REMEDIAL INVESTIGATION
CORRECTIVE ACTION
DESIGN REPORT
(RI/CAD)

Freeway Properties Property
Bloomington, Minnesota

Submitted To:

Mr. Richard Hollinbeck
Freeway Properties
1201 Clover Drive
Bloomington, Minnesota 55420

November 25, 1994

Project Number 4085
MPCA LEAK Number 7919

Submitted by:

AGASSIZ ENVIRONMENTAL SYSTEMS, INC.
5637 Brooklyn Boulevard
200 G
Brooklyn Center, Minnesota 55429

REMEDIAL INVESTIGATION REPORT WORKSHEET
Fact Sheet #6
Minnesota Pollution Control Agency
LUST Cleanup Program
April 1993

This worksheet documents specific information gathered during the remedial investigation (RI) and must be submitted with the RI/corrective action design (CAD) report to fulfill U.S. Environmental Protection Agency requirements. The purpose of the worksheet is to facilitate Minnesota Pollution Control Agency (MPCA) evaluation of the site priority. **RI/CAD reports submitted without this worksheet, or with an incomplete worksheet, will be rejected as inadequate.**

Date form completed: **November 25, 1994**

Site Information

Leak Number: **00007919**
Type of product release: **Heating Oil**
Source of release: **Holes in tank**

Estimated volume of product released: **Unknown**
Date investigation field work initiated: **October 12, 1994**
Date investigation field work completed: **October 12, 1994**

Contaminated Soil

Date removed: **Nonapplicable**
Volume removed: **Nonapplicable**
Treatment method for soil removed: **Nonapplicable**
Estimated volume of contaminated soil remaining above action levels: **Unknown, minimal**

Ground Water

Ground water impacts? **No**
Extent of ground water contamination defined: **Nonapplicable**

Free Product

Free product observed: **NA**
Maximum thickness of free product: **NA**
Interim free product recovery method: **NA**
Volume of free product recovered to date: **NA**

Drinking Water Impacts

Drinking water supply well(s) contaminated above detection limits? **Unknown.**
Drinking water well(s) contaminated above RAL's? **No**
Alternative water supply start date: **Nonapplicable**

Vapor Risk Assessment

Complete a vapor risk assessment as per MPCA fact sheet #22
Was a vapor survey required?

If no, explain:

If yes, results: **Yes, A vapor risk assessment was conducted. The vapor risk assessment did not indicate vapor migration to be a threat; consequently a vapor survey was unwarranted.**

Were vapor mitigation actions necessary?

If yes, describe: **No.**

EXECUTIVE SUMMARY

On October 3, 1994 one underground storage tank (UST) was removed from the subject property by Petro Tank Services. Agassiz Environmental Systems, Inc. (Agassiz) of Brooklyn Center, Minnesota provided environmental consulting services during the UST excavation.

On October 12, 1994 Agassiz completed two soil borings on the subject property.

The vapor risk assessment did not indicate vapor migration to be a threat; consequently a vapor survey was not conducted.

The information acquired during the initial RI suggest that the subsurface soils have not been materially impacted by petroleum hydrocarbons. Agassiz recommends that the site be submitted for closure; no further work is warranted.

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1.0 INTRODUCTION

The following report was prepared in accordance with the Minnesota Pollution Control Agency (MPCA) requirements for petroleum release identification and investigation during the excavation and removal of a regulated underground storage tank (UST). The MPCA has identified the site as LEAK#00007919. The scope of the work described in this report includes:

- The completion of two (2) soil boring;
- The sampling and analysis of soil collected from the boring.

The purpose for the work described in the report is to assess the impact that the release is having on the site and identify potential receptors.

The work was authorized by Mr. Richard Hollinbeck of MPS Enterprise (MPS). Work was performed at the site in accordance with MPCA requirements.

2.0 BACKGROUND

On October 3, 1994 one underground storage tank (UST) was removed from the subject property by Petro Tank Services. Agassiz Environmental Systems, Inc. (Agassiz) of Brooklyn Center, Minnesota provided environmental consulting services during the UST excavation.

On October 12, 1994 Agassiz completed two soil borings on the subject property.

The site is located in Hennepin County, township 116 north, range 24 west, Northwest 1/4 of Section 2. The street address of the property is 1201 South Clover Drive, Bloomington, Minnesota **(Figure 1 and 2)**.

The latitude and longitude are 44° 59' 30" and 93° 10' 15" , respectively.

A site map is illustrated on **Figure 3**.

3.0 ENVIRONMENTAL SETTING

3.1 Geology

The bedrock in Hennepin County is concealed by unconsolidated Quaternary deposits, which can be thicker than 400', except along the Mississippi River and its confluence with the Minnesota River.

The uppermost bedrock unit beneath the subject property is the St. Lawrence and Franconia Formations; the St. Lawrence consists of dolomitic siltstone and shale, the Franconia consists of fine grained, glaucontic sandstone and shale. In western Hennepin County, the two units are distinguishable only by the higher glauconite content of the Franconia. Fine to medium grained quartzose sandstone with minor amounts of white or light-colored shale forms the upper part of the Franconia in parts of the north and west, where it may be confused with the basal Jordan Sandstone.

Depth to bedrock beneath the area of the subject property ranges from 251' to 300' below grade.

The entire surface of Hennepin County is underlain by sediments deposited during the Quaternary period; the uppermost glacial sediments were laid down during the last glaciation, the late Wisconsinan (approximately 25,000 to 10,000 years ago). Remnants of earlier glaciations are preserved in the subsurface, particularly in the western part of the county.

The Quaternary deposits beneath the subject property consists of clayey till; loam to clay loam with small areas of silt loam. Thin beds and lenses of shale-rich, generally fine, stratified sediment are fairly common both overlying and within the till. Includes small areas of thick, fine loamy to clayey colluvium.

3.2 Soils

The native soil consisted of a dark brown/black, coarse grained sand overlying a light brown, medium grain sand. The depth to groundwater is 36.5' below grade.

3.3 Hydrology

The water table is present throughout Hennepin County, but it is not everywhere in direct hydrologic connection with the entire sequence of glacial deposits or to the uppermost bedrock. In the western part of the county, a thick sequence of clay-rich glacial till forms a confirming layer between an overlying saturated zone and the glacial deposits and bedrock beneath it.

Regional groundwater flows to the south.

4.0 EXCAVATION RESULTS

On October 3, 1994 one underground storage tank (UST) was removed from the subject property by Petro Tank Services. Agassiz Environmental Systems, Inc. (Agassiz) of Brooklyn Center, Minnesota provided environmental consulting services during the UST excavation.

The UST was a 1,000 gallon heating oil, bare steel tank that had been installed prior to 1978. The tank was found to be in very poor condition upon removal; corrosion and holes were visible.

Soil samples from the excavation cavities were screened for the presence of organic vapors utilizing a hydrogen flame ionization detector (FID). The FID readings represent a qualitative indicator of contamination by compounds which are ionized or "burned" in a flame. The soil samples were screened for volatile organic compounds (VOCs) in accordance with the MPCA document "Jar Headspace Analytical Screening Procedures."

The soil vapor measurements ranged from nondetectable to 96 ppm (**Table 1**). These initial findings indicated a possible release associated with the tank; the MPCA was contacted and the site was assigned leak number 00007919.

Due to site specific conditions no contaminated soils were excavated.

Soil samples were chosen for analytical testing from the excavation cavities based on field observations (i.e., visual, olfactory and headspace) and relative location.

Soil samples collected for analytical laboratory analysis were packed in a clean, laboratory-supplied 2 ounce glass jar equipped with nylon septum. Approximately 25 grams of soil was placed in each jar using a digital scale. The samples were kept in a cooler on site until arrival at Agassiz where they were placed in a refrigerator. Proper sample chain of custody was maintained.

Soil samples collected in the tank basin were analyzed for total petroleum hydrocarbons as diesel range organics (DRO) and BTEX. The soil samples were submitted to Midwest Analytical Services of Cambridge, Minnesota for analysis. The results are presented on **Table 2**. The laboratories' analytical report is contained in **Appendix C**.

The concentrations of GRO and BTEX were below detection limits in the post-excavation samples.

Figure 4 illustrates the location of excavation samples.

The results of the excavation are contained in the MPCA document "Excavation Report For Petroleum Release Sites" attached as **Appendix A**.

5.0 REMEDIAL INVESTIGATION RESULTS

On October 12, 1994 Agassiz completed two (2) soil borings (SB-1 and SB-2) on the subject property (**Figure 5**). The location for the soil boring was determined based on site history, field observation and site logistics (i.e., access restrictions).

The soil boring was advanced in an attempt to determine the presence and extent, if any, of the subsurface impacted by petroleum hydrocarbons at the site.

The soil boring was advanced with a 31/4 " inside diameter (ID) hollow-stem auger. Soil samples were obtained from 5' by 3" split spoon tubes, samples were continuously screened for the presence of organic vapors utilizing a hydrogen flame ionization detector (FID). The FID readings represent a qualitative indicator of contamination by compounds which are ionized or "burned" in a flame. The soil samples were screened for volatile organic compounds (VOCs) in accordance with the MPCA document "Jar Headspace Analytical Screening Procedures."

The soil vapor measurements were nondetectable at all sampling intervals.

The native soil consisted of a dark brown/black, coarse grained sand overlying a light brown, medium grain sand. The depth to groundwater is 36.5' below grade. The boring logs contained in **Appendix B** summarizes the soil vapor data collected.

One sampling interval was chosen for analytical testing from each soil boring based on field observations (i.e., visual, olfactory and headspace) and interval depth.

The soil sample collected for analytical laboratory analysis was packed in a clean, laboratory-supplied 2 ounce glass jar equipped with nylon septum. Approximately 25 grams of soil was placed in the jar using a digital scale. The sample was kept in a cooler on site until arrival at Agassiz where it was placed in a refrigerator. Proper sample chain of custody was maintained.

Soil samples were analyzed for total petroleum hydrocarbons as diesel range organics (DRO) and BTEX. The soil samples were submitted to Midwest Analytical Services of Cambridge, Minnesota for analysis. The results are presented on **Table 3**. The laboratories' analytical report is contained in **Appendix C**.

The concentrations of DRO and BTEX were below detection limits in the samples analyzed.

The vapor risk assessment did not indicate vapor migration to be a threat; consequently a vapor survey was not conducted.

No free product has been recorded.

Field data/notes, regulatory paperwork descriptions, reference material and calculations are contained in **Appendix D**.

6.0 DISCUSSION/CONCLUSIONS

Results from this investigation suggest that the petroleum hydrocarbons have not materially impacted the subsurface soils. The MPCA has established an "action level" of 10 ppm for DRO.

The vapor risk assessment did not indicate vapor migration to be a threat; consequently a vapor survey was not conducted.

7.0 RECOMMENDATIONS

The information acquired during the initial RI suggest that the subsurface soils have not been materially impacted by petroleum hydrocarbons.

Agassiz recommends that the site be submitted for closure; no further work is warranted.

TABLES

TABLE 1

SUMMARY OF SOIL VAPOR RESULTS FROM EXCAVATION CAVITY

SOIL VAPOR #	DEPTH	READING (ppm)	LOCATION
SV-1	2'	ND	CENTER B
SV-2	4'	ND	NORTH SW
SV-3	5'	ND	EAST SW
SV-4	5'	ND	WEST SW
SV-5	8.5'	29.2	EAST TB
SV-6	8.5'	96.0	WEST TB

Explanation:

All values are expressed in parts-per-million (ppm)
BQL - Below Quantifiable Levels
NA - Not Analyzed, TB - Tank bottom, B - Bottom, SW - Side Wall, R - Removed

TABLE 2

SUMMARY OF LABORATORY SOIL ANALYSIS RESULTS FROM EXCAVATION

Location	Parameter					
Sample # /Depth	**MTBE**	**Benzene**	**Toluene**	**Ethyl Benzene**	**Xylenes**	**DRO**
SS-1/8.5' EAST TB	NA	BDL	BDL	BDL	BDL	BDL
SS-2/8.5' WEST TB	NA	BDL	BDL	BDL	BDL	917

Explanation:

All values are expressed in parts-per-million (ppm)
BDL - Below Detection Levels
NA - Not Analyzed, TB - Tank Bottom, SW - Side Wall, R - Removed

TABLE 3

SUMMARY OF SOIL LABORATORY ANALYTICAL RESULTS FROM SOIL BORINGS

Parameter						
Sample #/Depth	**Benzene**	**Toluene**	**Ethyl Benzene**	**Xylenes**	**MTBE**	**DRO**
SS-1/36'	BDL	BDL	BDL	BDL	NA	BDL
SS-2/37'	BDL	BDL	BDL	BDL	NA	BDL

Explanation:

All values are expressed in parts-per-million (ppm)
BDL - Below Detection Levels
NA - Not Analyzed

FIGURES

LEGEND

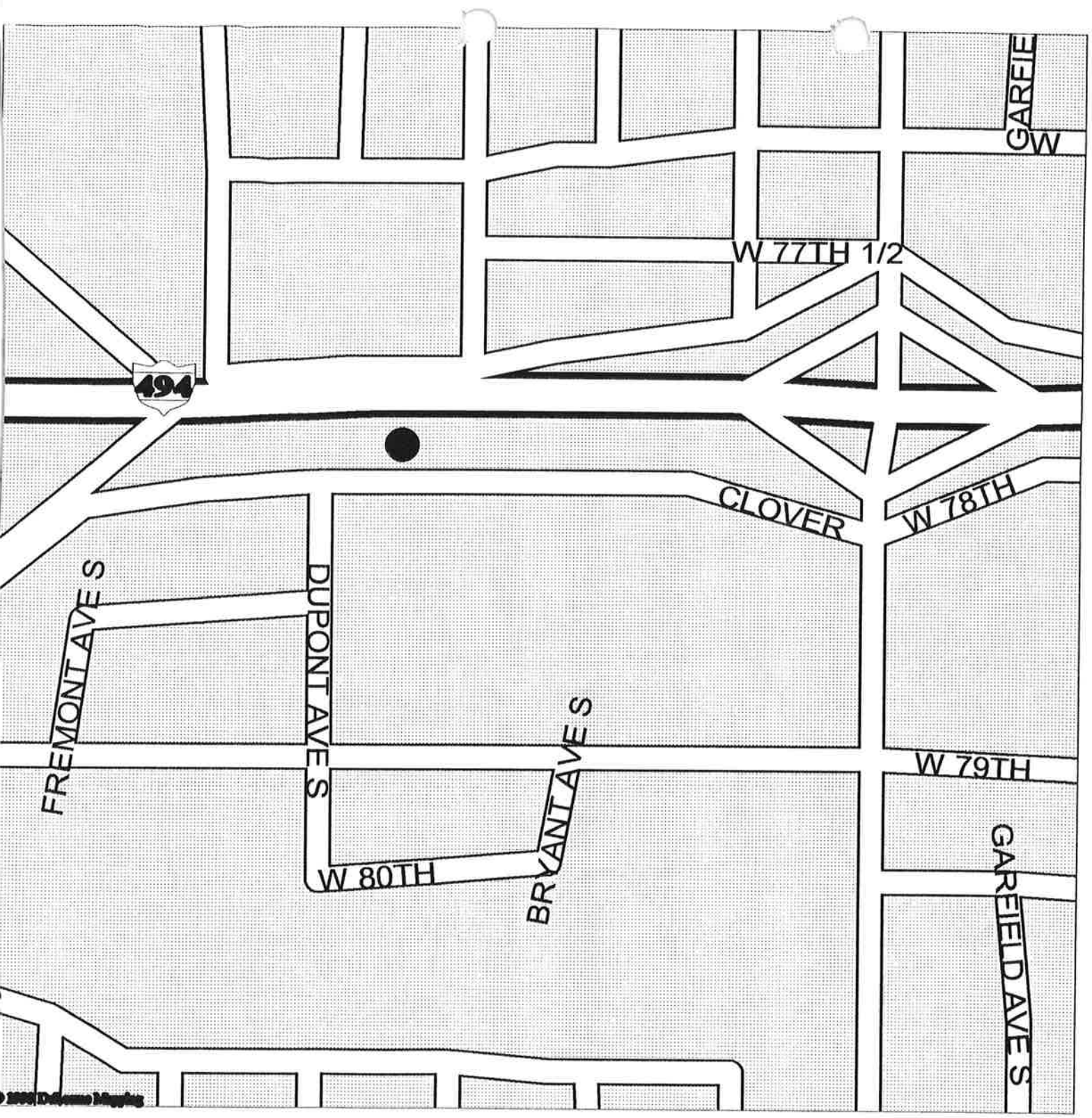
- Population Center
- State Route
- Geo Feature
- Town, Small City
- Hospital
- Park
- Interstate, Turnpike
- Street, Road
- Hwy Ramps
- Street, Road
- Major Street/Road
- State Route
- Interstate Highway
- Railroad
- River
- Land Mass

Scale 1:31,250 (at center)

2000 Feet

1000 Meters

FIGURE 1 SITE MAP: REGIONAL
Mag 13.00
Mon Nov 21 18:03:53 1994



EGEND

- Population Center
- State Route
- Interstate, Turnpike
- Street, Road
- Hwy Ramps
- Interstate Highway
- Railroad

Scale 1:3,906 (at center)

200 Feet

100 Meters

FIGURE 2 SITE MAP: LOCAL
Mag 16.00
Mon Nov 21 18:02:13 1994

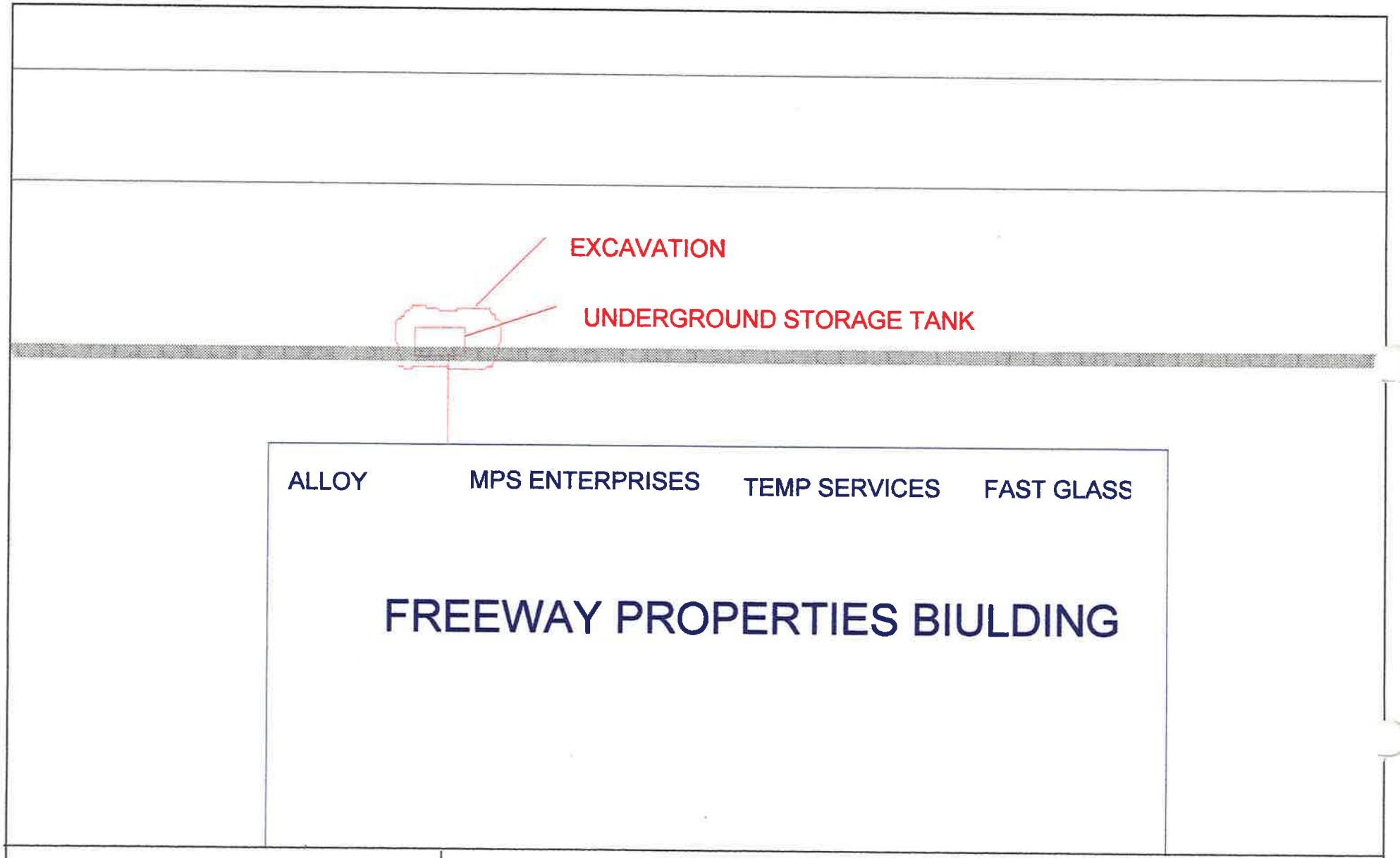


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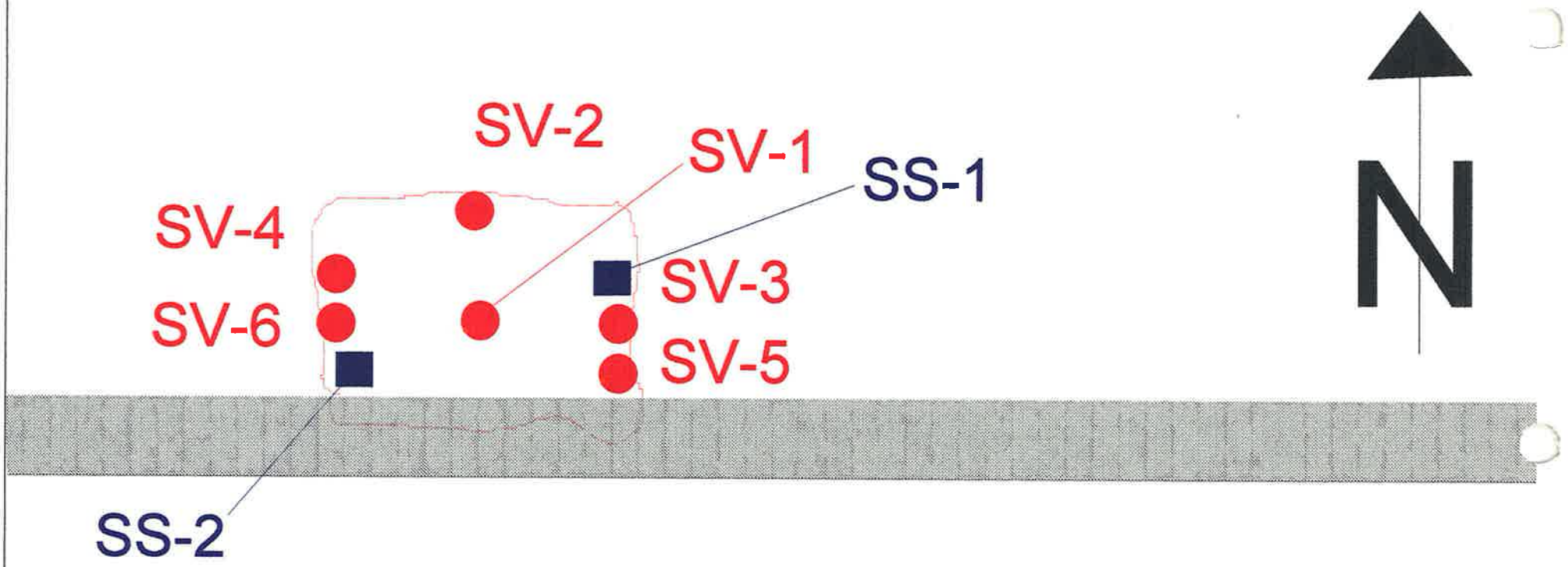
FIGURE 3 SITE MAP: FORMER UST AND EXCAVATION

PROJECT # 4085 -MPS DRAWN BY: WCS DATE: 11/25/94



● SOIL VAPOR

■ SOIL SAMPLE

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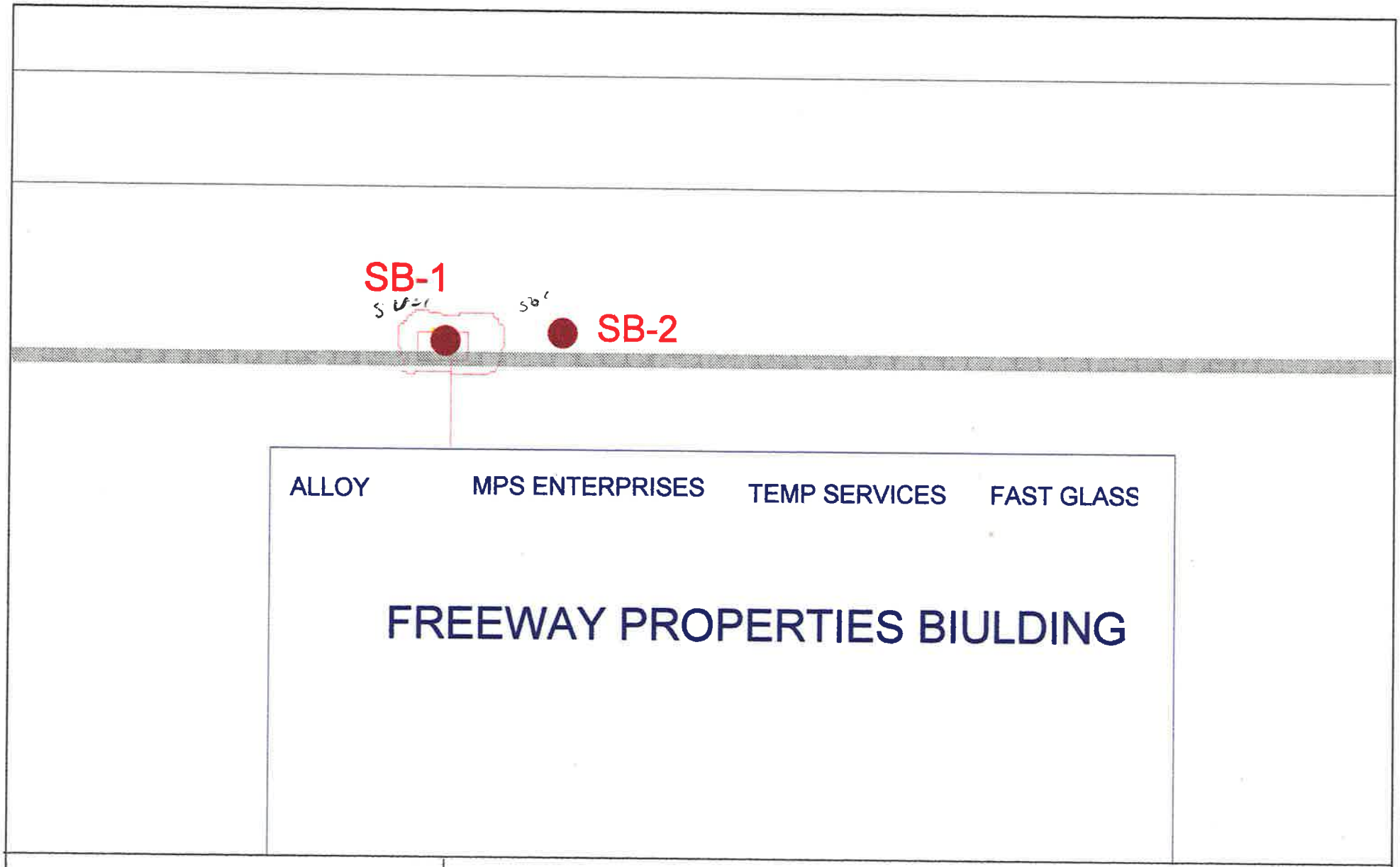
FIGURE 4: SITE MAP: EXCAVATION AREA

PROJECT # 4085 - PROJECT: MPS - DRN: WCS - DATE: 11/25/94



● SOIL BORING

N

1' = 50'

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FIGURE 5 SITE MAP: SOIL BORING

PROJECT # 4085 -MPS DRAWN BY: WCS DATE: 11/25/94

Appendix A
Excavation Report Worksheet For Petroleum Release Sites

Excavation Report Worksheet For Petroleum Release Sites
Fact Sheet #4
Minnesota Pollution control Agency
LUST Cleanup Program
April 1193

Complete the information below and submit to the Minnesota Pollution Control Agency (MPCA) Tanks and Spills Section to document excavation and treatment of petroleum contaminated soil. Conduct excavations in accordance with "Excavation of Petroleum Contaminated Soil" (fact sheet #13). Please attach any available preliminary site investigation reports to this excavation report. Attach additional pages if necessary. Please type or print clearly.

The excavation reporting deadline is 10 months from the date of receipt of the standard letter. A shorter deadline may be established by the MPCA Staff for high priority sites.

I. BACKGROUND

A. Site: **Freeway Properties**
Street: **1201 Clover Drive**
City, Zip: **Bloomington, MN 55420**
County: **Hennepin**
MPCA LEAK # **7919**

B. Tank Owner/Operator: **Mr. Richard Hollinbeck/Freeway Prop.**
Street/Box: **1201 Clover Drive**
City, Zip: **Bloomington, MN 55420**
Telephone: **(612) 884-5001**

C. Excavating Contractor: **Petro Tank Services**
Contact: **Garth**
Telephone: **(612) 659-0086**
Certification Number: **13**

D. Consultant: **Agassiz Environmental Systems, Inc.**
Contact: **John Landwehr**
Street/Box: **5637 Brooklyn Blvd. Suite 200 G**
City, Zip: **Brooklyn Center, MN 55429**
Telephone: **(612) 531-8255**

E. Other on site during site work:

Note: If person other than tank owner and/or operator is conducting the cleanup, provide name, address, and relationship to site on a separate attached sheet.

II. DATES

A. Date release was reported to the MPCA: **October 4, 1994 @ 8:00 am**

B. Dates site was work was performed:

Work Performed	Date
Excavation	**10/03/94**
RI	**10/12/94**

III. RELEASE INFORMATION

A. Provide the following information for all removed tanks:

Tank #1

Capacity: **1,000 gallon, 12' X 4'**
Type: **Bare steel**
Age: **Greater than 16 years**
Condition: **Poor, corroded with visible holes**
Product History: **Heating Oil**
Approximate quantity of petroleum released, if known: **Unknown**
Cause of release: **Unknown**

B. Provide the following information for all existing tanks:
None Known;

C. If the release was associated with the lines or dispensers, briefly describe the problem:
NA

D. If the release was a surface spill, briefly describe the problem:
NA

IV. EXCAVATION

A. Dimensions of excavation:
18' x 10' x 8.5' BG

B. Original tank backfill material (sand, gravel, etc.):
Native Soil

C. Native soil type (clay, sand, etc.): **Asphalt and gravel overlying fine to medium sand.**

D. Quantity of contaminated soil removed: (cu yd): **Unknown** none

E. Was ground water encountered at was there evidence of a seasonally high ground water table? At what depth?
36.5 feet below grade, via soil boring from RI

F. If a soil boring was required (see fact sheet #12, "Excavation of Petroleum Contaminated Soil," Part IV Additional Investigation) describe the soil screening analytical results. Attach the boring logs and laboratory results to this report:
See RI report

G. If no soil boring was required, explain: **Soil boring conducted as part of RI per MPCA fact sheet #13, See RI report**

H. If ground water was encountered or if a soil boring was conducted, was there evidence of ground water contamination?
Soil boring conducted as part of RI per MPCA fact sheet #13, See RI report; no groundwater encountered in excavation

I. Was bedrock encountered in the excavation?
What depth?
Bedrock was not encountered

J. Were other unique conditions associated with this site?
If so explain:
There were no unique conditions associated with this site.

V. SAMPLING

A. Briefly describe the field screening methods used to distinguish contaminated from uncontaminated soils:
Soil samples collected from the excavation cavity were screened for the presence of organic vapors using a organic vapor analyzer utilizing a photoionization detector (PID) equipped with a 10.2 electron volt (eV) lamp and calibrated to read in parts per million (ppm) volume/volume as benzene. The PID readings represent a qualitative indicator of contamination by compounds which are ionized by the 10.2 eV energy source. The soil samples were screened for volatile organic compounds (VOCs) in accordance with the MPCA document "Jar Headspace Analytical Screening Procedures."

B. List soil vapor headspace analysis results.
See Table 1 RI Report (Summary of Soil Vapor Results from the Excavation Area)

C. Briefly describe the soil analytical sampling and handling procedures used:
Soil samples were collected for analytical laboratory analysis and packed in clean, laboratory supplied 2 ounce glass jars equipped with nylon septums. Approximately 25 grams of soil was placed in each jar. Samples were kept in a cooler on site and during transit to the laboratory. Samples analyzed for gasoline organic range (GRO) were preserved in the field with 20 grams of methanol. Proper sample chain of custody was maintained.

D. List below the soil sample analytical results from bottom and sidewall samples
See Table 2 RI Report (Summary of Laboratory Soil Analysis from the Excavation Area.

VI. FIGURES

A. Attach the following figures to this report:
   1. Site location map. **See Figures 1 & 2 RI Report**
   2. Site map(s) drawn to scale illustrating the following: **See Figures 3, 4 and 5 RI Report**
      a. Location (or former location) of all present and former tanks, lines, and dispensers;
      b. Location of other structures (buildings, canopies, etc.);
      c. Adjacent city, township, or county roadways;
      d. Final extent and depth of excavation;
      e. Location of soil screening samples (e.g. R-1), soil analytical samples (e.g., S-1 or B-1), and soil borings (e.g. SB-1). Also, attach all boring logs.
      f. North arrow, bar scale and map legend.

VII. SUMMARY

Briefly summarize evidence indicating whether additional investigation is necessary at the site, as discussed in part VI of "Excavation of Petroleum Contaminated Soil" (fact sheet #13). If no further action is recommended, the MPCA staff will review this report following notification of soil treatment.

The information acquired during the RI suggests that the subsurface soils have not been materially impacted by petroleum hydrocarbons. Agassiz recommends that the site be submitted for closure; no further work is warranted.

VIII. SOIL TREATMENT INFORMATION

A. Soil treatment method used (thermal, land application, other). If you choose "other" specify treatment method:
   Nonapplicable

B. Location of treatment site/facility:
   Nonapplicable

C. Date MPCA approved soil treatment (if thermal treatment was used after May 1, 1991, indicate date that the MPCA permitted thermal treatment facility agreed to accept soil):
   Nonapplicable

D. Identify the location of stockpiled contaminated soil:
   Nonapplicable

IX. CONSULTANT (OR OTHER) PREPARING THIS REPORT

Company Name:	**Agassiz Environmental Systems**
Street/Box:	**5637 Brooklyn Blvd. Suite 200 G**
City, Zip:	**Brooklyn Center, Minnesota 55429**
Telephone:	**(612) 531-8255**
Contact:	**John Landwehr**

Signature
Date:

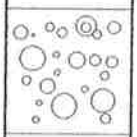
If additional investigation is not required at the site, please mail this form and all necessary attachments to:

Minnesota Pollution Control Agency
Hazardous Waste Division
Tanks and Spills Section
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

If additional investigation is required at this site, include this form as an appendix to the Remedial Investigation/Corrective Action Design report. Excavation reports indicating a remedial investigation (RI) is necessary will not be reviewed by the MPCA staff until the RI has been completed.

Appendix B
Geologic Logs

Soil Boring #: 1	Project: Freeway Property	Project #: 4085
Depth of Boring/Well: 40'	Water Level: 36'	Date: 10/2/94
Driller: Q.L.	Logged By: J.L.	Type of Meter: PID

Depth	PID Readin	Type/Number of Samples	Lithology	Remarks/Description
0				Backfill stones
1				
2	ND	SV-1a		Dark brown, coarse grain, moist Sand
3				
4				
5	ND	SV-1b		
6				
7	ND	SV-1c		
8				Brown/black, medium grain Sand
9				
10				
11	ND	SV-1d		
12				Light brown, medium grain, moist sand
13	ND	SV-1e		
14				
15				
16	ND	SV-1f		Light brown/white, fine grain, moist Sand
17				
18	ND	SV-1g		
19				
20	ND	SV-1h		

Soil Boring #: 1 Cont.	Project: Freeway Property	Project #: 4085
Depth of Boring/Well: 40'	Water Level: 36'	Date: 10/2/94
Driller: Q.L.	Logged By: J.L.	Type of Meter: PID

Depth	PID Readin	Type/N of Sam	Litholo	Remarks/Description
0				
21				Light brown, moist, fine Sand
22				
23	ND	SV-1i		
24				
25	ND	SV-1j		
26				
27				Brown, medium grain, moist Sand
28	ND	SV-1k		
29				
30	ND	SV-1l		
31				Dark brown, medium grain, moist sand
32				
33	ND	SV-1m		
34				
35				
36	ND	SV-1n		▼ GW.
37		SS-1a		Gray, medium grain, saturated Sand
38	ND	SV-1o		
39				
40	ND	SV-1p		EOB 40'

Soil Boring #: 2	Project: Freeway Property	Project #: 4085
Depth of Boring/Well: 40'	Water Level: 37'	Date: 10/2/94
Driller: Q.L.	Logged By: J.L.	Type of Meter: PID

Depth	PID Readin	Type/N of Samples	Lithology	Remarks/Description
0				3" asphalt/4" gravel
1				Black, moist Loam
2	ND	SV-2a		
3				
4				
5	ND	SV-2b		Dark Brown, medium grain, moist Sand
6				
7	ND	SV-2c		
8				
9				
10				
11	ND	SV-2d		
12				Light brown, medium grain, moist sand
13	ND	SV-2e		
14				
15				
16	ND	SV-2f		Light brown/white, fine grain, moist Sand
17				
18	ND	SV-2g		
19				
20	ND	SV-2h		

Soil Boring #: 2 Cont.	Project: Freeway Property	Project #: 4085
Depth of Boring/Well: 40'	Water Level: 37'	Date: 10/2/94
Driller: Q.L.	Logged By: J.L.	Type of Meter: PID

Depth	PID Readin	Type/N of Sam	Litholo	Remarks/Description
0				
21				White/brown, moist, fine Sand
22	ND	SV-2i		
23				
24				
25	ND	SV-hj		
26				
27				Brown, medium grain, moist Sand
28	ND	SV-2k		
29				
30				
31				
32	ND	SV-2l		
33				Dark brown, medium grain, very moist sand
34				
35	ND	SV-2m		
36				
37	ND	SV-1n SS-2a		▼
38				
39				Gray, medium grain, saturated Sand
40	ND	SV-2o		EOB 40'

Appendix C
Laboratory Reports

J. CLEVELAND ST.
P.O. BOX 349
CAMBRIDGE, MN 55008

MIDWEST ANALYTICAL SERVICES

MINNESOTA CERTIFIED LABORATORY
NUMBER 027-059-156

LAB (612) 689-2175
METRO (612) 444-9270
FAX (612) 689-3660

October 14, 1994

John Landwehr
Agassiz Environmental Systems, Inc.
Rt. 1 Box 119
Hancock, MN 56244

Project ID: MPS-Enterprise 4085
Chain of Custody: 8359
Date Sampled: 10-03-94
Date Received: 10-03-94
Date Analyzed: 10-10-94
Matrix: Soil
Sample Identification:

Lab ID:		
	94-07957	Tank Bottom 8.5' East End
	94-07958	Tank Bottom 8.5' West End

Samples were analyzed according to method DRO. The results are reported on the following page.

Sincerely,

Lon Jones 10/14

Lon Jones
Organic/Bio Group Leader

Parameter:	Benzene	Toluene	Ethyl Benzene	Xylenes	Total Hydrocarbons as DRO	Percent Moisture
Units	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(%)
Method Detection Limit	0.005	0.005	0.005	0.015	10.0	
Sample Number						
94-07957 East End	BDL	BDL	BDL	BDL	BDL*	5.2
94-07958 West End	BDL	BDL	BDL	BDL	917	15.6

BDL = Below Detection Limit
* = Peaks present in range but below detection limit.

MIDWEST ANALYTICAL SERVICES

330 SO. CLEVELAND ST.
P.O. BOX 349
CAMBRIDGE, MN 55008

CHAIN OF CUSTODY RECORD
AND
REQUEST FOR ANALYSIS
(Instructions on Back of Form)

8359

LAB (612) 689-
METRO (612) 444-
FAX (612) 689-3660

CLIENT: Agri 2 Environmental
PROJECT I.D.: ME-Enterprise 4085
REPORTS TO BE SENT TO:

SAMPLER NAME: John Ludwig
SAMPLER SIGNATURE: John Ludwig
REMARKS:

SHADED AREAS FOR LABORATORY USE ONLY

NO. OF CONTAINERS	COMP.	GRAB	DATE	TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX: OTHER	SAMPLE	SAMPLE NO.	LABORATORY I.D. NO.	GRO (Includes BTEX)	DRO	BTEX	VOC (465-D)	pH	Pb (Diss. or Total)	RCRA 8 METALS	BOD or CBOD	TSS	Fcol or Tcol	PRESERVATIVE: HCl	HNO3	H2SO4	ICE	OTHER
2		X	10-03	11:40		X		East End Tank Bottom		9407957		X	X												
2		X	10-03	11:57		X		West End Tank Bottom		7958		X	X												

Relinquished by: (Signature) — Date / Time: 10-3-94 5:27 — Received by: (Signature) — 348
Relinquished by: (Signature) — Date / Time — Received by: (Signature)

Relinquished by: (Signature) — Date / Time — Received by: (Signature)
Relinquished by: (Signature) — Date / Time — Received by: (Signature)

Relinquished by: (Sig — Date / Time — Received for Laboratory by: (Signature) — Date / Time: 10/3/94 4:15 — Cooler Temperature: — Comments:

CHECK HERE FOR DRINKING WATER DETECTION LIMITS ☐

TURNAROUND TIME REQUIRED:
☐ NORMAL ☐ RUSH
DATE REQUIRED:

330 SO. CLEVELAND ST.
P.O. BOX 349
CAMBRIDGE, MN 55008

MIDWEST ANALYTICAL SERVICES

MINNESOTA CERTIFIED LABORATORY
NUMBER 027-059-156

LAB (612) 689-2175
METRO (612) 444-9270
FAX (612) 689-3660

October 28, 1994

John Landwehr
Agassiz Environmental Systems, Inc.
5637 Brooklyn Blvd.
Suite 2006
Brooklyn Center, MN 55429

Project ID: MPS-Enterprise
Chain of Custody: 9943
Date Sampled: 10-12-94
Date Received: 10-14-94
Date Analyzed: 10-17-94
Matrix: Soil
Sample Identification:
Lab ID: 94-08465 SB#1 36'
94-08466 SB#2 37'

Samples were analyzed according to method DRO. The results are reported on the following page.

Sincerely,

Lon Jones 10/28

Lon Jones
Organic/Bio Group Leader

Parameter:	Benzene	Toluene	Ethyl Benzene	Xylenes	Total Hydrocarbons as DRO	Percent Moisture
Units	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(%)
Method						
Detection Limit	0.005	0.005	0.005	0.015	10.0	
Sample Number						
94-08465 SB#1	BDL	BDL	BDL	BDL	BDL*	19.6
94-08466 SB#2	BDL	BDL	BDL	BDL	BDL*	19.3

BDL = Below Detection Limit
* = Peaks present in range but below detection limit.

MIDWEST ANALYTICAL SERVICES

330 SO. CLEVELAND ST.
P.O. BOX 349
CAMBRIDGE, MN 55008

CHAIN OF CUSTODY RECORD
AND
REQUEST FOR ANALYSIS
(Instructions on Back of Form)

9943

LAB (612) 689-2175
METRO (612) 444-9270
FAX (612) 689-3660

10/12/94

CLIENT: Agassiz Environmental
SAMPLER NAME: Chuck Grossman
PROJECT I.D.: MPS - Enterprise
SAMPLER SIGNATURE: C Grossman
REPORTS TO BE SENT TO:
REMARKS: # 4085

SHADED AREAS FOR LABORATORY USE ONLY

NO. OF CONTAINERS	COMP.	GRAB	DATE	TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX: OTHER	SAMPLE	SAMPLE NO.	LABORATORY I.D. NO.	GRO (Includes BTEX)	DRO	BTEX	VOC (465-D)	pH	Pb (Diss. or Total)	RCRA 8 METALS	BOD or CBOD	TSS	Fcol or Tcol							PRESERVATIVE: HCl	HNO3	H2SO4	ICE	OTHER
2		X	10/12			X		SB #1 3½'	1a	94-08465		X	X																		
2		X	10/12			X		SB #2 3'	2a	94-08466		X	X																		

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
C Grossman	10-14-94 7:57	A. Kirkpatrick			
	10/14 7:59				

CHECK HERE FOR DRINKING WATER DETECTION LIMITS ☐

TURNAROUND TIME REQUIRED:
☐ NORMAL ☐ RUSH
DATE REQUIRED:

Received for Laboratory by: (Signature) — Date / Time: 10/14/94 10:00 — °C Temperature: — Comments:

Appendix D
Field Data, Descriptions and Calculations

Richard [illegible]
1201 Clover Dr.
Bloomington, MN. 55420
884-5001
Betty Malloch

Mark (Daly office) 10/4 8:00 am

NATIVE SOIL LOG
AGASSIZ ENVIRONMENTAL

Project: MPS - Enterprise Logged By: Josh

Project # 4085 Date: 10-03-94

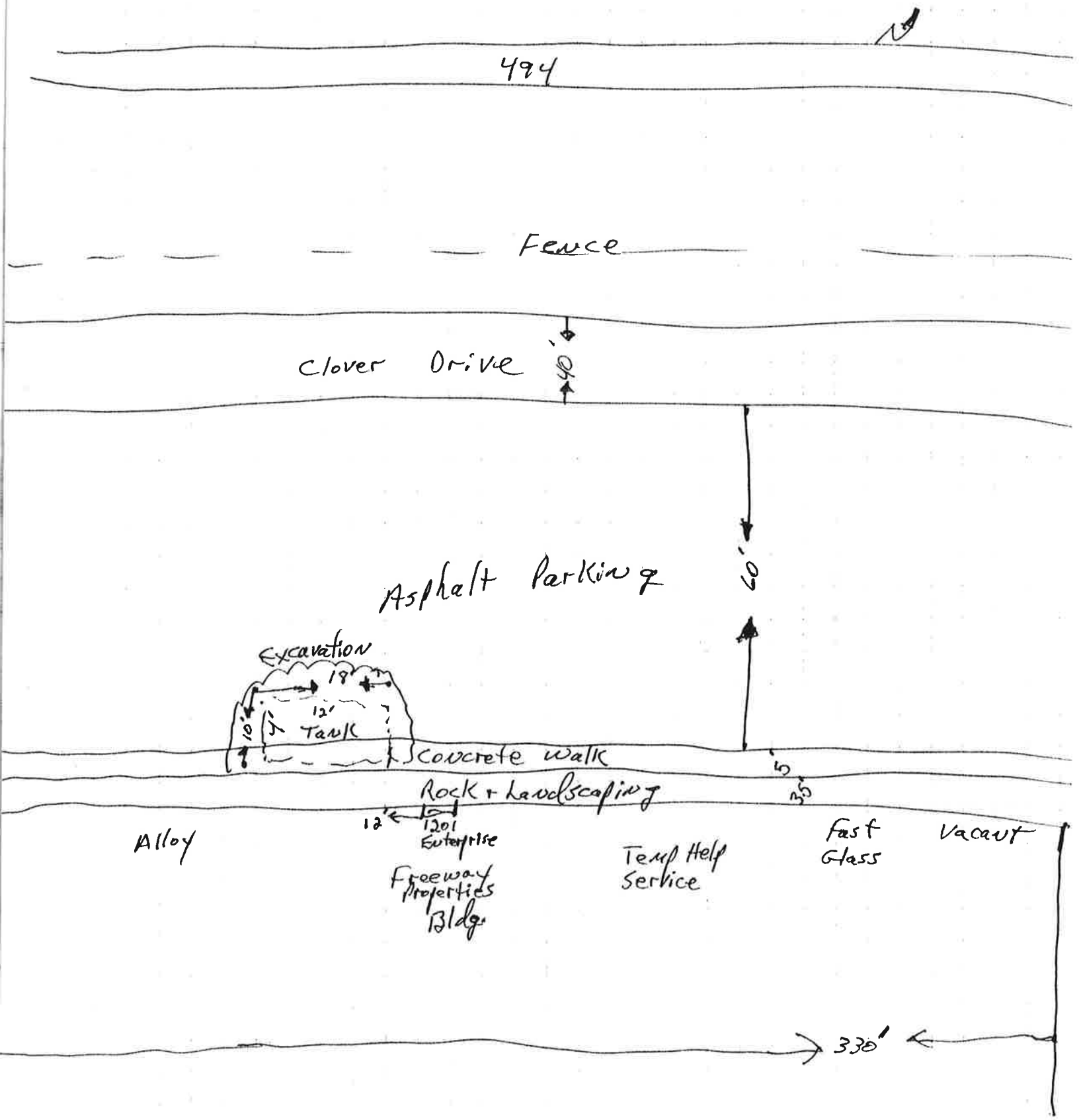
Depth	Remarks/Description
0	Asphalt Gravel
1	Fine / Med Sand
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

TABLE 1

SUMMARY OF PHOTO-IONIZATION ANALYSIS

SITE: MPS - Enterprise
PROJECT # 4085
DATE: 10-03-94

Vapor #	Depth	Readings	Location
1	2'	N/D	Tank Center
2	4'	N/D	North Sidewall
3	5'	N/D	East Sidewall
4	5'	N/D	West Sidewall
5	8.5'	29.2	East Bottom 8.5'
6	8.5'	96	West Bottom 8.5'


494
Fence
Clover Drive
40'
Asphalt Parking
60'
Excavation
18'
12'
10'
Tank
Concrete Walk
Rock + Landscaping
35'
12'
1201 Enterprise
Alley
Freeway Properties Bldg.
Temp Help Service
Fast Glass
Vacant
330'

SOIL BORING/MONITOR WELL LOG

AGASSIZ ENVIRONMENTAL

Page 1

Soil Boring#: 1 Project: MPS Enterprise Project #: 4085

Depth of Boring: 40' Water Level: 36' Date: 10/12/94

Driller: John Logged By: John Type of Drill Rig: PID

Depth	Reading	Soil Samples	Vapor Samples	Remarks/Description--
-0-		(DRO/BTEX)		Backfill stones 1/2-1"
-1-				
-2-	ND		Sv-1g	
-3-				dark brown coarse grain SAND
-4-				moist
-5-	ND		Sv-1h	
-6-				
-7-	ND		Sv-1c	brown/black medium grain SAND
-8-				
-9-				
-10-				
-11-	ND		Sv-1d	Light brown med grain moist
-12-				SAND
-13-	ND		Sv-1e	
-14-				
-15-				
-16-	ND		Sv-1f	Light brown/whitish fine grain
-17-				moist SAND
-18-	ND		Sv-1g	
-19-				
-20-	ND		Sv-1h	

LOCATION: 21 27 33 39

NOTES: TANK Basin - Next Page

SOIL BORING/MONITOR WELL LOG

AGASSIZ ENVIRONMENTAL

2nd page

Soil Boring#: 1 Project: MPS Enterprise Project #: 4085

Depth of Boring: 40' Water Level: 36' Date: 10/12/94

Driller: John Logged By: John Type of Drill Rig: PID

Depth	Reading	Soil Samples	Vapor Samples	Remarks/Description--
20-				Light brown moist SAND - (fine
21-				(streaks of dark brown SAND)
22-				
23-	ND		Sv-1i	
24-				
25-	ND		Sv-1j	
26-				brown med. grain moist SAND
27-				
28-	ND		Sv-1K	
29-				
30-	ND		Sv-1L	
31-				Darker brown med. grain moist
32-				SAND -
33-	ND		Sv-1M	(with small stones)
34-				
35-				
36-	ND	(Sv-1a)	Sv-1N	*Water
37-				gray med grain saturated
38-	ND		Sv-1O	SAND
39-				
40-	ND		Sv-1P	EOB

LOCATION:

NOTES:

AGE: _____

Summary:

Send Copy of Report to City of Bloom.

Fine Sand

½" Hole in Tank

Basin adjesent To Bldg. – Basin Immediately North

Due to caving only (2) Samples were

taken – (1) East + (1) West on Bottom

PRODUCT HISTORY:_____
QUANITY OF RELEASE:_____
CAUSE OF RELEASE:_____

_____

(tank #3)
CAPACITY AND SIZE:_____
TYPE:_____
AGE:_____
CONDITION:_____

_____

PRODUCT HISTORY:_____
QUANITY OF RELEASE:_____
CAUSE OF RELEASE:_____

_____

(tank #4)
CAPACITY AND SIZE:_____
TYPE:_____
AGE:_____
CONDITION:_____

_____

PRODUCT HISTORY:_____
QUANITY OF RELEASE:_____
CAUSE OF RELEASE:_____

_____

EXISTING TANKS
OF TANKS: None
CAPACITY AND SIZE:_____

_____

CONTENTS:_____

_____

TYPE:_____

EXCAVATION:

DIMENSION OF EXCAVATION: 18' X 10'

TANK BACKFILL: Native Soil

NATIVE SOIL: Med / Fine Sand

QUANITY OF CONTAMINATED SOIL: unknown

ACTION FOR CONTAMINATED SOIL:

GROUND WATER ENCOUNTERED: None

DEPTH:

G.W.CONTMINATION:

BEDROCK ENCOUNTERED: None

UNIQUE CONDITIONS: Bldg ~~Road~~ Immediately to south

SUMMARY OF SITE: Asphalt Cover

PREVIOUS WORK FROM:

CONSULTANT OR CONTRACTOR: None

NAME:

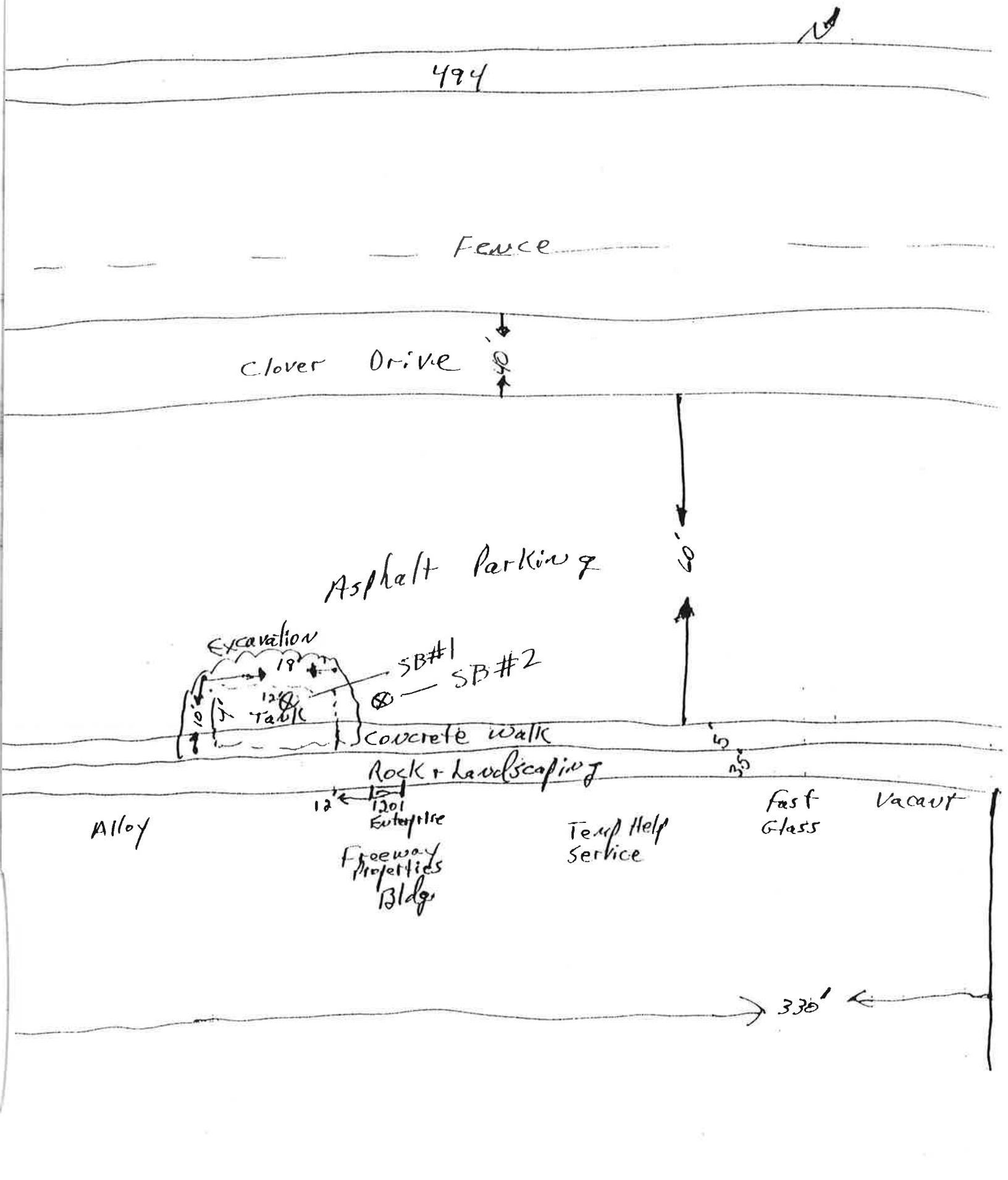
ADDRESS:

PHONE:

DESCRIPTION OF WORK PERFORMED:

SB#1 - Middle of Fault Basin

SB#2 - 20' East of #1 - outside basin



EXCAVATION REPORT FORM

CONTRACTOR: Petro Tank
CERTIFICATION # (COMPANY & INDIVIDUAL)
Garth
ADDRESS: ~~1201 Clover Dr~~
PHONE:
MPCA LEAK#: WHO REPORTED:
P.M. DATE & TIME REPORTED:

SITE ADDRESS: Same
OTHERS ON SITE:

TANK INFORMATION:

(tank #1)
CAPACITY AND SIZE: 12'X4' 1000 gallon
TYPE: Bare Steel
AGE: Greater Than 16 years
CONDITION: Poor (1) Hole 1/2" - Very Corroded

PRODUCT HISTORY: #2 Heating Oil
QUANITY OF RELEASE: unknown
CAUSE OF RELEASE: Hole in Both of tank

(tank #2)
CAPACITY AND SIZE:
TYPE:
AGE:
CONDITION: