955026

US EPA RECORDS CENTER REGION 5
581377

L0970000000--Lake County
Vacant Lot
ILD984775437
SF/HRS

5E0301-A0102

Med-High
9/20/90
State Lead

6185

CERCLA

Preliminary Assessment Report

RELEASED
DATE 5/14/97
RIN #
INITIALS J. R.

Illinois Environmental Protection Agency
P.O. Box 19276,
Springfield, IL 62794-9276

RECEIVED
JUN 07 1990
Pre-Remedial Unit

Confidential Material May be Enclosed

L0970000000--Lake County
Vacant Lot
ILD984775437

EXECUTIVE SUMMARY

The vacant lot is located at the northeast corner of 22nd Street and Commonwealth Avenue in North Chicago, Illinois (SW 1/4 NW 1/4 Section 4. T.44N., R.12E.). The property is held by the Northern Trust Bank in Lake Forest, Illinois as the trustee for John Stack account number 1-92980 (formerly account #6671).

The vacant lot was added to CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) in August of 1989 as the result of a request by the Illinois Environmental Protection Agency (IEPA). The request was based on the IEPA's Emergency Response Unit (ERU) responding to an underground fire at the property in June of 1988. Subsequent inspections and sampling results indicated heavy metal contamination of on-site soils.

On June 12, 1988, the North Chicago Fire Department responded to a brush fire at the vacant lot on the corner of 22nd Street and Commonwealth. The fire department discovered that the brush was not the cause of the fire, but fill material placed on the property became heated, igniting the brush. The fire was contained underground, with reports indicating subsurface temperatures exceeding 220 F. The fire area extended along a ravine approximately 200 feet long, with depths of the fill material around 10 feet. The IEPA ERU was notified on June 12, 1988 and sent three representatives to the site on June 15, 1988 to collect soil samples. Three soil samples were collected and analyzed for the RCRA EP Tox Metals by National Environmental Testing, Inc. in Bartlett, Illinois (see Table 1 for summary and Reference 1 for analyses).

TABLE 1

(concentrations in ppm)

	X101	X102	X103
Barium	3500	500	400
Cadmium	350	80	350
Lead	1860	900	43500

A meeting was conducted between the Northern Trust Bank, the City of North Chicago and the Illinois EPA on June 28, 1988.

Two phases of work were needed at the property and were conveyed to the bank with a list of contractors. Karaganis & White (law firm hired by Northern Trust) hired MAECORP Inc. to perform soil and groundwater sampling at the vacant lot. MAECORP drilled four borings on January 5 and 6, 1989, with the borings sampled by split spoon to a depth of 10.5 feet. Composite soil samples from each boring were sent to Tenco Laboratories in Schereville, Indiana to be analyzed for volatile organics, polynuclear aromatic hydrocarbons, PCB's and RCRA metals (see Table 2 for summary and Reference 2 for the MAECORP report).

TABLE 2

(concentrations in ppm)

	B-1	B-2	B-3	B-4
Silver	5.08	2.43	16.30	4.50
Barium	53.10	525.00	42.10	26.90
Cadmium	0.677	9.46	0.683	ND
Lead	221.00	3881.00	295.0	20.70
Toluene	ND	0.0429	ND	ND
Methylene Chloride	ND	ND	ND	0.0312
1,1,1-Trichloroethane	ND	ND	ND	0.00512
Trichloroethene	ND	ND	ND	0.0912
Aroclor 1254	ND	ND	ND	2.25

Borings 2, 3 and 4 were used for monitor wells MW1, MW2 and MW3 respectively. All wells were 12.5 feet deep, with PVC pipe and a 5 foot PVC screen. The wells had a protective casing and were padlocked. All three wells were sampled on February 17, 1989, with the results sent to Tenco Laboratories to be analyzed for volatile organics, polynuclear aromatic hydrocarbons, PCB's and RCRA metals (see Table 3 for summary and Reference 2 for report on monitor wells).

TABLE 3

(concentrations in ppm)

	MW1	MW2	MW3
Silver	0.018	0.0515	0.003
Chromium	0.212	0.157	0.019
Mercury	0.0043	0.0222	0.0001
Lead	1.56	2.01	0.019

A site reconnaissance inspection was conducted at 11:20 am on November 15, 1989 by Greg Dunn, Ken Corkill and Hernando

Albarracin of the Illinois EPA. The facility is bordered by Commonwealth Avenue on the west, 22nd Street on the south, Fansteel Industries on the east and the Elgin, Joliet and Chicago railroad on the north. The area was not in use at the time of the inspection and the area was not fenced. On the north side of the lot was the location of the fire, with piles approximately three feet high of a slag/cinder type material. Pettibone Creek flows through the western portion of the site and eventually flows into Lake Michigan approximately one mile downstream of the site. All water intakes are more than one mile from the point where Pettibone Creek and Lake Michigan meet.

The geology of the area consists of till from the surface to 175 feet deep, with Silurian Dolomite (Niagaran and Alexandrian Series) from 175 feet to 355 feet below the surface. The dolomite is underlain by the Ordivician aged rocks of the Maquoketa Shale, Galena-Platteville Limestone and the Glenwood-St. Peter Sandstone (see well logs on Reference #4).

The three main aquifers used within four miles of the site are the 1) sand and gravel aquifer 2) Silurian Dolomite and 3) Glenwood-St. Peter Sandstone. No public water supplies use the sand and gravel aquifer, but eleven private wells (serving 32 people) obtain water from this aquifer. Two public water supplies (Arden Shores Estates Subdivision [60 people] and Rockland Mobile Home Park [100 people]) and ten private wells (serving 29 people) obtain water from the shallow Silurian Dolomite. The Glenwood-St. Peter aquifer supplies water to three public systems (Heiden Garden Condos, Colonial Park Apartments and the Park City Mobile Home Park) serving 2560 residents. The rest of the population within four miles is served by Lake Michigan water. The aquifers of concern are the sand and gravel and Silurian Dolomite. These two aquifers appear to be hydraulically connected, with the Glenwood-St. Peter Sandstone separated from these aquifers by the Maquoketa Shale. The closest well using the aquifer of concern is 1.9 miles south-southwest.

The vacant lot has not been known to be used for anything other than a parking lot in the 1960's. Air photos indicate, what appears to be a trench near the area of the fire. This trench may have been used to dump waste and may have been filled in by the slag/cinder type material. With groundwater contamination and soil contamination already observed and with a potential for surface water contamination, a medium priority is assigned to this site

EPA L097000000

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D984775437

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Vacant Lot	1100 Block 22nd Street

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
North Chicago	IL	60064	Lake	097	IL-10

09 COORDINATES LATITUDE	LONGITUDE	
42 19 15.4	087 50 45.0	Waukegan, IL 7.5 minute Quad (7D)

10 DIRECTIONS TO SITE (Starting from nearest public road)

Take 94 to Route 137. East on Rte. 137 to Route 131. Take Rte. 131 North to 22nd Street. East on 22nd Street approximately 1 mile to Commonwealth. Site is on North side of Road.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
Northern Trust Bank/Lake Forest As trustee	265 East Deerpath

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER	
Lake Forest	IL	60045	(708) [illegible] 00	c/o John Hakes

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER	
			( )	

13 TYPE OF OWNERSHIP (Check one)

☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL

☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☐ A. RCRA 3001 DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☒ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

☒ YES DATE 06/12/88 (MONTH DAY YEAR)
☐ NO

BY (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☒ F. OTHER: N. Chicago Fire Department (Specify)

CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)

☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION

_____ (BEGINNING YEAR) | _____ (ENDING YEAR) ☒ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Heavy Metals (Toxic, Persistent)
Solvents (Persistent)

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Groundwater (Population, Environment)
Surface Water (Population, Environment)
Fire/Explosion (Population)
Direct Contact (Population)

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)

☐ A. HIGH (Inspection required promptly) ☒ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
Barbara Magel	Karaganis & White LTD.	(312) 836-1177

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Gregory W. Dunn	IEPA	Pre-Remedial	(217) 782-6760	02/01/90 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D984775437

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [x] A SOLID
- B POWDER, FINES
- C SLUDGE
- E SLURRY
- F LIQUID
- G GAS
- D OTHER (Specify)

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

- TONS: unknown
- CUBIC YARDS: unknown
- NO OF DRUMS: 0

03 WASTE CHARACTERISTICS (Check all that apply)

- [x] A TOXIC
- B CORROSIVE
- C RADIOACTIVE
- [x] D PERSISTENT
- E SOLUBLE
- F INFECTIOUS
- G FLAMMABLE
- [x] H IGNITABLE
- I HIGHLY VOLATILE
- J EXPLOSIVE
- K REACTIVE
- L INCOMPATIBLE
- M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS	unknown	unknown	Trace solvents found in water samples.
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	unknown	CY	Heavy metals found in soil samples

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	Barium	7440-39-3	Pile (Sample X101)	3500	ug/g
MES	Cadmium	7440-43-9	Pile (Sample X101)	350	ug/g
MES	Lead	7439-92-1	Pile (Sample X103)	43,500	ug/g

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

Soil Sample results from June 16, 1988 IEPA Land Division Files
Soil and Water sample results from February 5, 6, and 17, 1989. Maecorp Inc. November 13, 1989 Report
IESDA Incident Log # 880754, IEPA ERU Files.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IL	D 984775437

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION — 02 ☒ OBSERVED (DATE 1989) — POTENTIAL — ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 221 — 04 NARRATIVE DESCRIPTION
Groundwater samples from monitor wells on-site indicate heavy metal contamination in the groundwater. The aquifers of concern are the shallow sand and gravel (11 wells serving 32 people) and the Silurian dolomite (Arden Shores Estates and Rockland MHP, and ten private wells serving 189 people).

01 ☒ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE:) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0 — 04 NARRATIVE DESCRIPTION
Lake Michigan is 1 mile downstream from the site. Contaminants could get to Lake Michigan by way of Pettibone Creek, which flows through the middle of the site. North Chicago's water intake is ≈ 1.6 miles from where Pettibone Creek enters Lake Michigan.

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE:) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: — 04 NARRATIVE DESCRIPTION
None documented or observed.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☒ OBSERVED (DATE: 1988) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 48,923 — 04 NARRATIVE DESCRIPTION
A fire occurred on June 12, 1988 possibly due to illegal dumping of fly ash or foundry sand. The fire was contained by the North Chicago Fire Department, with no flare-ups since June 4 1988.

01 ☒ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE:) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 15,509 — 04 NARRATIVE DESCRIPTION
Waste piles are easily accessible by humans or fauna. Site is not fenced and no natural barriers deter site access.

01 ☒ F. CONTAMINATION OF SOIL — 02 ☒ OBSERVED (DATE: 1989) — POTENTIAL — ALLEGED
03 AREA POTENTIALLY AFFECTED: 1.8 (Acres) — 04 NARRATIVE DESCRIPTION
Soil samples taken by the Illinois EPA and Maccorp Inc., indicate soil contamination by heavy metals, some volatile organics and PCB's.

01 ☒ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE) — ☒ POTENTIAL — ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 221 — 04 NARRATIVE DESCRIPTION
See "A" above. The Maquoketa shale separates the sand and gravel and Silurian dolomite aquifers from the St. Peter Sandstone aquifer.

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE) — ☐ POTENTIAL — ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: — 04 NARRATIVE DESCRIPTION
None documented or observed.

01 ☒ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE:) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 48,923 — 04 NARRATIVE DESCRIPTION
Waste piles are uncovered and no barriers deter entry onto site.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IL	D 984775437

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None documented or observed.

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

None documented or observed

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None documented or observed

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills runoff standing liquids leaking drums) — 02 ☒ OBSERVED (DATE: 1988) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 48,923 — 04 NARRATIVE DESCRIPTION

Waste illegally disposed on property caused or was a component of the fire on June 12, 1988. No barriers deter site entry.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None documented or observed.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None documented or observed

01 ☒ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☒ OBSERVED (DATE: 1988) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Fly ash and foundry sand has been illegally disposed in this vacant lot. These two wastes may have caused or help create the underground fire.

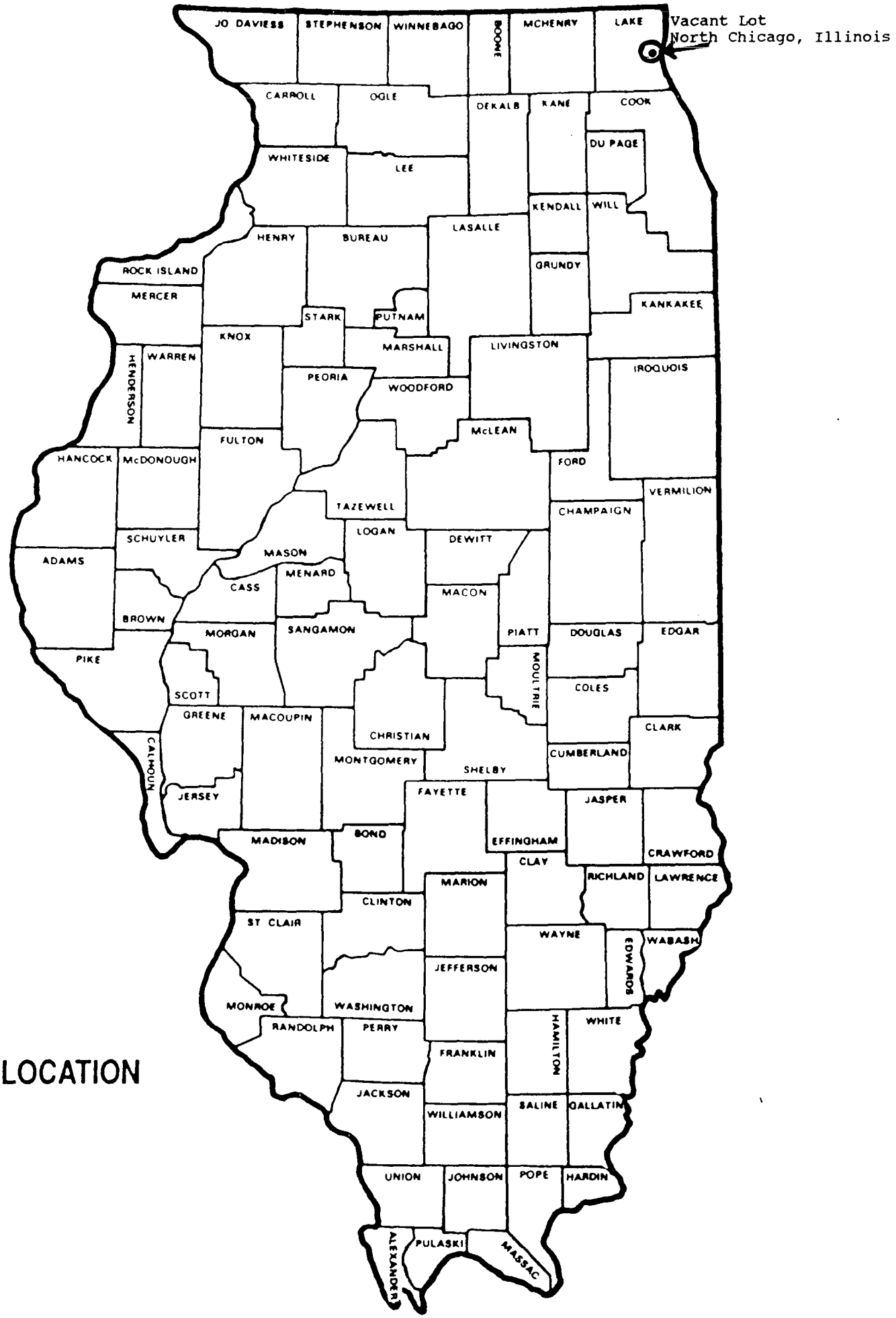
05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: 48,923

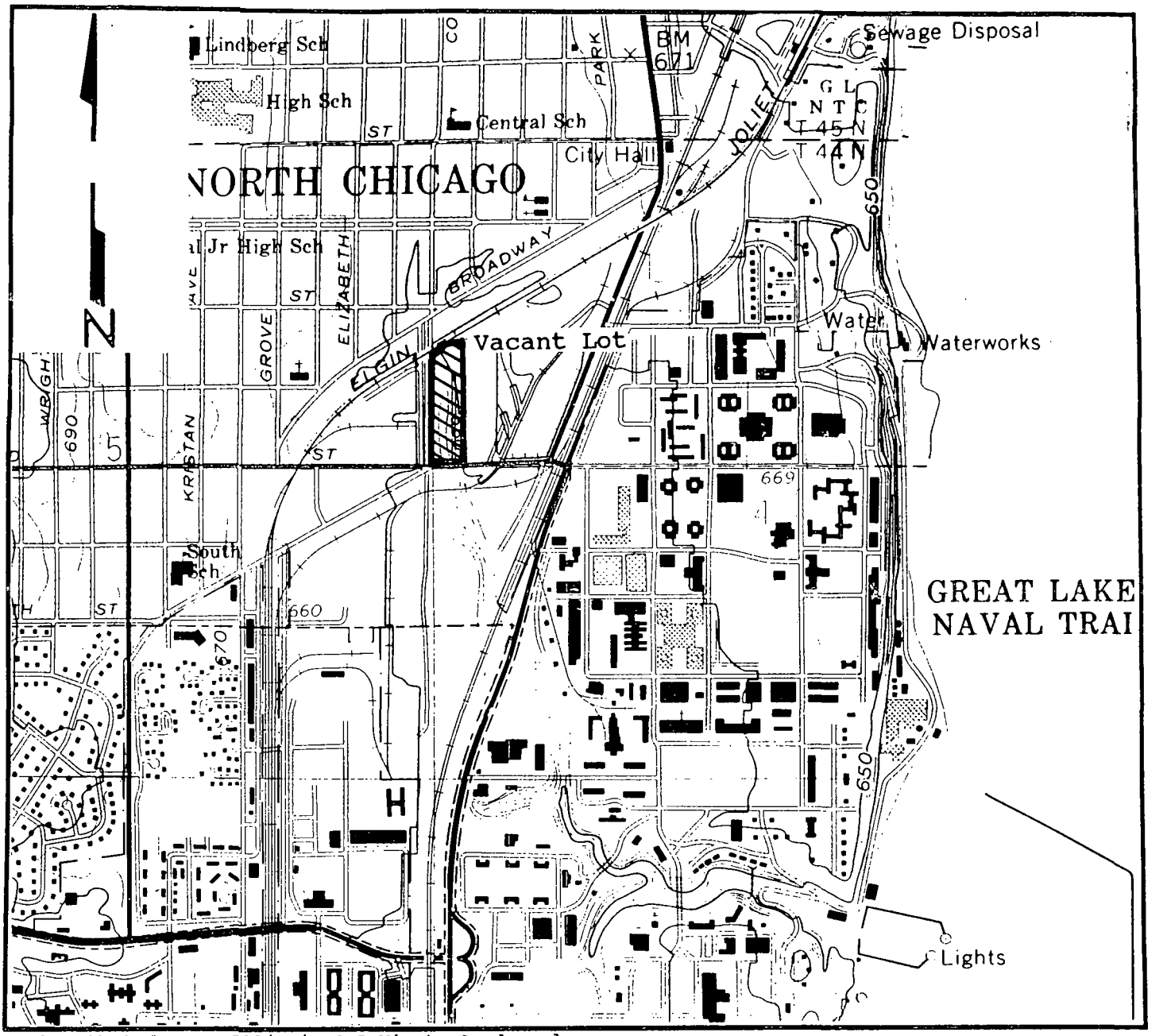
IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e. g., state files, sample analysis, reports)

IESDA Incident Log # 880754, IEPA ERU Files
Reconnaissance Inspection of November 15, 1989.
Soil Sample Results from June 16, 1988 IEPA, Land Division Files
Soil and water samples from February 5, 6 and 17, 1989. Maecorp Inc, Report dated November 13, 1989

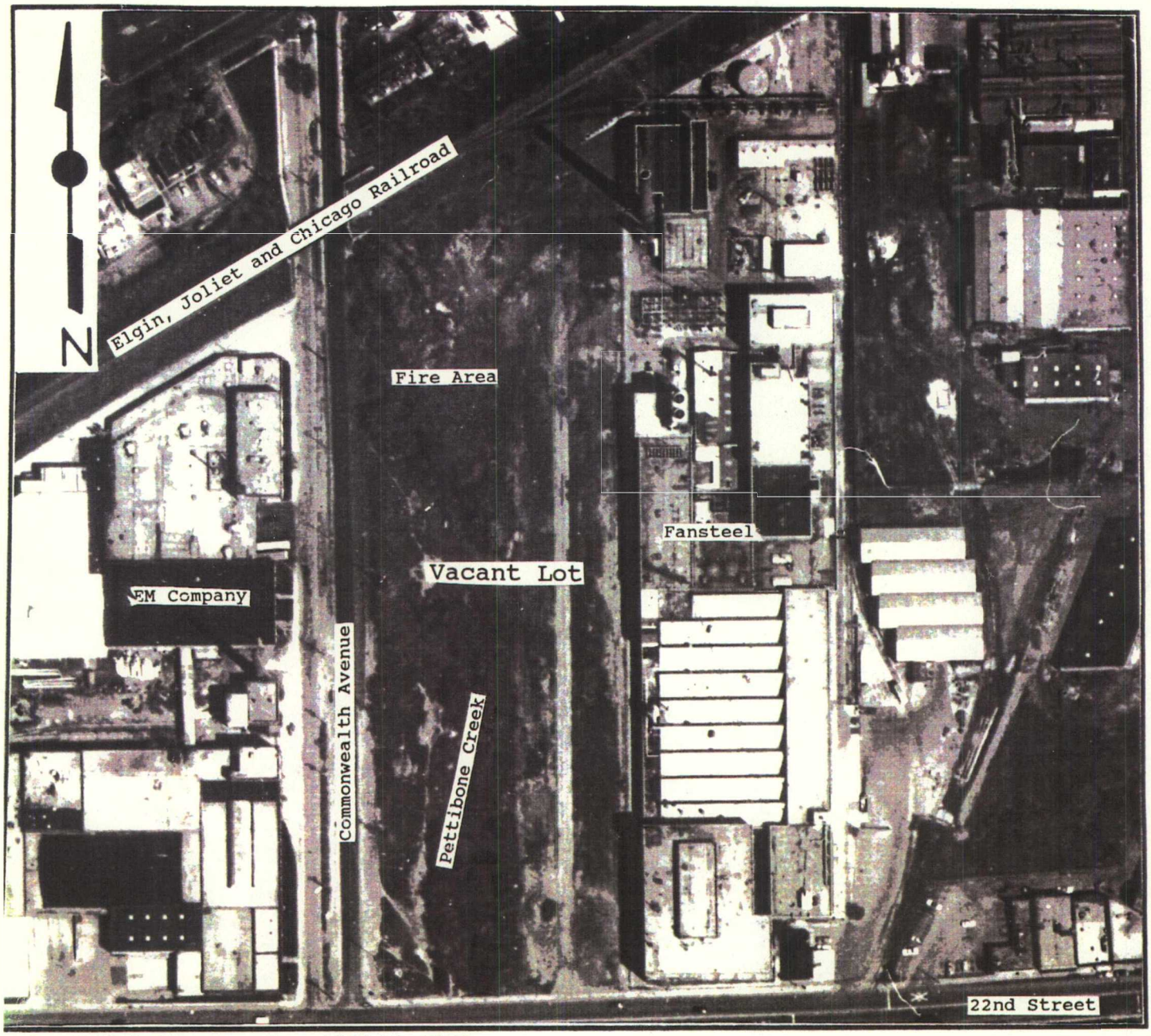


SITE LOCATION



USGS 1960 Waukegan, Illinois 7.5 Minute Quadrangle.

1000 0 1000FEET

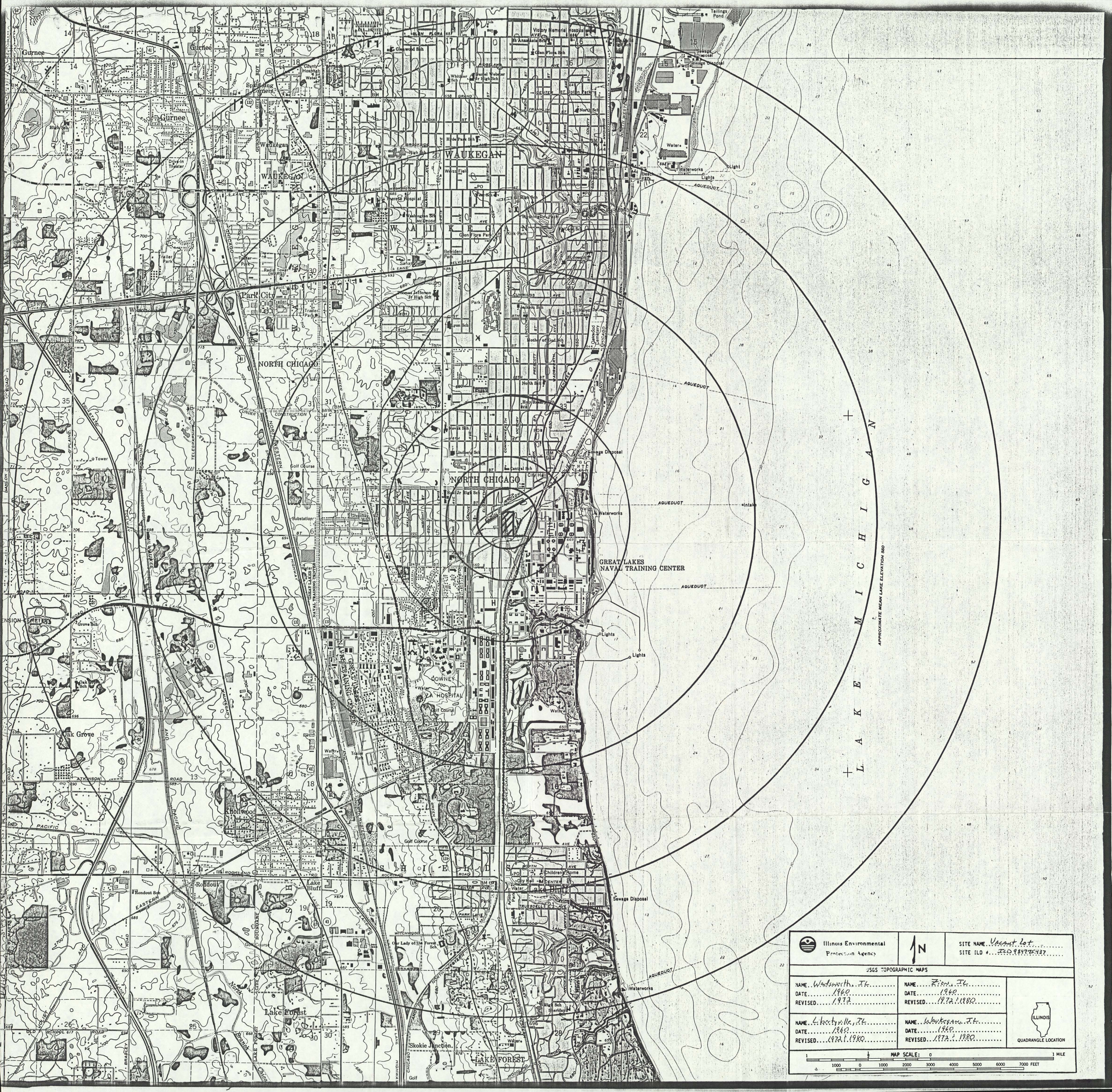


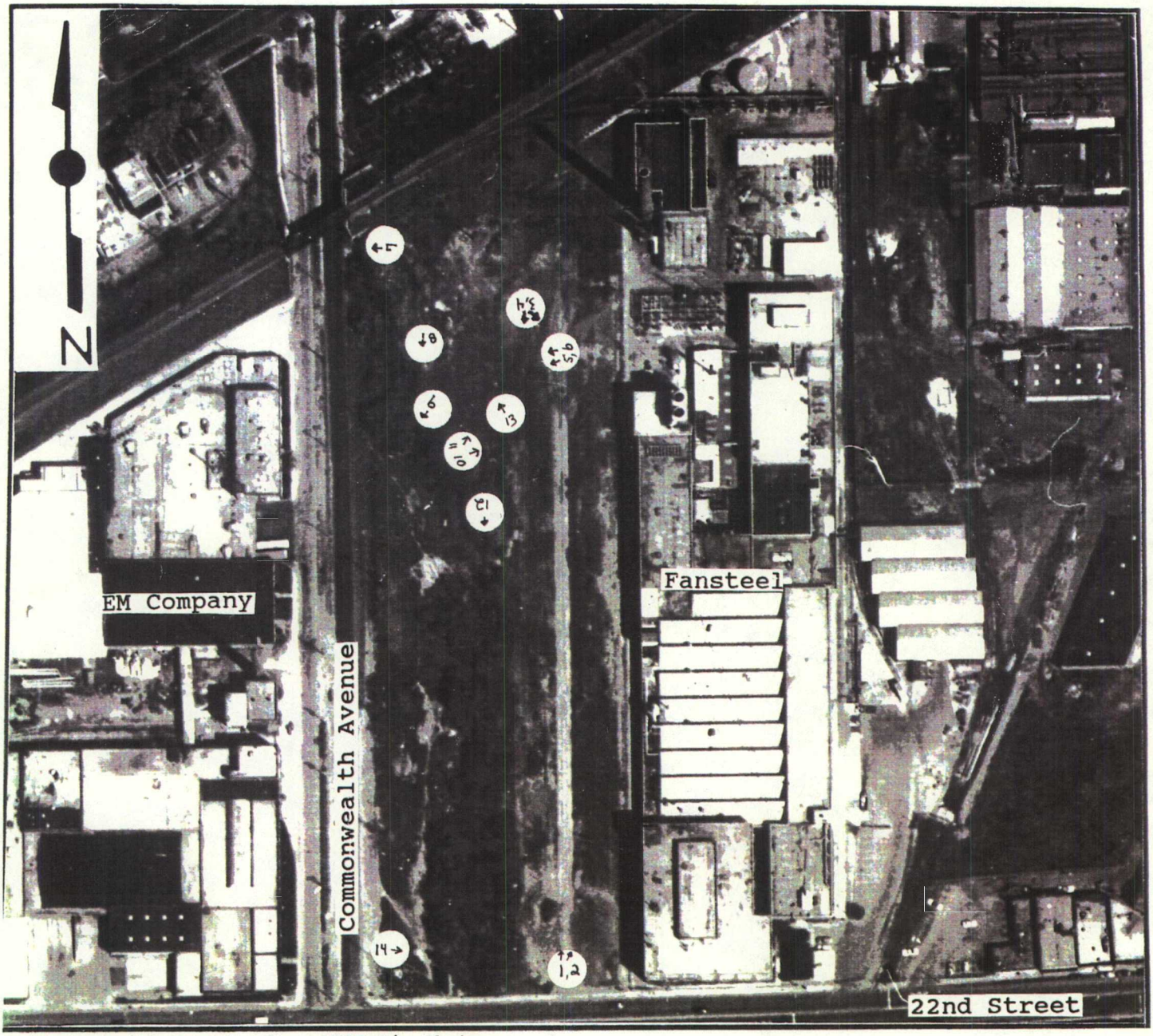
Chicago Aerial Survey, Inc. 1985 Air Photo.

APPROXIMATE SCALE

1" = 200'

SITE FEATURES


Gurnee
Waukegan
WAUKEGAN
Park City
NORTH CHICAGO
GREAT LAKES
NAVAL TRAINING CENTER
Oak Grove
Knollwood
Rondout
Lake Bluff
Lake Forest
Skokie Junction
LAKE FOREST
LAKE MICHIGAN
APPROXIMATE MEAN LAKE ELEVATION 580'
AQUEDUCT
Sewage Disposal
Waterworks
Tailings Pond
Victory Memorial Hospital
St Therese Hospital
Downey VA Hospital
Children Home
Illinois Environmental Protection Agency
N
SITE NAME Vacant Lot
SITE ILD # ILD984775437
USGS TOPOGRAPHIC MAPS
NAME Waukegan, IL
DATE 1960
REVISED 1972
NAME Zion, IL
DATE 1960
REVISED 1972 & 1980
NAME Libertyville, IL
DATE 1960
REVISED 1972 & 1980
NAME Waukegan, IL
DATE 1960
REVISED 1972 & 1980
ILLINOIS
QUADRANGLE LOCATION
MAP SCALE: 1 = 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET



Chicago Aerial Survey, Inc. 1985 Air Photo.

PHOTOGRAPH LOCATION MAP

DATE: November 15, 1989

TIME: 11:20 am

Photograph by:

Greg Dunn

Location: L0970000000 -- Lake Co.

Vacant Lot

ILD 984775437

Comments: Picture taken toward the north and northeast from 22nd Street toward the Vacant lot Faustel Inc. is on Right side of Photo

1,2

DATE:

TIME:

Photograph by:

Location:

Comments: Picture taken toward

DATE: November 15, 1989

TIME: 11:30 am

Photograph by:

Greg Dunn

Location: L0970000000--Lake Co.

Vacant Lot

ILD 984775437

Comments: Picture taken toward southeast and south from the north side of the lot. Fansteel Inc. is on left side of photo.

3,4

DATE:

TIME:

Photograph by:

Location:

Comments: Picture taken toward

DATE: November 15, 1989

TIME: 11:35 AM

Photograph by:

Greg Dunn

Location: 20970000000--Lake Co.

Vacant Lot

ILD 984775437

Comments: Picture taken toward

Northwest and west from North

central portion of site. Fill

material is visible in the

background.

5,6

DATE:

TIME:

Photograph by:

Location:

Comments: Picture taken toward

DATE: November 15, 1989

TIME: 11:40 AM

Photograph by:

Greg Dunn

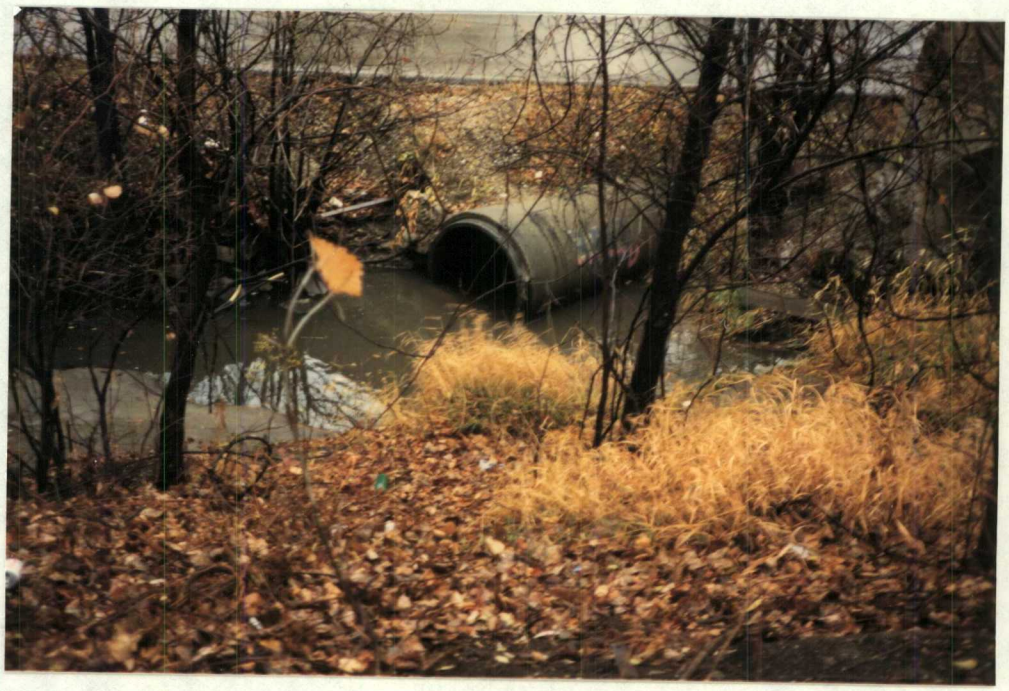
Location: L097000000 -- Lake Co.

Vacant Lot

ILD 984775437

Comments: Picture taken toward west at the area where Pettibone Creek enters the vacant lot.

7



DATE: November 15, 1989

TIME: 11:40 AM

Photograph by:

Greg Dunn

Location: L097000000 -- Lake Co.

Vacant Lot

ILD 984775437

Comments: Picture taken toward the south down Pettibone Creek from the north boundary of the lot.

8

DATE: November 15, 1989

TIME: 11:45 AM

Photograph by:

Greg Dunn

Location: L0970000000 -- Lake Co.

Vacant Lot

ILD 984775437

Comments: Picture taken toward southwest at Pettibone Creek. EM Company is in the Background.

9

DATE: November 15, 1989

TIME: 11:45 AM

Photograph by:

Greg Dunn

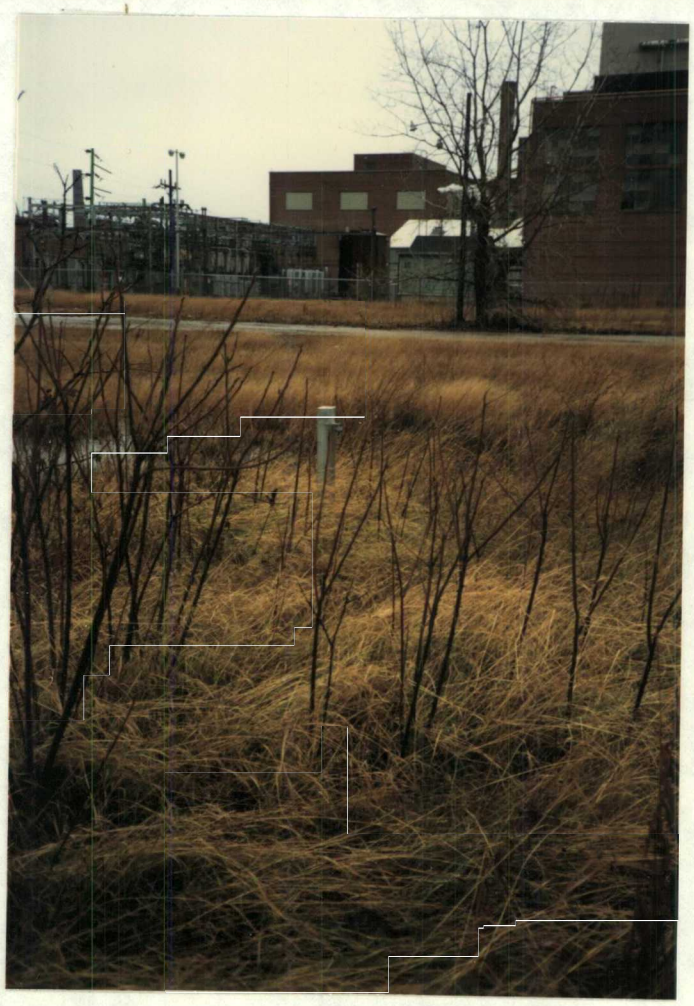
Location: L0970000000 -- Lake Co.

Vacant Lot

ILD 984775437

Comments: Picture taken toward east at monitor well #2. Fansteel Inc. is in the background.

10



DATE: November 15, 1989

TIME: 11:45 Am

Photograph by:

Greg Dunn

Location: L0970000000 -- Lake Co.

Vacant Lot

ILD 984775437

Comments: Picture taken toward Northeast at monitor well #2. Fansteel is on the Right of the photo

11

DATE: November 15, 1989

TIME: 11:50 Am

Photograph by:

Greg Dunn

Location: L0970000000 -- Lake Co.

Vacant Lot

ILD 984775437

Comments: Picture taken toward south looking down Pettibone Creek. A light colored material apparently fill, is on the left side of the photo.

12

DATE: November 15, 1989

TIME: 11:55 AM

Photograph by:

Greg Dunn

Location: L0970000000 -- Lake Co.

Vacant Lot

ILD 984775437

Comments: Picture taken toward

north northwest at fill

material.

13

DATE: November 15, 1989

TIME: 12:00 pm

Photograph by:

Greg Dunn

Location: L0970000000 -- Lake Co.

Vacant Lot

ILD 984775437

Comments: Picture taken toward

east from Commonwealth Road,

looking at the west side

of Pettibone Creek.

14

Supporting Documentation

REFERENCES

Reference 1. Soil samples collected by the Illinois EPA on June 15, 1988.

Reference 2. November 13, 1989 report submitted by MAECORP, Inc. to Karaganis & White Ltd.

Reference 3. June 12, 1988 Illinois EPA Emergency Response Unit incident log #880754.

Reference 4. Well logs from around the area.

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest, Inc.
Bartlett Division
850 West Bartlett Road
Bartlett, IL 60103
Tel: (312) 289-3100
Fax: 312-289-4180

Formerly: Aqualab, Inc.

REFERENCE NUMBER 1

07 July 1988

Ms. Sue Doubet
IEPA
Division of Land Pollution
2200 Churchill Road
Springfield IL 62706

Dear Sue:

Enclosed is the final report submission for the North Chicago Ground Fire project. This project did not have an assigned site inventory number. Three samples were received on 06 June 1988 and analyzed for E.P. Toxicity metals on an emergency response basis. Verbal results were called to Dennis Ahlberg on 07 June 1988. Total zinc was added to the analytical request for sample X103 on 23 June 1988. This package contains all applicable QA/QC data and is identified as QC Report #137.

If you have any questions regarding any of the enclosed material, please feel free to call.

Sincerely,

NET MIDWEST INC.

Lorrie Krebs

Lorrie Krebs
PROJECT MANAGER

Encls.

RECEIVED
JUL 12 1988
IEPA-DLPC

Illinois Environmental Protection Agency
Contract Laboratory Service
Inorganic Analyses Data Package

Cover Page

Date: 6/23/88.

Lab Name: Aqualab Inc. - Bartlett

Q.C. Report No. : 137.

Site Inventory No. : NOT SUPPLIED

Facility Name: N. CHICAGO GROUND FIRE.

Region: N

Co.: LAKE.

Sample Numbers

IEPA Monitor Point No.	Lab ID Number	IEPA Monitor Point No.	Lab ID Number
X101	64757		
X102	64758		
X103	64759		

Comments:

ICP Interelement and background corrections applied? Yes ____ No ✓.
If yes, corrections applied before _____ or after _____ generation of raw data.

Footnotes:

NR - not required by contract at this time

Chemical Analysis Form:

Value - If the result is a value greater than or equal to the instrument detection limit but less than the contract required detection limit, report the value in brackets (i.e., [10]). Indicate the analytical method used with P (for ICP/Flame AA) or F (for furnace).
U - Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 10U).
E - Indicates a value estimated or not reported due to the presence of interference. Explanatory note included on cover page.
s - Indicates value determined by Method of Standard Addition.
R - Indicates spike sample recovery is not within control limits.
* - Indicates duplicate analysis is not within control limits.
+ - Indicates the correlation coefficient for method of standard addition is less than 0.995.

aqualab inc.

☐ 2621 Ridgepoint Austin TX 78754 512-928-8905	☑ 850 West Bartlett Rd. Bartlett IL 60103 312-289-3100	☐ 222 South Morgan Chicago IL 60607 312-666-4469	☐ 3548 35th St. Rockford IL 61109 815-874-2171

CHAIN OF CUSTODY RECORD

Client: IEPA

Project: N. Chicago / Ground Fire

Sampler(s): BPB

Q.C. #137

Number	Sampling Location	Date	Time	Composite	Grab	No. of Bottles	Remarks
X101	VACANT LOT	6/15/88	11:00		X	1	
X102	"	6/15/88	11:10		X	1	
X103	"	6/15/88	11:15		X	1	

Relinquished By	Received By	Date	Time
Brad Benning		6/16/88	9:40

Shipping Notes	Received For Aqualab By		
	L. F. Krebs	6/16/88	940

140

25

IEPA
CONTRACT LABORATORY PROGRAM
CHEMICAL ANALYSIS FORM

SITE INVENTORY NUMBER _____

REGION N CO. LAKE

FACILITY NAME N. Chicago / Ground Fire

SITE BILLING CODE ERU

****

MONITOR POINT NUMBER X 1 0 1 DATE COLLECTED 0 6 / 1 5 / 8 8

TIME COLLECTED 1 1 : 0 0 (24 HR CLOCK) MONITOR POINT SAMPLED BY GRAB (SPECIFY METHOD)

SAMPLE FIELD FILTERED - INORGANICS (Y/N) N

COLLECTED BY BPB DIVISION OR CO. ERU

****

SAMPLE APPEARANCE: Gray Solid

COLLECTOR COMMENTS:

TEST REQUESTED: EP Tox. Heavy Metals (SW 846 Procedures)

TURN AROUND TIME REQUESTED: 3 day

****

FIELD MEASUREMENTS	VALUE
DEPTH TO WATER (ft. below LS)	
ELEVATION OF GW SURFACE (ft. ref MSL)	
TOTAL WELL DEPTH FT. (below LS)	
pH (units) - Field	
SPEC CONDUCTANCE (umhos) - Field	
TEMP OF WATER SAMPLE (°F) - Field	

LAB USE ONLY

LAB NAME ~~HG~~ NET MIDWEST

ADDRESS 850 W. BARTLETT RD.
BARTLETT IL 60103

LAB Sample No. 64757 QC REPORT No. 137

DATE REC'D. 6/16/88 TIME REC'D 9:35 am/pm

TEMP O.K. Y (Y/N) SAMPLE PRESERVED O.K. Y (Y/N)

LAB COMMENTS

****

IL 532-1332

26

IEPA
CONTRACT LABORATORY PROGRAM
CHEMICAL ANALYSIS FORM

SITE INVENTORY NUMBER _____

REGION N CO. Lake

FACILITY NAME N. Chicago / Ground Fire

SITE BILLING CODE ERU

****

MONITOR POINT NUMBER X 1 0 2 DATE COLLECTED 0 6 / 1 5 / 8 8

TIME COLLECTED 1 1 : 1 0 (24 HR CLOCK) MONITOR POINT SAMPLED BY GRAB (SPECIFY METHOD)

SAMPLE FIELD FILTERED - INORGANICS (Y/N) N

COLLECTED BY BRB DIVISION OR CO. ERU

****

SAMPLE APPEARANCE: Black Solid

COLLECTOR COMMENTS:

TEST REQUESTED: E.P. Tox. Heavy Metals (SW846 Procedures)

TURN AROUND TIME REQUESTED: 3 day

****

FIELD MEASUREMENTS	VALUE
DEPTH TO WATER (ft. below LS)	
ELEVATION OF GW SURFACE (ft. ref MSL)	
TOTAL WELL DEPTH FT. (below LS)	
pH (units) - Field	
SPEC CONDUCTANCE (umhos) - Field	
TEMP OF WATER SAMPLE (°F) - Field	

LAB USE ONLY

LAB NAME NET MIDWEST

ADDRESS

LAB Sample No. 64758 QC REPORT No. 137

DATE REC'D. 6/16/88 TIME REC'D 9 : 35 AM/P

TEMP O.K. Y (Y/N) SAMPLE PRESERVED O.K. Y (Y/N)

LAB COMMENTS

****

IL 532-1332

IEPA
CONTRACT LABORATORY PROGRAM
CHEMICAL ANALYSIS FORM

SITE INVENTORY NUMBER _____

REGION N CO. Lake

FACILITY NAME N. Chicago / Ground Fire

SITE BILLING CODE ERU

****

MONITOR POINT NUMBER X 1 0 3 DATE COLLECTED 0 6 / 1 5 / 8 8

TIME COLLECTED 1 1 : 1 5 (24 HR CLOCK) MONITOR POINT SAMPLED BY GRAB (SPECIFY METHOD)

SAMPLE FIELD FILTERED - INORGANICS (Y/N) N

COLLECTED BY BPB DIVISION OR CO. ERU

****

SAMPLE APPEARANCE: Lt. Brown Solid

COLLECTOR COMMENTS:

TEST REQUESTED: E.P. Tox Heavy Metals
Tot. In per Brad Benning 6/23/88 (SW 846 Procedures)

TURN AROUND TIME REQUESTED: 3 day.

****

FIELD MEASUREMENTS	VALUE
DEPTH TO WATER (ft. below LS)	
ELEVATION OF GW SURFACE (ft. ref MSL)	
TOTAL WELL DEPTH FT. (below LS)	
pH (units) - Field	
SPEC CONDUCTANCE (umhos) - Field	
TEMP OF WATER SAMPLE (°F) - Field	

LAB USE ONLY

LAB NAME NET MIDWEST

ADDRESS

LAB Sample No. 64759 QC REPORT No. 137

DATE REC'D. 6 / 16 / 88 TIME REC'D 9 : 35 am

TEMP O.K. Y (Y/N) SAMPLE PRESERVED O.K. Y (Y/N)

LAB COMMENTS

****

IL 532-1332

CHEMICAL ANALYSIS FORM
Contract Laboratory Service

Bt 64757

X101

Lab Measurements Constituent description and required unit of measure	Storet Number (138–34)	Remarks see Inst. (35)	Repl App (36)	> or < (37)	Value uG/L or uG/G (38–47)	Digits to L or R (48)	L or R of decimal (49)
EP TOX - Arsenic		s/u		<	20.	1	L
EP TOX - Barium		s			3500.	2	L
EP TOX - Cadmium		s			350.	1	L
EP TOX - Chromium		s/u		<	20.	1	L
EP TOX - Lead		s			1860.	1	L
EP TOX - Mercury		s/u		<	1.	1	R
EP TOX - Selenium		s/u		<	20.	1	L
EP TOX - Silver		s/u		<	20.	1	L

Footnotes: For reporting results to the IEPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page.

Comments: _____

Lab ~~Manager~~ Project L. F. Krebs

CHEMICAL ANALYSIS FORM
Contract Laboratory Service

BT 64758

X102

Lab Measurements Constituent description and required unit of measure	Storet Number (38–41)	Remarks see Inst. (35)	Repl App (36)	> or < (37)	Value uG/L or uG/G (38–47)	Digits to L or R (48)	L or R of decimal (49)
EP TOX - Arsenic		s/u		<	20.	1	L
EP TOX - Barium		s			500.	2	L
EP TOX - Cadmium		s			80.	1	L
EP TOX - Chromium		s/u		<	20.	1	L
EP TOX - Lead		s			900.	1	L
EP TOX - Mercury		s/u		<	1.	1	R
EP TOX - Selenium		s/u		<	20.	1	L
EP TOX - Silver		s/u		<	20.	1	L

Footnotes: For reporting results to the IEPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page.

Comments: _____

Lab manager Y. F. Kuebo
Project

CHEMICAL ANALYSIS FORM
Contract Laboratory Service

BT 64759

X103

Lab Measurements Constituent description and required unit of measure	Storet Number	Remarks see Inst.	Repl App	> or <	Value uG/L or uG/G	Digits to L or R	L or R of decimal
EP TOX - Arsenic	30 34	s/u 35	36	< 37	38 20 47	1 48	L 49
EP TOX - Barium		s			400.	2	L
EP TOX - Cadmium		s			350.	1	L
EP TOX - Chromium		s/u		<	20	1	L
EP TOX - Lead		s			43500.	1	L
EP TOX - Mercury		s/u		<	1.	1	R
EP TOX - Selenium		s/u		<	20.	1	L
EP TOX - Silver		s/u		<	20.	1	L
TOTAL - ZINC ug/g					16,200. ug/g	3	L

Footnotes: For reporting results to the IEPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page.

Comments: _____

~~Lab~~ Project manager L. F. Kubo

REFERENCE NUMBER 2

REVISED FINAL REPORT

for

SAMPLING AND ANALYTICAL INVESTIGATIONS

at the

STACK PROPERTY
22ND STREET
CHICAGO, ILLINOIS

Presented to:

Karaganis and White, Ltd.
Chicago, Illinois

Submitted by:

MAECORP Incorporated
Chicago, Illinois

November 13, 1989

Report #IL-A013

RECEIVED
NOV 1 4 1989
IEPA/DLPC

INTRODUCTION

INTRODUCTION

MAECORP Incorporated was requested by Karaganis and White, Ltd. to perform environmental sampling of soil and groundwater on the Stack property located in North Chicago on 22nd Street, between Commonwealth Avenue and Tantallum Place.

The purposes of this environmental sampling were to determine what environmental contamination may be present and how the fire started this past year.

BORINGS AND MONITORING WELL INSTALLATION

BORINGS AND MONITORING WELL INSTALLATION

Four borings were installed at the Stack site on January 5 and 6, 1989. Drilling was performed by Fox Drilling under subcontract to MAECORP Incorporated. Boreholes for all wells were drilled with a hollow-stem auger through the glacial material. Drill bits, augers, split spoons and the drill rig were steam-cleaned between boreholes to prevent cross-contamination. MAECORP personnel were on site to determine the exact location of borings.

Split Spoon Sampling

Continuous split-spoon sampling was conducted with a drill rig for all borings. Sampling was conducted with a hardened steel split-spoon containing a basket spring retainer that was held in place by a removable nosepiece. An AW drill rod receptacle-driver head cap was threaded to the top of the 18-inch split-spoon barrel. Lengths of the drill rod were then attached to the assembled split spoon, and the split spoon was driven 18 inches. When the sampler had reached the target depth, the sampler was retrieved, opened, and the contents placed in discrete glass sample jars. Resultant soil cores were evaluated by the geologist on site. Boring logs are included in this report.

Monitoring Well Installation

Each monitoring well was installed upon completion of the borehole. The wells were constructed of 2-inch outside diameter, flush-jointed, Schedule 40 threaded PVC casing. All monitoring

wells were constructed with 5 feet of 2-inch outside diameter, 0.010-inch machine-slotted PVC screen. Five-foot lengths were used to ensure that the potentiometric surface is present in the screen.

The annular space surrounding the screened interval in each well was filled with a filter pack consisting of fine graded silica sand. Formational sands were also used to form the filter pack when caving could not be controlled. The filter pack extends from the bottom of the borehole to 1 foot above the screened-in area.

A 2-foot pelletized bentonite seal was placed above the filter sand, followed by cement grout to the surface. The lockable, flush-mount, steel protective casing was then installed into the cement.

All wells were surveyed for exact location and elevation by a licensed registered surveyor. Boring locations may be found in Figure 1, and detailed installation logs are included in this report for all borings and monitoring wells.

Sampling

Soil samples were collected on February 5 and 6, 1989. Samples were kept in a 40-ml glass VOA vial and a 1-quart glass jar with a teflon lid. Water samples were taken on February 17, 1989. Wells were purged of three volumes of water to ensure a representative sample. Samples were collected using a 24-inch teflon bailer and collected in one brown 1-quart jar, one clear

1-quart jar, and two 40-ml VOA vials. Samples were hand-delivered to Tenco Laboratories. Laboratory analysis reports and chain-of-custody records are attached.

Decontamination

The following procedures were used for all equipment which came in direct or indirect contact with sample materials:

1. Wiped off all visual foreign material with a laboratory wipe.
2. Washed with warm, soapy alconox water.
3. Rinsed with deionized water.
4. Air-dried.

BORINGS AND MONITORING WELLS

BORINGS AND MONITORING WELLS

Boring 1

The first boring was located on the south part of the property next to the stream and 22nd Street. The boring was sampled by split spoon to a depth of 10.5 feet. The boring was sealed with bentonite and concrete to prevent vertical migration of possible contaminants. Seven 18-inch split spoons were taken and analyzed individually in the field. A composite sample was sent to a laboratory for analysis. Composite soil analysis from Boring 1 was found to contain the following contaminants:

Parameter	Concentration (ppm)
Silver	5.08
Barium	53.10
Cadmium	0.677
Chromium	7.22
Mercury	0.417
Lead	221.00

Boring 2

The second boring was located east of the gravel road dividing the property. The boring was sampled to 10.5 feet. Seven 18-inch split spoons were taken and analyzed individually in the field. A composite sample was sent for laboratory analysis. Composite soil analysis from Boring 2 was found to contain the following contaminants:

Parameter	Concentration (ppm)
Silver	2.43
Barium	525.00
Cadmium	9.46
Chromium	12.80
Mercury	0.350
Lead	3881.00
Toluene	0.0429

Boring 3

The third boring was located at the perimeter of the burn area. The boring was sampled to 10.5 feet. Seven 18-inch split spoons were taken and analyzed individually in the field. A composite sample was sent for laboratory analysis. Composite soil analysis from Boring 3 was found to contain the following contaminants:

Parameter	Concentration (ppm)
Silver	16.30
Barium	42.10
Cadmium	0.683
Chromium	10.80
Mercury	0.089
Lead	295.00

Boring 4

The fourth boring was located in the center of the burn area. The boring was sampled to 10.5 feet. Seven 18-inch split spoons were taken and analyzed individually in the field. A composite sample was sent for laboratory analysis. Composite soil analysis from Boring 4 was found to contain the following contaminants:

Parameter	Concentration (ppm)
Silver	4.50
Barium	20.10
Chromium	8.60
Mercury	0.189
Lead	20.70
Methylene Chloride	0.0312
1,1,1-Trichloroethane	0.00512
Trichloroethene	0.0912
PCB, Aroclor 1254	2.25

MONITORING WELLS

MONITORING WELLS

Monitoring Well 1

Monitoring Well 1, located in the second boring, was located east of the gravel road dividing the property. The well consisted of a 5-foot PVC screen connected to a PVC riser. Total depth of the well from the ground surface is 12.5 feet, and depth to groundwater in the well from the top of the casing was 10.33 feet. The top of the casing is at 651.83 feet above mean sea level. The top of the water table was calculated at 641.50 feet above mean sea level.

Groundwater from Monitoring Well 1 (MW-1) was found to contain the following contaminants:

Parameter	Concentration (ppm)
Silver	0.018
Barium	0.558
Cadmium	0.006
Chromium	0.212
Mercury	0.0043
Lead	1.56
Selenium	0.016

Monitoring Well 2

Monitoring Well 2 was located at the perimeter of the burn area. The well consisted of a 5-foot PVC screen connected to a PVC riser. Total depth of the well from the ground surface is 12.5 feet, and depth to groundwater in the well from the top of the casing was 9.92 feet. The top of the casing is at 650.55 feet above mean sea level. The top of the water table was calculated at 640.63 feet above mean sea level.

Groundwater from Monitoring Well 2 (MW-2) was found to contain the following contaminants:

Parameter	Concentration (ppm)
Silver	0.015
Barium	0.451
Cadmium	0.004
Chromium	0.157
Mercury	0.0222
Lead	2.01
Selenium	0.02

Monitoring Well 3

Monitoring Well 3 was located in the center of the burn area. The well consisted of a 5-foot PVC screen connected to a PVC riser. Total depth of the well from the ground surface is 12.5 feet, and depth to groundwater in the well from the top of the casing was 8.92 feet. The top of the casing is at 651.38 feet above mean sea level. The top of the water table was calculated at 642.46 feet above mean sea level.

Groundwater from Monitoring Well 3 (MW-3) was found to contain the following contaminants:

Parameter	Concentration (ppm)
Silver	0.003
Barium	0.125
Chromium	0.019
Mercury	0.0001
Lead	0.019
Selenium	0.015

LABORATORY RESULTS

LABORATORY RESULTS

Off-site laboratory analysis of the soil samples was performed by Tenco Laboratories, subcontracted to MAECORP Incorporated. Each composite soil sample was analyzed for: volatile organics, polynuclear aromatic hydrocarbons, PCB's, and RCRA metals (see Tables 3, 4, and 5).

CONCLUSION

CONCLUSION

Investigations performed on site included visual observations, soil sampling, soil borings, and the installation and sampling of three PVC monitoring wells. Causes for the previous site fire and contamination identified in the soil samples appear to be the result of cinders which were disposed by an unknown party. Visual contaminants in the storm sewer discharge may originate from EMCO Chemical Distributors. Discolored effluent was witnessed by MAECORP personnel.

Soil boring 4 in the burn area contained burnt rubber, brick pieces, and burnt soil in the top 18 inches to 2 feet below grade. Combining this and previous evidence, it is very likely that the fire was not of a chemical nature and was limited to surficial vegetation and their root systems.

Groundwater at this site is contaminated by metals from an unknown source. Since the area is surrounded by metal processing facilities, an outside source is suspected.

DRINKING WATER STANDARDS

DRINKING WATER STANDARDS

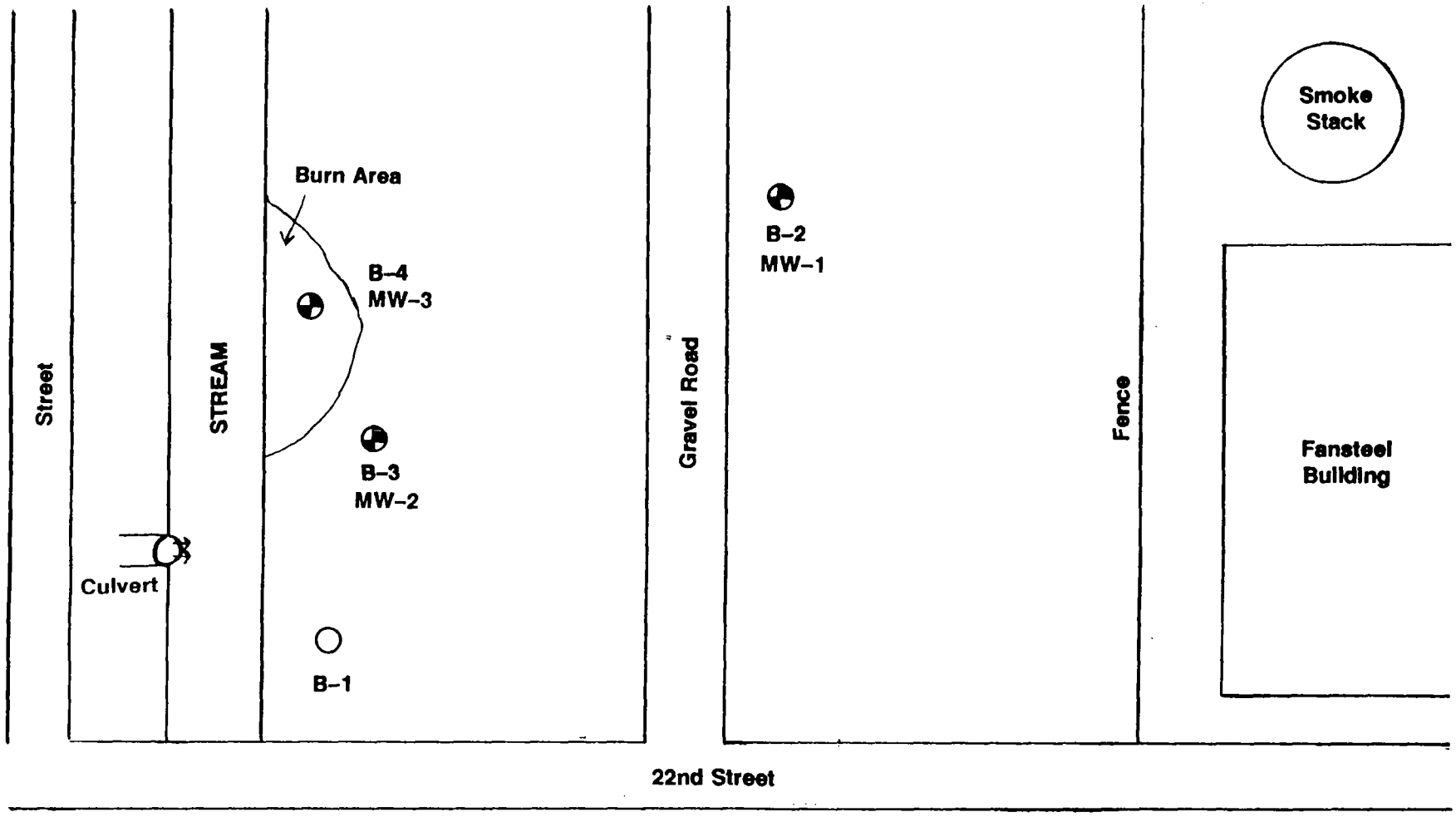
WATER

Parameter	Concentration (ppm)			
	Max Level*	MW-1	MW-2	MW-3
Silver	0.005	0.018	0.015	0.003
Barium	5.0	0.558	0.451	0.125
Cadmium	0.05	0.006	0.004	ND
Chromium	0.05	0.212	0.157	0.019
Mercury	0.0005	0.0043	0.0222	0.0001
Lead	0.1	1.56	2.01	0.019
Selenium	1.0	0.016	0.02	0.015

*General standards for the waters of the state of Illinois.

SOIL

Parameter	Concentration (ppm)				
	Max Level	B-1	B-2	B-3	B-4
Silver		5.08	2.43	16.3	4.5
Barium		53.1	525.0	42.1	26.9
Cadmium		0.677	9.46	0.683	ND
Chromium		7.22	12.8	10.8	8.60
Mercury		0.417	0.35	0.089	0.189
Lead		221.0	3881.0	295.0	20.7
Toluene		ND	0.0429	ND	ND
Methylene Chloride		ND	ND	ND	0.0312
1,1,1-Trichloroethane		ND	ND	ND	0.00512
Trichloroethene		ND	ND	ND	0.0912
PCB, Aroclor 1254		ND	ND	ND	2.25



KEY

- Monitoring Well Locations
- Boring Locations

MAECORP Incorporated		
SCALE: None	APPROVED BY: RL	DRAWN BY DCK
DATE: 1-20-89		REVISED
Boring and Well Locations		

TABLE 2

COMPATABILITY TESTS

IL-A013

SAMPLE NUMBER	pH	BURNABILITY	HNU READING (ppm)	SOLUBILITIES WATER	HEXANE	METHANOL	ACETONE	OXIDIZER	PEROXIDE	CYANIDE	SULFIDE
B1-01	8	negative	0.4	S	PS	S	S	negative	negative	negative	negative
B1-02	7	negative	0.4	S	PS	S	S	negative	negative	negative	negative
B1-03	7	negative	0.4	S	NS	PS	PS	negative	negative	negative	negative
B1-04	7	negative	0.0	S	NS	S	S	negative	negative	negative	negative
B1-05	7	negative	0.4	S	NS	S	S	negative	negative	negative	negative
B1-06	7	negative	0.4	S	NS	S	S	negative	negative	negative	negative
B1-07	7	negative	0.4	S	NS	S	S	negative	negative	negative	negative
B2-01	8	negative	0.4	S	NS	S	S	negative	negative	negative	negative
B2-02	7	negative	0.4	S	NS	S	S	negative	negative	negative	negative
B2-03	7	negative	0.4	S	NS	S	S	negative	negative	negative	negative
B2-04	7	negative	0.4	S	NS	S	S	negative	negative	negative	negative
B2-05	7	negative	0.4	S	NS	S	S	negative	negative	negative	negative
B2-06	7	negative	0.4	S	NS	S	S	negative	negative	negative	negative
B2-07	7	negative	0.4	S	NS	S	S	negative	negative	negative	negative
B3-01	7	negative	0.4	S	NS	S	S	negative	negative	negative	negative
B3-02	7	negative	0.4	S	NS	S	S	negative	negative	negative	negative
B3-03	8	negative	0.4	S	NS	S	S	negative	negative	negative	negative
B3-04	7	negative	0.4	S	NS	S	S	negative	negative	negative	negative
B3-05	7	negative	0.4	S	NS	S	S	negative	negative	negative	negative
B3-06	7	negative	0.4	S	NS	S	S	negative	negative	negative	negative
B3-07	7	negative	0.4	S	NS	S	S	negative	negative	negative	negative
B4-01	7	negative	7.0	PS	PS	PS	PS	negative	negative	negative	negative
B4-02	7	negative	7.0	S	PS	S	S	negative	negative	negative	negative
B4-03	7	negative	5.0	PS	NS	NS	NS	negative	negative	negative	negative
B4-04	7	negative	4.0	PS	NS	PS	PS	negative	negative	negative	negative
B4-05	7	negative	2.0	S	NS	S	S	negative	negative	negative	negative
B4-06	7	negative	1.0	S	NS	S	S	negative	negative	negative	negative
B4-07	7	negative	0.2	S	NS	S	S	negative	negative	negative	negative

TENCO LABORATORIES

BPM INDUSTRIES
1150 Junction Avenue - Schererville, Indiana 46375
1-219-322-2560 ● 1-800-428-3311

REPORT TO:
Freddie Walker
MAECORP
17450 South Halsted
Homewood, IL 60430

Date: 1/23/89
Recd: 1/09/89
WO #: 21-0830

IL-A013
EPA METHOD 601,602,603

Laboratory Smp ID No.:	3527-9	3528-9	3529-9	3530-9	3531-9		
DESCRIPTION: —> ıless otherwise noted; sults in parts per lion - ppb] PARAMETERS:↓	IL-A013-B1-C1 Soil Boring 1	IL-A013-B2-C1 Soil Boring 2	IL-A013-B4-C1 Soil Boring 3	IL-A013-B4-C1 Soil Boring 4	IL-A013-B4-C2 Soil Boring 4		
CROLEIN	ND	ND	ND	ND	ND		
CRYLONITRILE	ND	ND	ND	ND	ND		
ENZENE	ND	ND	ND	ND	ND		
ROMODICHLOROMETHANE	ND	ND	ND	ND	ND		
ROMOFORM	ND	ND	ND	ND	ND		
ROMOMETHANE	ND	ND	ND	ND	ND		
ARBON TETRACHLORIDE	ND	ND	ND	ND	ND		
HLOROBENZENE	ND	ND	ND	ND	ND		
HLOROETHANE	ND	ND	ND	ND	ND		
-CHLOROETHYLVINYL ETHER	ND	ND	ND	ND	ND		
HLOROFORM	ND	ND	ND	ND	ND		
HLOROMETHANE	ND	ND	ND	ND	ND		
IBROMOCHLOROMETHANE	ND	ND	ND	ND	ND		
,1-DICHLOROETHANE	ND	ND	ND	ND	ND		
,2-DICHLOROETHANE	ND	ND	ND	ND	ND		
,1-DICHLOROETHENE	ND	ND	ND	ND	ND		
rans-1,2-DICHLOROETHENE	ND	ND	ND	ND	ND		

ND=Not Detected a: 5 ppb.

TENCO LABORATORIES

BPM INDUSTRIES
1150 Junction Avenue - Schererville, Indiana 46375
1-219-322-2560 ● 1-800-428-3311

REPORT TO:

Freddie Walker
MAECORP
17450 South Halsted
Homewood, IL 60430

IL-A013
EPA METHODS 601,602,603

Date: 1/23/89
Recd: 1/09/89
WO #: 21-0830

Laboratory Smp ID No.:	3527-9	3528-9	3529-9	3530-9	3531-9		
DESCRIPTION: —> *(Unless otherwise noted; results in parts per billion - ppb)* *PARAMETERS:↓*	IL-A013-B1-C1 Soil Boring 1	IL-A013-B2-C1 Soil Boring 2	IL-A013-B4-C1 Soil Boring 3	IL-A013-B4-C1 Soil Boring 4	IL-A013-B4 C2 Soil Boring 4		
1,2-DICHLOROPROPANE	ND	ND	ND	ND	ND		
cis-1,3-DICHLOROPROPENE	ND	ND	ND	ND	ND		
trans,1,3-DICHLOROPROPENE	ND	ND	ND	ND	ND		
ETHYL BENZENE	ND	ND	ND	ND	ND		
METHYLENE CHLORIDE	ND	ND	ND	31.2	ND		
1,1,2,2-TETRACHLOROETHANE	ND	ND	ND	ND	ND		
TETRACHLOROETHENE	ND	ND	ND	ND	ND		
TOLUENE	ND	42.9	ND	ND	ND		
1,1,1-TRICHLOROETHANE	ND	ND	ND	ND	5.12		
1,1,2-TRICHLOROETHANE	ND	ND	ND	ND	ND		
TRICHLOROETHENE	ND	ND	ND	ND	91.2		
TRICHLOROFLUOROMETHANE	ND	ND	ND	ND	ND		
VINYL CHLORIDE	ND	ND	ND	ND	ND		

ND=Not Detected at 5 ppb.

Certified by: Dale D. Pahl

TENCO LABORATORIES
BPM INDUSTRIES
1150 Junction Avenue - Schererville, Indiana 46375
1-219-322-2560 ● 1-800-428-3311

REPORT TO:
Freddie Walker
MAECORP
17450 South Halsted
Homewood, IL 60430

IL-A013
EPA METHODS 606,607,609,610,611,612

Date: 1/23/89
Recd: 1/09/89
WO #: 21-0830

Laboratory Smp ID No.:	3527-9	3528-9	3529-9	3530-9	3531-9
Sample Description Unless otherwise noted, results in ppb	IL-A013-B1-C1 Soil Boring 1	IL-A013-B2-C1 Soil Boring 2	IL-A013-B3-C1 Soil Boring 3	IL-A013-B4-C1 Soil Boring 4	IL-A013-B4-C2 Soil Boring 4
ACENAPHTHENE	ND	ND	ND	ND	ND
ACENAPHTHYLENE	ND	ND	ND	ND	ND
ANTHRACENE	ND	ND	ND	ND	ND
BENZIDINE	ND	ND	ND	ND	ND
BENZO(A)ANTHRACENE	ND	ND	ND	ND	ND
BENZO(A)PYRENE	ND	ND	ND	ND	ND
BENZO(B)FLUORANTHENE	ND	ND	ND	ND	ND
BENZO(K)FLUORANTHENE	ND	ND	ND	ND	ND
BENZO(G,H,I)PERYLENE	ND	ND	ND	ND	ND
BENZYL BUTYL PHTHALATE	ND	ND	ND	ND	ND
BIS(2-CHLOROETHYOXY)METHANE	ND	ND	ND	ND	ND
BIS(2-CHLOROETHYL)ETHER	ND	ND	ND	ND	ND
BIS(2-CHLOROISOPROPYL)ETHER	ND	ND	ND	ND	ND
BIS(2-ETHYLHEXYL)PHTHALATE	ND	ND	ND	ND	ND
4-BROMOPHENYL PHENYL ETHER	ND	ND	ND	ND	ND
2-CHLORONAPHTHALENE	ND	ND	ND	ND	ND
4-CHLOROPHENYL PHENYL ETHER	ND	ND	ND	ND	ND
CHRYSENE	ND	ND	ND	ND	ND
DIBENZO(A,H)ANTHRACENE	ND	ND	ND	ND	ND

ND=Not Detected at 100 ppb.

Certified by: [signature]

TENCO LABORATORIES

BPM INDUSTRIES
1150 Junction Avenue - Schererville, Indiana 46375
1-219-322-2560 ● 1-800-428-3311

REPORT TO:
Freddie Walker
MAECORP
17450 South Halsted
Homewood, IL 60430

IL-A013

EPA METHODS 606,607,609,610,611,612

Date: 1/23/89
Recd: 1/09/89
WO #: 21-0830

Laboratory Smp ID No.:	3527-9	3528-9	3529-9	3530-9	3531-9
Sample Description Unless otherwise noted, results in ppb	IL-A013-B1-C1 Soil Boring 1	IL-A013-B2-C1 Soil Boring 2	IL-A013-B3-C1 Soil Boring 3	IL-A013-B4-C1 Soil Boring 4	IL-A013-B4-C2 Soil Boring 4
1,2-DICHLOROBENZENE	ND	ND	ND	ND	ND
1,3-DICHLOROBENZENE	ND	ND	ND	ND	ND
1,4-DICHLOROBENZENE	ND	ND	ND	ND	ND
3,3-DICHLOROBENZIDINE	ND	ND	ND	ND	ND
DIETHYLPHTHALATE	ND	ND	ND	ND	ND
DIMETHYLPHTHALATE	ND	ND	ND	ND	ND
DI-N-BUTYLPHTHALATE	ND	ND	ND	ND	ND
2,4-DINITROTOLUENE	ND	ND	ND	ND	ND
2,6-DINITROTOLUENE	ND	ND	ND	ND	ND
DI-N-OCTYLPHTHALATE	ND	ND	ND	ND	ND
FLUORANTHENE	ND	ND	ND	ND	ND
FLUORENE	ND	ND	ND	ND	ND
HEXACHLOROBENZENE	ND	ND	ND	ND	ND
HEXACHLOROBUTADIENE	ND	ND	ND	ND	ND
HEXACHLOROCYCLOPENTADIENE	ND	ND	ND	ND	ND
HEXACHLOROETHANE	ND	ND	ND	ND	ND
INDENO (1,2,3-CD)PYRENE	ND	ND	ND	ND	ND

ND=not Detected at 100 ppb.

Certified by: Dalt D Lynch

BPM INDUSTRIES
1150 Junction Avenue - Schererville, Indiana 46375
1-219-322-2560 ● 1-800-428-3311

REPORT TO:
Freddie Walker
MAECORP
17450 South Halsted
Homewood, IL 60430

IL-A013

Date: 1/23/89
Recd: 1/09/89
WO #: 21-0830

EPA METHODS 606,607,609,610,611,612

Laboratory Smp ID No.:	3527-9	3528-9	3529-9	3530-9	3531-9		
DESCRIPTION: —> (Unless otherwise noted; results in parts per billion - ppb) PARAMETERS: ↓	IL-A013-B1-C1 Soil Boring 1	IL-A013-B2-C1 Soil Boring 2	IL-A013-B3-C1 Soil Boring 3	IL-A013-B4-C1 Soil Boring 4	IL-A013-B4-C2 Soil Boring 4		
ISOPHORONE	ND	ND	ND	ND	ND		
NAPHTHALENE	ND	ND	ND	ND	ND		
NITROBENZENE	ND	ND	ND	ND	ND		
N-NITROSODIMETHYLAMINE	ND	ND	ND	ND	ND		
N-NITROSODI-N-PROPYLAMINE	ND	ND	ND	ND	ND		
N-NITROSODIPHENYLAMINE	ND	ND	ND	ND	ND		
PHENANTHRENE	ND	ND	ND	ND	ND		
PYRENE	ND	ND	ND	ND	ND		
1,2,4-TRICHLOROBENZENE	ND	ND	ND	ND	ND		

ND=Not Detected at 100 ppb.

Certified by:

TENCO LABORATORIES

BPM INDUSTRIES
1150 Junction Avenue - Schererville, Indiana 46375
1-219-322-2560 ● 1-800-428-3311

REPORT TO:

Freddie Walker
MAECORP
17450 South Halsted
Homewood, IL 60430

Date: 1/23/89
Recd: 1/09/89
WO #: 21-0830

IL-A013

Laboratory Smp ID No.:	3527-9	3528-9	3529-9	3530-9	3531-9		
DESCRIPTION: --> [Unless otherwise noted; results in parts per million - ppm] PARAMETERS:↓	IL-A013-B1-C1 Soil Boring 1	IL-A013-B2-C1 Soil Boring 2	IL-A013-B3-C1 Soil Boring 3	IL-A013-B4-C1 Soil Boring 4	IL-A013-B4-C2 Soil Boring4		
Arsenic	<0.01	<0.01	<0.01	<0.01	<0.01		
Silver	5.08	2.43	16.3	1.75	4.50		
Mercury	0.417	0.350	0.089	0.189	0.023		
Lead	221	3881	295	20.7	<0.01		
Selenium	<0.01	<0.01	<0.01	<0.01	<0.01		
Chromium	7.22	12.8	10.8	5.35	8.60		
Cadmium	0.677	9.46	0.683	<0.002	<0.002		
Barium	53.1	525	42.1	20.1	26.9		

Certified by: [signature]

.EN... L...OR...TOR...S
BPM INDUSTRIES
1150 Junction Avenue - Schererville, Indiana 46375
1-219-322-2560 ● 1-800-428-3311

REPORT TO:
Freddie Walker
MAECORP
17450 South Halsted
Homewood, IL 60430

IL-A013

EPA METHOD SW 846-8080

Date: 1/23/89
Recd: 1/09/89
WO #: 21-0830

Laboratory Smp ID No.:	3527-9	3528-9	3529-9	3530-9	3531-9		
DESCRIPTION: — : (Unless otherwise noted results in milligram/ kilogram - mg/kg	IL-A013-B1-C1 Soil	IL-A013-B2-C1 Soil	IL-A013-B3-C1 Soil	IL-A013-B4 C1 Soil	IL-A013-B4-C2 Soil		
PARAMETERS ↓	Boring 1	Boring 2	Boring 3	Boring 4	Boring 4		
PCB's as:							
AROCHLOR 1016	ND	ND	ND	ND	ND		
AROCHLOR 1221	ND	ND	ND	ND	ND		
AROCHLOR 1232	ND	ND	ND	ND	ND		
AROCHLOR 1242	ND	ND	ND	ND	ND		
AROCHLOR 1248	ND	ND	ND	ND	ND		
AROCHLOR 1254	ND	ND	ND	0.238	2.25		
AROCHLOR 1260	ND	ND	ND	ND	ND		

ND=Not Detected at 0.10 mg/kg.

Certified by: [signature]

Sample Number
139455

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: Gulf Coast Laboratories, Inc.
Contract:
Lab Code: INESIL Case No.:
SAS No.: SDG No.:
Matrix: (soil/water) Water
Lab Sample ID:
Sample weight/volume: 880 (g/ml) mL
Lab File ID:
Level: (low/medium)
Date Received:
% Moisture: (Not Dec.) NA dec.
Date Extracted: 9/8/88
Extraction: (SepF/Con/Sonc) SEPF
Date Analyzed: 9/14/88
GPC Cleanup: (Yes/No) NO pH 7
Dilution Factor: 1

CAS #	COMPOUND	CONCENTRATION UNITS ug/l	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.5	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.5	U
5103-74-2	gamma-Chlordane	0.5	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	0.5	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
	Total PCBs	1.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE N

139455

Lab Name: GULF COAST LABORATORIES Contract: 000

Lab Code: WESIL Case No.: ---- SAS No.: ---- SDG No.: ----

Matrix: (soil/water) water Lab Sample ID: 139455

Sample wt/vol: 5 (g/mL) mL Lab File ID: >MAE01

Level: (low/med) low Date Received: 9/06/88

% Moisture: not dec.____ Date Analyzed: 9/14/88

Column: (pack/cap) pack Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	54.	
67-64-1	Acetone	25.	
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	52.	
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	19.	
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
133-02-7	Xylene (total)	5.	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

139455

Lab Name: GULF COAST LABORATORIES Contract: 000

Lab Code: WESIL Case No.: ---- SAS No.: ---- SDG No.: ----

Matrix: (soil/water) water Lab Sample ID: 139455

Sample wt/vol: 5 (g/mL) mL Lab File ID: >MAE01

Level: (low/med) low Date Received: 9/06/88

% Moisture: not dec. Date Analyzed: 9/14/88

Column: (pack/cap) pack Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
107-02-8	Acrolein	100.	U
107-13-1	Acrylonitrile	100.	U
75-71-8	Dichlorodifluoromethane	20.	U
542-88-1	Bis(chloromethyl)ether	20.	U
75-69-4	Trichlorofluoromethane	10.	U
110-75-8	2-Chloroethyl vinyl ether	10.	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

139455

Lab Name: GULF COAST LABS Contract: -----

Lab Code: WESIL Case No.: ----- SAS No.: ----- SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 139455

Sample wt/vol: 850 (g/mL) mL Lab File ID: >MAE50

Level: (low/med) LOW Date Received: 09/06/88

% Moisture: not dec.- dec. - Date Extracted: 09/07/88

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 9/19/88

GPC Cleanup: (Y/N) NO pH: ---- Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)Ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

139455

Lab Name: GULF COAST LABS Contract: -----

Lab Code: WESIL Case No.: ----- SAS No.: ----- SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 139455

Sample wt/vol: 850 (g/mL) mL Lab File ID: >MAE50

Level: (low/med) LOW Date Received: 09/06/88

% Moisture: not dec.- dec. - Date Extracted: 09/07/88

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 9/19/88

GPC Cleanup: (Y/N) NO pH: ---- Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	50.	U
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrosodiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-butylphthalate	1.	J
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)anthracene	10.	U
218-01-9	Chrysene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	11.	B
117-84-0	Di-n-octylphthalate	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U
50-32-8	Benzo(a)pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U

(1) - Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

139455

b Name: GULF COAST LABS Contract: -----

Code: WESIL Case No.: ----- SAS No.: ----- SDG No.: ------

trix: (soil/water) WATER Lab Sample ID: 139455

ample wt/vol: 850 (g/mL) ML Lab File ID: >MAE50

evel: (low/med) LOW Date Received: 09/06/88

Moisture: not dec.- dec. - Date Extracted: 09/07/88

xtraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 09/19/88

PC Cleanup: (Y/N) NO pH: ---- Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
	N-Nitrosodimethylamine	10.	U
	1,2-Diphenylhydrazine	10.	U
	Benzidine	100.	U
	3-Methylphenol (1)	10.	U
	Dioxin (2)	NA	

(1) Screened by MC4 108,107,79 Ion Search.
(2) Screened by Method 625. Federal Register 49:209.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

139455

Lab Name: GULF COAST LABS Contract: -----

Lab Code: WESIL Case No.: ----- SAS No.: ----- SDG No.: ------

Matrix: (soil/water) WATER Lab Sample ID: 139455

Sample wt/vol: 850 (g/mL) ML Lab File ID: >MAE50

Level: (low/med) LOW Date Received: 09/06/88

% Moisture: not dec.- dec. - Date Extracted: 09/07/88

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 9/19/88

GPC Cleanup: (Y/N) NO pH: ---- Dilution Factor: 1.00000

Number TICs found: 13 CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	6.62	10	J B
2.		1,1,2,2-TETRACHLOROETHANE	8.52	6	J
3.		UNKNOWN	8.66	48	J B
4.		UNKNOWN	8.98	10	J
5.		UNKNOWN	9.43	80	J
6.		UNKNOWN	12.51	7	J
7.		UNKNOWN	17.11	6	J
8.		UNKNOWN	17.40	6	J
9.		UNKNOWN	17.60	6	J
10.		UNKNOWN	24.18	5	J
11.		UNKNOWN	28.84	17	J
12.		UNKNOWN	36.78	6	J
13.		UNKNOWN	37.42	5	J
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

BF[illegible]NDU[illegible]IES
1150 Junction Avenue - Schererville, Indiana 46375
1-219-322-2560 ● 1-800-428-3311

REPORT TO:
Freddie Walker
MAECORP
17450 South Halsted
Homewood, IL 60430

Date: 2/28/89
Recd: 2/20/89
WO #: 21-1171

PROJECT IL-A013

Laboratory Smp ID No.:	4360-9	4361-9	4362-9	4363-9			
DESCRIPTION: —> [Unless otherwise noted; results in parts per million - ppm] PARAMETERS:↓	BLK 1:10 pm 2/17/89	MW1 12:40 pm 2/17/89	MW2 1:45 am 2/17/89	MW3 1:00 pm 2/17/89			
Silver	<0.002	0.018	0.015	0.003			
Arsenic	<0.010	<0.010	<0.010	<0.010			
Barium	<0.050	0.558	0.451	0.125			
Cadmium	<0.002	0.006	0.004	<0.002			
Chromium	<0.004	0.212	0.157	0.019			
Mercury	<0.0001	0.0043	0.0222	0.0001			
Lead	<0.009	1.56	2.01	0.019			
Selenium	<0.01	0.016	0.02	0.015			
TOC	<1	59	39.6	11.3			

MAECORP INCORPORATED
QA/QC R[illegible] NO
QA/QC A[illegible] NO
DATE 03-03-89
SIGNED [illegible]

Certified by: [illegible]

1 June Ave Scl ville ana 75
1-219-322-2560 ● 1-800-428-3311

REPORT TO:
Freddie Walker
MAECORP INC
17450 S Halsted St
Homewood IL 60430

Date: 3/08/89
Recd: 2/20/89
WO #: 21-1171

EPA METHOD 608 PROJECT IL A013

Laboratory Smp ID No.:	4360-9	4361-9	4362-9	4363-9			
DESCRIPTION: —> (Unless otherwise noted; results in parts per billion - ppb) PARAMETERS: ↓	BLK 1:10 pm 2/17/89	MW1 12:40 pm 2/17/89	MW2 1:45 am 2/17/89	MW3 1:00 pm 2/17/89			
PCB's as:							
AROCHLOR 1016	ND	ND	ND	ND			
AROCHLOR 1221	ND	ND	ND	ND			
AROCHLOR 1232	ND	ND	ND	ND			
AROCHLOR 1242	ND	ND	ND	ND			
AROCHLOR 1248	ND	ND	ND	ND			
AROCHLOR 1254	ND	ND	ND	ND			
AROCHLOR 1260	ND	ND	ND	ND			
					NO		
					ND		
					03-08-89		
					Freddie Walker		

ND=Not Detected at 1ppb

Certified by: Sheila St Amour

BF... ..NDU...IES
1150 Junction Avenue - Schererville, Indiana 46375
1-219-322-2560 ● 1-800-428-3311

REPORT TO:
Freddie Walker
MAECORP
17450 South Halsted
Homewood, IL 60430

Date: 2/28/89
Recd: 2/20/89
WO #: 21-1171

PROJECT IL-A013

Laboratory Smp ID No.:	4360-9	4361-9	4362-9	4363-9			
DESCRIPTION: —> [Unless otherwise noted; results in parts per billion - ppb] PARAMETERS: ↓	BLK 1:10 pm 2/17/89	MW1 12:40 pm 2/17/89	MW2 1:45 am 2/17/89	MW3 1:00 pm 2/17/89			Detection Limits
Acenapthene	ND	ND	ND	ND			18 ppb
Acenapthylene	ND	ND	ND	ND			10 ppb
Anthracene	ND	ND	ND	ND			6.6 ppb
Benzo(a)anthracene	ND	ND	ND	ND			0.13 ppb
Benzo(b)fluoranthene	ND	ND	ND	ND			0.18 ppb
Benzo(a)pyrene	ND	ND	ND	ND			0.23 ppb
Benzo(ghi)perylene	ND	ND	ND	ND			0.76 ppb
Benzo(k)fluoranthene	ND	ND	ND	ND			1.5 ppb
Chrysene	ND	ND	ND	ND			1.5 ppb
Dibenzo(a,h)anthracene	ND	ND	ND	ND			0.3 ppb
Fluoranthene	ND	ND	ND	ND			2.1 ppb
Fluorene	ND	ND	ND	ND			2.1 ppb
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND			0.43 ppb
Napthalene	ND	ND	ND	ND			10 ppb
Phenanthrene	ND	ND	ND	ND			6.4 ppb
Pyrene	ND	ND	ND	ND			2.7 ppb

ND=Not Detected

Certified by: [illegible]

TENCO LABORATORIES

BPM INDUSTRIES
1150 Junction Avenue - Schererville, Indiana 46375
1-219-322-2560 ● 1-800-428-3311

REPORT TO:
Freddie Walker
MAECORP
17450 South Halsted
Homewood, IL 60430

PROJECT IL-A013

EPA METHOD 601,602,603

Date: 2/28/89
Recd: 2/20/89
WO #: 21-1171

Laboratory Smp ID No.:	4360-9	4361-9	4362-9	4363-9			
DESCRIPTION: —> (Unless otherwise noted; results in parts per billion - ppb)	BLK	MW1	MW2	MW3			
	1:10 pm	12:40 pm	1:45 am	1:00 pm			
PARAMETERS: ↓	2/17/89	2/17/89	2/17/89	2/17/89			
ACROLEIN	ND	ND	ND	ND			
ACRYLONITRILE	ND	ND	ND	ND			
BENZENE	ND	ND	ND	ND			
BROMODICHLOROMETHANE	ND	ND	ND	ND			
BROMOFORM	ND	ND	ND	ND			
BROMOMETHANE	ND	ND	ND	ND			
CARBON TETRACHLORIDE	ND	ND	ND	ND			
CHLOROBENZENE	ND	ND	ND	ND			
CHLOROETHANE	ND	ND	ND	ND			
2-CHLOROETHYLVINYL ETHER	ND	ND	ND	ND			
CHLOROFORM	ND	ND	ND	ND			
CHLOROMETHANE	ND	ND	ND	ND			
DIBROMOCHLOROMETHANE	ND	ND	ND	ND			
1,1-DICHLOROETHANE	ND	ND	ND	ND			
1,2-DICHLOROETHANE	ND	ND	ND	ND			
1,1-DICHLOROETHENE	ND	ND	ND	ND			
trans-1,2-DICHLOROETHENE	ND	ND	ND	ND			

ND=Not Detected at 1 ppb.

TENCO LABORATORIES
BPM INDUSTRIES
1150 Junction Avenue - Schererville, Indiana 46375
1-219-322-2560 ● 1-800-428-3311

REPORT TO:
Freddie Walker
MAECORP
17450 South Halsted
Homewood, IL 60430

PROJECT IL-A013
EPA METHODS 601,602,603

Date: 2/28/89
Recd: 2/20/89
WO #: 21-1171

Laboratory Smp ID No.:	4360-9	4361-9	4362-9	4363-9			
DESCRIPTION: —> [Unless otherwise noted; results in parts per billion - ppb]	BLK	MW1	MW2	MW3			
	1:10 pm	12:40 pm	1:45 am	1:00 pm			
PARAMETERS: ↓	2/17/89	2/17/89	2/17/89	2/17/89			
1,2-DICHLOROPROPANE	ND	ND	ND	ND			
cis-1,3-DICHLOROPROPENE	ND	ND	ND	ND			
trans,1,3-DICHLOROPROPENE	ND	ND	ND	ND			
ETHYL BENZENE	ND	ND	ND	ND			
METHYLENE CHLORIDE	ND	ND	ND	ND			
1,1,2,2-TETRACHLOROETHANE	ND	ND	ND	ND			
TETRACHLOROETHENE	ND	ND	ND	ND			
TOLUENE	ND	ND	ND	ND			
1,1,1-TRICHLOROETHANE	ND	ND	ND	ND			
1,1,2-TRICHLOROETHANE	ND	ND	ND	ND			
TRICHLOROETHENE	ND	ND	ND	ND			
TRICHLOROFLUOROMETHANE	ND	ND	ND	ND			
VINYL CHLORIDE	ND	ND	ND	ND			

ND=Not Detected at 1 ppb.

MAECORP INCORPORATED
17450 S. Halsted Street
Homewood, IL 60430

CHAIN-OF-CUSTODY RECORD

CHAIN-OF-CUSTODY № 003668

RECEIVING ENTITY Tenco

ENTITY CONTACT/PHONE _____ / _____

MAECORP JOB SITE PHONE _____

PROJECT LOCATION	NAME OF CLIENT	PROJECT TELEPHONE NUMBER	PROJECT NUMBER
North Chicago	Northern Trust Bank		IL-A013

ITEM NUMBER	SAMPLE NUMBER	NUMBER & SIZE OF CONTAINERS	DESCRIPTION	TRANSFER NUMBER & CHECK 1	2	3	4	5	6	7
1	IL-A013-B1-C1	1-Qt Jar 1-250ml Amber Jar 7-VOA Vials 1-250ml Jar	Soil Composite from Boring 1 7 VOA vials w/ sample # IL-A013-B1-01 to 07 make up IL-A013-B1-C1 (Please composite them)	✓						
2	IL-A013-B2-C1	"	Soil Composite from Boring 2 7 VOA vials w/ sample # IL-A013-B2-01 to 07 make up IL-A013-B2-C1 (Please composite them)	✓						
3	IL-A013-B3-C1	"	Soil Composite from Boring 3 7 VOA vials w/ sample # IL-A013-B3-01 to 07 make up IL-A013-B3-C1 (Please composite them)	✓						
4	IL-A013-B4-C1	"	Soil Composite from Boring 4 7 VOA vials w/ sample # IL-A013-B4-01 to 07 make up IL-A013-B4-C1 (Please composite them)	✓						
5	IL-A013-B4-C2	1-Qt Jar 1-250ml Amber Jar 1-250ml Jar	Soil Composite from Boring 4	✓						

Send results to
Freddie Walker
c/o MAECORP
PO# 25919-ILA013

Person Responsible for Sample	Affiliation	Date	Time
Katie Dignan	MAECORP	1/9/89	1:30PM

Purpose of analysis (use back of front sheet if necessary)

VOC's PCB's
PNA's
8 RCRA Metals (tot)

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	ACCEPTED BY	DATE	TIME
1	1-5	Katie Dignan			
2					
3					
4					
5					
6					
7					

MAECORP INCORPORATED
17450 S. Halsted Street
Homewood, IL 60430

CHAIN-OF-CUSTODY RECORD

CHAIN-OF-CUSTODY № 004793

RECEIVING ENTITY Tracer Labs

ENTITY CONTACT/PHONE _____ / _____ MAECORP JOB SITE PHONE _____

PROJECT LOCATION	NAME OF CLIENT	PROJECT TELEPHONE NUMBER	PROJECT NUMBER
21st North Chicago	Northern Trust Bank		Illinois

ITEM NUMBER	SAMPLE NUMBER	NUMBER & SIZE OF CONTAINERS	DESCRIPTION	TRANSFER NUMBER & CHECK 1	2	3	4	5	6	7
1	MW01-ILA013	2 Vom(40ml)vials 1 lgt glass 1 lgt Amber	water							
2	MW02-ILA013	2 Vom(40ml)vials 1 lgt glass 1 lgt Amber	"							
3	MW03-ILA013	2 Vom(40ml)vials 1 lgt glass 1 lgt. Amber	"							
4	Blank2 ILA013	1 qt Jar 1 Vom(40ml)Vial	Travel Blank							
5	[illegible]	[illegible]								

MAECORP INCORPORATED
CARGO RECEIVED ____
CARGO CHECKED ____
DATE ____
BY ____

Please send results to
c/o MAECORP
Rt 21 Hill - Illinois

Person Responsible for Sample	Affiliation	Date	Time
[illegible]	[illegible]	[illegible]	[illegible]

Purpose of analysis (use back of front sheet if necessary)
PNA (610)
PCB'S
TPC
RCRA metals
VOA (601, 602, 603, 606, 607, 611, 612)

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	ACCEPTED BY	DATE	TIME
1	1 of 14	Vern Prasad	E. Kenan	[illegible]	[illegible]
2					
3					
4					
5					
6					
7					

BORING/WELL LOG DATA
MAECORP INCORPORATED

PROJECT: Northern Trust Bank	**WELL/BORING NO.:** Boring 1
LOCATION: 22nd Street Stack Property	**DATE DRILLED:** January 5, 1989
DRILLING METHOD: Auger	**CASING TYPE/DIA:** N/A
TOTAL DEPTH DRILLED: 25'	**TOTAL CASING:** N/A
GROUND ELEVATION: N/A	**T.O.C. ELEVATION:** N/A
GROUT TYPE/QUANTITY: Backfill and Cement	**SCREEN TYPE/LENGTH:** N/A
GROUT INTERVAL(S): N/A	**SCREENED INTERVAL:** N/A
DEPTH TO WATER: N/A	**GRAVEL PACK TYPE:** N/A
WATER LEVEL ELEVATION: N/A	**GRAVEL PACK INTERVAL:** N/A
	STATIC WATER LEVEL: N/A **DATE:** 1/5/89

REMARKS:

LOGGED BY: Diane C. Kanode	**SIGNATURE:** Diane C. Kanode

DEPTH	H2O/SOIL SAMPLE	FORMATION DESCRIPTION
0-18"	B1-01	21, 52, 8 - 4" black gravely sandy fill, 6" black gravely sand
		no odor
19-36"	B1-02	2, 2, 4 - 3" gravely sand fill, 6" gray-brown mottled gravely silt,
		no odor
37-54"	B1-03	3, 4, 6 - 2" gray gravely silt, 9" gray-brown mottled silt no odor
55-72"	B1-04	3, 5, 8 - 9" gray gravely silt
73-90"	B1-05	9, 11, 13 - 6" gray-brown mottled gravely silt, 3" gray-brown clayey
		silt
91-108"	B1-06	7, 9, 15 - 10" gray-brown mottled silt
109-126"	B1-07	8, 9, 10 - 3" gray-brown mottled silt, 6" gray silty clay
		* dry boring

BORING/WELL LOG DATA
MAECORP INCORPORATED

PROJECT: Northern Trust Bank	**WELL/BORING NO.:** Boring 2
LOCATION: 22nd Street Stack Property	**DATE DRILLED:** January 5, 1989
DRILLING METHOD: Auger	**CASING TYPE/DIA:** PVC - 2"
TOTAL DEPTH DRILLED: 10.5 '	**TOTAL CASING:** 7'11"
GROUND ELEVATION: N/A	**T.O.C. ELEVATION:** N/A
GROUT TYPE/QUANTITY: Enviroplug & cement	**SCREEN TYPE/LENGTH:** PVC - 5 feet
GROUT INTERVAL(S): 2'7" - 5'5"	**SCREENED INTERVAL:** 7'11" - 12'11"
DEPTH TO WATER: @ 10.7'	**GRAVEL PACK TYPE:** sand
WATER LEVEL ELEVATION: N/A	**GRAVEL PACK INTERVAL:** 6'7" - 12'11"
	STATIC WATER LEVEL: 2'7" **DATE:** 1/5/89

REMARKS:

LOGGED BY: Diane C. Kanode **SIGNATURE:** Diane C. Kanode

DEPTH	H2O/SOL SAMPLE	FORMATION DESCRIPTION
0-18"	B2-01	17, 10, 26 - 9" black gravely sand
9-36"	B2-02	11, 16, 12 - 14" black medium sand with some gravel
37-54"	B2-03	3, 3, 5 - 15" black (fill) sand, 5" gray-brown mottled gravely silt
5-72"	B2-04	2, 1, 3 - 4" black (fill) sand, 5" gray-brown mottled gravely silt
73-90"	B2-05	2, 3, 5 - 4" gray coarse sandy silt, 12" medium sand
91-108"	B2-06	5, 6, 11 - 3" gray-brown mottled sandy silt, 4" gray coarse silt, 3" black gravely sand
109-126"	B2-07	1, 8, 16 - 6" black gravely sand, 5" gray silty clay

BORING/WELL LOG DATA
MAECORP INCORPORATED

PROJECT: Northern Trust Bank	**WELL/BORING NO.:** Boring 3
LOCATION: 22nd Street Stack Property	**DATE DRILLED:** January 5, 1989
DRILLING METHOD: Auger	**CASING TYPE/DIA:** PVC - 2"
TOTAL DEPTH DRILLED: 10.5'	**TOTAL CASING:** 7'11"
GROUND ELEVATION: N/A	**T.O.C. ELEVATION:** N/A
GROUT TYPE/QUANTITY: Enviroplug	**SCREEN TYPE/LENGTH:** PVC - 5 feet
GROUT INTERVAL(S): 2'7" - 6'10"	**SCREENED INTERVAL:** 7'11" - 12'11"
DEPTH TO WATER: @ 10.7'	**GRAVEL PACK TYPE:** sand
WATER LEVEL ELEVATION: N/A	**GRAVEL PACK INTERVAL:** 6'10" - 12'11"
	STATIC WATER LEVEL: 3'2" **DATE:** 1/5/89

REMARKS:

LOGGED BY: Diane C. Kanode **SIGNATURE:** Diane C. Kanode

DEPTH	H2O/SOIL SAMPLE	FORMATION DESCRIPTION
0-18"	B3-01	45, 45, 15 - 12" black gravely (fill) sand - no odor
1 -36"	B3-02	5, 7, 13 - 11" gray-brown mottled sandy silt, 4" black coarse (fill) sand
3[illegible]-54"	B3-03	3, 5, 4 - 16" black (fill) sand
5[illegible]-72"	B3-04	1, 2, 3 - 2" black (fill) sand, 9" gray-brown mottled coarse clayey silt
7 -90"	B3-05	2, 2, 2 - 6" gray gravely clayey silt
91-108"	B3-06	3, 5, 7 - 14" gray sandy silt
1 [illegible]-126"	B3-07	5, 11, 19 - 8" gray silty clay, 2" coarse sand, 3" gray silty clay

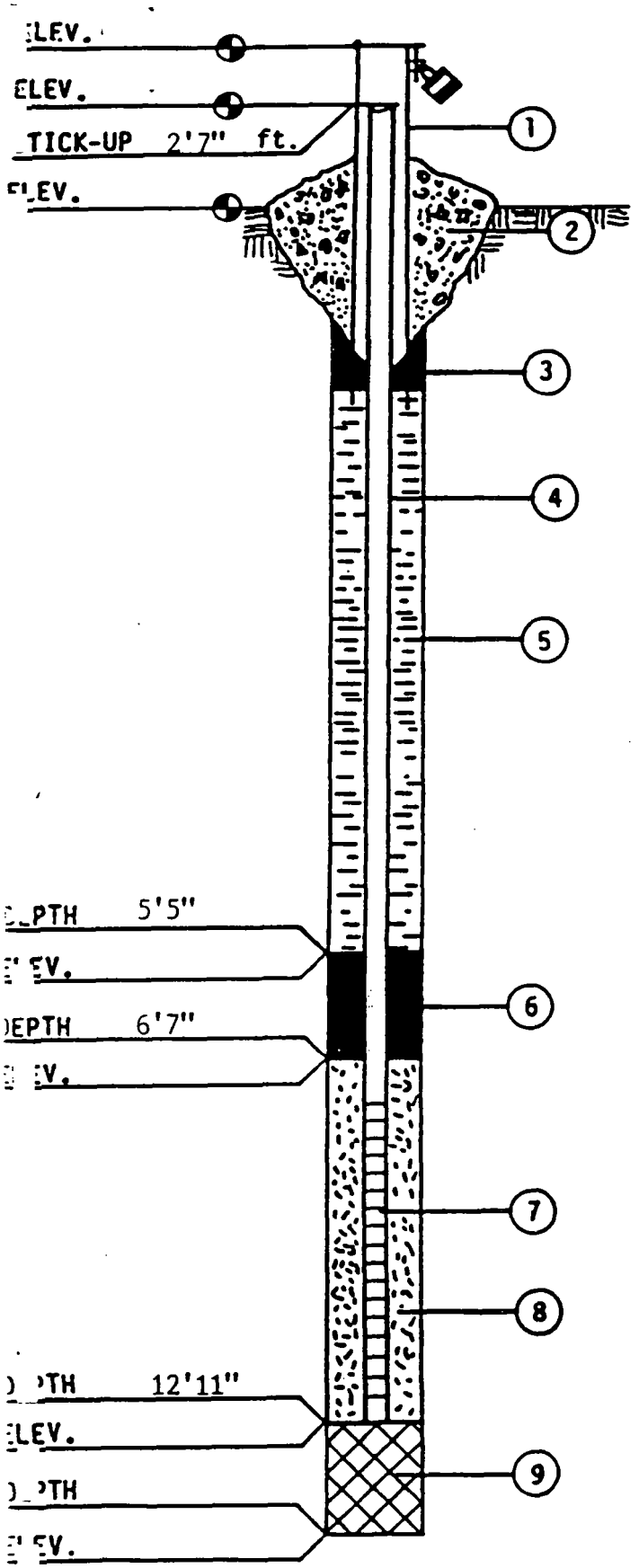
BORING/WELL LOG DATA
MAECORP INCORPORATED

PROJECT: Northern Trust Bank	**WELL/BORING NO.:** Boring 4
LOCATION: 22nd Street Stack Property	**DATE DRILLED:** January 6, 1989
DRILLING METHOD: Auger	**CASING TYPE/DIA:** PVC - 2"
TOTAL DEPTH DRILLED: 10.5'	**TOTAL CASING:** 7'11"
GROUND ELEVATION: N/A	**T.O.C. ELEVATION:** N/A
GROUT TYPE/QUANTITY: Enviroplug	**SCREEN TYPE/LENGTH:** 7'11" - 12'11"
GROUT INTERVAL(S): 2'7" - 7'0"	**SCREENED INTERVAL:** 7'11" - 12'11"
DEPTH TO WATER: @ 10.7'	**GRAVEL PACK TYPE:** Sand
WATER LEVEL ELEVATION: N/A	**GRAVEL PACK INTERVAL:** 7'0" - 12'11"
	STATIC WATER LEVEL: 1'7" **DATE:** 1/6/89

REMARKS: * Burnt rubber odor

LOGGED BY: Diane C. Kanode	**SIGNATURE:** Diane C. Kanode

DEPTH	H2O/SOL SAMPLE	FORMATION DESCRIPTION
0-18"	B4-01	3, 6, 8 - 10" black brown sandy silt vegetation layer, * 4" burnt black sandy silt vegetation layer - piece of rubber in core
19-36"	B4-02	6, 7, 7 - 4" burnt black coarse silt with vegetation, 10" gray gravely clayey silt with crushed brick pieces
7-54"	B4-03	3, 5, 6 - 10" gray-brown gravely mottled clayey silt
55-72"	B4-04	3, 5, 9 - 16" gray-brown gravely mottled clayey silt
3-90"	B4-05	8, 10, 11 - 18" brown gravely silty sand
91-108"	B4-06	6, 12, 9 - 2" brown gravely sand, 2" silt, 6" brown fine gravely sand
09-126"	B4-07	6, 9, 11 - 6" gray gravely sandy silt, 10" gray sandy silt



MAECORP
INCORPORATED

MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. IL-A013

BORING/WELL NO. MW-1

DATE January 5, 1989

CHIEF/UNIT Diane C. Kanode

1. PROTECTIVE CASING YES NO

   LOCKING YES NO

2. CONCRETE SEAL YES NO

3. TYPE OF SURFACE SEAL (IF INSTALLED)
   cement and metal casing

4. SOLID PIPE TYPE PVC

   SOLID PIPE LENGTH 7'11" ft.

   JOINT TYPE SLIP/GLUED THREADED

5. TYPE OF BACKFILL Enviroplug

   HOW INSTALLED - TREMIE FROM SURFACE

6. TYPE OF LOWER SEAL (IF INSTALLED)
   Enviroplug

7. SCREEN TYPE PVC

   SCREEN LENGTH 5 feet

   SLOT-SIZE 10 LENGTH ft.

   SCREEN DIAMETER 2 in.

8. TYPE OF BACKFILL AROUND SCREEN
   sand

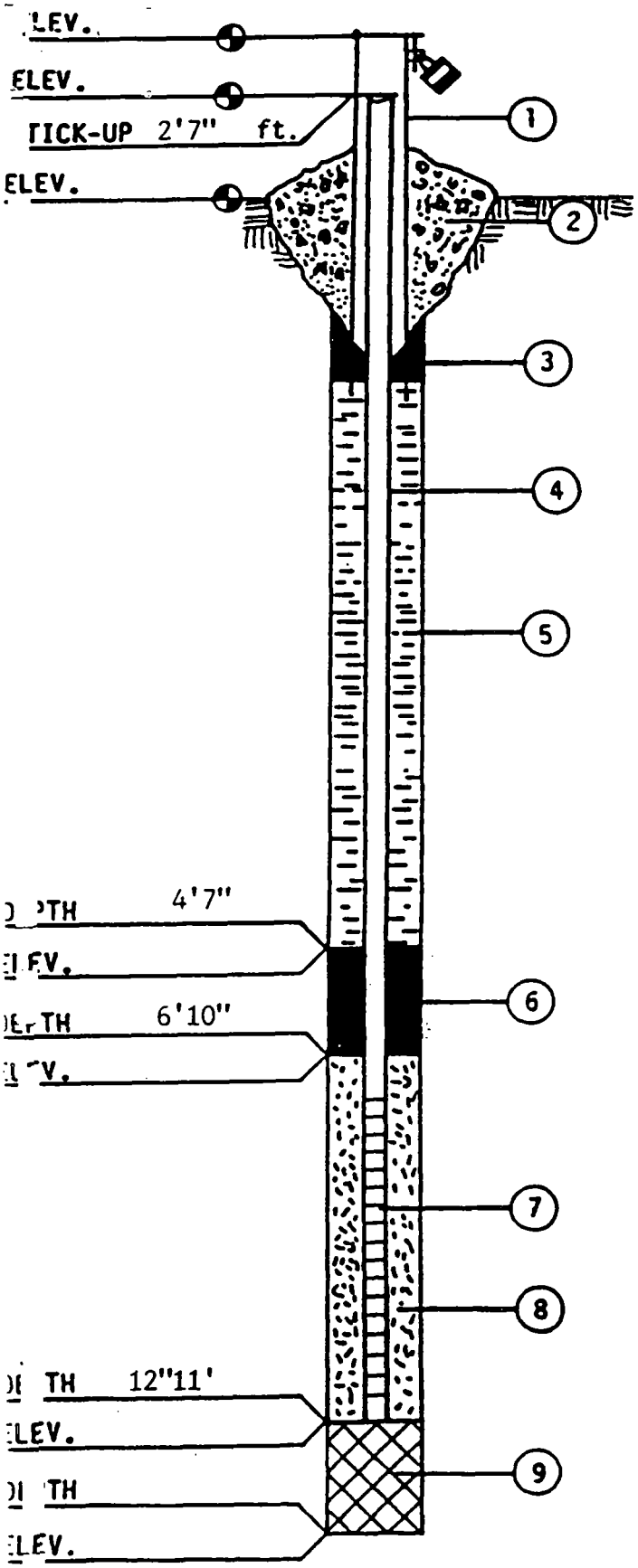
9. TYPE OF BACKFILL silty clay

10. DRILLING METHOD Auger

11. ADDITIVES USED (IF ANY)

WATER LEVEL 2'7" DATE 1/5/89

*ALL DEPTHS MEASURED FROM GROUND SURFACE.



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. IL-A013

BORING/WELL NO. MW-2

DATE January 5, 1989

CHIEF/UNIT Diane C. Kanode

1. PROTECTIVE CASING YES NO

   LOCKING YES NO

2. CONCRETE SEAL YES NO

3. TYPE OF SURFACE SEAL (IF INSTALLED)
   cement

4. SOLID PIPE TYPE PVC

   SOLID PIPE LENGTH 7'11" ft.

   JOINT TYPE SLIP/GLUED THREADED

5. TYPE OF BACKFILL Enviroplug

   HOW INSTALLED - TREMIE FROM SURFACE

6. TYPE OF LOWER SEAL (IF INSTALLED)
   Enviroplug

7. SCREEN TYPE PVC

   SCREEN LENGTH 5 feet

   SLOT-SIZE 10 LENGTH ft.

   SCREEN DIAMETER 2 in.

8. TYPE OF BACKFILL AROUND SCREEN
   sand

9. TYPE OF BACKFILL silty clay

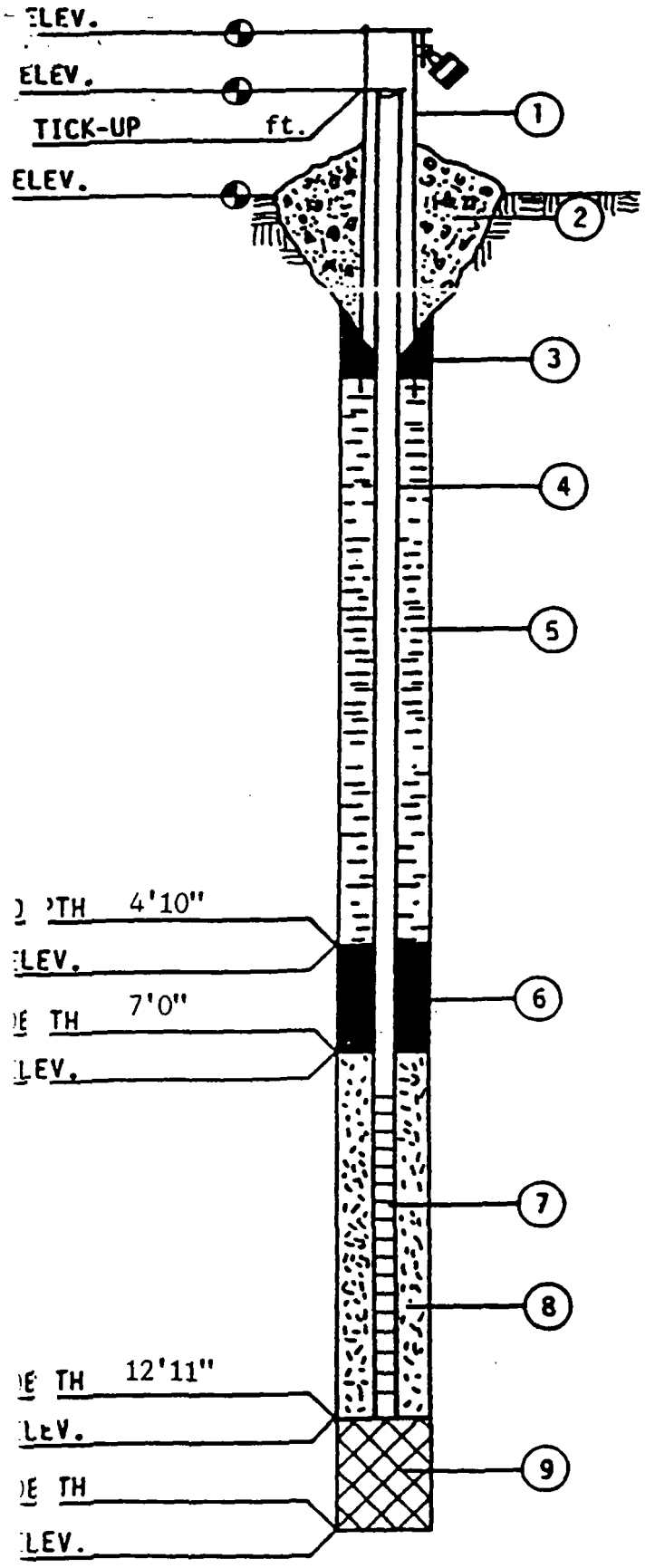
10. DRILLING METHOD Auger

11. ADDITIVES USED (IF ANY)

WATER LEVEL 3'2" DATE 1/5/89

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

MAECORP INCORPORATED



MAECORP
INCORPORATED

MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. IL-A013

BORING/WELL NO. MW-3

DATE January 6, 1989

CHIEF/UNIT Diane C. Kanode

1. PROTECTIVE CASING YES NO

   LOCKING YES NO

2. CONCRETE SEAL YES NO

3. TYPE OF SURFACE SEAL (IF INSTALLED)

   Cement

4. SOLID PIPE TYPE PVC

   SOLID PIPE LENGTH 7'11" ft.

   JOINT TYPE SLIP/GLUED THREADED

5. TYPE OF BACKFILL Enviroplug

   HOW INSTALLED - TREMIE FROM SURFACE

6. TYPE OF LOWER SEAL (IF INSTALLED)

7. SCREEN TYPE PVC

   SCREEN LENGTH 5 feet

   SLOT-SIZE 10 LENGTH ft.

   SCREEN DIAMETER 2 in.

8. TYPE OF BACKFILL AROUND SCREEN

   sand

9. TYPE OF BACKFILL sandy silt

10. DRILLING METHOD Auger

11. ADDITIVES USED (IF ANY)

WATER LEVEL 1'7" DATE 1/6/89

*ALL DEPTHS MEASURED FROM GROUND SURFACE.

2K-481

City N. Chicago

County Lake

PRP Eugene Stack Ground Fire

8	8	0	7	5	4

IESDA INCIDENT ID

INCIDENT TYPE

1. [✓] Actual [ ] Potential
2. [✓] On Site [ ] Off Site [ ] Transportation
3. [ ] Air [ ] Storm Sewer
   [ ] Surface Water [ ] Sanitary Sewer
   [ ] PWS [ ] Inside Building
   [✓] Soil/Ground Water [ ] Impervious Surface
4. [ ] Abandoned Material [ ] HWF [ ] CSA [ ] LUST
   [ ] Open Burning Permit [ ] Oil Production
   [ ] Complaint Generated [ ] Agricultural
   [ ] PCB
   Contractor For HWF _____

DISPOSAL

1. [ ] Verified
2. [ ] Incomplete
3. [ ] Not Necessary

PERMITS (#s)

1. _____ 4. _____
2. _____ 5. _____
3. _____ 6. _____

LETTERS

	Type	Sent	Response Required	Response Received
1.		__/__/__	__/__/__	__/__/__
2.		__/__/__	__/__/__	__/__/__
3.		__/__/__	__/__/__	__/__/__
4.		__/__/__	__/__/__	__/__/__

ENFORCEMENT

[ ] Enf Referral Notice Sent __/__/__
[ ] Enf Referral Date __/__/__
[ ] EDG Action __/__/__
   [ ] Drop Case
   [ ] Proceed with enf
   Atty. _____
[ ] DCI Referral __/__/__

IEPA NOTIFICATIONS

Name	Div	Date

OUTSIDE NOTIFICATIONS

Agency	Name	Date
[ ] IESDA		__/__/__
[ ] IDPH		__/__/__
[ ] ISP		__/__/__
[ ] USEPA		__/__/__
[ ] SFM		__/__/__
[ ] M&M		__/__/__
[ ] DCI		__/__/__
[ ] NRC		__/__/__
[ ] IDOC		__/__/__
[ ] IDOT		__/__/__
[ ] IDNS		__/__/__
[ ] USCG		__/__/__
[ ] IDOL		__/__/__
[ ] IDOA		__/__/__
[ ]		__/__/__
[ ]		__/__/__

EVIDENCE SAMPLES

	Sample Type (pre or post)	Taken By (Name)	Collected (Date)	To Lab (Date)	Results (Date)
1.					
2.					
3.					
4.					

[ ] Photos
[ ] Videotape # __:__

RESPONSE

Name	Telephone	On Scene
	__/__/__	__/__/__
	__/__/__	__/__/__
	__/__/__	__/__/__
	__/__/__	__/__/__
	__/__/__	__/__/__
	__/__/__	__/__/__

EVALUATION

1. HMAB
   [ ] FOS [ ] D.O.
   [✓] ERU 6/17/88
2. CSA
   Reviewed by _____ Date __/__/__
   IDES No. _____ Covered Facility _____
   IDES SIC _____ IMD SIC _____
   Chem sub-ISCA _____
   Significant _____ Determined __/__/__ By _____
   NOS to RP __/__/__
   Release Report: Due __/__/__ Rec'd __/__/__
   IEPA to ESDA Due __/__/__
   Review by Mngr Env. Prgms __/__/__
   IEPA to ESDA Sent __/__/__
   ESDA to RP Due __/__/__ Sent __/__/__
3. Recovery/Loss
   Recovered Spillage __%
   Unrecovered Loss To
   [ ] Soil/GW [ ] Sanitary Sewer
   [ ] Surface Water [ ] Storm Sewer
   [ ] Air
   [ ] Environmentally sensitive area

CLOSE

Closing Date __/__/__ by _____
[ ] No action
[ ] Clean closure
[ ] Unrecoverable
[ ] Referal to _____

REFERENCE NUMBER 3

IL 532-0235
APC 181 (Rev. 2/88)

Illinois Environmental Protection Agency

8	8	0	7	5	4

IESDA INCIDENT ID

ERU received: 16 : 00 6 / 13 / 88
Duty Officer: Brutlag

1. Caller: Kieth Humphreys - Haz Mat Officer
2. Call back phone: 312 578-7755
3. represents: North Chicago Fire Dept.
   caller notified: 16 : 25 6 / 12 / 88
   caller arrived: ___ : ___ 6 / 12 / 88
4. Type of Incicent: [X] Fire [ ] Leak
   [ ] Explosion [ ] Water Involvement
   [ ] Gas or Vapor cloud [ ] Other
   [ ] Evacuation (# of) ___
5. Incident Location
   street 1000 22nd
   city N. Chicago [X] In [ ] Near
   county Lake 60064
   milepost ___ [ ] RR [ ] River [ ] Hwy
   Sec. ___ Twp. ___ Range ___
6. Area Involved: [ ] Highway [ ] Rail
   [ ] Waterway [X] Other Vacant lot
7. Material(s) Involved:
   Unknown
   (believed to be powdered metal)
   [ ] Gas [ ] Liq. [ ] Semisolid [X] Solid
9. Label: ___
   Placard (UN/NA) ___
   radioactive [ ] I [ ] II [ ] III
10. Container: [ ] Truck [ ] RR car [ ] Drum
    [ ] Above grnd tank [ ] Pipeline
    [ ] Under grnd tank [ ] Pipe [X] Other Unknown
    container size: ___
11. Amount released: Unknown
    Rate of release: ___ /min.
12. Cause of release:
    Illegal dumping
13. Estimated spill extent: 160,000
    [X] square feet [ ] square yards
14. [ ] Occurred: ___ : Over time / ___ / ___
    [ ] Discovered: 16 : 25 6 / 12 / 88

18. On scene phone: None
16. Contact: None
17. No. injured: 0 Extent of: ___
    Where taken: ___
19. Public safety concerns:
    From burns - Have police watch
    [ ] Haz-mat related
20. What state assistance needed?
    IEPA to investigate
21. Weather: [X] sunny [ ] overcast
    [ ] ptly cldy. [ ] rain [ ] snow
    Temp. 92 °F Wind dir. S speed 10 mph
22. [ ] PESTICIDE: [ ] spill [ ] fire
    Where: [ ] soil [ ] water
    Damage: [ ] plants [ ] animal [ ] people
23. Containment/cleanup action & plan
    Unknown at time of report.
24. Responsible party:
    Unknown
8. Contact: ___
   Mailing address: ___
   phone: ___
25. Incident terminated locally:
    [ ] Time: ___ : ___ ___ / ___ / ___
    by whom: ___

15. Local response units contacted
    [X] Fire N. Chicago
    [ ] Sheriff ___
    [X] Police N. Chicago
    [X] Local ESDA N Chicago
    [X] Other IEPA - Maywood

On scene responders:
[X] Fire N. Chicago
[ ] Sheriff ___
[X] Police N. Chicago
[ ] local ESDA ___
[ ] Other ___

(please PRINT and use 24 HOUR TIME)

LOG OF EVENTS

TIME	WORK HRS.
6-13-88	Keith Humphreys → Cecil
	Vacant property - runs into Petitbone Creek → L. Michigan.
	Man could wash it into creek. K Humphreys had
	previously called Don Klopke; DK will decide if ERU
	responds or is turned over to LPC.
	Material is heating up & starting vegetation on fire.
9-23-88	Brad Benning
	Fire is out - referred to LPC.

over

LOG OF EVENTS

TIME	WORK HRS.
6-15-88	BPR, DJK, EO met with Keith Humphries, Haz. Mat for N. Chicago F.D.
	Inspected vacant lot directly west of the Fansteel facility on 22nd St.
	Area was filled in years ago with what appears to be materials similar to flyash, foundry sand.
	On 6-12-88, N. Chicago F.D. responded to site concerning a brush fire, and discovered that the fill materials were burning, basically an underground fire, subsurface temperature exceeded 220°F.
	The fire area extends along the ravine for ~ 200 feet, with the depth of the fill around 10 feet.
	Advised F.D. to monitor the site and try to discover the current property owner.
	IEPA collected (3) samples and will analyze for RCRA E.P.Tox metals.
6-17-88	X 101 Pb 23.3 ppm
	X 102 <
	X 103 Pb 103 ppm
8/21/88 11:00	DJK inspects with Keith Humphries
	(1) North Chicago has located an owner. Stack (sp?) Realty may be a PRP for the site.
	(2) DJK suggests a Thursday meeting between the Agency, City and the PRP
	(3) Storm fence had been erected to secure the site. Conditions are similar to the 6-15-88 inspection
	(4) The west bank of the aforementioned creek may also have similar materials buried (no fire).

over

LOG OF EVENTS

TIME	WORK HRS.
1-28	Meeting with PRP and Northern Trust who controls the property. Outline the two phases of work need at site. The first is to put out ground fire. The second is to remediate the site. A list of contractors was then presented to the PRP.
2:00	PRP called to inform ~~them~~ the Agency that Alyssio was hired. Scope of work presented.
	Eqpmt Sales 689 [illegible] 689 2500 Message
	JOHN M. HAKES Vice President **Northern Trust Bank/Lake Forest** Deerpath & Bank Lane, Lake Forest, IL 60045 (312) 234-5100 Direct: 295-4355
7-[illegible]	Maecorp hired to investigate site. Determine extent of fire and take corings in order to determine the type of material
7-6	Report by Maecorp that no evidence of fire found. Samples taken of soils. No results as of yet. Reported findings to Keith Humphries of N.C.F.D.
7-18	EO - Spoke to Keith Humphries. No flare ups. No fires noted.
	Case referred to DLPC

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUIRED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam.____in. Depth____ft.
   Curb material _____. Buried Slab: Yes____No____
   b. Driven _____. Drive Pipe Diam. ____in. Depth ____ft.
   c. Drilled Y. Finished in Drift Y. In Rock _____.
   Tubular _____. Gravel Packed _____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
CLAY SLURRY	0	20

2. Distance to Nearest:
   Building 25 Ft. Seepage Tile Field 80
   Cess Pool _____ Sewer (non Cast iron) _____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank 70 Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Well furnishes water for human consumption? Yes X No____
4. Date well completed 7/8/87
5. Permanent Pump Installed? Yes X Date 7/8/87 No____
   Manufacturer DEPTH Type SUB Location _____
   Capacity 10 gpm. Depth of Setting 60 Ft.
6. Well Top Sealed? Yes X No____ Type _____
7. Pitless Adapter Installed? Yes X No____
   Manufacturer WILLIAMS Model Number B50ACUS
   How attached to casing? _____
8. Well Disinfected? Yes X No____
9. Pump and Equipment Disinfected? Yes X No____
10. Pressure Tank Size 42 gal. Type AIR BLADDER
    Location CRAWL SPACE
11. Water Sample Submitted? Yes____ No X

REMARKS:

Co. 29740

IDPH 4.065
1/74 – KNB-1

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Non-Responsive

10. Prop[redacted]
    Address [redacted]
    Driller KEN BOYCE License No. 092-006808
11. Permit No. 133241 Date 7/6/87
12. Water from SAND [redacted]
    Formation
    at depth 72 to 75 ft.
14. Screen: Diam. 5 in.
    Length: 3 ft. Slot 10

Non-Responsive

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	ASTM A-120 TIC	0	82
	USPCO		
	15 lbs PER FT		

Non-Responsive

16. Size Hole below casing: 5 in.
17. Static level 52 ft. below casing top which is _____ ft. above ground level. Pumping level 52 ft. when pumping at 12 gpm for 2 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
FILL & BLACK DIRT	3	3
YELLOW CLAY	16	19
BLUE CLAY	47	66
GRAVEL	2	68
BLUE CLAY	4	72
SAND & GRAVEL	3	75

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Kenneth D. Boyce DATE 7/8/87

REFERENCE NUMBER

White Copy – Ill. Dept. of Publ[illegible] Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUE[illegible]D AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam.____in. Depth____ft.
   Curb material _____. Buried Slab: Yes____No____
   b. Driven _____. Drive Pipe Diam. ____in. Depth ____ft.
   c. Drilled X. Finished in Drift X. In Rock _____.
   Tubular _____. Gravel Packed _____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
CLAY SLURRY	0	20

2. Distance to Nearest:
   Building 40 Ft. Seepage Tile Field 85
   Cess Pool _____ Sewer (non Cast iron) _____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank 75 Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Well furnishes water for human consumption? Yes X No____
4. Date well completed 7/9/87
5. Permanent Pump Installed? Yes X Date 7/9/87 No____
   Manufacturer DELTA Type SUB Location _____
   Capacity 10 gpm. Depth of Setting 100 Ft.
6. Well Top Sealed? Yes X No____ Type _____
7. Pitless Adapter Installed? Yes X No____
   Manufacturer WILLIAMS Model Number B50ALVS
   How attached to casing? _____
8. Well Disinfected? Yes X No____
9. Pump and Equipment Disinfected? Yes X No____
10. Pressure Tank Size 42 gal. Type AIR BLADDER
    Location CRAWL SPACE
11. Water Sample Submitted? Yes____ No X

REMARKS:

Co # 29741

IDPH 4.065
1/74 – KNB-1

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Non-Responsive

10. Proper[redacted]
    Addres[redacted]
    Driller RAW BOYLE License No. 092-0016808
11. Permit No. [redacted] 133245 Date 7/6/87
12. Water from SAND (Formation)
    at depth 105 to 108 ft.
13. Coun[redacted] LAKE
    Se[redacted]
    Tw[redacted]
    Rg[redacted]
    El[redacted]

Non-Responsive

14. Screen: Diam. 5 in.
    Length: 3 ft. Slot 15

Non-Responsive

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	ASTM A-120 T/C	0	
	VSPO		
	15 LBS PER FT		

16. Size Hole below casing: 5 in.
17. Static level 60 ft. below casing top which is 1 ft. above ground level. Pumping level [redacted] ft. when pumping at 12 gpm for 2 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
TOP SOIL & FILL	3	3
YELLOW CLAY	16	19
BLUE CLAY	47	66
HARDPAN	4	70
BLUE CLAY	6	76
MGALY SAND	2	78
BLUE CLAY	17	95
MGALY SAND	10	105
SAND	3	108

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Kenneth D. Boyle DATE 7/9/87

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM 616, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL / WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam.____in. Depth____ft.
   Curb material_____. Buried Slab: Yes_____No_____
   b. Driven_____. Drive Pipe Diam.____in. Depth____ft.
   c. Drilled X. Finished in Drift_____. In Rock X.
   Tubular_____. Gravel Packed_____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:
   Building_____Ft. Seepage Tile Field_____
   Cess Pool_____ Sewer (non Cast iron)_____
   Privy_____ Sewer (Cast iron)_____
   Septic Tank_____ Barnyard_____
   Leaching Pit_____ Manure Pile_____
3. Is water from this well to be used for human consumption?
   Yes X No_____
4. Date well completed 12/29/73
5. Permanent Pump Installed? Yes X No_____
   Manufacturer Red Jacket Type Subm.
   Capacity 35 gpm. Depth of setting 142 ft.
6. Well Top Sealed? Yes X No_____
7. Pitless Adaptor Installed? Yes X No_____
8. Well Disinfected? Yes X No_____
9. Water Sample Submitted? Yes X No_____

REMARKS:

IDPH 4.065
10/68

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Prop[redacted]
    Addr[redacted]
    Driller Henry Boysen Co. License No. 92-480
11. Permit No. 15966 Date 12/14/71
12. Water from Limestone (Formation) 13. County Lake
    at depth 182 to 195 ft. Se[redacted]
14. Screen: Diam._____in. Tw[redacted]
    Length:_____ft. Slot_____ Ro[redacted]
    El[redacted]
15. Casing and Liner Pipe

Diam. (In.)	Kind and Weight	From (Ft.)	To (Ft.)
6"	galv.	grade	195

16. Size Hole below casing: 6" in.
17. Static level 90 ft. below casing top which is 1 ft. above ground level. Pumping level 90 ft. when pumping at 35-50 gpm for_____hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Till	0	1
Clay	1	25
Clay, sand, gravel	25	75
Clay, rocks	75	135
Clay	135	165
Sand, gravel, clay	165	178
Boulders, rocks	178	181
Sand, clay	181	182
Limestone	182	195

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED [signature] DATE 9-30-73

Non-Responsive

Non-Responsive

Non-Responsive

TOWN North Chicago TOWNSHIP Shield Non-Responsive
COMPANY Gray Well Co. No.
Non-Responsive
AUTHORITY Sample Study
ELEVATION 645
COLLECTOR
CONFIDENTIAL DATE DRILLED 1939
Samples examined by E. Atherton

COUNTY NO. 713

No.	STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	LEISTOCENE SYSTEM				
	Till, calcareous, buff	10		10	
	No samples	10		20	
	Till, calcareous, gray, Sporangites	73		93	
	Torpedo gravel, silty	5		98	
	Till, calcareous, gray, Sporangites, lower part silty	62		160	
	ILURIAN SYSTEM				
	Dolomite, light gray, very fine	20		180	
	Dolomite, white, very fine, vesicular	90		270	
	Dolomite, cherty, very light gray, very fine	13		283	
	Dolomite, silty, light gray, little gray, very fine	37		320	
	Dolomite, light gray, slightly pinkish and greenish, orange in part, very fine	40		360	
	Dolomite, light gray, slightly brownish in part, very fine to fine	50		410	
	Dolomite, sandy, glauconitic, very light gray, very fine	10		420	
	RDOVICIAN SYSTEM				
	Maquoketa formation				
	Dolomite, white, fine	13		433	
	Dolomite, cherty, very light gray, in part silty and				

COUNTY Lake INDEX No. 0909
DRILL RECORD Sample Set #3351 Non-Responsive
(V8801 10M 1-39) ILLINOIS GEOLOGICAL SURVEY, URBANA

John C. Moore Corporation, Rochester, N. Y. Binder and holes in leaves Patented. FORM 403809

SHEET 2
COMPANY Gray Well Co. Non-Responsive
Non-Responsi

No.	STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	and greenish; shale, light green, weak	19		452	
	shale, greenish gray, weak; little dolomite, very silty, greenish gray, very fine	41		493	
	Dolomite, light gray, black specks, fine to coarse	7		500	
	Dolomite, silty in part, gray with coarse light gray grains; shale, greenish gray, weak	5		505	
	Shale, greenish gray, weak; dolomite, very silty, greenish gray, very fine	10		515	
	Dolomite, silty in part, light to dark gray, very fine to coarse	5		520	
	Shale, gray, weak; dolomite, silty, dark gray, fine	15		535	
	Shale, gray, weak	80		615	
	Galena formation				
	Dolomite, brownish gray to gray and light gray, very fine to fine	180		795	
	Decorah formation				
	Dolomite, gray, abundant black specks, very fine to fine	5		800	
	Platteville formation				
	Dolomite, light to dark gray, mottled in part, brownish in part, very fine	15		815	
	Dolomite, grayish brown, white, very fine	25		840	
	Dolomite, mottled light and dark gray, grayish brown, very fine to fine	20		860	
	Dolomite, calcareous, sandy, gray, very fine to fine, semi-crystalline	20		880	

COUNTY Lake INDEX NO. 0909
DRILL RECORD Sample Set #3351 Non-Responsive
(A6573--23M--10-39) ILLINOIS GEOLOGICAL SURVEY, URBANA

John G. Moore Corporation, Rochester, N. Y. Binder and holes in leaves Patented. FORM 403809

Non-Responsive

SHEET 3 T.

COMPANY Gray Well Co.

Non-Responsive

	STRATA	THICKNESS FEET	THICKNESS IN.	DEPTH FEET	DEPTH IN.
	Dolomite, brown, light to dark gray, mottled in part, very fine	42		922	
Glenwood formation					
	Dolomite, sandy, brownish gray to light gray	8		930	
	Sandstone, white, very fine to medium, angular to rounded, incoherent	20		950	
	Dolomite, sandy, light gray, extra fine, slightly pyritic; shale, green	18		968	
St. Peter formation					
	Sandstone, white, fine to coarse, angular to rounded, incoherent, grains show secondary growth	24		992	
	Sandstone, white, light buff, very fine to medium, angular to sub-rounded, incoherent, secondary growth	58		1050	
	Same, but very fine to fine	27		1077	

COUNTY Lake

INDEX NO. 0909

DRILL RECORD Sample Set #3351

(A6573--23M--10-39) ILLINOIS GEOLOGICAL SURVEY, URBANA

Non-Responsive

(2840—50M—12-64)

Page 1 ILLINOIS GEOLOGICAL SURVEY, URBANA

	Thickness	Top	Bottom
Drift (clay and sand)	160	0	160
Gravel	20	160	180
Rock (Niagaran)	20	180	200

NO ENVELOPE

COMPANY

FARM Great Lakes Naval Hospital NO. 1

DATE DRILLED COUNTY NO. 774

AUTHORITY

ELEVATION 640'

LOCATION

COUNTY LAKE

Non-Responsive

Old Well at American Steel & Wire Company, Waukegan
as traced 11-2-22 from 33-D-205 dated 7-28-1891
Section 33, T. 45N., R. 12E., Lake County

Log:

Formation	From	To
Sand	0	16'
Clay and boulders	16	77
Fine gravel and quick sand (surface flow 80 gpm at 80')	77	80
Niagara limerock	80	310
Shale	310	505
Trenton limerock	505	860
Sand rock (at 910' well started to flow at 125 1/2 gpm; 196 gpm at 1015')	860	1015
Red marl (formation caves) (5" pipe 1013-1056'; 5" hole below)	1015	1038
Red sand rock (210 gpm at 1056')	1038	1056
White sand rock (375 gpm at 1325')	1056	1325
Gray sand rock (400 gpm at 1600')	1325	1600
Red sand rock	1600	1610
White sand rock	1610	1680
Red sand rock	1680	1695
White sand rock (540 gpm at 1745')	1695	1745
Red sand rock	1745	1760
White sand rock (590 gpm at 1810')	1760	1810
Red sand rock	1810	1820
White sand rock (600 gpm at 1905')	1820	1905
Red sand rock	1905	1920
White sand rock	1920	1995
Red sand rock (610 gpm at 2004')	1995	2004

Old Well at American Steel & Wire Company, Waukegan
as traced 11-1-22 from 33-D-206 dated 12-16-1898
Section 33, T. 45N., R. 12E., Lake County

Log:

Formation	From	To
Sand and gravel	0	80'
Niagara limerock	80	310
Shale	310	600
Trenton limerock	600	860
Sand rock	860	1015
Red marl, red sandstone	1015	1056
Gray sand rock	1056	1600
Alternate layers of white & red sand rock	1600	2000 or more

Hole Record: 12" 0-80'; 10" 80-600'; 8" 600-1056; 6" 1056-2000 or more
Casing Record: 12" 0-80; 8" 0-600; 6" 1015-1056

January 26, 1923
American Steel & Wire Company, Well No. 1
Waukegan
Section 33, T. 45N., R. 12E., Lake County
Depth: 2153'

Log:

Formation	From	To
Sand and gravel	0	80'
Niagara limerock	80	350
Shale	350	492
Trenton limerock	492	860
Sand rock	860	926
Red marl	926	948
Gray quick sand	948	968
Gray sand rock	968	1600
Red sand rock	1600	1610
White sand rock	1610	1680
Red sand rock	1680	1695
White sand rock	1695	1745
Red sand rock	1745	1760
White sand rock	1760	1810
Red sand rock	1810	1820
White sand rock	1820	1905
Red sand rock	1905	1920
White sand rock	1920	2035
Red sand rock	2035	2060
White sand rock (more water)	2060	2090
Red sand rock	2090	2153
Gray sandy shale	2153	2193

Hole Record: 12" hole 0-140; 10" 140-492; 8" 492-968; 6" 968-2193
Casing Record: 12" 0-80; 8" 0-492; 6" liner 926-968
(well plugged at 2153) 8'4" plug 2153-2161'4"

January 26, 1923
American Steel & Wire Company, Well No. 2
Waukegan
700'W & 1800'S of NE corner, Section 33, T. 45N., R. 12E., Lake County

Log:

Formation	From	To
Sand & gravel	0	51'
Niagara limerock	51	350
Shale	350	495
Trenton limerock	495	860
Sand rock	860	900
Red marl	900	958
Gray sand rock	958	1600
Red sand rock	1600	1610
White sand rock	1610	1680
Red sand rock	1680	1695
White sand rock	1695	1745
Red sand rock	1745	1760
White sand rock	1760	1810
Red sand rock	1810	1820
White sand rock	1820	1905
Red sand rock	1905	1920
White sand rock	1920	2035
Red sand rock	2035	2058

Hole Record: 12" 0-70'; 10" 70-495'; 8" 495-958'; 6" 958-2058
Casing Record: 12" drive pipe 0-51'; 8" 0-495'; 6" liner 900-958

January 26, 1923
American Steel & Wire Company, Well No. 5
Waukegan
650'W & 500'S of NE corner, Section 33, T. 45N., R. 12E.,
Lake County

Log:

Formation	From	To
Sand and gravel	0	80'
Niagara limerock	80	200
Red sand	200	210
Limestone	210	310
Shale	310	360
Limestone	360	380
Shale	380	487
Trenton limerock	487	860
St. Peter sand rock	860	970
Red marl	970	1030
Gray sand rock	1030	1600
Red sand rock	1600	1610
White sand rock	1610	1680
Red sand rock	1680	1695
White sand rock	1695	1745
Red sand rock	1745	1760
White sand rock	1760	1810
Red sand rock	1810	1820
White sand rock	1820	1905
Red sand rock	1905	1920
White sand rock (125 gpm)	1920	2035

Hole Record: 8" 0-487'; 6" 487-1030'; 5" 1030-2035
Casing Record: 6" 0-487' (1-6" x 8" anchor packer 166-170';
C. I. shoe 8"long, 6" ID x 7 1/2" OD at 486'2")
5" liner 970-1030'

NOTE: Bottom of well previous to 1923 was 1990' with 75 gpm

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO [illegible]ERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug ____. Bored ____. Hole Diam. 5 in. Depth 143 ft.
   Curb material ____. Buried Slab: Yes ____ No ____
   b. Driven ____. Drive Pipe Diam. ____ in. Depth ____ ft.
   c. Drilled X. Finished in Drift ____. In Rock X.
   Tubular ____. Gravel Packed ____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
CLAY SLURRY	0	20

2. Distance to Nearest:
   Building 15 Ft. Seepage Tile Field ____
   Cess Pool ____ Sewer (non Cast iron) ____
   Privy ____ Sewer (Cast iron) 12
   Septic Tank ____ Barnyard ____
   Leaching Pit ____ Manure Pile ____
3. Well furnishes water for human consumption? Yes X No ____
4. Date well completed 5/23/85
5. Permanent Pump Installed? Yes X Date 5/24/85 No ____
   Manufacturer STANITE Type SUB Location ____
   Capacity 4 gpm. Depth of Setting 140 Ft.
6. Well Top Sealed? Yes X No ____ Type ____
7. Pitless Adapter Installed? Yes X No ____
   Manufacturer WILLIAMS Model Number B50R
   How attached to casing? ____
8. Well Disinfected? Yes X No ____
9. Pump and Equipment Disinfected? Yes X No ____
10. Pressure Tank Size 42 gal. Type AIR BLADDER
    Location CRAWL SPACE
11. Water Sample Submitted? Yes ____ No X

REMARKS:
County # 27341

IDPH 4.065
1/74 – KNB-1

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. [redacted]
11. Permit No. 117883 Date 5/20/85
12. Water from LIMESTONE (Formation) 13. County LAKE
    at depth 133 to 143 ft.
14. Screen: Diam. ____ in.
    Length: ____ ft. Slot ____
15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	ASTM A-53	0	133
	(WKK) T/C		
	15 LBS PER FOOT		

16. Size Hole below casing: 5" in.
17. Static level 102 ft. below casing top which is ____ ft. above ground level. Pumping level 133 ft. when pumping at 3 gpm for 2 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
FILL	3	3
YELLOW CLAY	14	17
HARD PAN	18	35
BLUE CLAY	14	49
HARD PAN	22	71
GRAVEL & SAND	1	72
HARD PAN	57	129
RUBBLE & GRAVEL	4	133
LIMESTONE	10	143

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Kenneth D. Boyce DATE 5/31/85

Non-Responsive

Non-Responsive

Non-Responsive