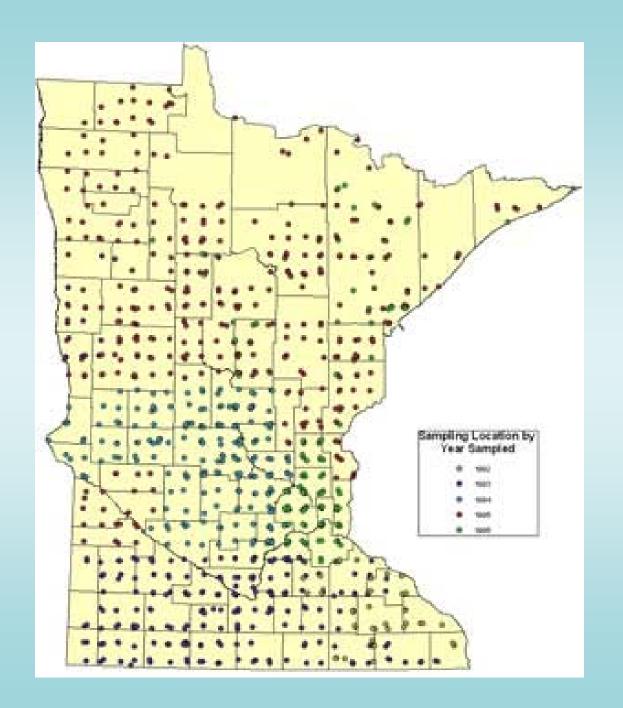
- MPCA Baseline Study Data
  - WQ in 14 principal Minnesota aquifers

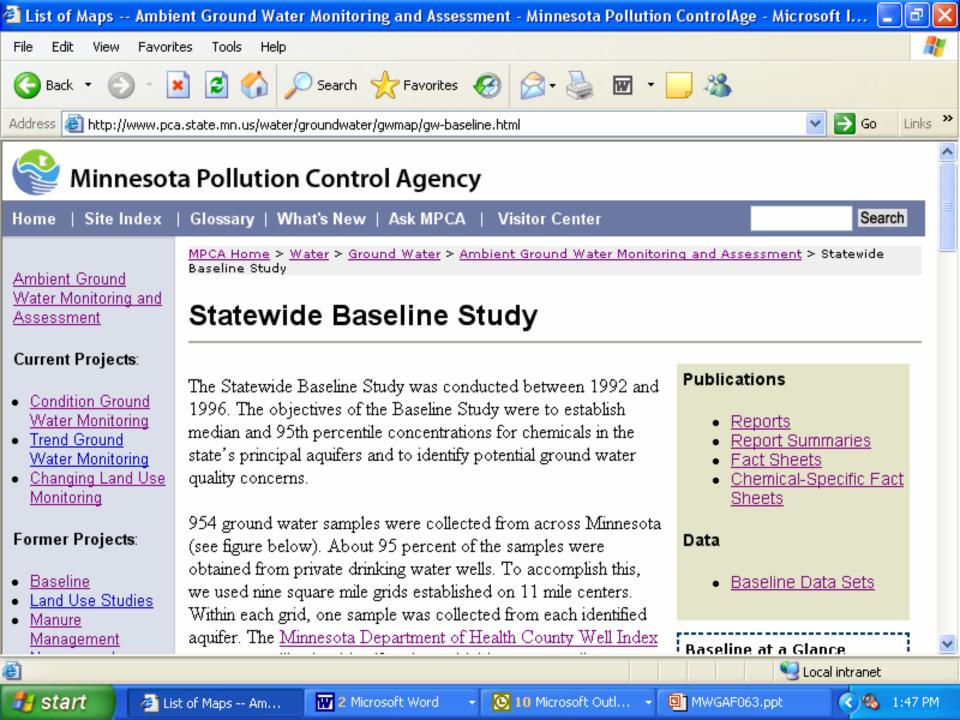
MPCA & MDA GW Monitoring Data

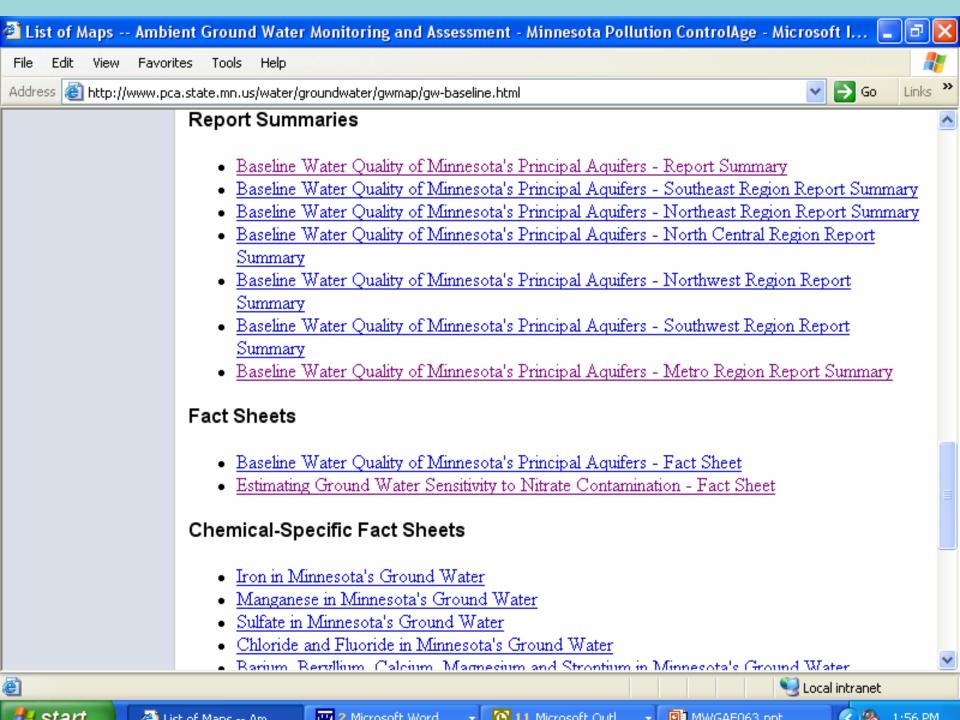
 USGS Nat'l Water Information System (NWIS)

## **MPCA Baseline Study Data**

- Made possible by 1989 Grant from LCMR to fulfill "top priority need" for GW info in MN
- 14 principal Minnesota aquifers
- 954 domestic wells sampled between 1991 and 1996
- Analyzed for 52 inorganic parameters and VOCs









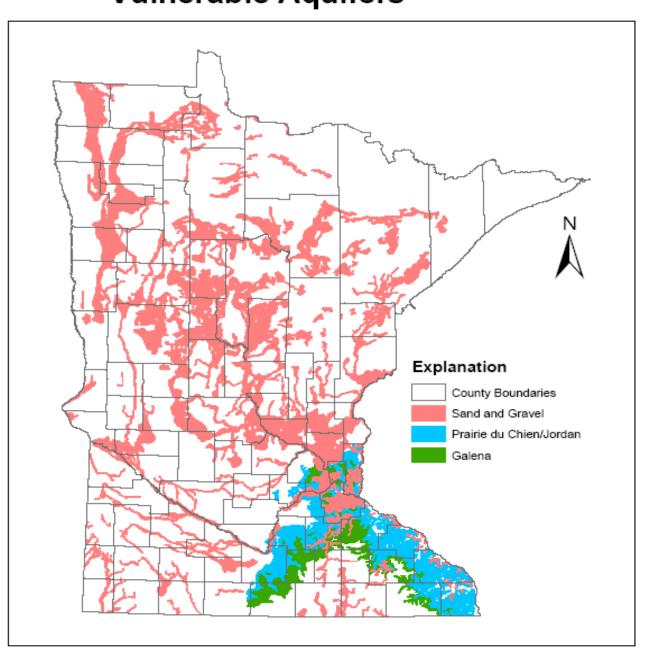
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3WMAP00795	470090	5178535	Aitkin	1	Domestic	4	QBAA	Bur.	
3WMAP00984	488070	5177472	Aitkin	1	Domestic	4	QBAA	Bur	
3WMAP00958	452771	5176637	Aitkin	1	Domestic	4	QBAA	Bur.	
3WMAP01009	451827	5165003	Aitkin	1	Domestic	4	QBAA	Bur.	
3WMAP00832	470177	5164286	Aitkin	1	Domestic	4	QBAA	Bur.	
3WMAP00988	487278	5160911	Aitkin	1	Domestic	4	QBAA	Bur.	
3WMAP00667	451694	5145925	Aitkin	1	Domestic	4	QBUA	Burie	
3WMAP00738	450669	5144229	Aitkin	1	Domestic	4	QBAA	Bur	
3WMAP00981	450692	5143800	Aitkin	1	Domestic	4	QWTA	W	
3WMAP00985	490900	5143573	Aitkin	1	Domestic	4	QBAA	Bur	
3WMAP00973	466882	5129439	Aitkin	1	Domestic	4	QBAA	Bur.	
GWMAP00762	469956	5126065	Aitkin	1	Domestic	4	PCCR	C	
GWMAP01182	490689	5021475	Anoka	6	Domestic	2	QWTA	W	
3WMAP01051	470953	5020952	Anoka	6	Domestic	4	QBAA	Bur	
3WMAP01087	468574	5019469	Anoka	6	Domestic	4	CIGL	In	
3WMAP01050	471638	5018912	Anoka	6	Domestic	4	CFRN		
3WMAP01047	488037	5018832	Anoka	6	Domestic	4	QBAA	Bur	
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3	8/14/1995	no	137000	0.06	0.007	1.810	28.1	0.0100	0.0300	17.8	0.100	0.010
4	6/28/1995	no	214000	2.38	0.040	0.059	65.5	0.0300		708.8	0.100	0.150
5	8/14/1995	no	120000	0.41	0.007	1.440	19.5	0.0050	0.0300	12.0	0.100	0.010
6	6/28/1995	no	283000	158.19	0.050	6.340	66.5	0.0300		86.7	0.100	0.070
7	8/14/1995	no	236000	0.06	0.007	10.170	45.1	0.0200	0.0300	187.0	0.100	0.010
8	6/28/1995	no	229000	0.06	0.030	6.900	71.3	0.0050		25.7	0.100	0.060
9	6/28/1995	no	285000	0.63	0.030	3.650	63.3	0.0100		96.9	0.100	0.100
10	6/27/1995	no	200000	0.06	0.040	9.110	49.0	0.0100		21.0	0.100	0.050
11	6/27/1995	no	71000	0.06	0.040	0.610	3.7	0.0050		14.2	0.100	0.030
12	6/27/1995	no	128000	1.86	0.030	18.760	85.9	0.0200		18.0	0.100	0.090
13	6/27/1995	no	132000	0.80	0.030	3.270	116.1	0.0100		63.9	0.100	0.050
14	8/14/1995	yes	331000	807.07	0.007	3.370	99.9	0.0300	0.0300	41.9	0.100	0.010
15	8/14/1995	no	110000	67.17	0.030	1.960	17.5	0.0300	0.0300	58.2	0.100	0.040
16	8/14/1996	no	153000	5.12	0.007	1.490	70.4	0.0100	0.0300	21.7	0.100	0.040
17	6/11/1996	no	127000	2.71	0.040	2.550	47.3	0.0050	0.0300	12.0	0.100	0.040
18	6/20/1996	no	267000	2.44	0.020	0.570	100.2	0.0300	0.0300	45.1	0.100	0.050
19	6/11/1996	no	254000	3.65	0.007	0.370	14.5	0.0050	0.0300	16.7	0.100	0.010
20	6/12/1996	no	281000	9.31	0.010	1.890	257.8	0.0050	0.0300	14.7	0.100	0.010
21	6/11/1996	yes	181000	2.45	0.120	0.120	8.9	0.0050	0.0300	14.1	0.100	0.170
22	6/26/1996	yes	231000	0.43	0.007	14.060	54.2	0.0050	0.0300	12.0	0.100	0.030 🔻
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# MPCA and MDA GW Monitoring Programs

- MPCA and MDA conducting monitoring in accordance with 2003 Memorandum of Agreement (also included MDH)
- Integrated GW Quality Monitoring Strategy
- MPCA monitors vulnerable aquifers in urban areas for impacts from industrial chemicals and fuel
- MDA monitors ground water in agricultural regions to determine the need for pesticide and/or fertilizer BMPS

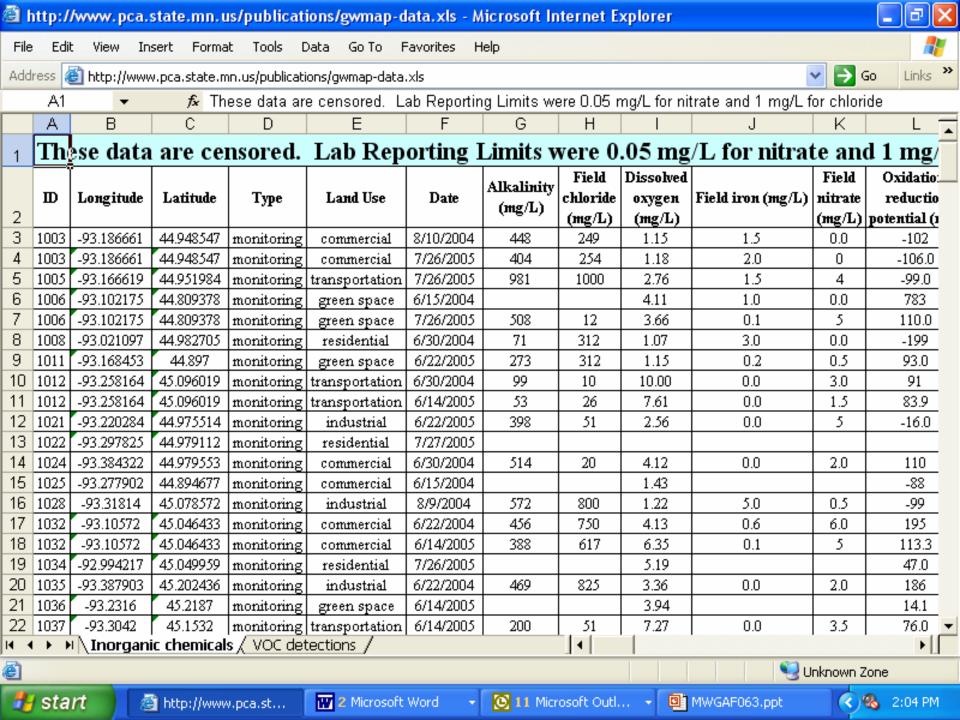
### Ambient Condition Monitoring Network Vulnerable Aquifers



# MPCA Ambient GW Monitoring Data

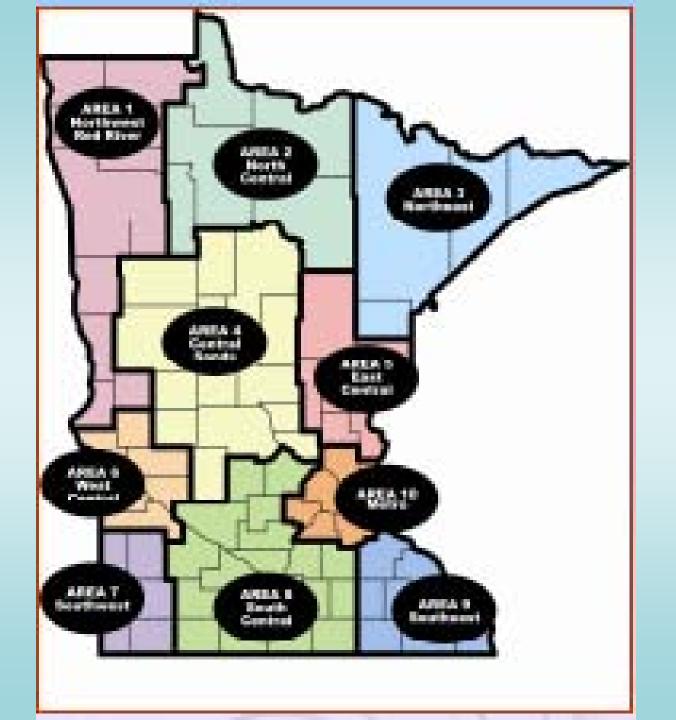
- New monitoring program began 2004
- Data available for 2004, 2005, and soon 2006
- Monitoring vulnerable surficial aquifers in urban (i.e. non-agricultural) areas
- Testing for chloride, nitrate, and VOCs
- Primarily domestic wells





# **MDA GW Monitoring**

- MDA is expanding their GW monitoring
- Several networks:
  - Central Sands since 2000
  - Regional Network since 2004 & expanding
  - Springs (mostly) since 2003 & expanding
- Almost all monitoring wells (ex. Springs)
- Nitrates and pesticides





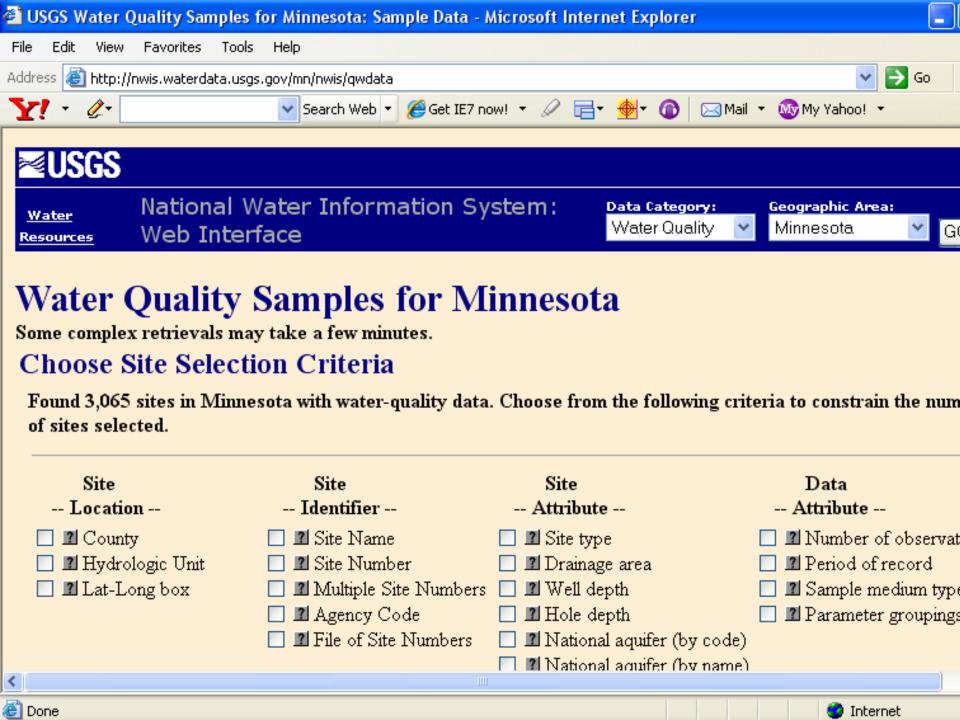


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599553   291201 ND   10	03-K4	639553	3/28/2000	ND	na.	na.	ND	na	na.	0.12	0.17	ND	ND	па	na.	0.08	na	na.	ND	1.47	па	па	па	na	na	27.7
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# USGS National Water Info System

- NWIS contains GW quality data collected by USGS for last 30 years
- Most GW quality data is project-related (i.e. NAWQA, MESA project, etc.)
- GW level data, surface water data, etc. is also available on NWIS
- Requires some learning time on part of user but is at your fingertips





# Tools for Finding Specific WQ Data

- Depending on your goal, next best bet might be to see if there are active gw investigations taking place in your area of interest.
- Use MPCA or MDA "What's in My Neighborhood?" to determine location, number and type of sites that MAY have GW data



What's In My Neighborhood? Minnesota Pollution Control Agency Known and potential sources of soil and ground water contamination LAKE LAKE WABASSO Search Map Tools LAKE JOHANNA 51 Zoom In Choose a search method: LAKE OWASSO LAKE JOSEPHINE Zoom Out City/Town/Place Pan Map 0 ID Site LANGTON LAKE Site ID Draw Radius Saint Anthony Woodhill Dr W Site Name County Road C W Measure CENTRAL PARK POND Street Address Photo On/Off Overview 36 Roseville Sites Reset Map Delisted State Superfund Back MIDLAND HILLS CC POND Permitted Solid Waste New Search Roselawn Ave V MCCARRONS LAKE Unpermitted Dumps 290 Clear Falcon Heights NFRAP Larpenteur Ave W Print State Superfund W Hoyt Ave 0 CERCLIS Help Federal Superfund Exit W Midway Pkwy LAKE COMO State Closed Landfills Como Ave Como Ave Voluntary Investigation & Cleanup LOEB LAKE **RCRA TSD Facilities** RCRA Investigation & Cleanup State Assessment

Address Location

Radius Center

To view site type definitions, click on a name above.

Quick Zoom County:

Go City:

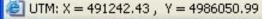
Thomas Ave

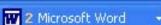
W. University Ave

Go

Questions/Comments

🖳 Local intranet







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What's In My Neighborhood? Minnesota Pollution Control Agency Known and potential sources of soil and ground water contamination Search Map Tools Zoom In Choose a search method: Road B W Zoom Out 鹽 City/Town/Place Eldridge Ave W Pan Map Skillman Ave W 0 ID Site Site ID 8 Ryan Ave W Draper Ave W Draw Radius Site Name Roselawn Ave W Measure Street Address Photo On/Off Garden Ave Overview Sites Reset Map FORMER SUPER AMERICA, ROSEVILLE CHILDREN'S HOME SOCIETY Delisted State Superfund Back Permitted Solid Waste W. Hoyt Ave. ST. PAUL CAMPUS CHILLER PROJECT New Search Dudley Ave. Unpermitted Dumps Loc Ave Clear Buford PI POLYMETALS PRODUCTS, INC. NFRAP GORTNER PARKING RAMNP, U OF M Print State Superfund SARITA WETLAND FOREBAY orter Join 0 CERCLIS Help ST. PAUL CHILLER PLANT Federal Superfund Exit H.B. FULLER (ST. PAUL) COMO AV & PACKARD STREET DUMP State Closed Landfills CEMSTONE PRODUCTS W Broda Ave Voluntary Investigation & Cleanup GENERAL FOAM QUALITY TOOL RCRA TSD Facilities **BURLINGTON APARTMENTS** KOCH TRUCKING, INC RCRA Investigation & Cleanup **GNB** MINNESOTA WIRE & CABLE State Assessment STATE FAIR DEMOLITION ENERGY PARK PARKING LOT Address Location SHAFER CONSTRUCTION DEMO Radius Center **MEGA FARMS** To view site type definitions, click on a name above. OLSON GRAPHIC PRODUCTS 10.56mi Go Questions/Comments Go Quick Zoom County: City: 🖳 Local intranet UTM: X = 483992.79 , Y = 4982304.05 W 2 Microsoft Word 18 Microsoft Outl... MWGAF063.ppt 🔇 🦠 4:11 PM start 3 Internet Explorer



development agencies, local government, and other voluntary parties work with VIC staff to bring contaminated land back into productive use.

### Learn More About the VIC Program

- Introduction
- VIC Customers
- Seeking Assistance from the VIC Program
- Program Accomplishments
- Brownfields in the VIC Program
- Risk-based Site Evaluation Process
- Petroleum Contamination
- Releases at Drycleaning Facilities
- Related Information: Pollution Prevention and Sustainable Activities
- More Information

### What's New

- Superfund and Emergency Response Section Spatial Data Guidance Requirements
- · Review Timeline for New Sites
- Travel Scholarships Available for Brownfields 2006 Conference
- All Appropriate Inquiries Rule
- Phalen Corridor Wins Phoenix Award
- Federal Grant Notifications



### Go Directly to the Information You Need

- VIC Guidance Documents and Fact Sheets
- Policies
- Disposal of Mercury Contaminated Soil in MN Landfills
- VIC Staff Directory
- Success Stories
- Search the VIC Site Database
- Brownfields at the MPCA
- **Drycleaner Fund**
- Institutional Controls What Are They?
- MN State Statutes
- Links
- Program Application Form
- Risk-based Site Evaluation Guidance Documents
- VIC Customer Survey Form
- VIC Program Assessment Update Letter

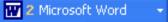
### Response Actions

- Response Actions Conducted for 2005.
- Actions Planned in 2006



















Site Name





### Air

Water. Cleanup

<u>Waste</u>

News/Notices

Permits

Rules/Regulations Hot Topics

Programs

Publications |

About MPCA

## Voluntary Investigation and Cleanup (VIC) Program Search Result

The following presents the search information for the site that you entered.

St. Paul Chiller Plant

Site is: Inactive

MPCA Site ID: VP17310 (5812)

Start Date: 03/31/2003

1936 and 1952 Commonwealth Avenue Address City, State Zip Falcon Heights, MN 55108

County Ramsey MPCA Region/District Metro/Metro

Site Type Other Site Size (Acres)

PLP No NPL No

Sarappo, Project Leader Contact Grigor, Technical Analyst Contact

Most Recent Reports 02/25/02 12/14/01

Event: Assurances (0) Others (3)



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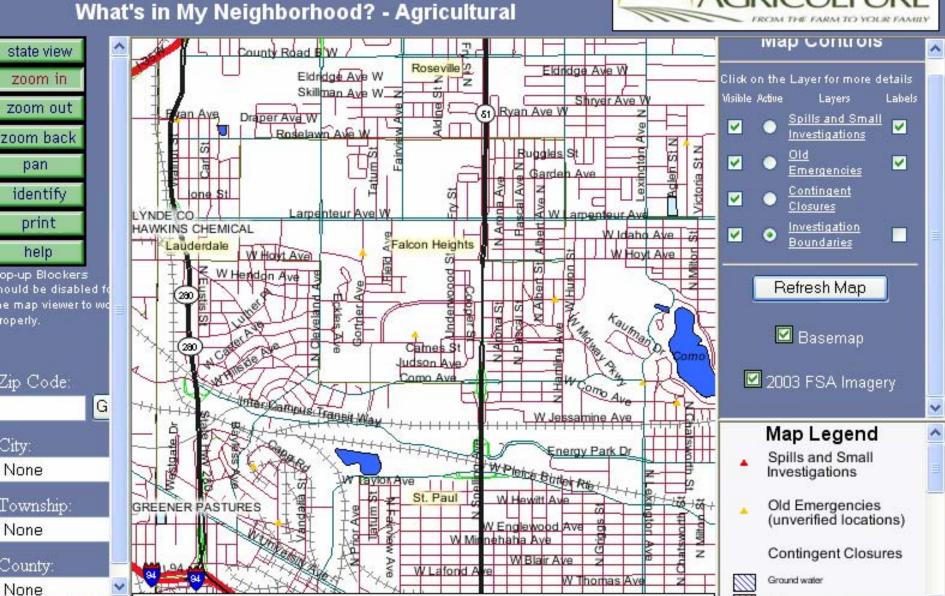




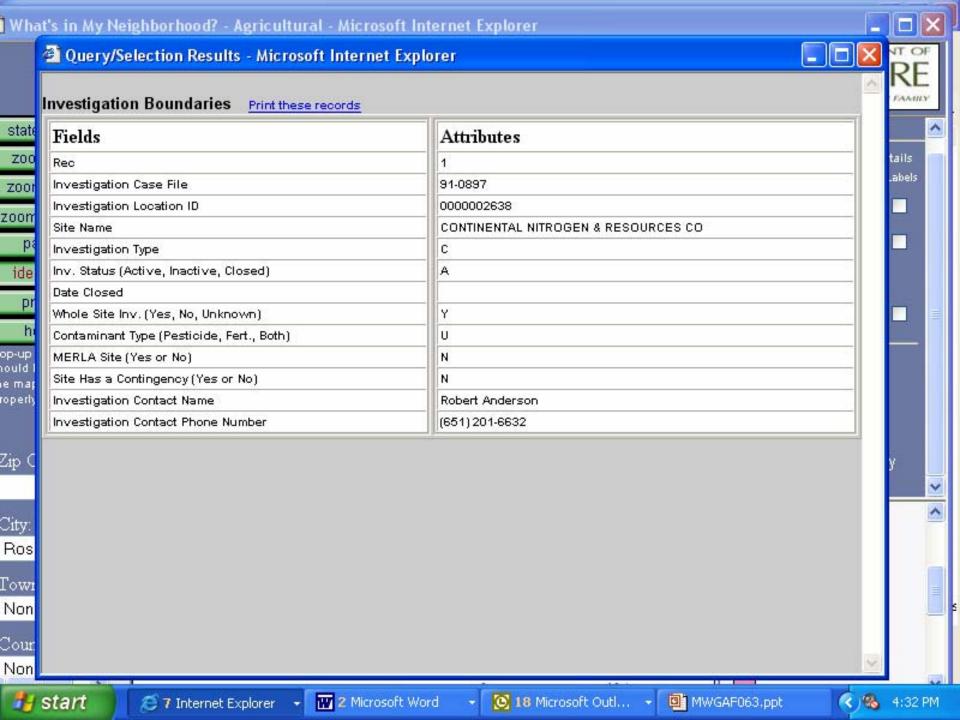


# Minnesota Department of Agriculture What's in My Neighborhood? - Agricultural





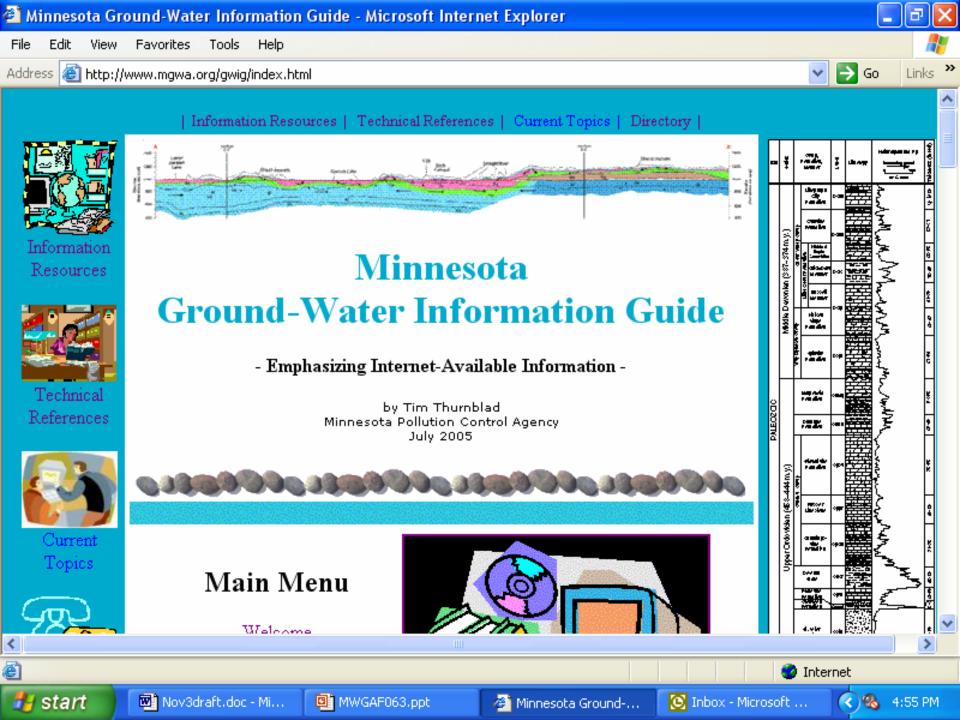




## Now the real search begins!

- There are many, many other sources of potentially helpful GW quality data out there – what is the best way to search for these?
- One internet-based tool is the Minnesota Ground-Water Information Guide
- Access via MPCA, MGWA or MGS websites







#### Minnesota

### Ground-Water Information Resources

A Guide to Minnesota Ground-Water Information - Emphasizing Internet-Available Resources -

> by The Thumblet Minneson Polletine Council Agency

> > July 2015

Main Monta Table of Contests Overview



Make Mercu



Regional Info-





Water Quality





Local Information





Graden



Library Searcher



Convenient



Appendices.



Contacts, Tell the

#### REGION-SPECIFIC BIBLIOGRAPHIES

Minnesota Groundwater Bibliography, June 1989; revised June 1990 / by Dave Armstrong; revised by Toby McAdams. Department of Natural Resources (MN DNR), Division of Waters, St. Paul, Minnesota; 117 pp.

This Minnesota DNR Bibliography includes sections where you can select one of six (DNR) regions of the state to focus on while searching for ground-water related publications. Once you determine which of those regions includes the local area of interest, the region-specific bibliography can speed up your search for publications of interest. Within the section for each region, you will find publications from the USGS, the Minnesota Geological Survey (MGS) and other selected sources organized by author and publication series or type.

Link to the bibliography from this page on the DNR web site: http://www.dnr.state.mn.us/groundwater/index.html

or open the PDF (<u>Adobe Portable Document Format</u>) document directly from here: http://files.dnr.state.mn.us/publications/waters/MN\_Ground\_Water\_Bibliography.pdf

### Technical Reference List for Minnesota Ground-Water Projects

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#### WELL-RELATED RULES AND LAWS

#### Rules and Laws.

#### SEALING UNUSED WELLS

This MDH Well Management program web page explains why <u>sealing unused wells</u> is so important and provides detailed information about how to seal wells properly. A well that is not in use - or sometimes referred to an "abandoned" well - can be a potential threat to health, safety, and the environment. Wells that are no longer used may be buried or forgotten. Often they have not been sealed properly. Sealing is the process of clearing an unused well of debris and filling the well with a special material called grout. The sealing must be done by a licensed contractor.

#### WELL DISCLOSURE

Well disclosuse is the process by which the seller of property provides information to the buyer and the state about the location and status of all wells on the property. This process is required by state law, a portion of the Ground Water Protection Act (Minnesota Statutes, section 103I.235). The law applies to all types of wells, including wells used for drinking water, irrigation, livestock, commercial or industrial processing, heating or cooling, or monitoring. These wells include drive-point (sand-point) wells, drilled wells, and dug wells.

#### MINNESOTA WELL RECORDS ONLINE

The <u>County Well Index</u> web page allows visitors to search for wells by geographic location or other criteria and then view detailed information about individual wells.

### Current Topics Web Review for Minnesota Ground Water Projects

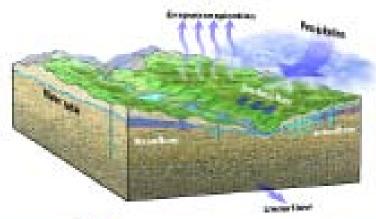
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# **Future Options**

- MPCA is working on adding GW quality data to its Environmental Data Access (EDA) system
- Currently has surface water and air quality data available
- Making slow progress with GW, starting with getting GIS locational data for wells in MPCA remediation programs into EDA







### Explore Surface Water Monitoring Sites

Environmental Data Access



Minnesota Pollution **Control Agency** 



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Legend Search Layers

### Monitoring Stations

Stream

USGS Biological

Discharger

County Highways

Interstate US Highways

State Highways

Lake or Large River

Streams/Rivers



