REGION V

US EPA RECORDS CENTER REGION 5
515743

DATE: March 1, 1982

SUBJECT: Reilly Tar and Chemical Company Case Plan

FROM: Robert E. Leininger, Attorney
Office of Regional Counsel

TO: Roger Grimes, Chief
Litigation Section
Office of Regional Counsel

REILLY TAR AND CHEMICAL CORPORATION CASE PLAN

SUMMARY

The Reilly Tar and Chemical Corporation (Reilly) site is an 80 acre parcel located in St. Louis Park, Minnesota, an eastern suburb of Minneapolis. Reilly operated from 1917 to 1972 owned and operated the site wherein coal tar was distilled into creosote oil and wood products were preserved by being impregnated with creosote oil.

As a result of Reilly's operations, certain carcinogenic chemicals, called polynuclear aromatic hydrocarbons (PAH's) have entered the environment. The soil in the area of the site is contaminated to an average depth of fifteen to twenty feet over fifteen acres. PAH has been detected in all of the aquifers below the site and six of the fourteen municipal wells in St. Louis Park have had to be closed. In addition, one municipal well in the neighboring town of Hopkins was caused to be closed.

In 1970 the State of Minnesota and the City of St. Louis Park brought an action against Reilly, seeking a permanent injunction from air and water pollution from the site. In 1973 the city dismissed its lawsuit against Reilly and agreed to hold Reilly harmless from the State lawsuit. In turn, Reilly quit claimed the eighty acre site to the City, which still owns the site. At the time of these transactions the groundwater problems in the area had not significantly manifested themselves.

Many studies have been untaken since 1974 in order to determine the nature and extent of the contamination, its movement through the environment and the remedial efforts which must be taken to halt the further spread of the contamination. These studies have concluded that the major mechanisms for movement of contamination are downward percolation from the contaminated soil and through poorly constructed abandoned wells and which act as conduits for the contamination into the deeper aquifers. No specific remedial measures have been agreed upon to date. The general scheme will be to remove or contain the contaminated soil; to locate and plug or reconstruct the multiaquifer wells; to halt the further spread of contaminated water by placing barrier or "pump out" wells at strategic locations in the area; and to treat and dispose of the effluent from the barrier wells.

On March 14, 1980 U.S. EPA referred the Reilly case to the Department of Justice and on September 3, 1980 the case was filed under RCRA in the Federal District of Minnesota. On October 10, 1980 the state and city were granted leave to intervene. Subsequently, U.S. EPA sent Superfund demand letters to Reilly and both the Federal government and state amended the complaint to add Superfund counts in addition to the RCRA counts. On January 1, 1982 Judge Magnuson heard arguments on a motion to dismiss the RCRA counts (with prejudice) and Superfund counts (without prejudice). His ruling is expected to come very soon.

The State case (filed in 1970) is still pending but it is stayed indefinitely. The three parties to the 1970 action have made and responded to productions requests and have also promulgated and answered extensive interrogatories. Depositions of the plant manager, the head of the Refining Division and the chairman of the board are tentatively scheduled for April and May in Minneapolis and Indianapolis. Discovery should be completed by the end of 1982 and the case is expected to be brought to trial in March, 1983.

I. BACKGROUND

The pertinent information relating to the history of this case can be broken down into three topics: a) a description of Reilly Tar and Chemical Company, its former facility and site and its activity thereon, b) a discussion of the technical information and data relating to the nature and extent of the contamination at the site and, c) the past legal activities which have transpired to date.

A. The Defendant and its Activities

1. Reilly Tar and Chemical Corporation

Republic Creosoting Company, Char Products Company and Reilly Tar and Chemical Corporation were incorporated in the State of Indiana on December 21, 1905, March 16, 1923 and February 28, 1933 respectively. On January 1, 1961, Char Products and Reilly Tar merged into Republic Creosoting which then changed its name to Reilly Tar and Chemical Corporation. It did business in Minnesota from 1914 to 1972.

It is a closely held corporation which, according to the November 29, 1978 Dun and Bradstreet employs 510 people, is worth $31,456,504 and has a "4A2" rating which is a good credit appraisal and shows an estimated financial strength of $10,000,000 to $49,999,999.

2. Reilly's Activities at the Site

On November 11, 1915, Reilly Tar purchased an eighty acre site in St. Louis Park, Minnesota, from the Minnesota Sugar Company. (Reilly has produced documents which describe the site at the time of purchase). The site is west of the present Louisiana Avenue extension, east of Pennsylvania Avenue, north of Walker Street and south of West 32nd St. (See Figure 1, attached hereto).

From 1917 until 1923 Reilly built a refinery and treating plant. From that time, until the operation was closed in 1972, the company was in the business of distilling coal tar into creosote oil, and in preserving timber and timber products by impregnating them with creosote oil. It also processed and sold refined tar, soft pitch, drummed roofing pitch and liquid anode pitch. Flow sheet diagrams of these various processes have been submitted by Reilly Tar as Appendices B through E of its Answers to Interrogatories. Appendix A identifies all blueprints, technical drawings and surveys at the St. Louis Park site.

The site topography is essentially flat with the north end about ten feet higher than the south end, causing a southward drainage of surface water. Drains from the Refinery Building and from the treating cylinders (which were used to impregnate wood with cresote oil under pressure) directed wastewater to a receiving sump which pumped it to an oil-water separator. The recovered oil was pumped to a decanting tank. The wastewater flowed to the southwest corner of the plant where it then left the site via a pipe under Walker Street. Toward the end of its operations, Reilly put a straw filter at its southwestern site boundary for the wastewater to flow through.

B. Technical Information and Data

A large body of technical data relating to the Reilly Tar site in St. Louis Park has been developed by Federal, state and local agencies. This section will include: 1.) an overview of the studies which have been made to date, 2.) the nature of the contaminants on and from the Reilly Tar site, 3.) the extent of the contamination and 4.) the remedial efforts which are proposed.

1. The Studies

Reilly Tar, the Minnesota Department of Health (MDH) and the City of St. Louis Park all periodically sampled the wells in the St. Louis Park area for phenol, primarily because of intermittent taste and odor complaints. Phenol was found in low to zero concentrations and is not considered a health hazard. The earliest of such samples took place in 1933 and the focus remained on phenol until the early 1970's.

In 1974 the City of St. Louis Park contracted with a consulting engineer, Gerald Sunde, to determine the mechanism for movement of contaminants. He concluded that a significant mechanism for movement was the presence of many wells which pierced several aquifers and provided a pathway through the confining beds between aquifers. The MDH has plugged or repaired many of such wells but many more of such "multi-aquifer" wells need to be located and repaired or plugged.

In 1975, the Minnesota Pollution Control Agency (MPCA) contracted with Barr Engineering to determine the extent of contamination. The Barr Phase I report was completed in 1976 and set forth the areas affected by creosote contamination. The Barr Phase II report came out in 1977 and concluded that:

- shallow contaminated aquifers will continue to contaminate the bedrock aquifers,
- gradient control well system should be implemented to control the flow of contaminated liquids,
- excavation should be considered for the heavily contaminated soils, and,

-the hydrology of the area needs to be further defined.

In May, 1978, the MDH was able to detect extremely low concentrations of polynuclear aromatic hydrocarbons (PAH) in municipal wells 7,9,10, and 15 which are located approximately one half mile north of the Reilly Tar site. PAHs come from creosote and can be carcinogenic or mutagenic. Consequently, wells 7,9,10 and 15 were closed in 1978.

In July 1978, the MDH contracted with the U.S. Geological Survey (USGS) to better define goundwater flow and organic contaminatn movement in the bedrock underlying St. Louis Park.

In 1980 - 1981, the MDH contracted with Eugene Hickok & Associates to use the USGS and other data to present findings, preliminary designs and expense estimates for remedial actions relating to groundwater and soil contaminantion by coal tar wastes from the Reilly site. The study was completed on November 30, 1981.

On July 22, 1981, the MPCA signed a Cooperative Agreement with U.S. EPA for $200,000 of Superfund money to undertake necessary field work.

On October 30, 1981, the Cooperative Agreement was amended to provide the state with up to $400,000 of Superfund money which will be used for a well abandonment plan and water treatment studies.

Weston Engineers, Inc., has been contracted by U.S. EPA for up to 1500 hours of work to perform an assessment of the various remedial measures which are being considered for this site.

2. The Nature of the Contaminants

A component of coal tar/creosote wastes is a class of compounds known as polynuclear aromatic hydrocarbons (PAH). The primary concern over PAH contamination stems from the carcinogenic property of a number of PAH compounds. Relatively few of the many PAH compounds have been thoroughly investigatd for carcinogenicity, however, EPA's Carcinogen Assessment Group listed twelve PAH compounds as "having substantial evidence of carcinogenicity". Most analytical work done at the site has been to identify PAH compounds generally. Nevertheless, a number of specific carcinogenic PAH compounds have been identified at the site.

The levels of PAH which may be acceptable are the subject of a certain amount of debate. In 1971, the World Health Organization (WHO) specified a permissible level of 200 parts per trillion (ppt) in drinking water for the sum of six PAH compounds. This criterion has has generally been regarded as obsolete and not based upon firm toxicological concepts. In 1978, the U.S. EPA published a document entitled, "Ambient Water Quality Criteria for Polynuclear Aromatic Hydrocarbons" which was updated in

October, 1980. The document states that there are no real "safe" levels for carcinogens but sets up "risk levels",i.e., the levels of the compound which may result in an incremental increase of cancer risk over the lifetime of 10^{-5}, 10^{-6} and 10^{-7} (one in 100,000, one in a million, one in 10 million cancer increase). The risk levels for PAH are based upon a study of benzo(a)pyrene which is believed to be the most potent carcinogen of the PAH. The PAH concentrations for 10^{-5}, 10^{-6} and 10^{-7} risk levels, respectively, are 28 ppt, 2.8 ppt and .28 ppt.

The MDH has been using a 10^{-5} risk level (28ppt). The Hickok study recommends a 10^{-6} risk level (2.8 ppt) for carcinogenic PAH and a 10^{-5} risk level for other PAH. These criteria are applicable for groundwater as well as potable water. Levels applicable to soils depend upon the tendency of the PAH to be adsorbed by soil particles (the Sorption Factor). The greater the Sorption Factor, the less likely it is that PAH will be released from that particular type of soil.

As stated above, there has been some debate as to what risk levels are appropriate for the contaminants at this site. There also is the question of what levels of PAH are acceptable in surface water, and whether it is acceptable to discharge very low levels into surface waters which would then have "undetectable levels" of PAH. Since the criteria are based upon "risk levels", the ultimate determination by U.S. EPA will, to some extent, be based upon policy considerations made in Headquarters.

3. Extent of Contamination

a. Soils

The near surface soils on and about the Reilly Tar site have a Sorption Factor which would cause them to be deemed "contaminated" at concentrations of 280 ppt or greater for carcenogenic PAH according to a recommendation in the Hickok study.

As discussed in subpart I.A(2) above, Reilly disposed of its liquids to the south of the site. This area is highly contaminated and the data suggests that these deposits south of the site act as a continuing source of groundwater contamination. The concentrations of benzo(a)pyrene as shown on the map on figure 2 are as high as 160,000,000 ppt south of the Reilly Tar site. The average depth of the contaminated soils is considered to be between fifteen and twenty feet over an area of fifteen acres. The estimated volume is 400,000 cubic yards.

b. Groundwater

1) municipal wells

Approximately 100,000 people (including the City of St. Louis Park whose population is 40,000) use the groundwater in the immediate vicinity of St. Louis Park for drinking water. This water is obtained from municipal wells. The City of St. Louis Park has 14 municipal wells and is in the process of drilling another well

which should be operational next summer. Six of these wells have been closed so far due to contamination by PAH. Wells 7,9,10 and 15, located about one half mile north of the site were closed in 1978. Well #4 was closed in December, 1979 and is located one and one half miles southeast of the site. Well #5 was also closed recently and is located one half mile west of the site.

The City of Hopkins is located just southwest of St. Louis Park. It has five municipal wells, one of which (well #3), is located one mile southwest of the Reilly Tar site. Well #3 had to be closed in February, 1981 due to the presence of PAH.

ii) aquifers

The principal aquifers of the St. Louis Park area are the Middle Drift Platteville, St. Peter, Prarie du Chien-Jordan, Ironton Galesville and Mt. Simon-Hinckley.(See Figure 3, attached.) All of the closed municipal wells draw from the Prarie du Chien -Jordan aquifer which is between 250 and 510 feet below the land surface. Approximately 80% of the groundwater utilized in the Twin Cities is from this aquifer. To date the contamination in the Prarie du Chien-Jordan aquifer has been limited to areas below St. Louis Park and Hopkins. Groundwater samples from wells in the St. Louis Park area indicates that PAH is present in all of the aforementioned aquifers.

The Middle Drift aquifer has received contaminated water which has flowed downward from the disposal pond. It has a maximum eastward gradient of about twelve feet per mile. The Platteville aquifer, which is the next aquifer below the Middle Drift, also receives water from the disposal pond. Its gradient is east to southeast at about ten to twenty feet per mile. A bedrock valley southeast of the Reilly Tar site cuts through the Platteville and into the St. Peter aquifer below. It thus provides a pathway for contamination from the Platteville to the St. Peter aquifer. The St. Peter aquifer has an eastward gradient of up to ten feet per mile.

The Prarie du Chien - Jordan aquifer, as discussed above is the major source of groundwater for the area. Its contamination has been primarily due to uncased wells which are open to other aquifers. These wells can then act as a conduit for water from an upper aquifer to a lower one. While this aquifer has an eastward gradient of about ten feet per mile , the actual flow of groundwater is, to a large extent, dependent upon pumping rates of the various wells in the aquifer.

The Ironton-Galesville and the Mt. Simon Hinckley aquifers are the two deepest aquifers. Contamination in these aquifers is assumed to be localized in the vicinity of Well #23 (on the site) and

Well #38 (about 3/4 mile east of the site) which are multi-aquifer wells and have acted as conduits for contamination. Although little pumping occurs in the Ironton-Galesville aquifer, the Mt. Simon-Hinckley is the source for municipal wells 11,12 and 13.

4. Proposed Remedial Efforts

a. Gradient Control Wells

The Hickok study was completed on November 30, 1981 and came up with preliminary designs and cost estimates for control of the soil and groundwater contamination problem. The method for control of the groundwater is a gradient control well system. This involves the pumping of water from the aquifers at such locations and rates as to halt the spread of the contamination. This system would take an extremely long time to purge the contaminants from the aquifers and, consequently, the system would have to be maintained and operated for an indefinite period of time. Figure #4 shows the locations of the proposed gradient control wells. Table 4 (attached hereto) lists the pumping rates for each well and Table 5 (attached) shows the projected quality of water to be discharged from the gradient control wells.

b. Disposition of Gradient Control Well Discharge

If pumpout wells were to be used in the highly contaminated drift area (top 60 to 80 feet of soil), disposal would have to be by rail or tank truck to an approved landfill because the liquid would be too contaminated to treat economically.

The water pumped out from below the drift area would be much less contaminated and various alternatives for disposition of it are considered by Hickok:

- municipal water supply: using best available technology the water could be treated for municipal water supply use which would eliminate the City's need to build new wells (since it has lost 30% of its well capacity due well closure).

- sanitary sewer: discharge directly into the existing sanitary sewer system which would ultimately result in discharge to the Mississippi River via the Metropolitan Wastewater Treatment Plant at Pig's Eye.

- discharge to the Mississippi via storm sewers in Minneapolis: This would require the well effluent to be pumped through force mains until it connected up with the major drains in Minneapolis.

- discharge to Chain of Lakes or Minnehaha Creek: This could be done via existing storm sewers, but the water would have to be treated to potable use standards first, which would make this alternative unlikely to be seriously considered.

c. Contaminated soils management

The Hickok report listed twelve different alternatives and selected four of them for further consideration:

i) capping: leave the soil in place and cover it with compact clay or other impermeable cover. It is not a complete long-term solution but has significant environmental benefits as an interim measure.

ii) secure landfill: excavate the contaminated soil and backfill with clean material.

iii) land spreading: spread the contaminated soil in surface soil accompanied by continuing monitoring and management of the site.

iv) incineration

Alternatives ii, iii and iv entail excavation of the contaminated soil which, by itself, would do little to benefit groundwater quality. For these alternatives to be effective, pump out of the fluid from the "source area" and Middle Drift aquifer would be required.

d. Cost estimates

The cost estimates for the gradient control wells, collection and treatment of well discharge and contaminated soils management have been estimated in the Hickok Study and are based upon January 1, 1982 rates (by adding a 10 percent inflation factor to 1981 costs).

i) gradient control wells

- estimated annual operation and maintenance costs for gradient control wells: $230,000

ii) collection and treatment (3 plans)

- plan "A" would involve treatment of four pump out wells for municipal use and the effluent from the other nine wells would go to the sanitary sewer.
- plan "B" would involve treatment of four pump out wells for municipal use, five wells to the sanitary sewer and four wells to the Mississippi River.
- plan "C" would involve discharge of all wells to the Mississippi River.

Plan	Capital Expense	Annual O&M	Annual Sewer Service Charge
A	$5,082,000	597,500	884,000
B	5,680,000	608,000	163,000
C	4,600,000	259,000	0

iii) contaminated soils management

- capping:	$ 1,500,000	
- secure landfill:	$ 18,100,000	-for excavation, backfill and transportation to Germantown, Wisconsin site.
	$ 15,100,000	-for excavation, backfill and building a new secure landfill.
- land spreading	$ 12,000,000	
- incineration	$ 56,100,000	

C. Legal Actions

1. State and City (prior to 1980)

A number of legal actions involving the State of Minnesota, the City of St. Louis Park and Reilly Tar, occurred from 1970 to 1978. Generally, these actions involved the bringing of an action by the state and city against Reilly Tar and the purchase of the site from Reilly by the city upon the city's dismissal of the case. The chronology of the specific events is set forth below. The most significant events are marked with an asterisk:

5/12/70 Meeting between Reilly Tar and the city wherein the city presented a draft letter citing air and water violations of Reilly Tar and threatening abatement litigation. The city also advised Reilly that it planned to build a street through its property which would cut off its rail line.

6/1/70 The city gave Reilly a drawing of the proposed right-of-way (11 acres).

6/5/70 Formal letter sent to Reilly by the city, citing air and water violations as discussed on 5/12/70.

6/19/70 Reilly reply suggesting procedure of sale to the city.

6/30/70 City requested price of property and set 7/20/70 as deadline for the proposal.

7/16/70 Reilly sends written proposal to the city.

7/24/70 City acknowledges receipt of proposal

9/14/70 MPCA authorized Minnesota Attorney General to initiate prosecution against Reilly Tar.

* 10/2/70 Complaint filed on behalf of State of Minnesota by MPCA with the City of St. Louis Park as co-plaintiff naming Reilly Tar and Chemical Corporation as defendant (Court File No. 670767). The plaintiffs were seeking to temporarily and permanently enjoin Reilly Tar from "any further pollution of the air and waters of the State of Minnesota in violation of law and administrative regulations."

7/30/71 The City submitted an offer to Reilly Tar for the purchase of the entire 80 acre site. Paragraphs nine and ten of the offer state that the seller, prior to closing, shall cause the soil contamination to be eliminated and shall hold the City harmless from any and all claims relating to soil or water impurities arising out of the company's past activities. Shortly afterward, Case No. 670767 was stricken from the trial calendar.

* 9/71 Reilly Tar discontinued its coal tar distilling operation.

11/24/71 MPCA obtained a court order allowing it to enter upon the site for purposes of inspecting and testing.

2/23/72 The City agreed to purchase the property "as is" from Reilly Tar.

* 4/14/72 Purchase Agreement entered into by Reilly Tar and the City of St. Louis Park, whereby the City agreed to purchase all but four acres of the property. Paragraph 4 of the document states that the Buyer is acquiring the premises in an "as is" condition except for demolition of certain buildings. Paragraph 9 states that the City will deliver a dismissal of the current litigation executed by itself as well as the MPCA.

* 6/72 Termination of creosoting operation at Reilly Tar.

7/21/72 MPCA formally notified by Reilly that wood treating operation has ceased.

10/12/72 Due to problems with financing, the purchase agreement of 4/14/72 was performed with a contract for deed whereby the City obtained possession of the premises.

* 6/19/73 The City, unable to obtain an executed dismissal from MPCA enters into an Agreement whereby the City agreed to dismiss its action, to hold Reilly harmless from any action brought by MPCA against Reilly relative to the site, and to proceed to closing of the real estate transaction between Reilly and the City.

* 6/21/73 The site property was conveyed by quit claim deed from the City to the Housing and Redevelopment Authority of St. Louis Park, Minnesota.

4/12/78 Motion for Leave to Amend Complaint served by MPCA for the State of Minnesota as sole plaintiff against Reilly Tar.

4/19/78 City of St. Louis Park served its Motion for Intervention against Reilly Tar.

6/16/78 Reilly Tar served pleadings in opposition to Motion for Leave to Amend, as well as a Motion to Dismiss, or, in the alternative, a substitution of the City as sole defendant.

6/21/78 MPCA Memorandum of Law in Support of its Motion to Amend and in Opposition to Defendant's Motion to Dismiss and on opposition to motion for Leave to Amend.

6/22/78 Hearing on the motions.

9/6/78 Order granting MPCA leave to amend complaint, granting City of St. Louis Park's Motion to intervene and denying Reilly Tar's Motion to substitute the City as sole defendant and denying Reilly's Motion to Dismiss.

10/1/78 Reilly Tar Answer to Amended Complaint of State of Minnesota.

10/1/78 Reilly Tar Answer and Counterclaim to Complaint in Intervention of City of St. Louis Park.

10/1/78 Reilly Tar Third Party Complaint against the City pursuant to the Hold Harmless Agreement of 6/19/73.

Both Reilly Tar and the State have responded to extensive discovery and production requests pursuant to the State case. All action in the State case has been stayed.

2. Federal

3/14/80 Reilly Tar case formally referred to the Department of Justice by Region V.

9/3/80 Lawsuit filed by United States against Reilly Tar under RCRA Section 7003 seeking injunctive relief to abate an imminent and substantial endangement to health and environment.

10/10/80 State of Minnesota and City of St. Louis Park granted leave to intervene as plaintiffs in the Federal lawsuit.

12/18/80 Reilly's attorney verbally suggests to the U.S. Attorney that we drop the whole case for one million dollars.

2/25/81 Demand letter sent to Reilly under Superfund.

3/4/81 Reilly Tar files motion to dismiss

8/17/81 Second demand letter sent to Reilly saying that the Federal government has spent $200,000 of Superfund money.

7/13/81 Pursuant to the stipulation of the three parties to the State court action, an order was entered making the State court interrogatories and answers to interrogatories part of the record in the Federal action.

9/25/81 United States files an amended complaint to add counts pursuant to Section 106(a) and Section 107(a) of Superfund.

10/2/81 Reilly Tar files its answers to interrogatories which had been promulgated by the State.

10/16/81 Reilly files motion to dismiss Superfund Counts.

1/15/82 Hearing on motion to dismiss RCRA and Superfund counts before Judge Paul A. Magnuson.

II Projected Actions

A. Legal

3/15/82 Computer system for organization and access of documents relating to the case should be ready for use. Leininger will meet with State and U.S. Attorney during week of 3/15/82 to work through the case strategy, evidentiary requirements and discovery schedule and to use the computer to assist us with such tasks. Task force personnel will also try to attend. A ruling on the motion to dismiss is expected about this time.

3/31/82 United States will file interrogatories on Reilly Tar relating primarily to the company's financial condition. Another production request will also be made if, during the next months, further documents become necessary or available.

4/26/82 Deposition of H.L. Finch, General Manager of the Reilly Tar site from 1960 to closing. Deposition to be taken in Minneapolis.

5/24 to 26 Deposition in Indianapolis of Carl F. Lescher. He is a Chemical Engineer who has worked for Reilly Tar since 1949 in a number of capacities and has been vice president and general manager of Reilly's Refinery Division since 1977. His affidavit was submitted as part of the Company's memorandum in support of motion to dismiss. Also a deposition of T.E. Reilly who was vice president of Reilly from 1941 to 1961, treasurer from 1959 to 1961, chairman of the board from 1976 to the present.

6/82 to 12/82 Deposition of William Justin, Environmental Engineer for Reilly. Depositions of Reilly's experts, when named. Depositions of two to three former employees who also lived as neighbors to the site. The State already has statements of several people in this category. This time also will be spent responding to Reilly's interrogatories and production requests to the federal government which have not yet been submitted. Also, Reilly will conduct a number of depositions and a federal attorney will need to be present for all of such depositions. Since there will be many complex technical issues raised by this case, it may happen that one or more evidence depositions would be taken of experts who are not readily available for a trial.

1/23/83 to 2/83 Outstanding motions (if any) argued, parties exchange witness and exhibit lists, pre-trial conference

3/83 to 4/83 Trial of the lawsuit

It should be noted here that the State is concerned that the City will depose its employees and generally force it into fighting with the City since the City contends that it entered into the hold harmless agreement with Reilly Tar in reliance upon alleged statements made by MPCA employees who said that there was no groundwater problem at the site. If such a "battle" should take place, it may cause the case to take longer to litigate.

Negotiations with Reilly Tar have not been fruitful to date. The company has not expressed a willingness to accept a significant portion of the expense for cleanup. Its offer, informally made to the U.S. Attorney in December 1980, of one million dollars is not close to the cost of cleanup. Since that time Reilly has not expressed an interest in making a more substantial offer. I have suggested to the Assistant U.S. Attorney that Reilly be contacted to discuss settlement after the ruling on the motion to dismiss if the plaintiffs prevail on either count.

B. Technical

The $400,000 which has been allocated to the State from the Superfund will be used for three specific tasks:

1. Abandonment of the two on-site multi aquifer wells (well #23 and the "Sugar Beet well") which are significant conduits for contamination of lower aquifers by upper aquifers. This is expected to take from January 1982 to June 1982.

2. A general well inventory and abandonment or reconstruction of those wells found to be sources of or conduits for contamination. (January 1982 to June 1982).

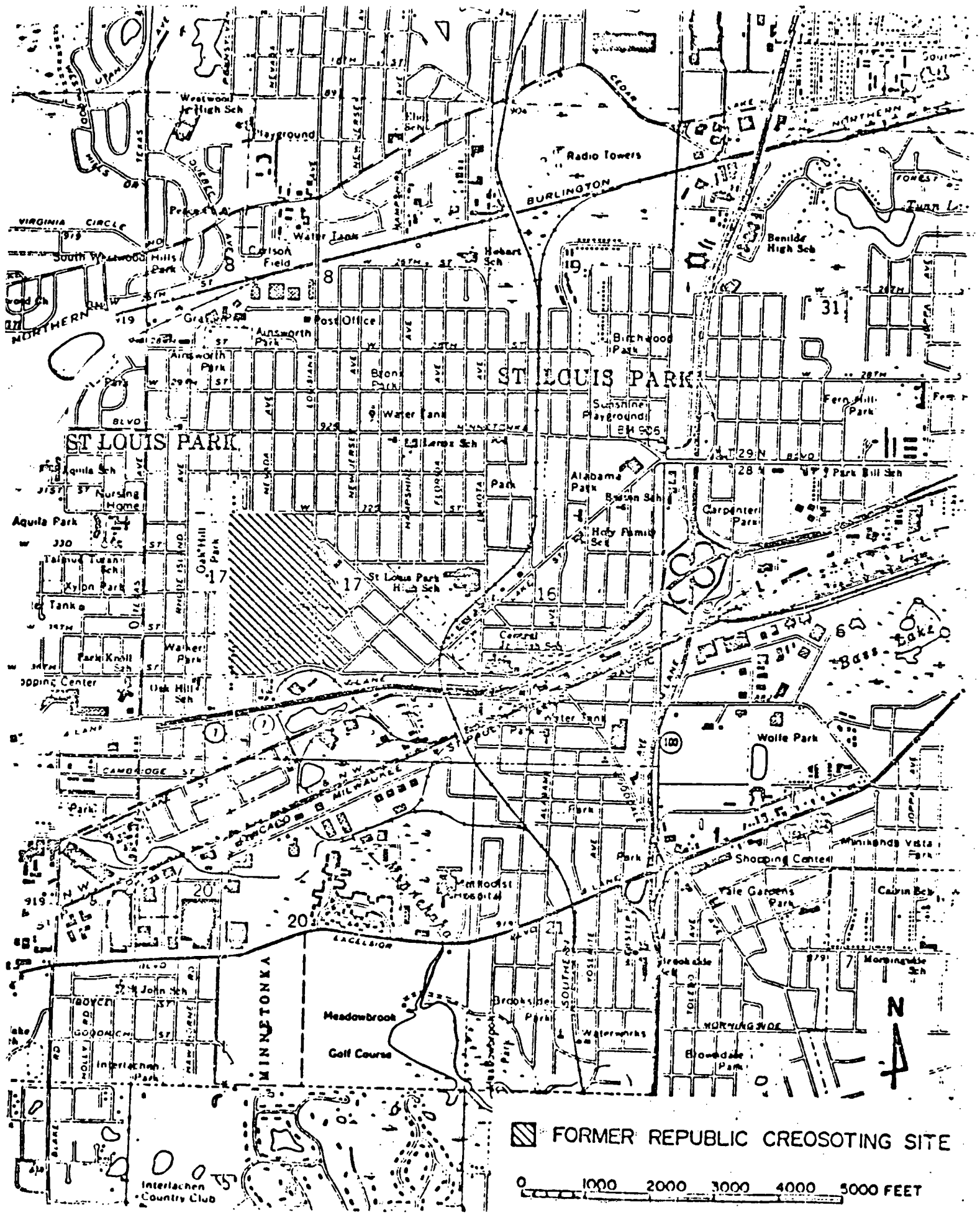
3. A request for proposals has been advertised in January 1982 for bench testing, pilot plan testing and cost estimates for a treatment system for PAH contaminated well water. This study should begin this spring and will be completed by December 1982.

The next task for Superfund money will be a soils investigation and treatability study. It will be sent out for bids next month, and work on the study should commence this spring. The study is expected to take one year to complete.

The USGS has been of invaluable help in developing the technical aspects of this case, especially with regard to the extent and movement of contaminants on and about the Reilly Tar site. Paul Bitter, the Superfund OSC, has prepared an interagency agreement to send to Headquarters which would provide $100,000 to the Minnesota District of USGS in order to keep them involved with the case for another year.

A cleanup of the contaminated soils is projected to take place in the Spring of 1983 after the soils investigation and treatability study is completed.

The gradient control well and water treatment system is projected to commence after the studies in task #3 are completed, which would not be until early 1983.



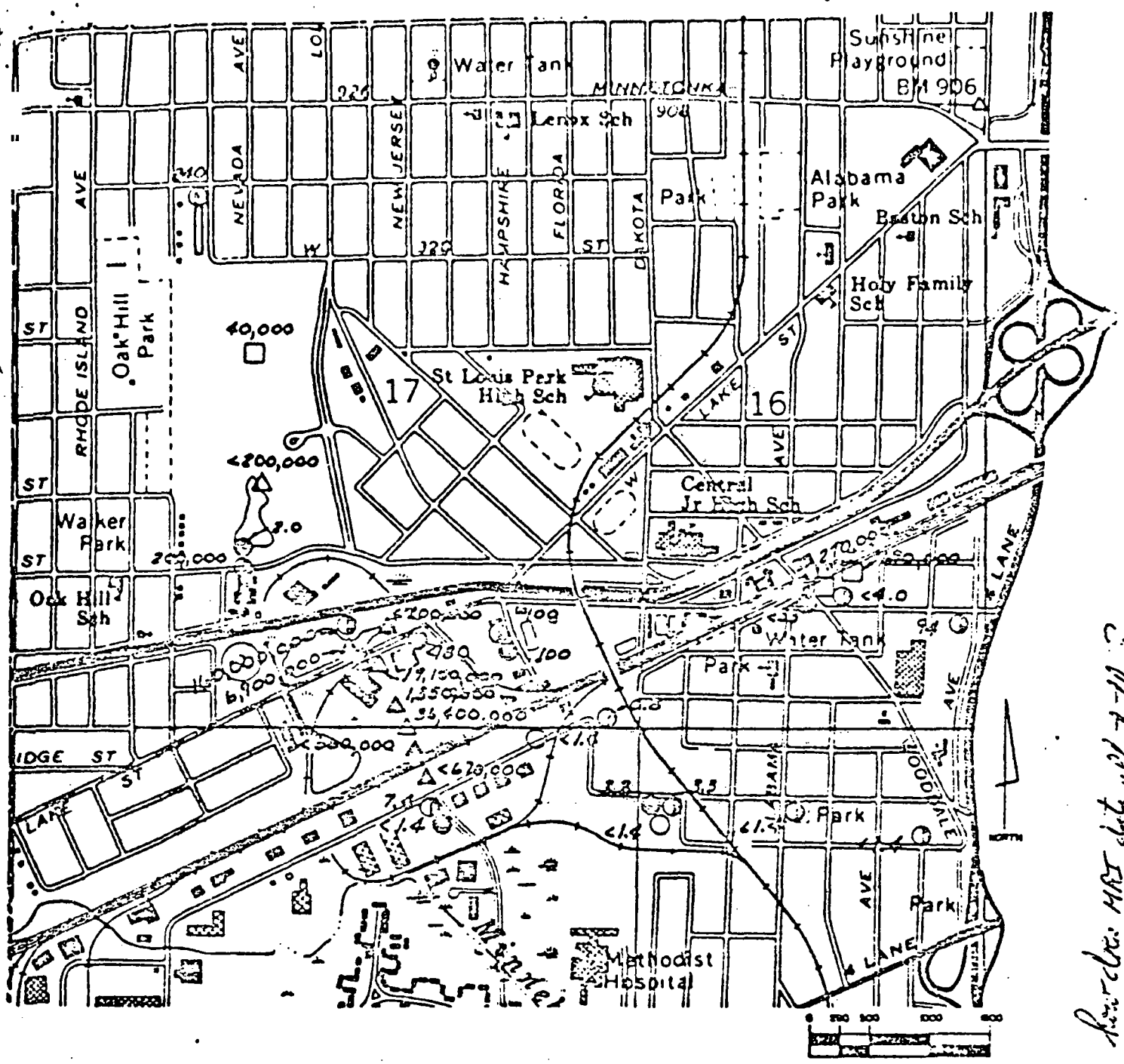
FORMER REPUBLIC CREOSOTING SITE

0 1000 2000 3000 4000 5000 FEET

LOCATION OF FORMER
REPUBLIC CREOSOTING SITE

E.A. HICKOK & ASSOCIATES
HYDROLOGISTS-ENGINEERS
MINNEAPOLIS-MINNESOTA

9-30-81



LEGEND

SOIL BORINGS:

- □ UNSATURATED
- △ SATURATED, DEPTH < 20FT.
- ▲ SATURATED, DEPTH > 20FT.

MONITORED WELLS:

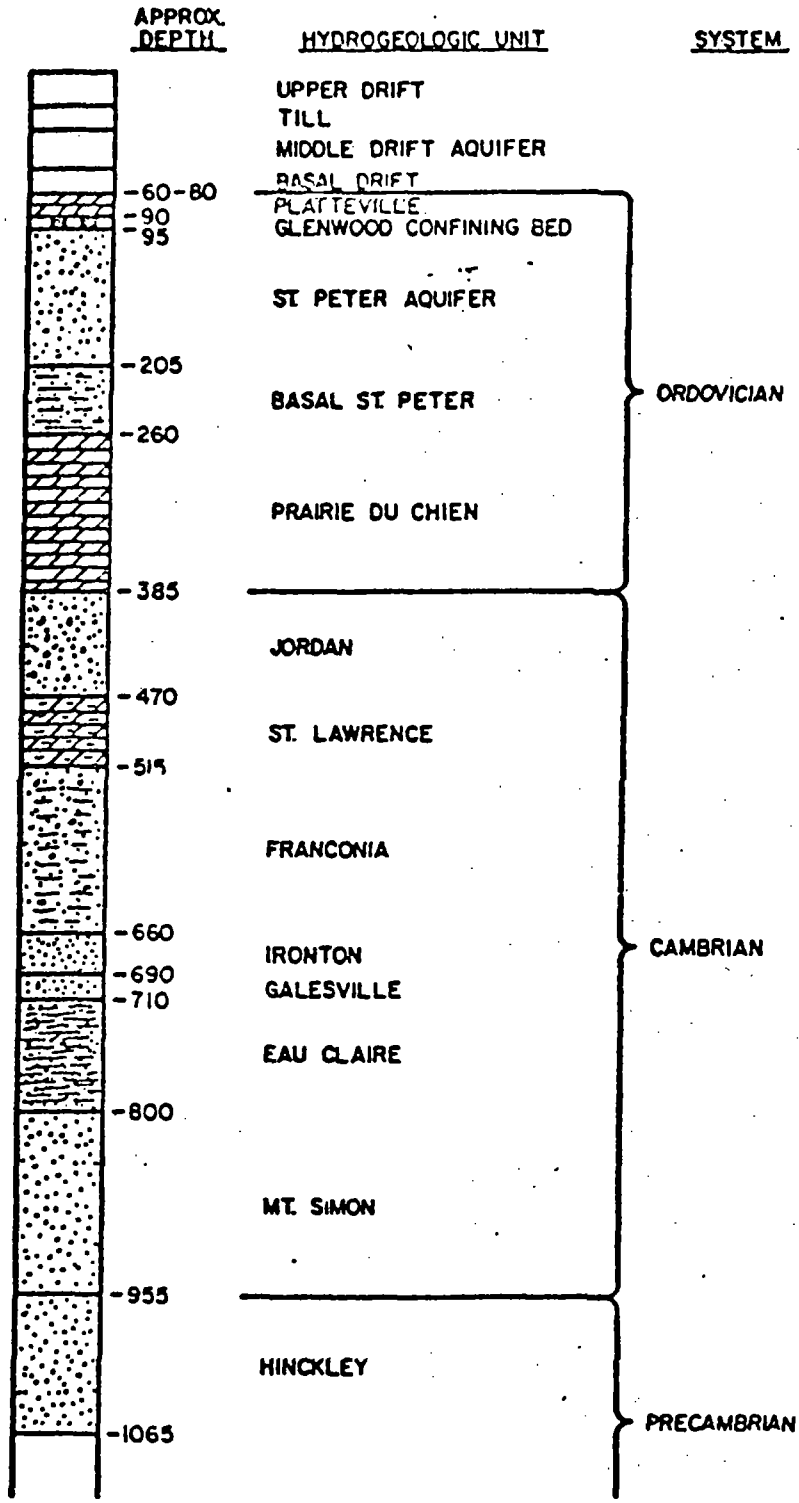
- ○ WATER TABLE
- ◐ MIDDLE DRIFT
- BASAL DRIFT

NOTE:
NUMBERS ARE BENZO(a)PYRENE CONCENTRATIONS IN ng/kg (SOIL) OR ng/l (WELL)
SHOWN ARE MOST RECENT DATA AS OF AUGUST 1981

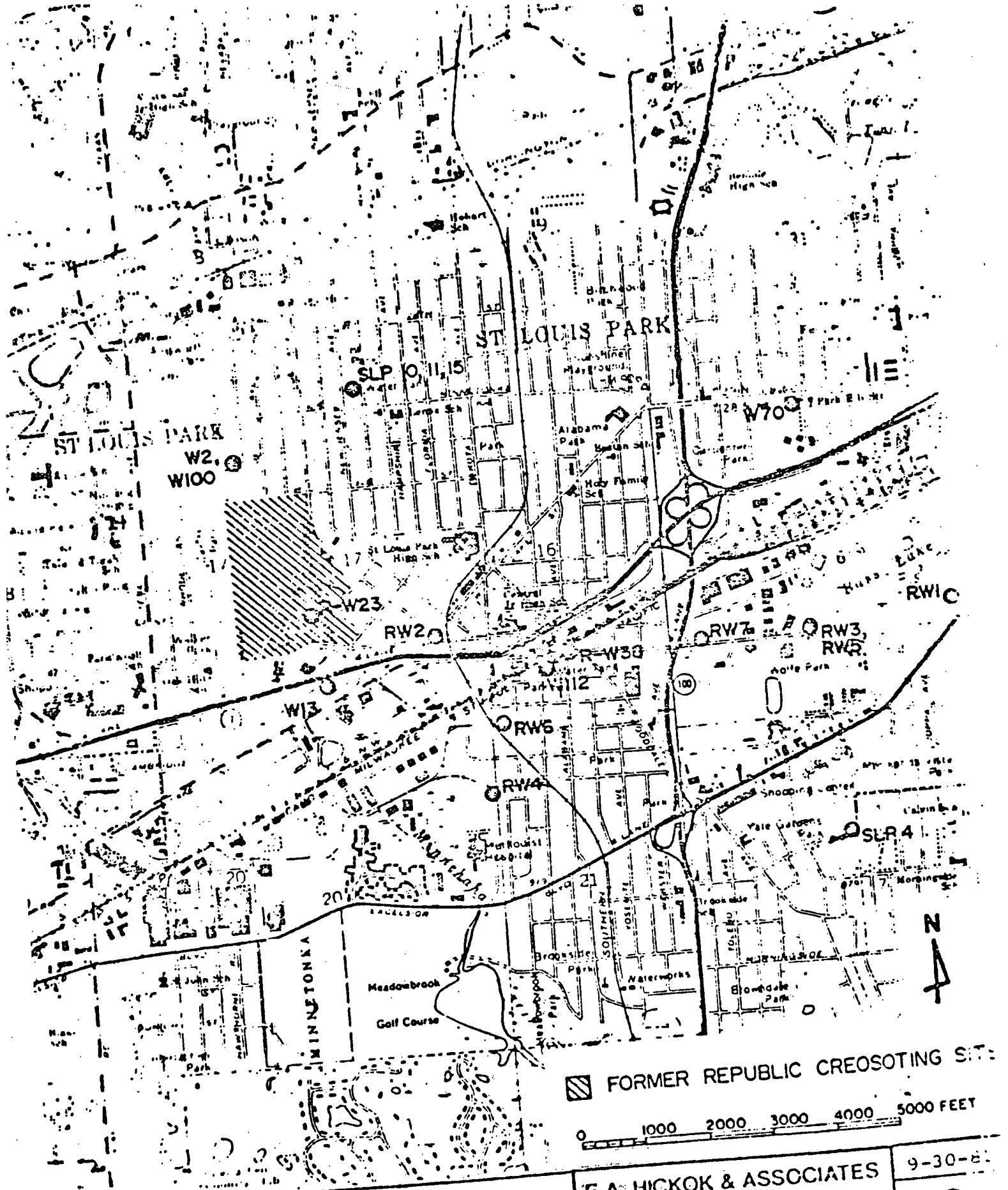
FIGURE 13

SOIL CONTAMINATION IN VICINITY OF FORMER REPUBLIC CREOSOTING SITE

FIGURE 3



GENERALIZED STRATIGRAPHIC SEQUENCE IN ST. LOUIS PARK AREA	E.A. HICKOK & ASSOCIATES HYDROLOGISTS-ENGINEERS MINNEAPOLIS-MINNESOTA	9-30-81 2



GRADIENT CONTROL WELL LOCATIONS	E.A. HICKOK & ASSOCIATES HYDROLOGISTS - ENGINEERS MINNEAPOLIS - MINNESOTA	9-30-8 9

Table 4

Summary of Remedial Pumping Plans

Aquifer	Plan	Well	Discharge (gpm)
Middle Drift	1	RW6*	125
		RW7*	75
		W2	50
Platteville	1	RW4*	150
		RW5*	75
		W100	50
St. Peter	1	RW3*	300
Prairie du Chien-Jordan	1	SLP 10,15† (combined)	800
		Park Theater (W70)	1000
		SLP 4	800
		Old SLP 1 (W112)	1500
	2	SLP 10,15 (combined)	800
		Park Theater (W70)	1000
		SLP 4	800
		RW1*	800
Mt. Simon-Hinckley	1	SLP 11	600
	2	R-W23*	300
		R-W38*	300
	3	RW2*	600

† SLP denotes St. Louis Park municipal well

* Proposed new well; RW denotes recovery well at new site, while R-W stands for recovery well at location of existing wells (W23 and W38).

NOTE: Well identification (W23, W70, etc.) follows USGS notation as in Hult and Schoenberg (1981).

TABLE 5

Gradient Control Well Discharge Quality
Projected 20-Year Averages

Aquifer	Plan	Well	PAH Concentrations (ng/l) Highest Carc.	Highest "Other"	"Total" PAH
Middle Drift	1	RW6	200	1,000	2,000
		RW7	100	400	1,000
		W2**	200	50.	400
		Pumpout (W13)**	0.3×10^9	0.6×10^9	2.5×10^9
Platteville	1	RW4	9.	2,000	2,000
		RW5	70.	3,000	5,000
		W100**	30.	2,000	3,000
St. Peter	1	RW3	30.	200	500
Prairie du Chien-Jordan	1	SLP 10,15	200	9,000	10,000
		W70	30.	2,000	4,000
		SLP 4	5.	200	300
		W112	30.	3,000	5,000
	2	SLP 10,15	200	9,000	10,000
		W70	30.	2,000	4,000
		SLP 4	5.	200	300
		RW1	20.	800	1,000
Mt. Simon-Hinckley	1	SLP 11	3.	50.	80.
	2	R-W23	?	?	?
		R-W38	300	4,000	7,000
	3	RW2	?	?	?

**Estimated initial quality.

NOTE: See Table 4 for well identifications.