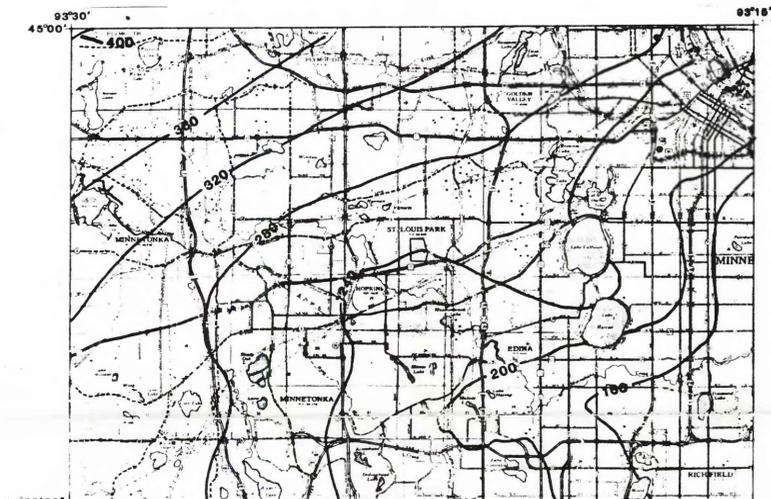
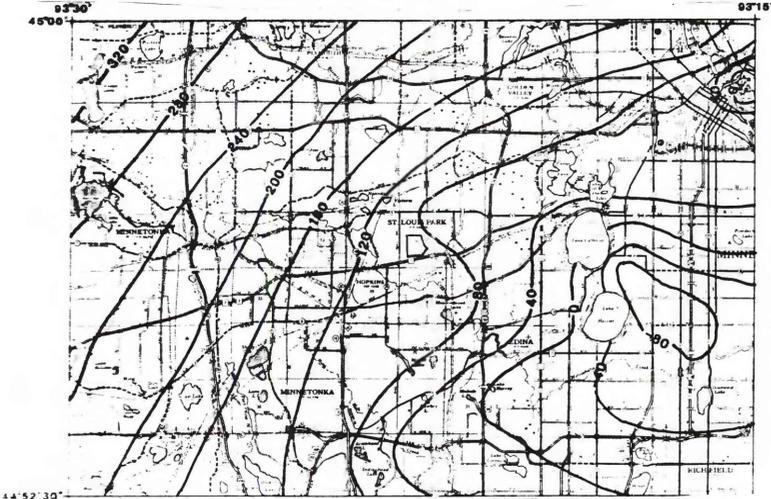


Base from Minnesota Department of Highways General Highway Map of Hennepin County, 1977
Geology by M. Jirsa, Minnesota Geological Survey, 1979

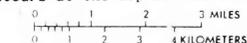
Preliminary structure contours at the top of the Prairie du Chien-Jordan aquifer



Preliminary structure contours at the top of the Ironton-Galesville aquifer



Preliminary structure contours at the top of the Mount Simon-Hinckley aquifer



EXPLANATION

— 200 — STRUCTURE CONTOUR—Shows altitude of top of aquifer. Contour interval 40 feet. National Geodetic Vertical Datum of 1929

□ Site of former plant

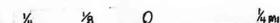


Base from U. S. Geological Survey Hopkins and Minneapolis South; both maps 1:24,000, 1967 (Photorevised 1972)

Preliminary bedrock geology and bedrock configuration in the vicinity of the site

EXPLANATION

- Platteville Limestone and Glenwood Shale, undivided } Ordovician
- St. Peter Sandstone }
- - - Approximate geologic contact
- Well or drill hole. Number indicates well discussed in text
- 800 - Bedrock-contour line—Contour interval is 10 and 50 feet. National Geodetic Vertical Datum of 1929
- Queried where doubtful
- A A' Line of section
- Site of former plant



Altitude, in feet above MVD	Natural gamma logs	Stratigraphic column	Hydrogeologic unit	Approx. total thickness, in feet	Geologic characteristics	Water-bearing characteristics
900	W23, W34, W12, W38		Drift, undifferentiated	220	Till, outwash, lake clay, peat and valley fill.	Hydraulic characteristics highly variable. Till has vertical hydraulic conductivity as low as 10 ⁻⁶ ft/s. Barred outwash aquifer has transmissivity as high as 10,000 ft ² /d.
800			Platteville aquifer	35	Dolomitic limestone and dolomite, gray to buff, thin- to medium-bedded, some shale partings. Solution channels and fractures are concentrated in upper part and contain sand of glacial origin.	Hydraulic conductivity primarily from fractures, open joints and solution channels. Specific capacities of wells are generally between 10 and 100 (gal/min)/ft of drawdown, if pumped at about 12 gal/min for one hour.
700			Glenwood confining bed	7	Shale and claystone, green to buff, plastic to slightly fissil; lower 3 to 5 feet grade from claystone with disseminated sand grains to sandstone with clay matrix.	Very low hydraulic conductivity. Vertical hydraulic conductivity is estimated to be about 10 ⁻¹⁰ ft/s based on laboratory measurements of core samples.
600			St. Peter aquifer	100	Sandstone, white to yellow, very well sorted, fine- to medium-grained, poorly cemented, quartzose.	Supplies about 10 percent of ground water pumped in the St. Louis Park area. Can yield more than 500 gal/min. Sandstone is poorly cemented and wells tend to pump sand or fill in.
500	Crib Diaper Service well, Old St. Louis Park well 1		Basal St. Peter confining bed	65	Siltstone and claystone, red, green, and white; parts are plastic in texture and poorly indurated; interbedded with fine-grained quartz sandstone. Individual beds are continuous in the vicinity of the site.	Hydraulic conductivity is highly anisotropic; siltstone and claystone restrict vertical flow but sandstone may yield as much as 100 gal/min to wells.
400	"Hinckley" well on site		Prairie du Chien-Jordan aquifer	210	Prairie du Chien: Dolomite, grayish-brown to buff, generally thickly bedded in vicinity of site. Jordan: Sandstone, white to pink, fine- to coarse-grained, moderately well cemented, quartzose to dolomitic.	Supplies about 75 percent of ground water pumped in the St. Louis Park and Metropolitan area. Generally yields more than 1,000 gal/min to high-capacity wells. Hydraulic conductivity of the Prairie du Chien part of the aquifer is due to fractures, open joints, and solution channels.
300			St. Lawrence-Franconia confining bed	150	Siltstone and sandstone, gray to green, poorly sorted, glauconitic and dolomitic.	Confining bed; hydraulic characteristics poorly known.
200		Milwaukee Railroad well	Ironton-Galesville aquifer	50	Sandstone, white to light green, moderately well sorted, fine to coarse grained, quartzose.	Regionally an aquifer, but no wells are known to yield water only from this unit in the study area.
100			Eau Claire confining bed	105	Siltstone and shale, green, glauconitic.	Confining bed; hydraulic characteristics poorly known.
0			Mount Simon-Hinckley aquifer	Greater than 250	Sandstone, grayish-white to pink, silty to coarse grained, well cemented, quartzose; parts are medium- to coarse-grained, well sorted.	Supplies about 15 percent of ground water pumped in the St. Louis Park and seven-county metropolitan area. Generally yields more than 1,000 gal/min to high-capacity wells.

Geologic and water-bearing characteristics of hydrogeologic units

PRELIMINARY MAPS SHOWING BEDROCK GEOLOGY IN THE VICINITY OF THE SITE, STRUCTURE CONTOURS ON THE TOP OF THE PRAIRIE DU CHIEN-JORDAN, IRONTON-GALESVILLE, AND MOUNT SIMON-HINCKLEY AQUIFERS, AND GEOLOGIC AND WATER-BEARING CHARACTERISTICS OF HYDROGEOLOGIC UNITS, ST. LOUIS PARK, MINNESOTA