

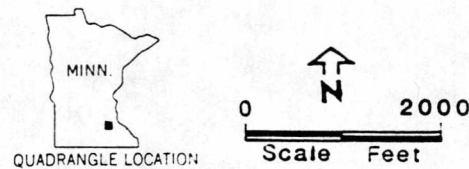
DR

1126 South Robert Street  
W. St. Paul, Minnesota

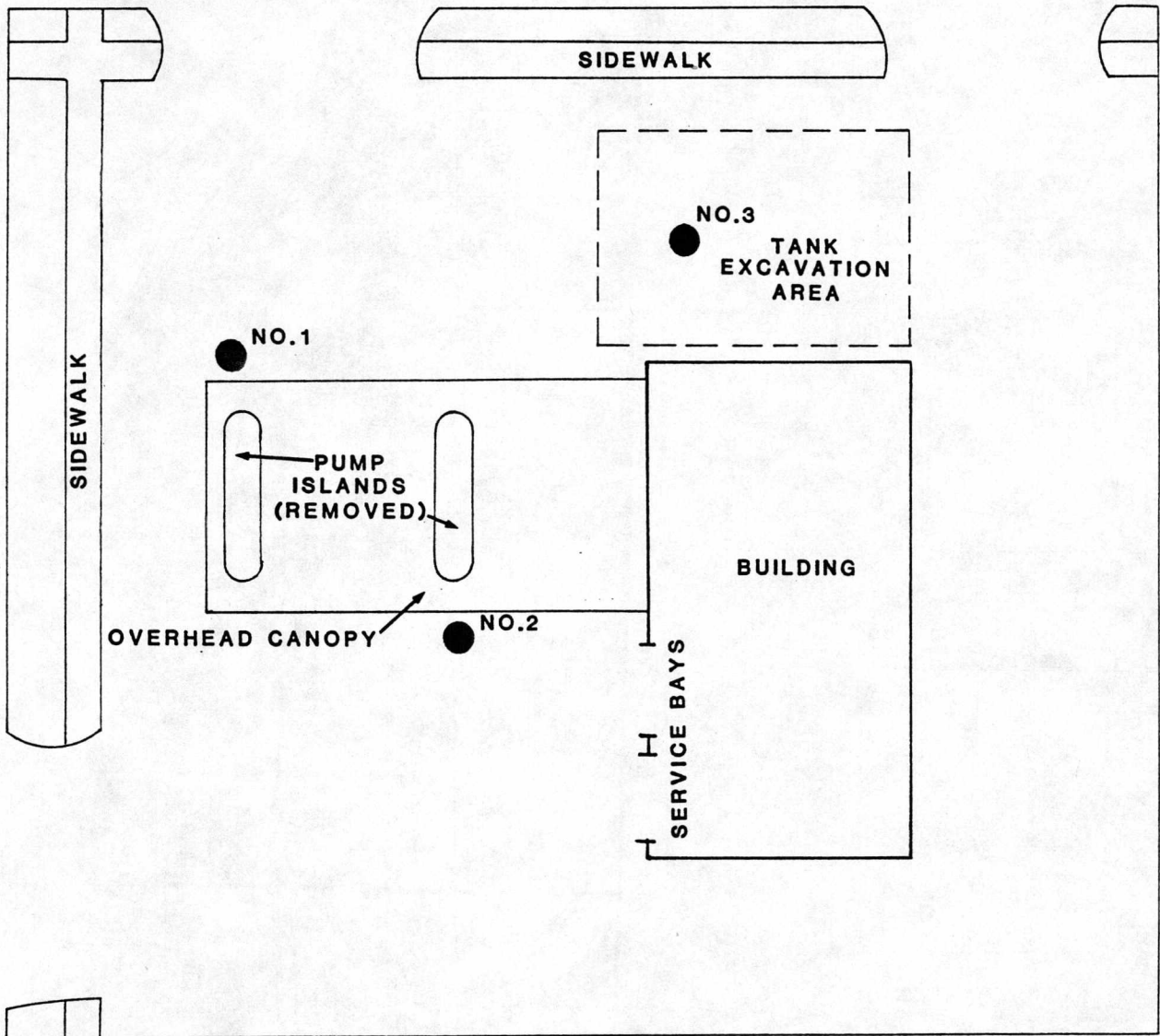
*Handwritten notes:*  
KAYO  
P...  
H...

1126 S. Robert St.  
St. Paul, MN

RAPID OIL CHANGE  
1126 SOUTH ROBERT STREET  
W. ST. PAUL, MINNESOTA 55118  
DELTA NO. 10-87-251

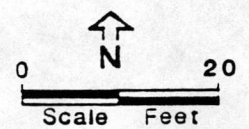


RAPID OIL CHANGE  
1126 SOUTH ROBERT STREET  
ST. PAUL, MINNESOTA 55118  
DELTA NO. 10-87-251



LEGEND:

● SOIL BORING



**RAPID OIL CHANGE**  
**1126 South Robert Street**  
**St. Paul, MN 55118**  
**Delta No. 10-87-251**

<u>Location</u>	<u>Sample Depth (Feet)</u>	<u>Odor</u>	<u>hNu Reading S.S. Sample (ppm)</u>	<u>hNu Reading Head Space (ppm)</u>	<u>THC (ppm)</u>
Boring No. 1	4.5 - 6.5	MOD	30	25	ND
	9.5 - 11.5	STR	500	400*	NA
	14.5 - 16.5	STR	500	450	920
	19.5 - 21.5	MOD	50	350	NA
Boring No. 2	4.5 - 6.5	N	40	25	NA
	9.5 - 11.5	SL	35	50	NA
	14.5 - 16.5	STR	500	450*	1200
	19.5 - 21.5	SL	20	100	NA
Boring No. 3	4.5 - 6.5	N	0	0	NA
	9.5 - 11.5	STR	500	450*	NA
	14.5 - 16.5	STR	500	400	NA
	19.5 - 21.5	MOD	50	50	NA

N = None

SL = Slight

MOD = Moderate

STR = Strong

ND = Not Detectable

NA = Not Applicable

THC = Total Hydrocarbon

\* Gasoline Odor

Delta Environmental Consultants, Inc.  
1801 Old Highway 8  
Suite 123  
New Brighton, MN 55112

December 04, 1987  
PACE Project Number: 871118512

Attn: Mr. Gary Lewis

#10-87-251

Date Sample(s) Collected: 11/10/87  
Date Sample(s) Received: 11/18/87

PACE Sample Number:

Parameter	Units	MDL	212270	212280	212290
			1126 South Robert #1 5ft.	1126 South Robert #1 15ft.(1)	1126 South Robert #3 15ft.(1)
Benzene	mg/Kg	0.12	ND	7.6	4.2
Toluene	mg/Kg	0.12	ND	140	69
Xylene	mg/Kg	0.12	ND	220	270
Total Hydrocarbons	mg/Kg	1.2	ND	920	1200

ND Not detected at or above the MDL.  
MDL Method Detection Limit  
(1) The sample was diluted 1:20; all MDLs must be increased by the dilution factor.

The data contained in this report were obtained using EPA or other approved methodologies. All analyses were performed by me or under my direct supervision.



William H. Scruton  
Organic Chemistry Manager



# GEOTECHNICAL ENGINEERING CORPORATION

Consulting Engineers • Soil Testing

## REPORT OF TEST BORINGS

PROJECT:

1126 SOUTH ROBERT STREET  
ST. PAUL, MINNESOTA

GEC JOB NO: 4995

DATE: NOVEMBER 11, 1987

REPORTED TO:

DELTA ENVIRONMENTAL CONSULTANTS INC.  
1801 HIGHWAY 8  
SUITE 123  
NEW BRIGHTON, MINNESOTA 55112

ATTN: MR. GARY LEWIS

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## INTRODUCTION

On November 10, 1987, we drilled three test borings (#1 - #3) at the referenced site.

The scope of our work (location, depth, method, etc.) was as directed by Delta Environmental Consultants, Inc.

## TEST BORINGS

The borings were made using the standard penetration split-spoon method. Refer to the attached sheets (Drilling, Sampling and Testing; Test Boring and Logging Methods) for additional information regarding test boring and logging methods.

The soils were identified in accordance with the ASTM Visual Manual Method as described on the attached sheet (Identification of Soils).

Refer to the attached logs for a description of the subsurface conditions encountered in the borings. The logs show: the depths to the boundaries between the soil layers; the description classification (identification), and geology of the soils; the standard penetration resistance (N values); and other information. Refer to the attached sheets (Drilling, Sampling, and Testing; Test Boring and Logging Methods; Geologic Terminology; Ground Water) for a description of terminology used on the logs.

CLEANING AND ABANDONMENT

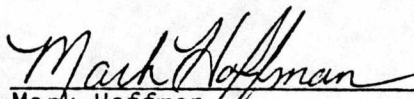
All drilling tools, down-hole equipment and materials were steam-cleaned prior to drilling each boring. Soil borings #1 - #3 were abandoned with neat cement grout using the tremie method.

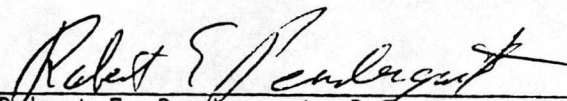
CLOSURE

To protect the addressee, the public, and ourselves, this report (and all supporting information) is provided for the addressee's own use. No representations are made to parties other than the addressee.

Report Prepared By:

Under the Supervision of:

  
\_\_\_\_\_  
Mark Hoffman

  
\_\_\_\_\_  
Robert E. Pendergast, P.E.  
MN Monitoring Well #0020

**GEO TECHNICAL ENGINEERING CORPORATION**

GEC JOB NO: 4995

LOG OF BORING NO. 1

PROJECT: 1126 SOUTH ROBERT STREET; ST. PAUL, MINNEAPOLIS

DEPTH, IN FEET	SURFACE ELEVATION: _____ IDENTIFICATION	GEOLOGY	N BPF	WB	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS			
							MC	DEN	LL P.L.	q <sub>c</sub>
1 -	No samples taken to 4-1/2'									
2 -										
3 -										
4 -										
5 -	Silty sand with gravel, fine to medium grained, brown, (SM)	FILL	15	N	SS	20				
6 -										
7 -										
8 -	Silty sand with gravel, fine to medium grained, reddish brown, (SM)	TILL	21	N	SS	18				
9 -										
10 -										
11 -										
12 -	Silty sand, fine to medium grained, reddish brown, (SM)		11	?	SS	20				
13 -										
14 -										
15 -										
16 -	END OF BORING		10	?	SS	21				
17 -										
18 -										
19 -										
20 -										
21 -										

DEPTH	DRILLING METHOD	WATER LEVEL MEASUREMENTS						NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	
0-19 1/2	2 1/4" HSA	11-10	10:05	21-1/2	19-1/2	19.7		wet
BORING COMPLETED:	11-10-87 10:10							
LOG: RA	CA: RR	Rig: 25						

**GEOTECHNICAL ENGINEERING CORPORATION**

GEC JOB NO: 4995

LOG OF BORING NO. 2

PROJECT: 1126 SOUTH ROBERT STREET; ST. PAUL, MINNEAPOLIS

DEPTH, IN FEET	SURFACE ELEVATION: _____ IDENTIFICATION	GEOLOGY	N BPF	WB	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS			
							MC	DEN	L.L. P.L.	qc
1 -	No samples taken to 4-1/2'									
2 -										
3 -										
4 -										
5 -	Silty sand, fine to medium grained, brown, (SM)	FILL or TILL	11	N	SS	19				
6 -										
7 -	Silty sand, fine to medium grained, reddish brown, (SM)	TILL	15	N	SS	18				
8 -										
9 -										
10 -										
11 -	Silty sand with gravel, fine to medium grained, reddish brown, (SM)		13	?	SS	20				
12 -										
13 -	Silty sand, fine to medium grained, reddish brown, (SM)		11	?	SS	17				
14 -										
15 -	END OF BORING									
16 -										
17 -										
18 -										
19 -										
20 -										
21 -										

DEPTH	DRILLING METHOD	WATER LEVEL MEASUREMENTS						NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG	
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL		WATER LEVEL
0-19 1/2	2 1/4" HSA	11-10	10:58	21-1/2	19-1/2	19.5			dry
BORING COMPLETED:	11-10-87 11:05								
CC:	RA CA: RR Rig: 25								

**GEOTECHNICAL ENGINEERING CORPORATION**

GEC JOB NO: 4995

LOG OF BORING NO. 3

PROJECT: 1126 SOUTH ROBERT STREET; ST. PAUL, MINNEAPOLIS

DEPTH, IN FEET	SURFACE ELEVATION: _____ IDENTIFICATION	GEOLOGY	N BPF	WB	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS			
							MC	DEN	L.L. P.L.	q <sub>c</sub>
1 -	No samples taken to 4-1/2'									
2 -										
3 -										
4 -										
5 -	Well-graded gravel with silt & sand, brown, (GW-GM)	FILL	5	N	SS	8				
6 -										
7 -										
8 -	Clayey sand with gravel, fine to medium grained, brown, (SC)									
9 -										
10 -	Poorly graded sand with gravel, *		6	?	SS	13				
11 -										
12 -	Silty sand with gravel, fine to medium grained, brown, (SM)									
13 -										
14 -	Silty sand with gravel, fine to medium grained, reddish brown, (SM)	TILL	14	?	SS	20				
15 -										
16 -										
17 -										
18 -	END OF BORING		7	?	SS	18				
19 -										
20 -										
21 -										

\*coarse grained, brown, (SP)

DEPTH	DRILLING METHOD	WATER LEVEL MEASUREMENTS						NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	
0-19 1/2	2 1/4" HSA	11-10	11:48	21-1/2	19-1/2	20.0		wet
BORING COMPLETED: 11-10-87 11:55								
CC: RA CA: RR Rig: 25								