OIL & HAZARDOUS MATERIAL SITE EVALUATION FLINT-EXCHANGE SITE ROCHESTER, NEW YORK

by

H&A of New York
Rochester, New York

for

Rochester City School District
Rochester, New York

File No. 70082-40

August 1989

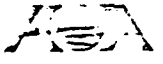
EXECUTIVE SUMMARY

This investigation is a preliminary evaluation of the potential for oil and hazardous material to exist on the subject property, and potential site construction considerations (foundation types and disposal of site materials) so as to assist RCSD in evaluating the potential liability associated with ownership, financing and development of a school on the property. The site consists of an area generally bounded by the Genesee River, Violetta St., Exchange St., Fenwick St., Plymouth Ave., and Flint St. in Rochester, New York. The investigation consisted of a review of readily available information in public files; interviews with individuals familiar with the site use and history; limited subsurface exploration on the site consisting of 28 soil vapor sampling locations and 3 test borings; limited analyses of site soils; and visual observation of readily apparent surface and environmental conditions. Based on a review of this information, H&A has the following conclusions and recommendations:

- The Vacuum Oil Company was located on most of the site from 1866 to 1936. Vacuum Oil performed distillation of unrefined oil to produce petroleum products and derivatives. Available site historical information indicates the site was also used for the storage (in above ground tanks) and disposal of these products. Since 1936 the site has been used for warehouse, manufacturing and tool and die operations. Several underground storage tanks are reported to exist on the site; the locations and/or condition of the tanks could not be determined from available records.

- Twenty-eight soil vapor samples were analyzed and three test boring explorations completed on the site. Each of the borings was located within the former Genesee Valley Canal. The borings were terminated at the apparent top of bedrock, approximately 11-13 feet below the ground surface. Fill materials encountered in the borings generally consisted of sand, cinders, brick and concrete.

- Laboratory analyses for volatiles, semi-volatiles, priority pollutant metals, petroleum hydrocarbons and hazardous waste characteristics were conducted on site soils. A fill sample which had a petroleum odor was analyzed for volatile organics and petroleum hydrocarbons. No petroleum hydrocarbon compounds or volatile organic compounds were detected above the laboratory detection limits (0.0003



parts per million or less). A composite soil sample from site borings was analyzed for semi-volatile organic compounds. Ten compounds were possibly present at the detection limit (0.00033 ppm) but could not be quantified. The compounds detected are common by-products of fossil fuel combustion and, where criteria have been established, sample concentrations fall below published USEPA Health Based Criteria for residues in soil. A composite of surficial soils was submitted for analysis for priority pollutant metals because of the higher likelihood of human contact with shallow soils. Each metal concentration detected in the sample fell below the reported average for metal compounds naturally present in soils. Analysis for hazardous waste characteristics (EP Toxicity, Reactivity, Corrosivity, Ignitability) was also performed on a shallow soil sample. The sample was not hazardous based on these characteristics.

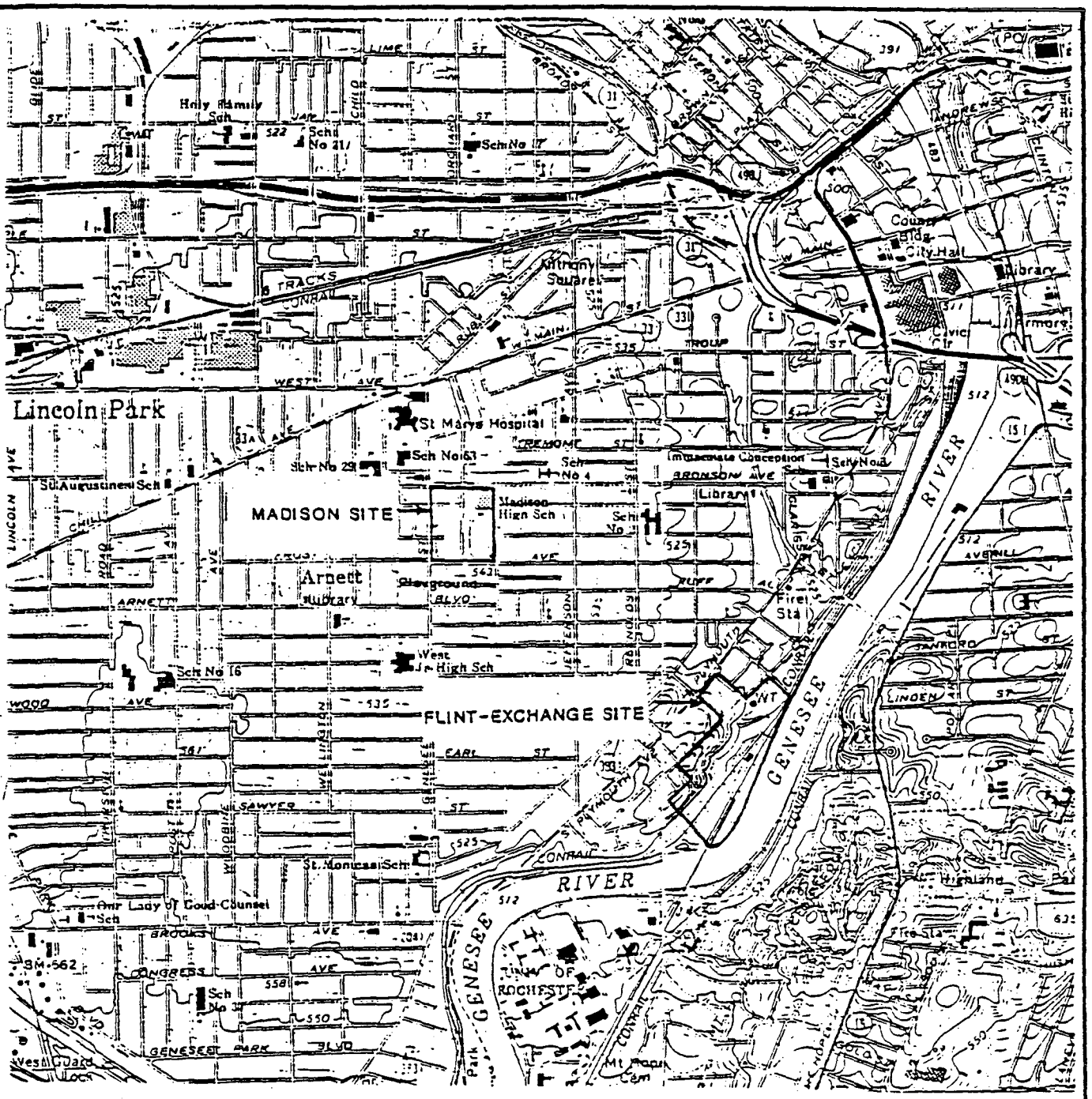
- Loose fill was encountered in all three site borings up to a depth of 11± ft. below ground surface and approximately 1 to 2± ft. above the apparent top of bedrock. Depending on the building configuration considered for the site, recommended foundation types appropriate for this site may include drilled-in piers with slab-on-grade floors or spread footings. These may require partial or total removal of site fill. Relatively high groundwater conditions were also encountered which should be considered if a basement is contemplated.

- Removal of site fill may require one or more types of special handling. Cinder fill from the Genesee Valley Canal area is classified as a solid waste and would likely require disposal at a sanitary landfill. If site soils are found to contain petroleum products or derivatives (from Vacuum Oil operations) they may require disposal as a hazardous waste (if reactive, ignitable, corrosive, EP toxic, or containing a listed organic substance), or a special waste (if found to contain a petroleum product but not exhibit hazardous characteristics). Hazardous waste would have to be disposed at a NYSDEC permitted hazardous waste treatment storage and disposal facility; petroleum stained soils could be landfilled at a NYSDEC permitted sanitary landfill.

- The walkover and subsurface investigations were limited to the city owned, vacant portion of the site from the end of Flint and Violetta Streets to the Genesee River. The remainder of the site is privately owned warehouse,

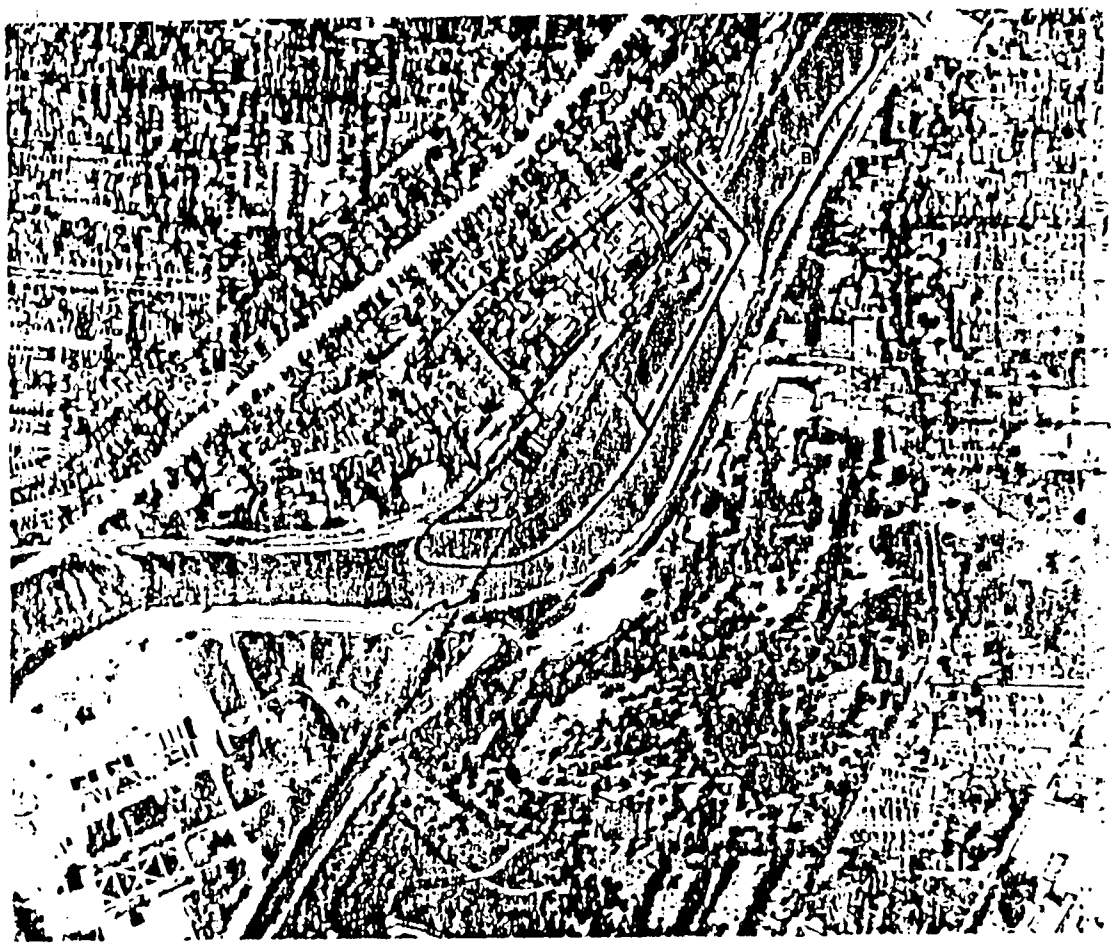
industrial and manufacturing properties where many of the Vacuum Oil Company tanks and buildings formerly were located. Neither a walkover nor subsurface investigations were performed on the portion of the site where the highest potential for oil or hazardous materials appears to be present. Vacuum Oil operations and subsequent permitted underground storage tanks are or were on the portions of the site H&A personnel were unable to view. A thorough walkover and additional subsurface investigations (test borings and soil vapor sample locations) should be conducted on the remainder of the site with particular emphasis on the portion of the site considered for the school building location.

In summary, based on the scope of work performed, and our conclusions and recommendations described above, the property evaluated appears to be capable of undergoing re-development provided that prior to development evaluation of and accommodations for the fill material and soils potentially containing petroleum derivatives are made. Of the compounds detected on site (volatile organics, semi-volatile organics and metals), none appear to be present in concentrations above USEPA Health Based Criteria or levels naturally expected to occur in soil at the limited locations sampled. However, the potential for hazardous materials to be present in areas not explored during this investigation appears to be high based on past and present site land use.



FILE NO. 70082-40

FIGURE 1



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LEGEND:

A — VACUUM OIL COMPANY (NOTE STORAGE TANKS AND APPARENT ELEVATED PIPELINE/BARREL CONVEYOR)

B GENESEE RIVER

C RAILROAD BRIDGE

D -- APPROXIMATE SITE BOUNDARY

NOTES:

1. AIR PHOTO SUPPLIED BY MONROE COUNTY ENVIRONMENTAL MANAGEMENT COUNCIL, ROCHESTER, NEW YORK.
2. AIR PHOTO TAKEN IN 1930.
3. ALL SITE BOUNDARIES AND SITE FEATURE LOCATIONS APPROXIMATE.
4. SEE ACCOMPANYING REPORT FOR ADDITIONAL INFORMATION.

0 500 1000

SCALE IN FEET

H & A of New York

FLINT-EXCHANGE SITE
ROCHESTER, NEW YORK

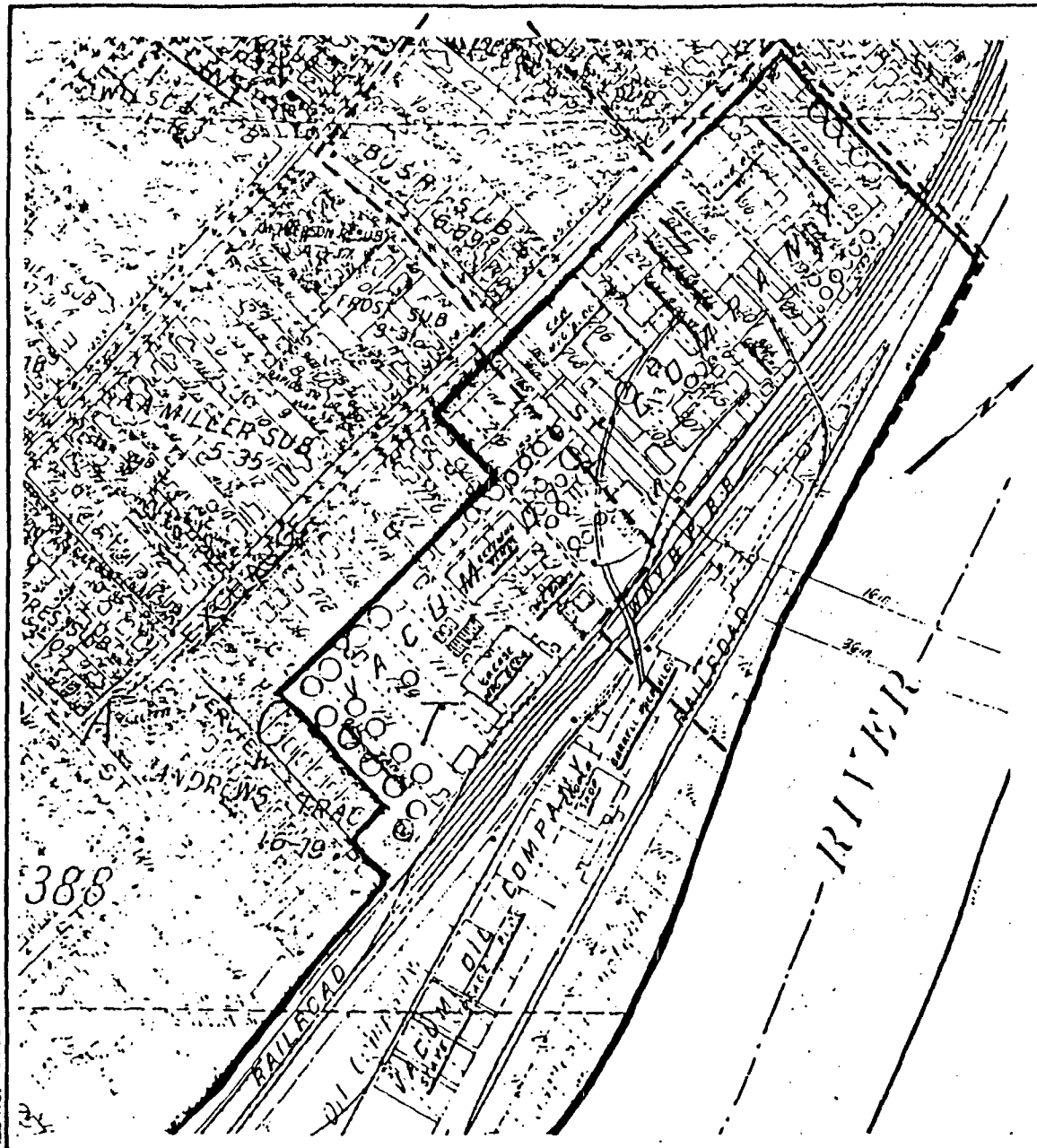
1930 SITE AERIAL PHOTOGRAPH

SCALE AS SHOWN JULY 1989

FILE NO. 70062-40

CHARLETTE

FIGURE 2



LEGEND:

——— APPROXIMATE BOUNDARY OF VACUUM OIL COMPANY

– – – APPROXIMATE BOUNDARY OF PROPOSED SITE

O ABOVE GROUND STORAGE TANKS

NOTES:

1. BASE PLAN FROM G.M. HOPKINS 1926 PLAT BOOK.
2. ALL SITE LOCATIONS APPROXIMATE.
3. SEE ACCOMPANYING TEXT FOR ADDITIONAL INFORMATION.

0 50 100 200

SCALE IN FEET

H&A of New York

FLINT-EXCHANGE SITE
ROCHESTER, NEW YORK

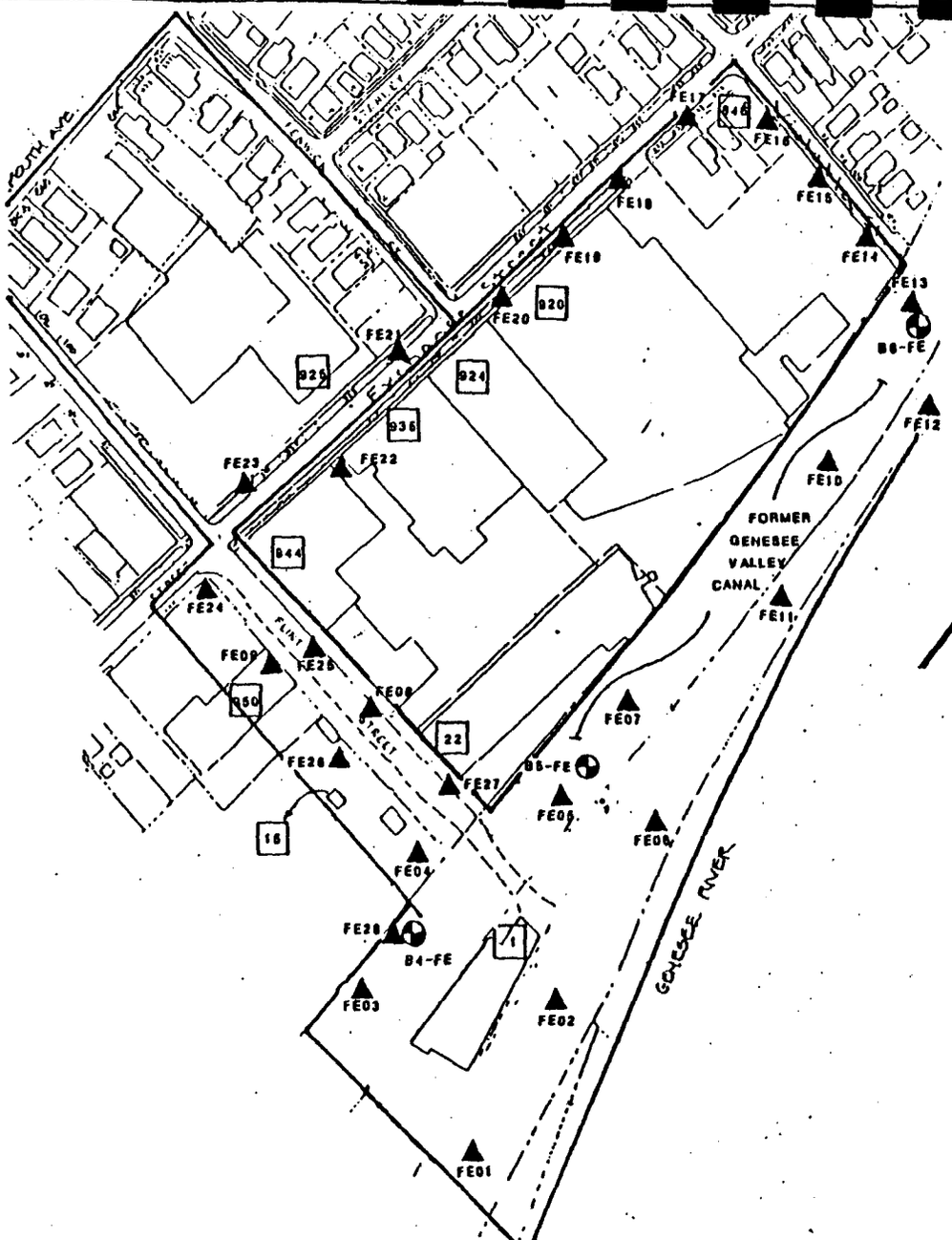
**1926 SITE PLAN-
VACUUM OIL COMPANY**

SCALE AS SHOWN JULY 1988

FILE NO. 70082-40

CHANNETTE

FIGURE 3



LEGEND:

- APPROXIMATE SITE BOUNDARY
- 920 SITE ADDRESS
- FE08 LOCATION AND NUMBER OF SOIL VAPOR SAMPLE POINT
- B6-FE APPROXIMATE LOCATION AND NUMBER OF TEST BORING EXPLORATION
- EXISTING STRUCTURE

NOTES:

1. BASE PLAN FROM 1986 PROVIDED BY CITY OF ROCHESTER, DEPARTMENT OF PLANNING.
2. ALL SITE LOCATIONS APPROXIMATE.
3. SOIL VAPOR SAMPLING PERFORMED BY H&A OF NEW YORK PERSONNEL BETWEEN 24 MAY AND 12 JUNE 1989 USING A PHOTOVAC 10S50 PORTABLE GAS CHROMATOGRAPH. SEE TABLE II FOR RESULTS.
4. TEST BORINGS PERFORMED BY ROCHESTER DRILLING CO., INC. ON 7 AND 8 JUNE 1989. SEE FIGURE 4 FOR BORING INFORMATION SUMMARY.
5. SITE AND ADJACENT PROPERTIES ARE LISTED BY ADDRESS ON TABLE I.
6. SEE ACCOMPANYING TEXT FOR ADDITIONAL INFORMATION.

0 50 100 200

SCALE IN FEET

H&A of New York

FLINT-EXCHANGE SITE

ROCHESTER, NEW YORK

SITE PLAN

SCALE AS SHOWN JULY 1989

FILE NO. 70052-40

CHARRETTE

FIGURE 4

TABLE I
SITE USAGE
FLINT-EXCHANGE SITE
ROCHESTER, NEW YORK

ADDRESS	YEAR	NAME	USAGE (POSSIBLE/DOCUMENTED O&HM USAGE)
932-948 EXCHANGE	1945-1947?	GENESEE BREWING	INDUSTRIAL ALCOHOL (BULK STORAGE OF 10,000 GAL. ALCOHOL FOR DISTILLING USE, FIRE MARSHAL)
" "	1950	RG&E WAREHOUSE	
		BACUM CORP.	WAREHOUSE
		CHAMBERLAIN CO.	WEATHER STRIPPING
		GENESEE TILE	WAREHOUSE
		STROMBERG/CARLSON	
		ROCHESTER CONVEYOR	
		MACHINE MFG.	MANUFACTURING
		ROCHESTER DISTILLING	PETROLEUM DISTILLING (POSSIBLE PETROLEUM PRODUCT STORAGE)
" "	1960	WEATHER MASTER	WEATHER STRIPPING
		ONTARIO LIQUOR	DISTRIBUTOR
		ALLISON CORP.	FURNITURE WHOLESALE
" "	1969-1983	KOLKO PAPER	(2000 GAL. GAS, FIRE MARSHAL)
" "	1970	KOLKO PAPER	
		ROCH. MUNICIPAL	WAREHOUSE
		ALLISON CORP.	FURNITURE WHOLESALE
" "	1978	KOLKO PAPER	1000 GAL. GAS REMOVED, (FIRE MARSHAL) FURNITURE WAREHOUSE
		ALLISON CORP.	
" "	1983	KOLKO PAPER	
		VACANT	
" "	1985	KOLKO PAPER	(2000 GAL. GAS REMOVED, FIRE MARSHAL)
" "	1989	H.P. NEUN	
		KOLKO PAPER	
		ALLISON CORP.	FURNITURE WAREHOUSE
950 EXCHANGE	1950	LUCAS SCREW	SCREW PRODUCTS (POSSIBLE OILS AND METAL CLEANING SOLVENTS)
" "	1960-1970	ONTARIO MACH.	TOOL & DIE (POSSIBLE OILS AND METAL CLEANING SOLVENTS)
" "	1978-1989	XL TOOL & DIE	(POSSIBLE OILS AND METAL CLEANING SOLVENTS)

FILE NO 70082-40

TABLE I
SITE USAGE
FLINT-EXCHANGE SITE
ROCHESTER, NEW YORK

ADDRESS	YEAR	NAME	USAGE (POSSIBLE/DOCUMENTED O&HM USAGE)
925 EXCHANGE	1960	TALLMAN TOOL AND MACHINE	MANUFACTURER (POSSIBLE SOLVENTS AND OILS)
" "	1970	WOODHILL PRODUCTS	
" "	1978	PRECISION PRODUCTS	
" "	1983	NATIONWIDE PRECISION PRODUCTS	
" "	1989	CANFIELD & TACK	
926 EXCHANGE	1936	VACUUM OIL ROCHESTER DISTILLING	PETROLEUM DISTILLATE PRODUCTS
" "	1950	GENERAL SOLVENTS	(POSSIBLE SOLVENT STORAGE)

TABLE I
SITE USAGE
FLINT-EXCHANGE SITE
ROCHESTER, NEW YORK

ADDRESS	YEAR	NAME	USAGE (POSSIBLE/DOCUMENTED O&HM USAGE)
846 EXCHANGE	1960-1989	ROCHESTER SANITARY PRODUCTS	DISINFECTANT SALES/DISTRIBUTION
920 EXCHANGE	1960-1970	SEARS	SERVICE CENTER
" "	1971	BEVACO FOOD	FREEZER/WAREHOUSE (1000 GAL., 2000 GAL AND 3000 GAL. GAS TANKS, FIRE MARSHAL)
" "	1978	EGAN FOOD	FREEZER/WAREHOUSE
" "	1979	NORTH ATLANTIC FISHERIES	(2000 GAL. GAS TANK REMOVED, FIRE MARSHAL)
" "	1983	BEVACO FOOD	FREEZER/WAREHOUSE
" "	1986	EGAN FOOD	(3000 GAL. GAS TANK, FIRE MARSHAL)
		NORTH ATLANTIC FISHERIES	(2 FUEL OIL TANKS FILLED WITH CONCRETE, FIRE MARSHAL)
" "	1989	NORTH ATLANTIC FISHERIES BUDGET BALANCER FOOD CLUB	FREEZER/WAREHOUSE (GAS PUMP OBSERVED)
924 EXCHANGE	1950-1970	SEARS	WHOLESALE, REPAIRS (POSSIBLE OILS AND SOLVENTS)
" "	1971	EGAN FOOD	(3000 GAL. GAS TANK, FIRE MARSHAL)
" "	1978	SPECIALIZED	WAREHOUSE
" "	1983	VACANT	

TABLE I
SITE USAGE
FLINT-EXCHANGE SITE
ROCHESTER, NEW YORK

ADDRESS	YEAR	NAME	USAGE (POSSIBLE/DOCUMENTED O&HM USAGE)
22 FLINT STREET	1950	SCHWARTZ	ELECTRICAL EQUIPMENT (POSSIBLE METAL CLEANING SOLVENTS OR PCBS)
" "	1960	MILLS TALBOT	ELECTRICAL EQUIPMENT (POSSIBLE METAL CLEANING SOLVENTS OR PCBS)
" "	1960-1967	?	(1000 GAL. GAS TANK, FIRE MARSHAL)
" "	1970	EAT CORP.	WAREHOUSE
" "	1974	?	(MAINTAIN 1000 GAL. GAS TANK, FIRE MARSHAL)
" "	1978	SPECIALIZED	WAREHOUSE
" "	1983	NIBLACK	FOOD WAREHOUSE
" "	1983	NIBLACK	BULK FOODS
		TADCO CORN HILL EX. PRINTER'S WRHSE UPSTATE TRADING	WAREHOUSE (POSSIBLE INKS, SOLVENTS)

FILE NO 70082-40

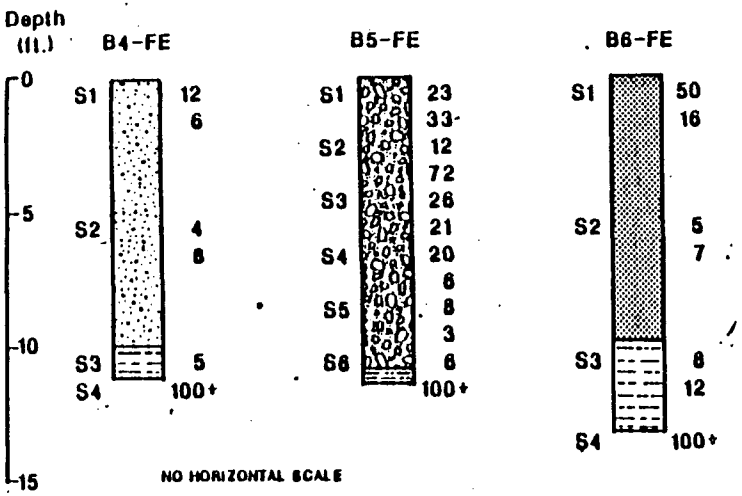
TABLE I
SITE USAGE
FLINT-EXCHANGE SITE
ROCHESTER, NEW YORK

ADDRESS	YEAR	NAME	USAGE (POSSIBLE/DOCUMENTED O&HM USAGE)
AREA BOUND BY GENESEE RIVER, VIOLETTA, EXCHANGE AND FLINT STREETS	1866-1936	VACUUM OIL CO.	PETROLEUM DISTILLING PLANT (PRODUCTS INCLUDED NAPTHA, KEROSENE AND OILS; NEWS ACCOUNTS REFER TO DISPOSAL OF PROCESS WASTES BY DUMPING INTO THE GENESEE VALLEY CANAL, GENESEE RIVER, AND BY LAND BURIAL
1 FLINT STREET	1950	VACUUM OIL CO.	VACANT BARREL BUILDING
" "	1960	DANNEMILLER	COFFEE WAREHOUSE
" "	1970	FASCO	WAREHOUSE
" "	1978	VACANT	VACANT WAREHOUSE
" "	1983	KNEPPAR METAL	METAL BUYERS
" "	1989	KNEPPAR	LICENSED HAZARDOUS WASTE TRANSPORTER
15 FLINT STREET	1950	ROCHESTER SCRAP BAILING CO.	METAL DEALERS
" "	1960	" " "	
" "	1946-1961?	"	METAL DEALERS (1000 GAL. GAS TANK, FIRE MARSHAL)
" "	1970	VACANT	VACANT
" "	1978-1989	FLINT AUTO WRECKERS	AUTO JUNKYARD (POSSIBLE PETROLEUM PRODUCT STORAGE)

TABLE II
SOIL VAPOR SURVEY RESULTS
FLINT-EXCHANGE SITE
ROCHESTER CITY SCHOOL DISTRICT

Sample	Date	Depth (ft.)	HEX	BNZ	TOL	EBZ	M-XYL	O-XYL	Unknowns**	Total Detected
Probe Blank	6-7-89	--	--	--	--	--	--	--	--	--
FE01		3.25	--	--	--	--	--	--	0.077	0.077
FE02		3.25	--	--	--	--	--	--	0.159*	0.159
FE02D		3.25	--	--	--	--	--	--	0.145*	0.145
FE03		3.25	--	--	--	--	--	.049	0.625	0.674
FE03D		3.25	--	--	--	--	--	.062	0.861	0.923
FE04		3.25	--	--	--	--	--	--	TR	0.012
FE05		3.25	--	--	--	--	--	--	TR	0.019
FE06		3.25	--	--	--	--	--	--	0.040	0.040
FE07		3.25	--	--	--	--	--	--	0.033	0.033
FE08		3.25	--	--	--	--	--	--	TR	0.027
FE09		3.25	--	--	--	--	--	--	0.030	0.030
Probe Blank	6-8-89	--	--	--	--	--	--	--	0.040	0.040
Probe Blank		--	--	--	--	--	--	--	TR	0.015
FE10		3.25	--	--	--	--	--	--	0.060*	0.060
FE11		3.25	--	--	TR	--	--	--	0.179*	0.193
FE11D		3.25	--	--	TR	--	--	--	0.190*	0.204
FE12		3.25	--	--	--	--	--	--	0.057*	0.057
Carrier Gas	6-12-89	--	--	--	--	--	--	--	--	--
Probe Blank		--	--	--	--	--	--	--	--	--
FE13		3.25	--	--	--	--	--	--	0.143*	0.143
FE14		3.25	--	--	--	--	--	--	TR	0.014
FE15		3.25	--	--	--	--	--	--	0.036	0.036
FE16		3.25	--	--	--	--	--	--	0.034	0.034
FE17		3.25	--	--	--	--	--	--	TR	0.018
FE17D		3.25	--	--	--	--	--	--	TR	0.019
FE18		3.25	--	--	--	--	--	--	TR	0.020
FE19		3.25	--	--	--	--	--	--	0.042	0.042
FE20		3.25	--	--	--	--	--	--	0.054	0.054
Probe Blank	6-13-89	--	--	--	--	--	--	--	TR	0.012
FE21		3.25	--	--	--	--	--	--	TR	0.012
FE22		3.25	--	--	--	--	--	--	--	--
FE23		3.25	--	--	--	--	--	--	--	--
FE24		3.25	--	--	--	--	--	--	--	--
FE25		3.25	--	--	--	--	--	--	0.034	0.034
FE26		3.25	--	--	--	--	--	--	0.051	0.051
FE27		3.25	--	--	--	--	--	--	TR	0.015
FE28		3.25	--	--	--	--	--	--	TR	0.022

Notes:
1. All concentrations listed in parts per million (ppm).
2. Compound Abbreviations:
   HEX = hexane TOL = toluene M-XYL = m-xylene
   BNZ = benzene EBZ = ethyl benzene O-XYL = o-xylene
3. ** Unknown volatile compounds quantified as sum of unidentified peak areas compared to the signal response of toluene.
4. * Possible presence of methane.
5. TR Trace (concentration between 0.01 and 0.03 ppm).
   -- Not detected (concentrations less than 0.01 ppm).
6. D Duplicate Sample.
7. See Figure 2, Site and Subsurface Exploration Plan, for sample locations.
8. Soil vapor sampling performed by H&A of New York personnel between 7 and 13 June 1989 using a Photovac 10S50 Portable Gas Chromatograph.
9. See accompanying text for additional information.



NOTES:

1. SUBSURFACE CONDITIONS DEPICTED IN THE BORING REPRESENTATIONS ABOVE:
   - SANDY FILL
   - FLUVIAL SILT
   - CINDER, SAND & GRAVEL FILL
   - SILT, SAND & GRAVEL FILL
2. EACH TWO FOOT SPLIT-SPOON SAMPLE IS INDICATED BY THE LETTER "S" FOLLOWED BY THE SAMPLE NUMBER, SHOWN TO THE LEFT OF EACH BORING REPRESENTATION ABOVE.
3. THE NUMBERS TO THE RIGHT OF EACH BORING REPRESENTATION ARE THE STANDARD PENETRATION RESISTANCE, THE NUMBER OF BLOWS NEEDED TO ADVANCE THE STANDARD SPLIT SPOON SAMPLER 1.0 FT. INTO UNDISTURBED SOIL WITH A 140-LB. WEIGHT FALLING FREELY FOR 30 INCHES.
4. SEE ACCOMPANYING REPORT FOR ADDITIONAL INFORMATION AND TEST BORING REPORTS.

SAMPLE NAME	SAMPLE COMPOSITION	ANALYSES CONDUCTED	ANALYTICAL RESULTS (COMPARISON VALUES)
FEMET	B4-FE, S1 B2-H, S1 B3-H, S1	Priority Pollutant Metals	Arsenic 0.0095 (5.0) Cadmium 0.0007 (0.06) Chromium 0.011 (0.4) Copper 0.029 (20.0) Lead 0.3 (10.0) Mercury 0.00024 (0.03) Nickel 0.011 (2.0) Zinc 0.11 (50.0)
B4-S3	B4-FE, S3	Volatile Organic Compounds	Methylene Chloride ≤0.0003 (93.0) Toluene ≤0.0007 (20.0)
B4-S3	B4-FE, S3	Petroleum Hydrocarbons	None detected
FEXABN	B4-FE, S1 B4-FE, S2 B5-FE, S2 B6-FE, S2	Semi-Volatile Organic Compounds	Acenaphthene ≤0.0003 Anthracene ≤0.0003 Benzo(A)arthracene ≤0.0003 (0.224) Benzo(A)pyrene ≤0.0003 (0.0609) Benzo(B)fluoranthene ≤0.0003 Chrysene ≤0.0003 Fluoranthene ≤0.0003 Fluorene ≤0.0003 Phenanthrene ≤0.0003 Pyrene ≤0.0003
FEXABN	B4-FE, S1 B4-FE, S2 B5-FE, S2 B6-FE, S2	Hazardous Waste Characteristics	Extractible Barium 0.16 (100.0) Extractable Cadmium 0.011 (1.0) Extractable Lead 0.16 (5.0)

Notes:

1. All concentrations above in parts per million (ppm). Note, most concentrations in lab report, Appendix B, are in parts per billion (ppb).
2. NA Comparison value not available.
3. See References at end of report text for comparison criteria sources.

H & A of New York

FLINT-EXCHANGE SITE
ROCHESTER, NEW YORK

SUMMARY OF SUBSURFACE CONDITIONS AND LABORATORY ANALYTICAL RESULTS

SCALE AS SHOWN JULY 1988

FILE NO. 70082-40

CHARRETTE

TABLE III

APPENDIX A

Test Boring Reports

H&A OF NEW YORK, ROCHESTER, NEW YORK Consulting Geotechnical Engineers, Geologists and Hydrogeologists	TEST BORING REPORT	BORING NO. B4-FE

PROJECT:	FLINT-EXCHANGE SITE	FILE NO. 70082-40
CLIENT:	ROCHESTER CITY SCHOOL DISTRICT	SHEET NO. 1 OF 1
CONTRACTOR:	ROCHESTER DRILLING CO., INC.	LOCATION: See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	AUGER	SS	---
INSIDE DIAMETER (IN)	4-1/4	1-3/8	---
HAMMER WEIGHT (LB)	---	140	---
HAMMER FALL (IN)	---	30	---

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME 75, Truck-Mounted
BIT TYPE: ---
DRILL MUD: ---
OTHER: Advanced augers to 11.1 ft.

ELEVATION: ---
DATUM: ---
START: 8 June 1989
FINISH: 8 June 1989
DRILLER: T. Smith
H&A REP: W. Lanik

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
0		7 5 3 3	S1 4"/24"	0.0 2.0		Loose light brown coarse to fine SAND, little fine gravel with asphalt fragments. -FILL-
5		2 2 3 5	S2 8"/24"	5.0 7.0		Loose dark brown to black coarse to medium SAND, trace fine gravel, with brick fragments, wet. Slight petroleum odor.
10		2 3 100/0.1	S3 13"/13"	10.0 11.1	10.0 11.1	Loose dark gray fine sandy SILT, little gravel, trace clay. Slight petroleum odor. -FLUVIAL-
		100/0.1	S4 1"/1"	11.1 11.2		Top of rock at 11.1 ft. Very dense dark gray DOLOMITE FRAGMENTS, little silt. -SEVERELY WEATHERED BEDROCK- Notes: 1. Completed borehole backfilled with borehole cuttings.
15						
20						
25						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	DEPTH (FT) TO: BOTTOM OF HOLE	DEPTH (FT) TO: WATER
6/8/89	1600	0.5	11.0	11.2	4.6

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY

OVERBURDEN (LIN FT):	11.2 ft.
ROCK CORED (LIN FT):	---
SAMPLES:	4S
BORING NO.	B4-FE

H&A OF NEW YORK, ROCHESTER, NEW YORK Consulting Geotechnical Engineers, Geologists and Hydrogeologists	TEST BORING REPORT	BORING NO. 85-FE

PROJECT: FLINT-EXCHANGE SITE
CLIENT: ROCHESTER CITY SCHOOL DISTRICT
CONTRACTOR: ROCHESTER DRILLING CO., INC.

FILE NO. 70082-40
SHEET NO. 1 OF 1
LOCATION: See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	AUGER	SS	---
INSIDE DIAMETER (IN)	4-1/4	1-3/8	---
HAMMER WEIGHT (LB)	---	140	---
HAMMER FALL (IN)	---	30	---

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME 75, Truck-Mounted
BIT TYPE: ---
DRILL MUD: ---
OTHER: Advanced augers to 11.4 ft.

ELEVATION: ---
DATUM: ---
START: 9 June 1989
FINISH: 9 June 1989
DRILLER: T. Smith
H&A REP: W. Lanik

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		7 16 23 10	S1 7"/24"	0.0 2.0		Dense light brown gravelly coarse to fine SAND, trace roots. -FILL-
		6 6 42 30	S2 15"/24"	2.0 4.0		Dense black CINDER PARTICLES and red BRICK FRAGMENTS.
5		12 14 11 10	S3 13"/24"	4.0 6.0		Medium dense dark brown to black CINDER PARTICLES. -FILL-
		10 10 4 2	S4 6"/24"	6.0 8.0		Medium dense dark brown coarse sandy coarse to fine GRAVEL, wet.
		4 4 1 2	S5 6"/24"	8.0 10.0		Loose dark brown coarse to fine GRAVEL, trace coarse sand. -FILL-
10		4 2 100/0.4	S6 12"/17"	10.0 11.4	11.0 11.4	Same. Dark gray fine sandy SILT. -FLUVIAL-
						Top of Rock at 11.4 ft.
						Note: 1. Completed borehole backfilled with borehole cuttings.
15						
20						
25						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	DEPTH (FT) TO: BOTTOM OF HOLE	DEPTH (FT) TO: WATER
6/9/89	0900	0.5	8.0	11.4	7.7

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY

OVERBURDEN (LIN FT): 11.4 ft.
ROCK CORED (LIN FT): ---
SAMPLES: 6S
BORING NO. 85-FE

H&A OF NEW YORK, ROCHESTER, NEW YORK Consulting Geotechnical Engineers, Geologists and Hydrogeologists	TEST BORING REPORT	BORING NO. B6-FE

PROJECT: FLINT-EXCHANGE SITE
CLIENT: ROCHESTER CITY SCHOOL DISTRICT
CONTRACTOR: ROCHESTER DRILLING CO., INC.

FILE NO. 70082-40
SHEET NO. 1 OF 1
LOCATION: See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	AUGER	SS	---
INSIDE DIAMETER (IN)	4-1/4	1-3/8	---
HAMMER WEIGHT (LB)	---	140	---
HAMMER FALL (IN)	---	30	---

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE: CME 75, Truck-Mounted
BIT TYPE: ---
DRILL MUD: ---
OTHER: Advanced augers to 13.0 ft.

ELEVATION: ---
DATUM: ---
START: 9 June 1989
FINISH: 9 June 1989
DRILLER: T. Smith
H&A REP: W. Lanik

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		23 27 10 6	S1 8"/24"	0.0 2.0		Dense gray to black coarse to fine gravelly coarse to medium SAND, with concrete fragments. -FILL-
5		2 3 3 4	S2 10"/24"	5.0 7.0		Loose brown fine sandy SILT, trace gravel, trace coarse sand. -FILL-
10		3 5 6 6	S3 14"/24"	10.0 12.0	10.0	Medium dense gray fine sandy SILT, trace clay, wet. -FLUVIAL-
		100/0.2	S4 2"/2"	13.0 13.2	13.0	Top of Rock at 13.0 ft. Very dense dark gray silty DOLOMITE FRAGMENTS.
15						Notes: 1. Completed borehole backfilled with borehole cuttings.
20						
25						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	DEPTH (FT) TO: BOTTOM OF HOLE	DEPTH (FT) TO: WATER
6/9/89	1100	1.0	12.5	13.2	9.2

SAMPLE IDENTIFICATION
O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY
OVERBURDEN (LIN FT): 13.2
ROCK CORED (LIN FT): ---
SAMPLES: 4S
BORING NO. B6-FE