BRAUN INTERTEC

Braun Intertec Corporation
1345 Northland Drive
Mendota Heights, Minnesota 55120-1141
612-683-8700 Fax: 683-8888

Engineers and Scientists Serving the Built and Natural Environments®

June 27, 1994

Project No. CMKX-93-0202

Ms. Laurie Kania
Property Transfer Technical Assistance
Tanks and Spills Section
Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, MN 55155

Re: South Minneapolis Transfer Station Area, 21st Avenue South and 29th Street East, Minneapolis

Dear Ms. Kania:

On behalf of the Hennepin County Property Management Division, we are submitting the enclosed report for additional investigation at the referenced site. This work was conducted to fulfill the requests contained in your letter dated April 13, 1994.

In summary, Braun Intertec performed six soil borings at two addresses within the subject area. No organic vapors were detected. Styrene was detected at very low concentrations in soil samples from three of the six borings. Styrene was not detected in monitoring well MW-1 located near the soil borings and is not believed to be related to past site activities. Due to the very low concentrations present and the fact that the surficial aquifer is not used for drinking water, we recommend this site be closed.

If you have questions regarding this report, please call Pat Terhaar at (612) 683-8756. The contact person within the Hennepin County Property Management Division for this project is Jennifer Bredenberg at (612) 348-7470.

Sincerely,

Patricia McGee Terhaar, CPG
Project Manager

Enclosure

cc: Ms. Jennifer Bredenberg, Hennepin County Property Management Division

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June 27, 1994

Project No. CMKX-93-0202

Ms. Jennifer Bredenberg
Hennepin County Property Management Division
A-2208 Hennepin County Government Center
Minneapolis, MN 55487-0228

Dear Ms. Bredenberg:

Re: Subsurface Investigation, South Minneapolis Transfer Station Area, 21st Avenue South and 29th Street East, Minneapolis, Minnesota

In a letter dated April 13, 1994, the Minnesota Pollution Control Agency (MPCA) requested additional work be conducted at the referenced site. Specifically, the MPCA requested three to four soil borings be performed at both 2847 20th Avenue South and 2859 20th Avenue South. The purpose of these borings was to assess whether petroleum and/or hazardous substances had been released at the two properties.

On May 9-10, 1994, Braun Intertec Corporation performed a total of six soil borings at the properties in question. The attached report provides the details and results of this work.

We appreciate the opportunity to provide our services on this project. If you have any questions regarding the contents of this report, please call Pat Terhaar at (612) 683-8756.

Sincerely,

Patricia M. Terhaar, CPG
Project Manager

LeeAnn M. Hammerbeck
Supervisor, Hydrogeologic Investigations

Attachment: Subsurface Investigation Report

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A. Introduction

In December 1993, Braun Intertec Corporation (Braun Intertec) conducted a Phase II Environmental Site Assessment at property owned by Hennepin County located at 21st Avenue South and 29th Street East in Minneapolis, Minnesota. The field investigation consisted of seven soil borings with three of the borings completed as monitoring wells.

The analytical results for groundwater collected from one of the monitoring wells (MW-3, Figure 1) located adjacent to the upgradient property boundary indicated the presence of low levels of diesel range organic compounds. Therefore, a release was reported to the state 24-hour spill report line. Details of the Phase II investigation were provided in a report titled *Phase II Environmental Site Assessment* (February 7, 1994) which was submitted to the Property Transfer Unit of the Tanks and Spills Section of the Minnesota Pollution Control Agency (MPCA).

Additional information concerning four of the properties located at the site was requested by the MPCA (MPCA letter dated March 14, 1994). Based on the information subsequently provided by Braun Intertec, which indicated the possible past presence of underground storage tanks on two of the properties, the MPCA requested that additional soil borings be performed (MPCA letter dated April 13, 1994). The purpose of these borings was to determine if petroleum and/or hazardous substances had been released at these locations. This report presents the details and results of the soil boring investigation.

The two properties under investigation for this current phase of work are located at 2859 and 2847 20th Avenue South. The properties are presently vacant lots but in the past were occupied by a chemical manufacturer (reportedly manufacturing soap) and aluminum foundry, respectively. Additional information on these and surrounding properties can be found in the Braun Intertec *Phase I Environmental Assessment Report* (May 7, 1993) and the previously mentioned Phase II report.

B. Scope of Work

The following tasks were performed to satisfy the MPCA requirements. This work was carried out following standard Braun Intertec methods as described in Appendix A.

- Six soil borings (ST-5 through ST-10) were conducted to the water table, encountered at a depth of approximately 30 feet. The boring locations are shown on the Figure 1. Split-barrel samples were collected at 5-foot intervals and at the water table. The soils were screened for organic vapors with a photoionization detector. The boreholes were grouted upon completion, and Boring Sealing Records have been submitted to the Minnesota Department of Health.

- In each boring, soil samples were collected for chemical analysis from just above the water table at a depth of approximately 30 feet.

- The soil samples were analyzed in our laboratory for volatile organic compounds (VOCs) and diesel range organics (DRO).

C. Results

Boring logs for the six soil borings are provided in Appendix B. Soils encountered in the borings generally consisted of fine to coarse grained sand. No organic vapors were detected in the soils retrieved from the borings.

The analytical results for the soil samples are provided in the laboratory report (Appendix C). The only parameter detected was styrene, which was detected in boring ST-6 at 0.1 μg/L, in ST-7 at 0.2 μg/L, and in ST-10 at 0.1 μg/L. The method detection limit for this compound is 0.1 μg/L.

Styrene is a compound used in making synthetic rubber, resins and plastics and as an additive to drying oils. Styrene has a sweet, aromatic odor at low concentrations.

D. Conclusions and Recommendations

Styrene was detected at the method detection limit or slightly above in three of the six borings conducted for this investigation. Although soil samples for chemical analysis were collected only at the depth of the water table, samples collected at shallower depths did not exhibit any organic vapors or odors to suggest the presence of styrene or any other volatile organic compound. Styrene has not been detected in any of the monitoring wells at this site.

The source for the styrene detected in the soil samples is not known. The past land use activities at the two properties under investigation do not suggest the use of styrene and, therefore, are not believed to be likely sources for the compound. Because styrene is present at very low concentrations in the soil and has not been detected in the nearby wells, its presence is not believed to represent a threat to human health or the environment. In addition, the water table aquifer in this area is not used for drinking water.

The only volatile organic compound found at the site is styrene at very low concentrations in the soils. No volatile organic compounds have been detected in the groundwater. Based on this data, we recommend no further action at this site. Upon concurrence by the MPCA, the three monitoring wells installed for the previous phase of investigation should be sealed in accordance with the Minnesota Department of Health Water Well Code.

E. General

In performing its services, Braun Intertec used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession practicing in the same locality. No other warranty is made or intended.

Appendix B

Log of Boring

LOG OF BORING

PROJECT: CMKX-93-0202

Hennepin County Property
21st Ave. S. and 29th St. E.
Minneapolis, Minnesota

BORING: ST-5

LOCATION: See site map.

DATE: 5/9/94

SCALE: 1" = 4'

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488)	BPF	WL	Tests or Notes
848.6	0.0		FILL: Silty Sand, fine to medium grained, with a trace of wood and clay, dark brown, moist.			Benchmark: Top nut of fire hydrant on southwest corner of 28th St. E. and 21st Ave. S. Elevation = 847.022 feet above mean sea level.
845.6	3.0	SP SM	POORLY GRADED SAND with SILT, fine to coarse grained, reddish brown, moist, loose. (Terrace Deposit)	6		
839.1	9.5	SP	POORLY GRADED SAND, fine to coarse grained, brown, moist, loose. (Terrace Deposit)	8		
835.6	13.0	SP	POORLY GRADED SAND, fine grained, brown, moist, medium dense to loose. (Terrace Deposit)	11		
				6		
823.6	25.0	SP	POORLY GRADED SAND, fine grained, with seams of coarse grained Poorly Graded Sand, reddish brown, moist, medium dense. (Terrace Deposit)	15		
821.6	27.0	SP	POORLY GRADED SAND, fine to coarse grained, with a trace of Gravel, brown, moist to waterbearing, medium dense. (Terrace Deposit)	25		

LOG OF BORING

PROJECT: CMKX-93-0202	BORING: ST-5 (cont.)
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota	LOCATION: See site map.
	DATE: 5/9/94 — SCALE: 1" = 4'

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488)	BPF	WL	Tests or Notes
818.1	30.5		-with a trace of Cobbles at 30 feet.	27		
			END OF BORING			
			Water not observed with 29 feet of hollow-stem auger in the ground.			
			Water not observed to cave-in depth of 18 feet immediately after withdrawal of auger.			
			Boring immediately backfilled with bentonite slurry.			

LOG OF BORING

PROJECT: CMKX-93-0202

Hennepin County Property
21st Ave. S. and 29th St. E.
Minneapolis, Minnesota

BORING: ST-6

LOCATION:
See site map.

DATE: 5/9/94

SCALE: 1" = 4'

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488)	BPF	WL	Tests or Notes
848.2	0.0		FILL: Sandy Lean Clay, with wood and concrete, dark brown, moist.			
844.7	3.5	SP SM	POORLY GRADED SAND with SILT, fine to coarse grained, brown, moist, very loose. (Terrace Deposit)	4		
841.2	7.0	SP	POORLY GRADED SAND, fine to coarse grained, brown, moist, medium dense to loose. (Terrace Deposit)	11		
835.2	13.0	SP	POORLY GRADED SAND, fine grained, brown, moist, medium dense. (Terrace Deposit)	8		
				13		
				15		
818.2	30.0					

LOG OF BORING

PROJECT: CMKX-93-0202	BORING: ST-6 (cont.)
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota	LOCATION: See site map.
	DATE: 5/9/94 SCALE: 1" = 4'

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488)	BPF	WL	Tests or Notes
817.7	30.5	SP	POORLY GRADED SAND with GRAVEL and COBBLES, fine to coarse grained, brown, waterbearing, dense. (Terrace Deposit)	47		
			END OF BORING Water not observed with 29 feet of hollow-stem auger in the ground. Water not observed to cave-in depth of 16.5 feet immediately after withdrawal of auger. Boring immediately backfilled with bentonite slurry.			

LOG OF BORING

PROJECT: CMKX-93-0202

Hennepin County Property
21st Ave. S. and 29th St. E.
Minneapolis, Minnesota

BORING: ST-7

LOCATION:
See site map.

DATE: 5/9/94

SCALE: 1" = 4'

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488)	BPF	WL	Tests or Notes
848.6	0.0		FILL: Poorly Graded Sand with Silt, fine to medium grained, with a trace of Gravel, dark brown, moist.			
845.6	3.0	SP SM	POORLY GRADED SAND with SILT, fine to coarse grained, reddish brown, moist, very loose. (Terrace Deposit)	3		
838.6	10.0	SP	POORLY GRADED SAND, fine grained, light brown, moist, medium dense. (Terrace Deposit)	11		
833.6	15.0	SP	POORLY GRADED SAND, fine to coarse grained, with a trace of Gravel, brown, moist, loose. (Terrace Deposit)	10		
828.6	20.0	SP	POORLY GRADED SAND, fine to coarse grained, brown, moist, medium dense. (Terrace Deposit)	12		
823.6	25.0	SP	POORLY GRADED SAND, fine grained, brown, moist, medium dense. (Terrace Deposit)	11		
819.6	29.0	SP	POORLY GRADED SAND, fine to medium			

LOG OF BORING

PROJECT: CMKX-93-0202	BORING: ST-7 (cont.)
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota	LOCATION: See site map.
	DATE: 5/9/94 SCALE: 1" = 4'

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488)	BPF	WL	Tests or Notes
818.1	30.5		grained, with a trace of Gravel, brown, waterbearing, medium dense. (Terrace Deposit)	27		
			END OF BORING			
			Water not observed with 29 feet of hollow-stem auger in the ground.			
			Water not observed to cave-in depth of 17.5 feet immediately after withdrawal of auger.			
			Boring immediately backfilled with bentonite slurry.			

LOG OF BORING

PROJECT: CMKX-93-0202

Hennepin County Property
21st Ave. S. and 29th St. E.
Minneapolis, Minnesota

BORING: ST-8

LOCATION:
See site map.

DATE: 5/9/94

SCALE: 1" = 4'

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488)	BPF	WL	Tests or Notes
848.3	0.0		FILL: Poorly Graded Sand with Silt, fine to medium grained, with a trace of Gravel, dark brown, moist.			
845.3	3.0	SP	POORLY GRADED SAND with SILT, fine to coarse grained, reddish brown, moist, loose. (Terrace Deposit)	6		
838.3	10.0	SP	POORLY GRADED SAND, fine to coarse grained, brown, moist to wet, medium dense to loose. (Terrace Deposit)	11		
				10		
828.3	20.0	SP	POORLY GRADED SAND, fine to medium grained, brown, moist, medium dense. (Terrace Deposit)	11		
				13		
819.3	29.0	SP	POORLY GRADED SAND, fine to coarse			

LOG OF BORING

PROJECT: CMKX-93-0202	BORING: ST-8 (cont.)
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota	LOCATION: See site map.
	DATE: 5/9/94 SCALE: 1" = 4'

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488)	BPF	WL	Tests or Notes
817.8	30.5		grained, with a trace of Gravel and Cobbles, brown, waterbearing, medium dense. (Terrace Deposit)	29		
			END OF BORING			
			Water not observed with 29 feet of hollow-stem auger in the ground.			
			Water not observed to cave-in depth of 15.5 feet immediately after withdrawal of auger.			
			Boring immediately backfilled with bentonite slurry.			

LOG OF BORING

PROJECT: CMKX-93-0202	BORING: ST-9	
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota	LOCATION: See site map.	
	DATE: 5/10/94	SCALE: 1" = 4'

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488)	BPF	WL	Tests or Notes
847.7	0.0		FILL: Silty Sand, fine to medium grained, black, moist.			
843.7	4.0	SP	POORLY GRADED SAND, fine to coarse grained, brown, moist, very loose. (Terrace Deposit)	2		
837.7	10.0	SP	POORLY GRADED SAND, fine grained, light brown, moist, loose. (Terrace Deposit)	8		
832.7	15.0	SP	POORLY GRADED SAND, fine to medium grained, brown, moist, loose. (Terrace Deposit)	8		
827.7	20.0	SP	POORLY GRADED SAND, fine to coarse grained, with a trace of Gravel, brown, moist, medium dense. (Terrace Deposit)	12		
818.7	29.0	SP	POORLY GRADED SAND with GRAVEL,	21		

LOG OF BORING

PROJECT: CMKX-93-0202	BORING: ST-9 (cont.)
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota	LOCATION: See site map.
	DATE: 5/10/94 SCALE: 1" = 4'

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488)	BPF	WL	Tests or Notes
817.2	30.5		fine to coarse grained, brown, waterbearing, medium dense. (Terrace Deposit)	26		
			END OF BORING			
			Water not observed with 29 feet of hollow-stem auger in the ground.			
			Water not observed to cave-in depth of 17 feet immediately after withdrawal of auger.			
			Boring immediately backfilled with bentonite slurry.			

LOG OF BORING

PROJECT: CMKX-93-0202 Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota	BORING: ST-10 LOCATION: See site map. DATE: 5/10/94 SCALE: 1" = 4'

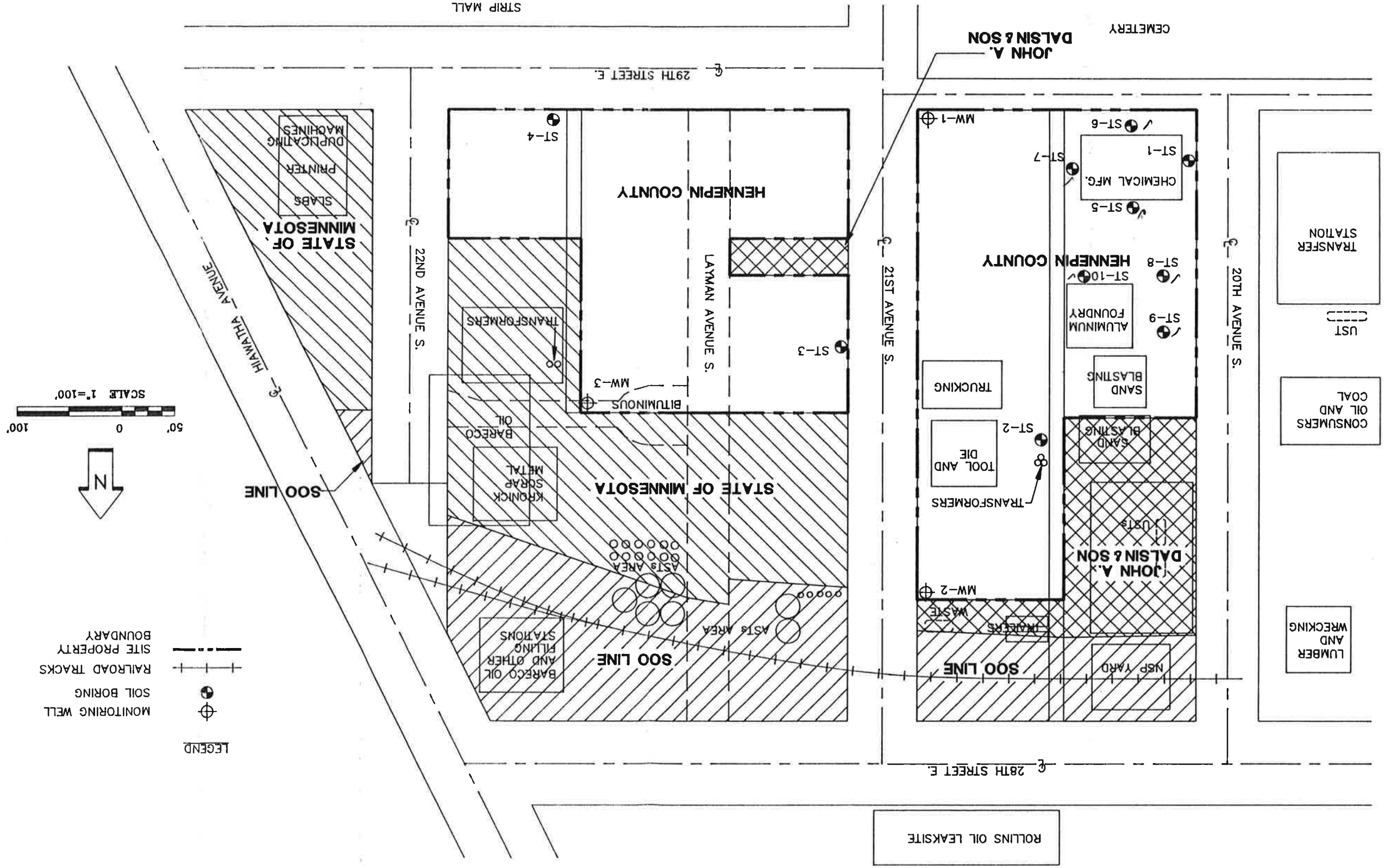
Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488)	BPF	WL	Tests or Notes
848.2	0.0		FILL: Silty Sand, fine to medium grained, with a trace of Gravel, dark brown, moist.			
844.2	4.0	SP	POORLY GRADED SAND, fine to coarse grained, with a trace of Gravel, brown, moist, loose. (Terrace Deposit)	7		
				8		
833.2	15.0	SP	POORLY GRADED SAND, fine to medium grained, brown, moist, loose. (Terrace Deposit)	7		
828.2	20.0	SP	POORLY GRADED SAND, fine to coarse grained, with a trace of Gravel, brown, moist, medium dense. (Terrace Deposit)	11		
823.2	25.0	SP	POORLY GRADED SAND, fine to medium grained, brown, moist, medium dense. (Terrace Deposit)	14		
819.2	29.0	SP	POORLY GRADED SAND, fine to coarse			

LOG OF BORING

PROJECT: CMKX-93-0202	BORING: ST-10 (cont.)
Hennepin County Property 21st Ave. S. and 29th St. E. Minneapolis, Minnesota	LOCATION: See site map.
	DATE: 5/10/94 SCALE: 1" = 4'

Elev.	Depth	ASTM Symbol	Description of Materials (ASTM D2488)	BPF	WL	Tests or Notes
817.7	30.5		grained, with a trace of Gravel and Cobbles, brown, moist, dense. (Terrace Deposit)	50		
			END OF BORING Water not observed with 29 feet of hollow-stem auger in the ground. Water not observed to cave-in depth of 17 feet immediately after withdrawal of auger. Boring immediately backfilled with bentonite slurry.			

NOTE: SOIL BORINGS PERFORMED FOR CURRENT INVESTIGATION ARE ST-5 THROUGH ST-10



SITE MAP
Subsurface Investigation
Hennepin County Property Management Division
South Minneapolis Transfer Station Area

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INT			
DRAWN BY:	KMR	12-15-93	DATE
APP'D BY:	PAT	02-03-94	
JOB No.	CMKX-93-0202		
DWG.No.	MK30202	SHEET	OF
SCALE	1"=100'	1	

FIGURE # 1