

BEFORE THE POLLUTION CONTROL BOARD
OF THE STATE OF ILLINOIS

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STATE OF ILLINOIS
Pollution Control Board

VILLAGE OF MORTON)
)
 Petitioner,)
)
 v.)
)
 ILLINOIS ENVIRONMENTAL)
 PROTECTION AGENCY)
)
 Respondent.)

PCB No. 10-83
(Community Well Setback Exception)


VILLAGE OF MORTON'S RESPONSE TO HEARING OFFICER ORDER

NOW COMES the Petitioner, the Village of Morton, by and through its attorney, Thomas E. Davies, in response to the Hearing Officer Order filed on September 7, 2010, does hereby file the following:

1. Geological logs for Wells 5, 6 and 8.
2. Portion of Fact Sheet from the 2002 Source Water Assessment of Morton's Community Wells.

Dated September 14, 2010.

VILLAGE OF MORTON

By: 
Thomas E. Davies,
Corporation Counsel

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DRILLER'S LOG
WELL NO. 5

<u>Formation</u>	<u>From</u>	<u>To</u>
Black topsoil	0	2
Mixture of gray and yellow clay	2	17
Gray clay	17	90
Dark gray clay	90	97
Brown clay	97	103
Gray clay, trace of sand and gravel	103	170
Very sandy gray clay	170	215
Dirty sand, trace of gravel	215	230
All grades of sand, trace of gravel	230	244
All grades of sand and gravel	244	279
Sand, mostly medium	279	300

WELL LOG 6

Feet	Feet	Description
0	to 2	black soil
2	to 17	gray & yellow clay
17	to 90	gray clay
90	to 97	dark gray clay
97	to 103	brown clay
103	to 170	gray clay, trace of sand & gravel
170	to 215	very sandy gray clay
215	to 230	dirty sand, trace of gravel
230	to 244	all grades sand, trace of gravel
244	to 285	all grades of sand and gravel
	to	
	to	
	to	

8 WELL LOG

Feet	Feet	Description
0	to 1	Topsoil
1	to 5	Brown clay
5	to 7	Brown clayey silt
7	to 11	Brown clay
11	to 56	Grey sandy silty clay some gravel
56	to 58	Sand and gravel
58	to 94	Grey sandy silty clay some gravel intermixed
94	to 99	Brown clayey silt
99	to 105	Blue grey silty clay
105	to 133	Grey sandy silty clay some gravel intermixed
133	to 134	Sand and gravel
134	to 164	Grey very sandy silty clay
164	to 171	Fine sand
171	to 182	Grey very sand silty clay some gravel intermixed and sand layers
182	to 189	Fine sand to small gravel
189	to 211	Hard grey very sandy silty clay some gravel intermixed and sand seams
211	to 215	Fine to coarse sand
215	to 243	Fine sand to small gravel
243	to 257	Fine sand to coarse gravel some boulders
257	to 267	Fine sand to small gravel
267	to 270	Fine sand to coarse gravel
270	to 277	Fine sand to small gravel occasional small boulders
277	to 296	Fine to coarse sand trace gravel and boulders

Well Test Data: Static Level 199'; pumping level 216' after 6½ hours pumping at 614 g.p.m.

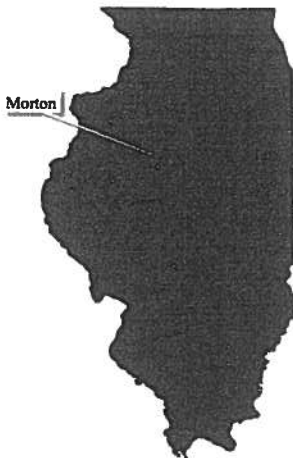
Length of test 6½ hrs. See Well Test Data Sheet Dated July 20, 1976

REMARKS:

Water samples collected and sent to Illinois State Water Survey for mineral analysis



Illinois Environmental Protection Agency



Source Water Assessment Program

FACT SHEET

MORTON

TAZEWELL COUNTY

Prepared in cooperation with the U.S. Geological Survey.

Information and data used in the preparation of this Fact Sheet are provided by the Illinois EPA and are subject to revision.

IMPORTANCE OF SOURCE WATER:

The Village of Morton (Facility Number 1790500) obtains its water from eight community water supply wells. Wells #3, #4, #5, #6, #7, #8, #9, and #10 (Illinois EPA #50228, #50229, #50230, #50231, #50232, #50233, #50234, and #50235, respectively) provide an average of 2,290,000 gallons per day (gpd) to 5,000 services or a population of 15,200. The wells supply 250,000 gpd to two large consumers, Caterpillar and Libby.

WATER SUPPLIES THAT OBTAIN SOURCE WATER FROM THIS FACILITY:

No connected water supplies existed at the time this Source Water Assessment fact sheet was completed.

SOURCE OF WATER SUPPLY:

Wells #3 and #4 are located on the corner of Plum Street and Jefferson Street. Wells #5, #6, #7, #8, #9, and #10 are located east of Detroit Street. Wells #3, #4, #8, #9, and #10 each produce at 800 gallons per minute (gpm), Wells #5 and #7 produce at 600 gpm, and Well #6 valved down to 500 gpm. The wells range in depth from 253 to 280 feet. The wells utilize a Sankoty sand and gravel aquifer overlain by relatively impermeable till. Permeability is a measurement of the capability of a soil or sediment to transmit fluids. The Illinois EPA does not consider these wells to be geologically sensitive.

WELL DATA FOR THIS FACILITY:

Well ID	Well Description	Status	Depth (Feet)	Min Setback (Feet)	Aquifer Description
WL50228	WELL 3 IN WTP 1	A	253	200	Sand & Gravel
WL50229	WELL 4 80 FT NW OF WELL 3	A	264	200	Sand & Gravel
WL50230	WELL 5 100 FT S OF WTP 2	A	280	200	Sand & Gravel
WL50231	WELL 6 200 FT SE OF WTP 2	A	280	200	Sand & Gravel
WL50232	WELL 7 500 FT NE OF WTP 2	A	280	200	Sand & Gravel
WL50233	WELL 8 600 FT SW OF WTP 3	A	279	200	Sand & Gravel
WL50234	WELL 9 200 FT NW OF WTP 3	A	278	200	Sand & Gravel
WL50235	WELL 10 600 FT N OF WTP 3	A	275	200	Sand & Gravel

SOURCE WATER QUALITY:

Morton Wells #3, #4, #5, #6, #7, #8, #9, and #10 were sampled beginning in 1984 as part of a Statewide Groundwater Monitoring Program. The samples were analyzed for inorganic chemicals (IOC) and volatile organic compounds (VOC). Wells #5 and #9 were sampled for synthetic organic compounds (SOC).

Review of the IOC data collected for these sampling efforts indicated that parameters were consistent with wells that

utilize a sand and gravel aquifer of similar character. The IOC results were below the groundwater quality standards established in 35 Illinois Administrative Code Part 620.410. Of particular interest to communities with wells utilizing certain aquifers, are naturally occurring elevated levels of arsenic. Arsenic was detected in the samples from these wells, but did not exceed the groundwater quality standard of 50 ppb. The concentration of arsenic in the wells varied between 11 and 32 ppb. Arsenic occurs naturally in some aquifers in Illinois.

VOC analyses did not detect quantifiable levels of any organic compounds. SOC analyses did not detect the presence of any pesticides/herbicides.

FINISHED WATER QUALITY:

The U.S. EPA has finalized a new drinking water standard for arsenic. This standard reduces the maximum allowable level of arsenic from 50 ppb to 10 ppb in finished water. The finished water arsenic level at this water supply was reduced below detection. Further information on finished water quality data tables, including monitored parameters, contaminants detected, health advisory information, drinking water standards, and maximum contaminant levels is available at <http://www.epa.gov/ogwdw/>. Similar information also is available in the Consumer Confidence Report supplied by the Village of Morton to its customers.

POTENTIAL SOURCES OF CONTAMINATION:

The sites labeled on the Wellhead Protection Planning Map and described in the following tables are considered "potential" sources of contamination. (Maps and tables are not available in the Visually Impaired Accessible version. However, the information presented in the maps and tables is summarized within the following text sections of this fact sheet.) These sites were predominantly identified through the Illinois EPA's Well Site Survey and Hazard Review Programs based on the nature of their activity, the availability of data in electronic databases, and their geographic proximity to the source water protection area. The Illinois EPA made use of the information from its leaking underground storage tank database (<http://epadata.epa.state.il.us/land/ust/search.asp>) and site remediation program database (<http://epadata.epa.state.il.us/land/srp/search.asp>) to further assess potential sources of contamination to the village's source water. These databases include information from the Illinois EPA Division of Land Pollution Control (LPC) and the Illinois Emergency Management Agency (IEMA). The following is a list of facilities contained within these databases.

IEMA #	LPC #	Name--Address
20001505	1790505081	Clark Retail Enterprises 600 South Main Morton 61550
20001548	1790505081	Clark Retail Enterprises, Inc. 425 W. Jackson St. Morton 61550
871629	1790505021	Grimm's Truck Stop 1801 North Morton Morton 61550
891481	1790505010	Bob Grimm Chevy 2271 South Main St. Morton 61550
900733	1790505042	Cady Oil 400 Jackson Morton 61550
900754	1790505046	Caragher, Bernard 1701 Morton Ave. Morton 61550
900958	1790505043	Morton School Dist. #709 110 South 4th St. Morton 61550
901260	1790505013	Zimmerman Auto Body 600 West Jackson St. Morton 61550
903022	1790505035	Morton Township Rd. & Bridge Dept. 300 West Jefferson Morton 61550
903323	1790500003	Fort Transfer 225 South Maple Morton 61550
903334	1790500005	ANR Freight System 175 West Courtland Morton 61550
910195	1790505038	Amoco Oil Co. #5527 319 North Main Morton 61550
911884	1790505035	Morton Township Rd. & Bridge Dept. 300 West Jefferson Morton 61550
911889	1790500010	Morton Welding Co. Inc. 70 Commerce Dr. Morton 61550
912489	1790505045	Illico Independent Oil Co. 600 South Main Morton 61550
913036	1790505048	WL Green Enterprises 140 West Queenswood Morton 61550
913340	1790505049	Village Buick GMC Inc. 100 West Jackson Morton 61550
913713	1790505002	Morton, Village of 108 Penn Morton 61550
921740	1790505050	Morton Metalcraft Co. 400 Detroit St. Morton 61550
922040	1790505054	Hyman Freightways 225 West Courtland Rd. Morton 61550
922421	1790505057	Fort Transport 108 Penn St. Morton 61550
923612	1790505047	Morton Bldg. 252 West Adams Morton 61550
930030	1790505058	Formaloy Corp. 1060 West Jefferson Morton 61550
931115	1790505034	Emro Unit #5189 400 West Birchwood Morton 61550
932954	1790505017	Raiser Motor Co. 307 South Main Morton 61550

940963 1790505064 Chevron USA Prod. 701 West Jackson St. Morton 61550
 941097 1790505065 Amoco Oil Co. #9785 520 South Main St. Morton 61550
 950117 1790500014 Grimm Brothers Trucking Inc. 1090 West Jefferson Morton 61550
 952551 1790500005 ANR Freight Co. 175 West Courtland St. Morton 61550
 960819 1790505021 Grimms Truck Stop 1801 North Morton Ave. Morton 61550
 972242 1790505082 Ace Doran Hauling 2301 South Main St. Morton 61550
 990907 1790505087 Otto Baum Co. 866 North Main Morton 61550
 1790505003 Morton Metalcraft Company 1021 West Birchwood Street Morton 61550-0429

SITE DATA FOR THIS FACILITY:

Well ID	Map Code	Site Name	Site Description	Distance (Feet)
WL50228	06224	LIBBY'S	RESTAURANT/FOOD SERVICE	900
WL50228	06225	PRATT & LAMBERT MILLER PAIN	CHEMICAL HANDLING (i.e. MANUF	950
WL50228	06226	MORTON LIBRARY	CHURCH/LIBRARY	500
WL50228	06227	MORTON TOWNSHIP BLDG.	DE-ICING AGENT	500
WL50228	06228	MORTON TOWNSHIP BLDG.	BELOW GROUND STORAGE (PET	500
WL50228	06231	MORTON BUILDINGS INC.	MANUFACTURING PROCESS (e.g.	600
WL50229	06224	LIBBY'S	RESTAURANT/FOOD SERVICE	850
WL50229	06225	PRATT & LAMBERT MILLER PAIN	CHEMICAL HANDLING (i.e. MANUF	1300
WL50229	06226	MORTON LIBRARY	CHURCH/LIBRARY	500
WL50229	06227	MORTON TOWNSHIP BLDG.	DE-ICING AGENT	450
WL50229	06228	MORTON TOWNSHIP BLDG.	BELOW GROUND STORAGE (PET	450
WL50229	06231	MORTON BUILDINGS INC.	MANUFACTURING PROCESS (e.g.	550
WL50230	06234	BUTLER MFG CO.	MANUFACTURING PROCESS (e.g.	850
WL50230	06235	MORTON PUBLIC WORKS GARA	MACHINE SHOP/SHED	500
WL50230	06236	MORTON WATER PLANT	SPECIAL WASTE SURFACE IMPO	20
WL50230	06237	MORTON PARK DIST. OFFICE	OFFICE	380
WL50230	06238	SPEEDWAY	BELOW GROUND STORAGE (PET	700
WL50231	06234	BUTLER MFG CO.	MANUFACTURING PROCESS (e.g.	780
WL50231	06235	MORTON PUBLIC WORKS GARA	MACHINE SHOP/SHED	550
WL50231	06236	MORTON WATER PLANT	SPECIAL WASTE SURFACE IMPO	170
WL50231	06237	MORTON PARK DIST. OFFICE	OFFICE	400
WL50231	06238	SPEEDWAY	BELOW GROUND STORAGE (PET	800
WL50232	06233	RINKER LAWN & LEISURE	PESTICIDES RETAIL SALES	720
WL50232	06234	BUTLER MFG CO.	MANUFACTURING PROCESS (e.g.	330
WL50232	06235	MORTON PUBLIC WORKS GARA	MACHINE SHOP/SHED	170
WL50232	06236	MORTON WATER PLANT	SPECIAL WASTE SURFACE IMPO	540
WL50232	06237	MORTON PARK DIST. OFFICE	OFFICE	900
WL50232	06238	SPEEDWAY	BELOW GROUND STORAGE (PET	1250
WL50233	06233	RINKER LAWN & LEISURE	PESTICIDES RETAIL SALES	1500
WL50233	06234	BUTLER MFG CO.	MANUFACTURING PROCESS (e.g.	1200
WL50233	06235	MORTON PUBLIC WORKS GARA	MACHINE SHOP/SHED	820
WL50233	06236	MORTON WATER PLANT	SPECIAL WASTE SURFACE IMPO	270
WL50233	06237	MORTON PARK DIST. OFFICE	OFFICE	150
WL50233	06238	SPEEDWAY	BELOW GROUND STORAGE (PET	450
WL50234	06233	RINKER LAWN & LEISURE	PESTICIDES RETAIL SALES	900
WL50234	06234	BUTLER MFG CO.	MANUFACTURING PROCESS (e.g.	600
WL50234	06235	MORTON PUBLIC WORKS GARA	MACHINE SHOP/SHED	220
WL50234	06236	MORTON WATER PLANT	SPECIAL WASTE SURFACE IMPO	290
WL50234	06237	MORTON PARK DIST. OFFICE	OFFICE	700
WL50234	06238	SPEEDWAY	BELOW GROUND STORAGE (PET	950
WL50235	06233	RINKER LAWN & LEISURE	PESTICIDES RETAIL SALES	650
WL50235	06234	BUTLER MFG CO.	MANUFACTURING PROCESS (e.g.	300

Well ID	Map Code	Site Name	Site Description	Distance (Feet)
WL50235	06235	MORTON PUBLIC WORKS GARA	MACHINE SHOP/SHED	10
WL50235	06236	MORTON WATER PLANT	SPECIAL WASTE SURFACE IMPO	550
WL50235	06237	MORTON PARK DIST. OFFICE	OFFICE	950
WL50235	06238	SPEEDWAY	BELOW GROUND STORAGE (PET	1250

OTHER IDENTIFIED POTENTIAL SOURCES:

For this community water supply, no additional potential sources of contamination have been identified beyond those in Illinois EPA databases.

SUSCEPTIBILITY TO CONTAMINATION:

To determine Morton's susceptibility to groundwater contamination, a Well Site Survey, published in 1989 by the Illinois EPA, and Source Water Protection Plan were reviewed. Based on the information contained in these documents, fifteen potential sources of groundwater contamination are present that could pose a hazard to groundwater pumped by the Morton community water supply wells. These include a restaurant/food service, a manufacturing/processing of chemicals, a church/library, a de-icing agent, two below ground fuel storage, a warehouse, two manufacturing processes, two offices, a pesticides retail sales, a machine shop/shed, a special waste surface impoundment on-site. A filter backwash lagoon is also located within the minimum setback zone of Wells #5 and #6. Based on information provided by Morton's water supply officials, the following facilities, also indicated as potential sources in the site data table, have changed their status: Cady Oil (non-existent), Bernard Caragher (non-existent), Morton School Dist. #709 (non-existent), Emro Unit #5189 (name changed to Speedway Superamerica), Grimm's Truck Stop (non-existent), Rinker Lawn & Leisure (non-existent), and Butler Mfg. Co. (name changed to Morton Metal Craft). According to Morton's water supply officials, the following facilities should be added as potential sources of contamination: Steiner's Corner, 1800 N. Morton Ave.; Casey's General Store, 1850 S. Main St.; Casey's General Store, 1989 N. Morton Ave.; and Amoco, 140 W. Ashland St.

Based upon this information, the Illinois EPA has determined that Morton Wells #3, #4, #5, #6, #7, #8, #9, and #10 are not susceptible to IOC or SOC contamination. This determination is based on a number of criteria including: monitoring conducted at the wells; monitoring conducted at the entry point to the distribution system; and the available hydrogeologic data for the wells.

In anticipation of the U.S. EPA's proposed Ground Water Rule, the Illinois EPA has determined that Morton's community water supply wells are not vulnerable to viral contamination. This determination is based upon the evaluation of the following criteria during the Vulnerability Waiver Process: the community's wells are properly constructed with sound integrity and proper site conditions; there is a hydrogeologic barrier that restricts pathogen movement; all potential routes and sanitary defects have been mitigated such that the source water is adequately protected; monitoring data did not indicate a history of disease outbreak; and the sanitary survey of the water supply did not indicate a viral contamination threat. However, having stated this, the U.S. EPA is proposing to require States to identify systems in karst, gravel and fractured rock aquifer systems as sensitive. Water systems utilizing these aquifer types would be required to perform routine source water monitoring. Because the community's wells are constructed in a confined aquifer, which should provide an adequate degree of protection to prevent the movement of pathogens into the wells, well hydraulics were not considered to be a significant factor in the vulnerability determination.

SOURCE WATER PROTECTION EFFORTS:

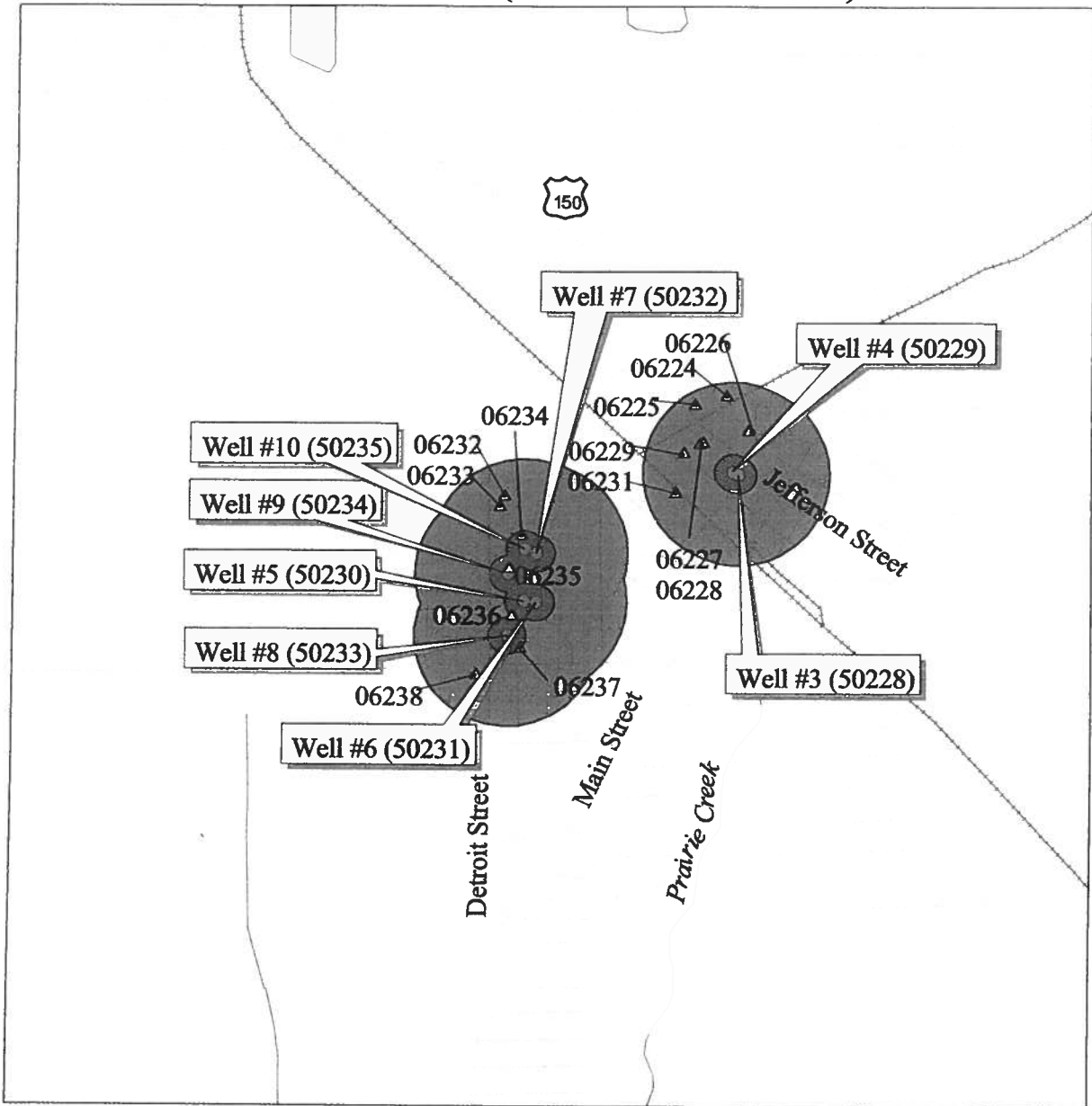
The Illinois Environmental Protection Act provides minimum protection zones of 200 feet for the Village of Morton's wells. These minimum protection zones are regulated by the Illinois EPA. Because the village has proceeded with source water protection efforts, the facility has received a monitoring waiver for its wells.

In addition, the village enacted a "maximum setback zone" ordinance, which is authorized by the Illinois Environmental Protection Act and allows county and municipal officials the opportunity to provide additional potential source prohibitions up to 1,000 feet from their wells.

To further minimize the risk to the village's groundwater supply, the Illinois EPA recommends that two additional activities be assessed. First, the water supply staff may wish to revisit their contingency planning documents. Contingency planning documents are a primary means to ensure that, through emergency preparedness, a community

will minimize their risk of being without safe and adequate water. Finally, the water supply staff is encouraged to review their cross connection control program to ensure that it remains current and viable. Cross connections to either the water treatment plant (for example, at bulk water loading stations) or in the distribution system may negate all of the source water protection initiatives provided by the community and circumvent the natural protection provided to the aquifer.

WELLHEAD PROTECTION PLANNING MAP FOR MORTON (FACILITY #1790500)



500 0 500 1000 1500 2000 Feet



Legend

- CWS Wells
- ▲ Potential Sources Of Contamination
- ▬ Rails
- ▬ Roads
- ▬ Streams
- Minimum Setback Zone
- Existing or Potential Maximum Setback Zone

FOR MORE INFORMATION CONTACT:

Groundwater Section, Bureau of Water
 Illinois Environmental Protection Agency
 1021 North Grand Avenue East
 Springfield, IL 62794-9276
 Ph# (217)785-4787

Source Information
 Roads, Rails, and Streams from Illinois DNR.
 CWS Wells and Potential Sources from Illinois EPA.
 Map compiled by Groundwater Section, Illinois EPA.