



# Illinois Environmental Protection Agency



## Source Water Assessment Program

# FACT SHEET

### FREEPORT

#### STEPHENSON 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.

#### WATER PERCENTAGES:

Surface Water %	Surface Water Purchase %	Ground Water %	Ground Water Purchase %	Ground Water UDI %	Ground Water UDI Purchase %
0.00	0.00	100.00	0.00	0.00	0.00

#### IMPORTANCE OF SOURCE WATER:

The City of Freeport (Facility Number 1770200) utilizes seven active community water supply wells. Wells #2, #3, #4, #5, #6, #7, and #8 (Illinois EPA #11858, 11859, 11860, 11861, 11862, 11863, and 01298, respectively) supply an average of 3,500,000 gallons per day (gpd) to 11,283 services or a population of 27,500. Wells #9 (01880) and #10 (01971) are proposed. In addition, Freeport provides water to Woodridge Estates 1 West, Woodridge Estates 2, Woodridge Estates 1 East, and Park Crest Water Company.

#### WELL DATA FOR THIS FACILITY:

Well ID	Well Description	Status	Depth (Feet)	Min Setback (Feet)	Pumpage	Aquifer Code	Aquifer Description	Max Zone
01298	WELL 8	A	712	200	0	6399	Deep Bedrock	0
01880	WELL 9	A	740	200		8787	Deep Bedrock	0
01971	WELL 10	P	730	200				0
11858	WELL 2	A	415	400	242114000	6666	Cambrian/Ordovician	0
11859	WELL 3	I	502	400	231205000	6666	Cambrian/Ordovician	0
11860	WELL 4	A	425	400	293088000	6666	Cambrian/Ordovician	0
11861	WELL 5	A	137	400	40964000	0101	Sand & Gravel	0

11862	WELL 6	A	472	400	14262000	6681	Cambrian/Ordovician	0
11863	WELL 7	A	135	400	718781000	0101	Sand & Gravel	0
11887	WELL 1 (ABANDONED)	I	407	400	-1	6366	Shallow Bedrock	0
11888	WELL 1 (ABANDONED)	I	402	400	-1	6366	Shallow Bedrock	0

## INTAKE DETAILS:

No Data

## SOURCE WATER QUALITY:

Freeport's wells #2, #3, #4, #5, #6, and #7 have been sampled periodically since December 6, 1982 for inorganic chemicals (IOC), volatile organic compounds (VOC), and synthetic organic compounds (SOC) as part of a Statewide Groundwater Monitoring Program. However, well #8 has not been sampled for IOC, VOC, and SOC. The SOC analyses did not detect quantifiable levels of any organic compounds. IOC analyses indicate that concentrations of these chemicals are consistent with other bedrock and sand and gravel aquifers of similar character in this part of Illinois. It is important to note that the IOC results were below the groundwater quality standards established under 35 Illinois Administrative Code Part 620.410, with the exception of manganese concentrations in wells #5 and #7. Manganese concentrations in these two wells range from 310 to 590 parts per billion (ppb). The groundwater quality standard for manganese, as established under Part 620.410, is 150 ppb. However, the Illinois EPA considers the elevated levels of manganese to be a result of natural mineralization of the aquifer. Hence, the levels of manganese are not considered a violation due to the stipulation in Part 620.410 that no violation occurs as a result of a natural occurrence of an IOC. The VOC analyses detected quantifiable levels of several organic compounds in Freeport's community water supply wells #2, #4, #5, #6, and #7. These detections include 1, 1-dichloroethane, 1,1-dichloroethylene, benzene, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, trichloroethylene, and vinyl chloride. Of these, 1,1-dichloroethane and vinyl chloride exceeded the Maximum Contaminant Level (MCL) of 7 ppb and 5pb respectively. Freeport public water supply wells have a long history of VOC detections dating back to 1985. As mentioned above, raw water samples collected from Freeport indicated the presence of multiple VOCs at levels above their respective MCL. However, due to large volume of water pumped by the CWS well, the concentration of contaminants detected may be less than the actual concentration of the contaminants found in the aquifer (masking effect). In response to the Illinois groundwater Contamination response Strategy, developed by the Interagency Coordinating Committee on Groundwater (ICCG) and pursuant to the Right-To-Know (RTK) requirements of 415 ILCS 55/9.1, the Illinois EPA conducted an evaluation of volatile organic compound detections in the CWS wells. This evaluation determined that the groundwater contamination detected in the CWS wells. This evaluation determined that the groundwater contamination detected in the CWS wells may be affecting private drinking water systems near Freeport. As a result, a RTK notification was issued in 2004 advising private well owners in the area of possible groundwater contamination.

## Finished Water Quality:

As referenced in the Source Water Quality Section of this report, Freeport has mineralized groundwater as well a long history of VOC detections in raw water. However, sampling performed after treatment indicates that levels of IOCs and VOCs in the source water have been reduced to below the drinking water standards. Further information on finished water quality data tables of monitored parameters, contaminants detected, health advisory information, drinking water standards and maximum contaminant levels are available at <http://www.epa.gov/drink/index.cfm>. Similar information is also available in the Consumer Confidence Report supplied by the City of Freeport to their customers and at

<http://www.epa.state.il.us/water/drinking-water-watch/>.

### 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. These sites are predominantly identified through the Illinois EPA's Well Site Survey program based on the nature of their activity, the availability of data in electronic databases, and their geographic proximity to the source water protection area. In addition, information is available from the leaking underground storage tank database at <http://epadata.epa.state.il.us/land/ust/> and site remediation program database <http://epadata.epa.state.il.us/land/srsp/> to further access potential sources of contamination to the City's source.

### Site Data for This Facility:

Well ID	Site/GMZ ID	Map Code	Name	Distance (Feet)	Status
11858	000003633	014C	R,S, & D READY MIX	200	I
11858	000003634	014C	IRVIN MOTORS	750	B
11858	000003635	014C	LAVENDER & LACE WOMEN'S AP	905	B
11858	000003636	014C	R&W LIQUIDATORS	980	B
11858	000003637	014C	UNKNOWN-OLD QUARY/JUNK C	800	B
11858	000003638	014C	IRVIN MOTORS USED AUTO PAR	1280	B
11858	000003639	014C	GILLS METALS	1900	A
11858	000003640	014C	PERDUE AUTO PARTS	1600	B
11858	000003641	014C	TIMBER HILL KENNEL	1160	A
11858	000003642	014C	PERDUE MARINE SALES & SERV	1500	B
11858	000003643	014C	CITY OF FREEPORT	750	I
11858	000003644	014C	ECONOMY INSULATION	1120	I
11858	000003645	014C	CITY OF FREEPORT WTP	510	A
11858	000003646	014C	FREEPORT RECYCLING	1335	A
11858	000003647	014C	CAR CRAFT AUTO BODY	1350	B
11858	000023593	014C	FISCHER'S READY MIX	200	A
11858	000023594	014C	DOMINO'S PIZZA	750	A
11858	000023597	014C	MOWERY'S USED AUTO PARTS	1300	A
11858	000023598	014C	A & W INSULATION	1120	A
11858	000023600	014C	BP AMOCO SUPER PANTRY GAS STATION	800	A
11858	000023601	014C	CITGO ROAD RANGER GAS STATION	1300	A
11858	000023602	014C	NATIONAL BYPRODUCTS INC TRANSFER STATION	2100	A
11858	000023603	014C	BURKE-TUBBS MORTUARY	1400	A
11858	000023604	014C	CATACOMB PRESS, INC.	950	A
11858	000023605	014C	CITY OF FREEPORT STREET DEPT	1550	A
11858	000023606	014C	CITY OF FREEPORT STREET DEPT	1550	A
11858	000023607	014C	CRESTWOOD OIL BULK FUEL STORAGE	1550	A
11858	000023608	014C	CN RAILROAD YARD	600	A
11858	000023609	014C	ORGAN FACTORY – UNKNOWN OWNER	2800	I
11858	000023610	014C	FORMER LANDFILL	1950	B
11858	000023611	014C	MR D'S LANDSCAPING	1200	A
11858	000023618	014C	ANNE'S LANDSCAPING SUPPLY	1600	A
11859	000003633	014C	R,S, & D READY MIX	1100	I
11859	000003634	014C	IRVIN MOTORS	1450	B

11859	000003635	014C	LAVENDER & LACE WOMEN'S AP	1585	B
11859	000003636	014C	R&W LIQUIDATORS	1700	B
11859	000003637	014C	UNKNOWN-OLD QUARY/JUNK C	1600	B
11859	000003638	014C	IRVIN MOTORS USED AUTO PAR	1120	B
11859	000003639	014C	GILLS METALS	1445	A
11859	000003640	014C	PERDUE AUTO PARTS	900	B
11859	000003641	014C	TIMBER HILL KENNEL	555	A
11859	000003642	014C	PERDUE MARINE SALES & SERV	700	B
11859	000003643	014C	CITY OF FREEPORT	150	I
11859	000003644	014C	ECONOMY INSULATION	400	I
11859	000003646	014C	FREEPORT RECYCLING	480	A
11859	000003647	014C	CAR CRAFT AUTO BODY	550	B
11859	000023593	014C	FISCHER'S READY MIX	1100	A
11859	000023594	014C	DOMINO'S PIZZA	1450	A
11859	000023595	014C	WALGREEN DRUGSTORE	1700	A
11859	000023597	014C	MOWERY'S USED AUTO PARTS	900	A
11859	000023598	014C	A & W INSULATION	400	A
11859	000023600	014C	BP AMOCO SUPER PANTRY GAS	1600	A
11859	000023601	014C	CITGO ROAD RANGER GAS STA	2100	A
11859	000023602	014C	NATIONAL BYPRODUCTS INC TR	2250	A
11859	000023603	014C	BURKE-TUBBS MORTUARY	800	A
11859	000023604	014C	CATACOMB PRESS, INC.	800	A
11859	000023605	014C	CITY OF FREEPORT STREET DE	2450	A
11859	000023606	014C	CITY OF FREEPORT STREET DE	2450	A
11859	000023607	014C	CRESTWOOD OIL BULK FUEL ST	2450	A
11859	000023608	014C	CN RAILROAD YARD	1500	A
11859	000023609	014C	ORGAN FACTORY - UNKNOWN O	3650	I
11859	000023610	014C	FORMER LANDFILL	1100	B
11859	000023611	014C	MR. D'S LANDSCAPING	2100	A
11859	000023618	014C	ANNE'S LANDSCAPING SUPPLY	2400	A
11860	000003633	014C	R,S, & D READY MIX	750	I
11860	000003634	014C	IRVIN MOTORS	1150	B
11860	000003635	014C	LAVENDER & LACE WOMEN'S AP	1225	B
11860	000003636	014C	R&W LIQUIDATORS	1350	B
11860	000003637	014C	UNKNOWN-OLD QUARY/JUNK C	1250	B
11860	000003638	014C	IRVIN MOTORS USED AUTO PAR	1165	B
11860	000003639	014C	GILLS METALS	1635	A
11860	000003640	014C	PERDUE AUTO PARTS	1200	B
11860	000003641	014C	TIMBER HILL KENNEL	785	A
11860	000003642	014C	PERDUE MARINE SALES & SERV	1000	B
11860	000003643	014C	CITY OF FREEPORT	255	I
11860	000003644	014C	ECONOMY INSULATION	700	I
11860	000003645	014C	CITY OF FREEPORT WTP	35	A
11860	000003646	014C	FREEPORT RECYCLING	850	A
11860	000003647	014C	CAR CRAFT AUTO BODY	900	B
11860	000023593	014C	FISCHER'S READY MIX	750	A
11860	000023594	014C	DOMINO'S PIZZA	1150	A
11860	000023595	014C	WALGREEN DRUGSTORE	1350	A
11860	000023597	014C	MOWERY'S USED AUTO PARTS	1000	A
11860	000023598	014C	A & W INSULATION	700	A
11860	000023600	014C	BP AMOCO SUPER PANTRY GAS	1200	A
11860	000023601	014C	CITGO ROAD RANGER GAS STA	1750	A
11860	000023602	014C	NATIONAL BYPRODUCTS INC TR	2200	A
11860	000023603	014C	BURKE-TUBBS MORTUARY	950	A
11860	000023604	014C	CATACOMB PRESS, INC.	700	A

11860	000023605	014C	CITY OF FREEPORT STREET DE	2100	A
11860	000023606	014C	CITY OF FREEPORT STREET DE	2100	A
11860	000023607	014C	CRESTWOOD OIL BULK FUEL ST	2050	A
11860	000023608	014C	CN RAILROAD YARD	1200	AI
11860	000023609	014C	ORGAN FACTORY - UNKNOWN O	3300	B
11860	000023610	014C	FORMER LANDFILL	1450	A
11860	000023611	014C	MR. D'S LANDSCAPING	1750	A
11860	000023618	014C	ANNE'S LANDSCAPING SUPPLY	2050	I
11861	000003633	014C	R,S, & D READY MIX	1300	B
11861	000003634	014C	IRVIN MOTORS	1975	B
11861	000003635	014C	LAVENDER & LACE WOMEN'S AP	2185	B
11861	000003636	014C	R&W LIQUIDATORS	2150	B
11861	000003637	014C	UNKNOWN-OLD QUARY/JUNK C	1800	B
11861	000003638	014C	IRVIN MOTORS USED AUTO PAR	275	A
11861	000003639	014C	GILLS METALS	920	B
11861	000003640	014C	PERDUE AUTO PARTS	1000	A
11861	000003641	014C	TIMBER HILL KENNEL	915	A
11861	000003642	014C	PERDUE MARINE SALES & SERV	1200	B
11861	000003643	014C	CITY OF FREEPORT	1220	I
11861	000003644	014C	ECONOMY INSULATION	1100	I
11861	000003645	014C	CITY OF FREEPORT WTP	1255	A
11861	000003646	014C	FREEPORT RECYCLING	1325	A
11861	000003647	014C	CAR CRAFT AUTO BODY	1500	B
11861	000023593	014C	FISCHER'S READY MIX	1300	A
11861	000023594	014C	DOMINO'S PIZZA	1975	A
11861	000023595	014C	WALGREEN DRUGSTORE	2150	A
11861	000023597	014C	MOWERY'S USED AUTO PARTS	500	A
11861	000023598	014C	A & W INSULATION	1100	A
11861	000023600	014C	BP AMOCO SUPER PANTRY GAS	2000	A
11861	000023601	014C	CITGO ROAD RANGER GAS STA	2400	A
11861	000023602	014C	NATIONAL BYPRODUCTS INC TR	950	A
11861	000023603	014C	BURKE-TUBBS MORTUARY	2100	A
11861	000023604	014C	CATACOMB PRESS, INC.	1950	A
11861	000023605	014C	CITY OF FREEPORT STREET DE	2300	A
11861	000023606	014C	CITY OF FREEPORT STREET DE	2300	A
11861	000023607	014C	CRESTWOOD OIL BULK FUEL ST	2225	A
11861	000023608	014C	CN RAILROAD YARD	1650	A
11861	000023609	014C	ORGAN FACTORY - UNKNOWN O	3100	I
11861	000023610	014C	FORMER LANDFILL	1450	B
11861	000023611	014C	MR. D'S LANDSCAPING	2050	A
11861	000023618	014C	ANNE'S LANDSCAPING SUPPLY	2650	A
11862	000003633	014C	R,S, & D READY MIX	1300	I
11862	000003634	014C	IRVIN MOTORS	1975	B
11862	000003635	014C	LAVENDER & LACE WOMEN'S AP	2105	B
11862	000003636	014C	R&W LIQUIDATORS	2100	B
11862	000003637	014C	UNKNOWN-OLD QUARY/JUNK C	1800	B
11862	000003638	014C	IRVIN MOTORS USED AUTO PAR	390	B
11862	000003639	014C	GILLS METALS	1050	A
11862	000003640	014C	PERDUE AUTO PARTS	1000	B
11862	000003641	014C	TIMBER HILL KENNEL	990	A
11862	000003642	014C	PERDUE MARINE SALES & SERV	1200	B
11862	000003643	014C	CITY OF FREEPORT	1240	I
11862	000003644	014C	ECONOMY INSULATION	1140	I
11862	000003645	014C	CITY OF FREEPORT WTP	1235	A
11862	000003646	014C	FREEPORT RECYCLING	1385	A

11862	000003647	014C	CAR CRAFT AUTO BODY	1500	B
11862	000023593	014C	FISCHER'S READY MIX	1300	A
11862	000023594	014C	DOMINO'S PIZZA	1975	A
11862	000023595	014C	WALGREEN DRUGSTORE	2100	A
11862	000023597	014C	MOWERY'S USED AUTO PARTS	500	A
11862	000023598	014C	A & W INSULATION	1140	A
11862	000023600	014C	BP AMOCO SUPER PANTRY GAS	1900	A
11862	000023601	014C	CITGO ROAD RANGER GAS STA	2350	A
11862	000023602	014C	NATIONAL BYPRODUCTS INC TR	950	A
11862	000023603	014C	BURKE-TUBBS MORTUARY	2150	A
11862	000023604	014C	CATACOMB PRESS, INC.	2000	A
11862	000023605	014C	CITY OF FREEPORT STREET DE	2200	A
11862	000023606	014C	CITY OF FREEPORT STREET DE	2200	A
11862	000023607	014C	CRESTWOOD OIL BULK FUEL ST	2125	A
11862	000023608	014C	CN RAILROAD YARD	1500	A
11862	000023609	014C	ORGAN FACTORY - UNKNOWN O	3000	I
11862	000023610	014C	FORMER LANDFILL	1600	B
11862	000023611	014C	MR. D'S LANDSCAPING	1950	A
11862	000023618	014C	ANNE'S LANDSCAPING SUPPLY	2550	A
11863	000003633	014C	R,S, & D READY MIX	1300	I
11863	000003634	014C	IRVIN MOTORS	1975	B
11863	000003635	014C	LAVENDER & LACE WOMEN'S AP	2175	B
11863	000003636	014C	R&W LIQUIDATORS	2150	B
11863	000003637	014C	UNKNOWN-OLD QUARY/JUNK C	1800	B
11863	000003638	014C	IRVIN MOTORS USED AUTO PAR	180	B
11863	000003639	014C	GILLS METALS	840	A
11863	000003640	014C	PERDUE AUTO PARTS	950	B
11863	000003641	014C	TIMBER HILL KENNEL	810	A
11863	000003642	014C	PERDUE MARINE SALES & SERV	1150	B
11863	000003643	014C	CITY OF FREEPORT	1165	I
11863	000003644	014C	ECONOMY INSULATION	1070	I
11863	000003645	014C	CITY OF FREEPORT WTP	1200	A
11863	000003646	014C	FREEPORT RECYCLING	1225	A
11863	000003647	014C	CAR CRAFT AUTO BODY	1400	B
11863	000023593	014C	FISCHER'S READY MIX	1300	A
11863	000023594	014C	DOMINO'S PIZZA	1975	A
11863	000023595	014C	WALGREEN DRUGSTORE	2150	A
11863	000023597	014C	MOWERY'S USED AUTO PARTS	500	A
11863	000023598	014C	A & W INSULATION	1070	A
11863	000023600	014C	BP AMOCO SUPER PANTRY GAS	2000	A
11863	000023601	014C	CITGO ROAD RANGER GAS STA	2450	A
11863	000023602	014C	NATIONAL BYPRODUCTS INC TR	1000	A
11863	000023603	014C	BURKE-TUBBS MORTUARY	2050	A
11863	000023604	014C	CATACOMB PRESS, INC.	1900	A
11863	000023605	014C	CITY OF FREEPORT STREET DE	2400	A
11863	000023606	014C	CITY OF FREEPORT STREET DE	2400	A
11863	000023607	014C	CRESTWOOD OIL BULK FUEL ST	2300	A
11863	000023608	014C	CN RAILROAD YARD	1650	A
11863	000023609	014C	ORGAN FACTORY - UNKNOWN O	3200	I
11863	000023610	014C	FORMER LANDFILL	1350	B
11863	000023611	014C	MR. D'S LANDSCAPING	2100	A
11863	000023618	014C	ANNE'S LANDSCAPING SUPPLY	2650	A

### **Susceptibility to Contamination:**

To determine Freeport's susceptibility to groundwater contamination, the Illinois Rural Water Association conducted a well site survey in January 2003. Based upon this information, there are 33 potential sources of groundwater contamination that could pose a hazard to groundwater utilized by Freeport's community water supply. These include a zoo, a printing facility, mining of consolidated or unconsolidated material, a salvage yard, a chemical handling facility, an auto body shop, a warehouse, a transfer station, a mortuary, de-icing agent storage, a train yard, a manufacturing process, landfill waste, 1 commercial application or warehousing of pesticides and or/or fertilizers, 2 vehicle sales, 2 ready mix/cement facilities, 2 machine shops/sheds, 2 recycling facilities, 2 above ground fuel storage tanks, 3 store/sales, and 6 below ground fuel storage tanks. In addition, information provided by the Leaking Underground Storage Tank and Remedial Project Management Sections of the Illinois EPA indicated sites with on-going remediation that might be of concern. Based upon this information, the Illinois EPA has determined that the Freeport Community Water Supply's source water for wells #2, #4, #5, #6, and #7 is susceptible to contamination. The source water for well #8 is not susceptible to contamination. As such, the Illinois EPA has provided 5-year recharge area calculations for wells #2, #4, #5, #6, and #7. The land use within the recharge areas of the wells was analyzed as part of this susceptibility determination. This land use includes residential, commercial and agricultural properties. In 2010, the City of Freeport received a Non-compliance Advisory (NCAs) for bacteriological detections in well #4. The well was inspected by an outside engineering company and has since provided non-detect samples during 1/23/2011 thru 7/19/2011 when the well was taken out of service for non-NCA related reasons. At this time, the Illinois EPA feels the NCA has now been resolved, however monitoring data will continue to be tracked in regards to all active potable wells in Freeport, including well #4 once it is put back in service.

### **Source Water Protection Efforts:**

The Illinois Environmental Protection Act provides minimum protection zones of 400 feet for Freeport's wells #2, #4, #5, #6, and #7 and 200 feet for well #8. These minimum protection zones are regulated by the Illinois EPA. To further reduce the risk to the source water, a maximum protection zone may be established, 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. Also, the Illinois EPA recommends the following additional activities be considered. First, the water supply staff may wish to conduct contingency planning. Contingency planning documents are a primary means to ensure that, through emergency preparedness, a community will minimize their risk of being without safe or adequate water. Second, the water supply staff is encouraged to conduct a biennial cross connection survey of the distribution system as outlined in the cross connection control ordinance [Section 18 of the Environmental Protection Act 415 ILCA 5/1 et seq. (Act); 35 Illinois Act Code, Sections 607.104d, 653.801c] and to review their cross connection control ordinance 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 source water protection initiatives. Finally, the Illinois EPA recommends that the city investigate additional source water protection management options to address the land use activities within the wells' recharge area. Specifically, these management options should address possible impacts from potential point sources, and non-point sources related to agricultural land uses. To further reduce the risk to source water, Freeport may wish to implement a wellhead protection program, which includes the proper abandonment of potential routes of groundwater contamination with the recharge area, management of potential source of contamination and correction of any sanitary defects that might be present at the water treatment facility. This effort may result in the community water supply receiving a special exception permit from the Illinois EPA, which allows a reduction in monitoring and laboratory analysis costs.