0000006

MAIL

February 10, 1989

Ms. Barbara Magel
Karaganis and White Ltd.
414 North Orleans Street
Suite 810
Chicago, IL 60610

Dear Ms. Magel:

Enclosed please find a copy of the report titled "Interim Report for Stack Property."

If you have any questions, please do not hesitate to call.

Sincerely,

MAECORP INCORPORATED

Rolf Laukant

Rolf Laukant
Hydrogeologist

RL/js
Enclosure

EPA Region 5 Records Ctr.
229812

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EXECUTIVE SUMMARY

Investigations performed on the site included soil sampling, soil borings, and the installation of three PVC monitoring wells. Resultant laboratory data suggest that there is contamination of volatiles, heavy metals, and PCB's at various concentrations.

Soil gas sampling is not recommended at this time due to the low concentrations of volatiles found on site.

Causes for the previous site fire have not been confirmed; however, site observations noted remnants of campfires and near-surface combustion.

MAECORP recommends that groundwater sampling proceed as previously planned, groundwater gradient be determined, and that the sewer running beneath the property be traced for possible sources of contamination found in the outfall region.

INTRODUCTION

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

The purpose of this environmental sampling was to determine what environmental contamination is present and how the fire started this past year.

BORINGS AND 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. MAECORP personnel were on site to determine the exact location of borings. Continuous split spoon sampling was conducted for all borings.

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. No water was encountered, and drilling was discontinued at 25 feet; no well was installed. 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.

The second boring was located east of the gravel road dividing the property. The boring was sampled to 10.5 feet. Water was encountered in the split spoons at approximately 7.5 feet. A well was then set into the boring at this depth. The well consisted of a five-foot PVC screen connected to a PVC riser. Seven 18-inch split spoons were taken and analyzed individually in the field. A composite sample was sent for laboratory analysis.

The third boring was located at the perimeter of the burn area. Sampling and installation of the monitoring well followed the procedures used in the second boring.

The fourth boring was located in the center of the burn area. Sampling and installation of the monitoring well followed the procedures used in the second boring.

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 in a 40-ml glass VOA vial and a 1-quart glass jar with a teflon lid. MAECORP is currently implementing a schedule to sample the monitoring wells and have them surveyed in order to obtain their exact elevations, and groundwater flow direction.

LABORATORY RESULTS

Off-site laboratory analysis of the soil samples were performed by Tenco Laboratories, subcontracted to MAECORP Incorporated. Each composite soil sample was analyzed for: volatile organics, polynuclear aromatic hydrocarbons, PCB's, and total metals.

Results of the laboratory analysis suggest that metals are present in each soil boring. Elevated total lead concentrations were found in Borings 1, 2, and 3. Based on these concentrations, MAECORP recommends that EP TOX be analyzed on Boring 2 for the elevated metal concentrations, especially lead and barium.

Boring 4 was also found to contain low level PCB and halogenated hydrocarbon contamination. All other parameters were found to be non-detected, except for the low levels of toluene in Boring 2.

Lab analysis from water samples taken in September, 1988, revealed much of the same contamination that has been found in the soil samples.

CONCLUSION

Investigations performed on the site included soil sampling, soil borings, and the installation of three PVC monitoring wells.

At the present, our data is inconclusive to the cause of the fire. However, lab data does suggest that there are no combustible contaminants in the soil. Field observations revealed campfires are made in the area; miscellaneous debris is scattered along the west side of the property; and tires, bricks, and other various debris may be present under the surface of the burn area.

Soil Boring 4 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 limited to surficial vegetation and their root systems.

Soil gas sampling is not recommended at this time due to the low concentrations of volatiles found on site.

MAECORP recommends that groundwater sampling proceed as previously planned, groundwater gradient be determined, and the sewer running beneath the property be traced for possible sources of contamination found in the outfall region.

TABLE 1

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/SOIL SAMPLE	FORMATION DESCRIPTION
0-18"	B2-01	17, 10, 26 - 9" black gravely sand
19-36"	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
55-72"	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
19-36"	B3-02	5, 7, 13 - 11" gray-brown mottled sandy silt, 4" black coarse (fill) sand
37-54"	B3-03	3, 5, 4 - 16" black (fill) sand
55-72"	B3-04	1, 2, 3 - 2" black (fill) sand, 9" gray-brown mottled coarse clayey silt
73-90"	B3-05	2, 2, 2 - 6" gray gravely clayey silt
91-108"	B3-06	3, 5, 7 - 14" gray sandy silt
109-126"	B3-07	5, 11, 19 - 8" gray silty clay, 2" coarse sand, 3" gray silty clay

AAG-01-HYD-223

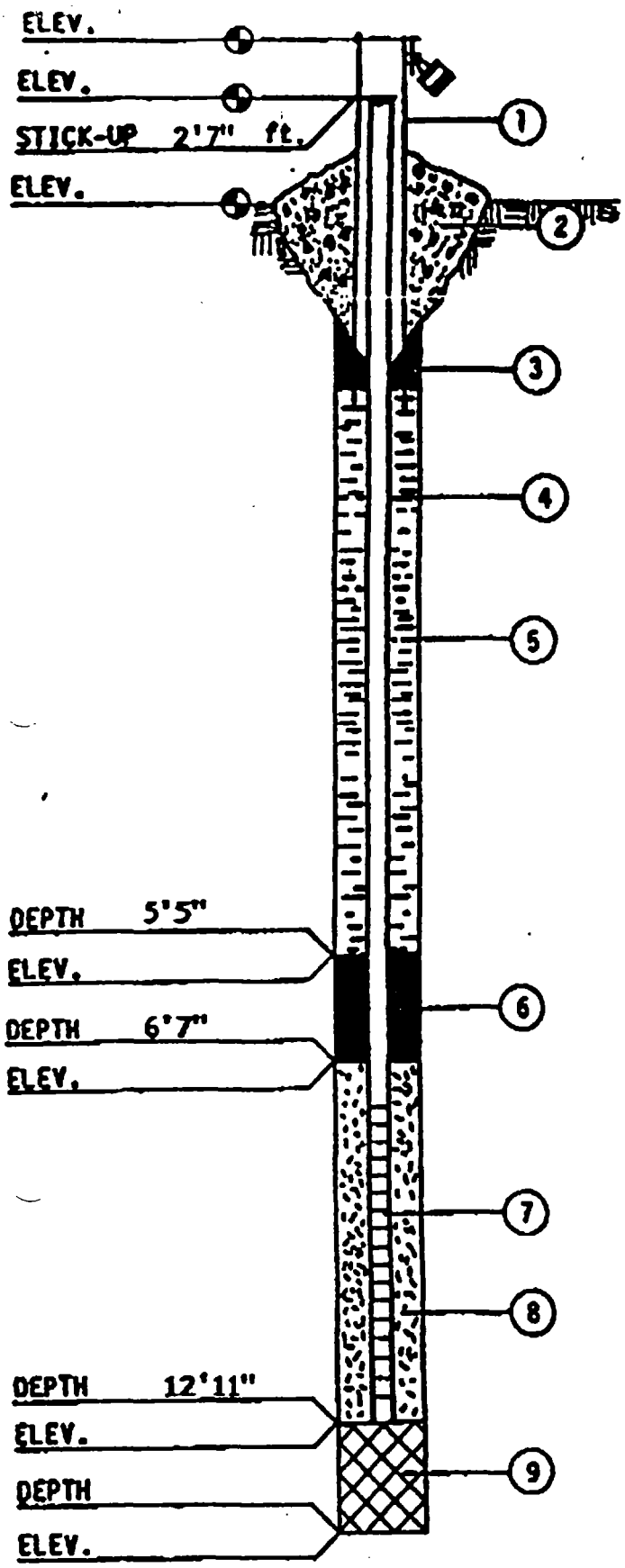
BORING/WELL LOG DATA
MAECORP INCORPORATED

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/SOIL 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
37-54"	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
73-90"	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
109-126"	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

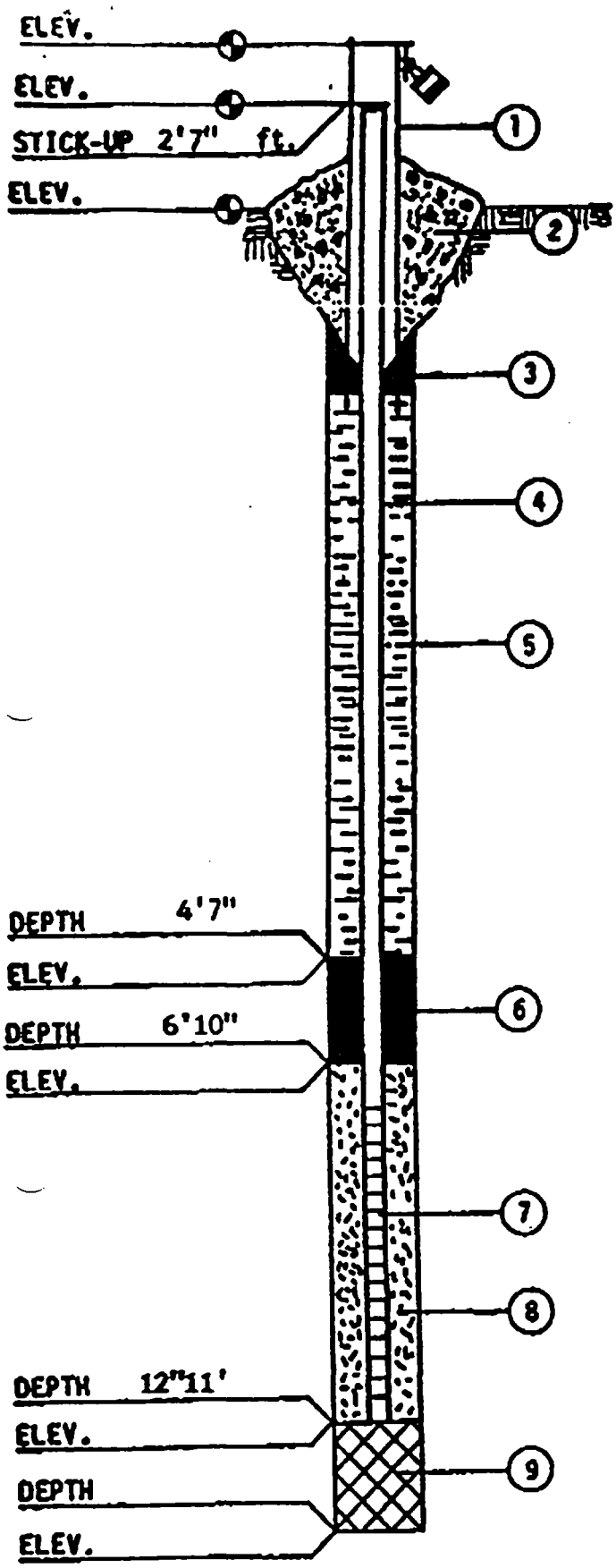
9. TYPE OF BACKFILL silty clay

10. DRILLING METHOD Auger

11. ADDITIVES USED (IF ANY)

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

*ALL DEPTHS MEASURED FROM GROUND SURFACE.



MAECORP INCORPORATED

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

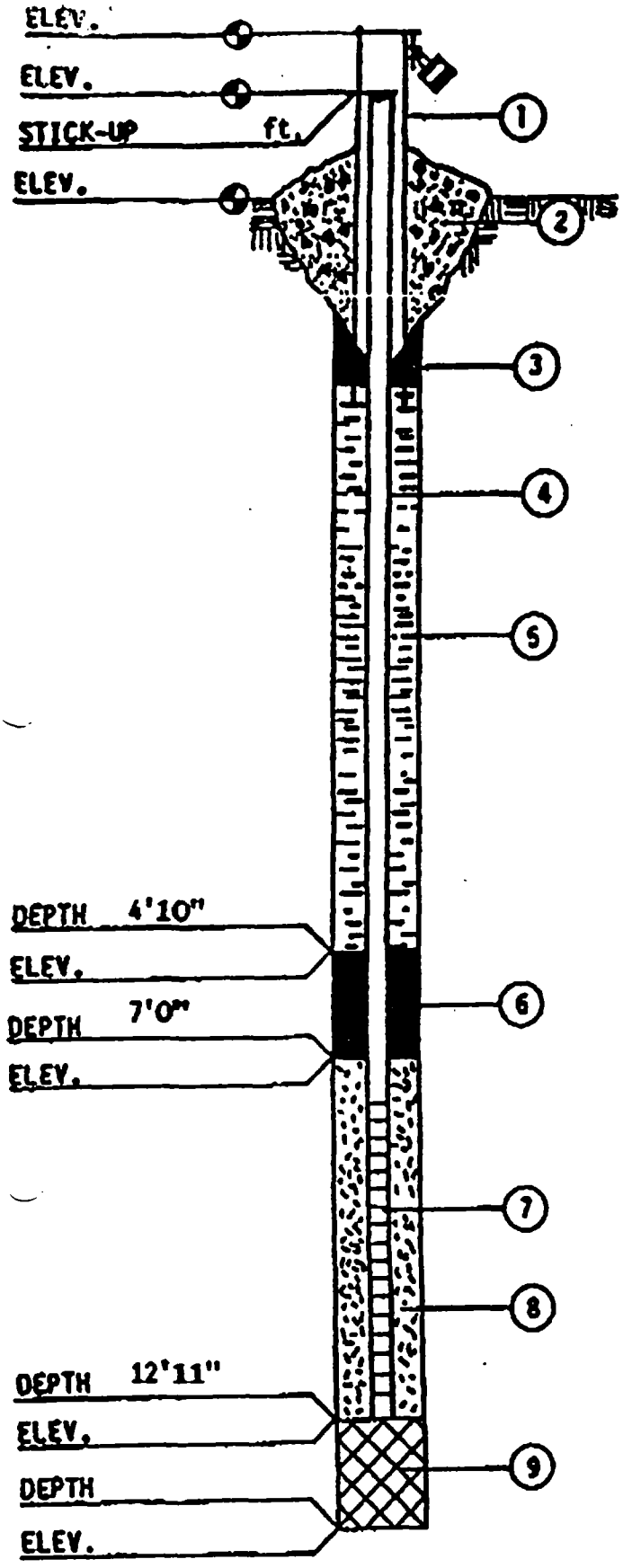
9. TYPE OF BACKFILL silty clay

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

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.

TABLE 2

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

TABLE 3

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	0.025		
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:

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

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

IL-A013

EPA METHOD SW 846-8080

Date: 1/23/89
Rec'd: 1/09/89
WO #: 21-0830

Laboratory Smp ID No.:	3527-9	3528-9	3529-9	3530-9	3531-9		
DESCRIPTION: ——>	IL-A013-B1-C1	IL-A013-B2-C1	IL-A013-B3-C1	IL-A013-B4 C1	IL-A013-B4-C2		
Unless otherwise noted; results in milligram/kilogram - mg/kg	Soil	Soil	Soil	Soil	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]

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: —> (less otherwise noted; ults in parts per tion - 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		
ROLEIN	ND	ND	ND	ND	ND		
RYLONITRILE	ND	ND	ND	ND	ND		
NZENE	ND	ND	ND	ND	ND		
ROMODICHLOROMETHANE	ND	ND	ND	ND	ND		
ROMOFORM	ND	ND	ND	ND	ND		
ROMOMETHANE	ND	ND	ND	ND	ND		
RBON TETRACHLORIDE	ND	ND	ND	ND	ND		
LOROBENZENE	ND	ND	ND	ND	ND		
LOROETHANE	ND	ND	ND	ND	ND		
-CHLOROETHYLVINYL ETHER	ND	ND	ND	ND	ND		
LOROFORM	ND	ND	ND	ND	ND		
LOROMETHANE	ND	ND	ND	ND	ND		
BROMOCHLOROMETHANE	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		
ans-1,2-DICHLOROETHENE	ND	ND	ND	ND	ND		

ND=Not Detected at 5 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
MARCORP
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 Sap ID No.:	3527-9	3528-9	3529-9	3530-9	3531-9		
DESCRIPTION: ——> (Unless otherwise noted; results in parts per million - 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.

Continued...

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
QO #: 21-0830

IL-A013

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

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
MABCORP
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
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: [signature]

BPM INDUSTRIES
1150 Junction Avenue - Schererville, Indiana 46375
1-219-322-2660 ● 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:

TABLE 4

Sample Number
139455

1B
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Laboratory Name: Gulf Coast Laboratories, Inc. Contract:

Lab Code: WESIL 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: 9/12/88

Extraction: (Sep/Con/Sonc) SEP 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
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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

139455

Lab Name: GULF COAST LABORATORIES Contract: 008

Lab Code: WESIL Case No.: ---- SAR 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: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
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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

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: 890 (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

18

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: 09/19/88

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
	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.				
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GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones (312) 534-5200 (219) 885-7077 (815) 723-75

The following is a list of flags that Gulf Coast Laboratories frequently uses on our analytical reports. All flags may not be applicable for the enclosed reports.

A - Indicates a condensation product.

B - Indicates the compound was found in the blank as well as the sample.

C - Pesticide compound confirmed by GC/MS

d - Result is on a dry weight basis

D - Indicates the compound was identified in an analysis at a secondary dilution factor. If a sample is re-analyzed at a higher dilution, the "DL" suffix is appended to sample numbers.

e - Concentrations exceed calibration range of the instrument for that specific analysis.

E - Severe matrix interference

J - Indicates an estimated value which is below detection limit

P - Peaks present but do not appear to be PCBs

R - Spike recovery not within control limit

S - Indicates value determined by Method of Standard Addition

U - Indicates compound was analyzed for but not detected

W - Result is on an "as is basis" (wet weight)

BDL - Below Detection Limit

NA - Not Applicable

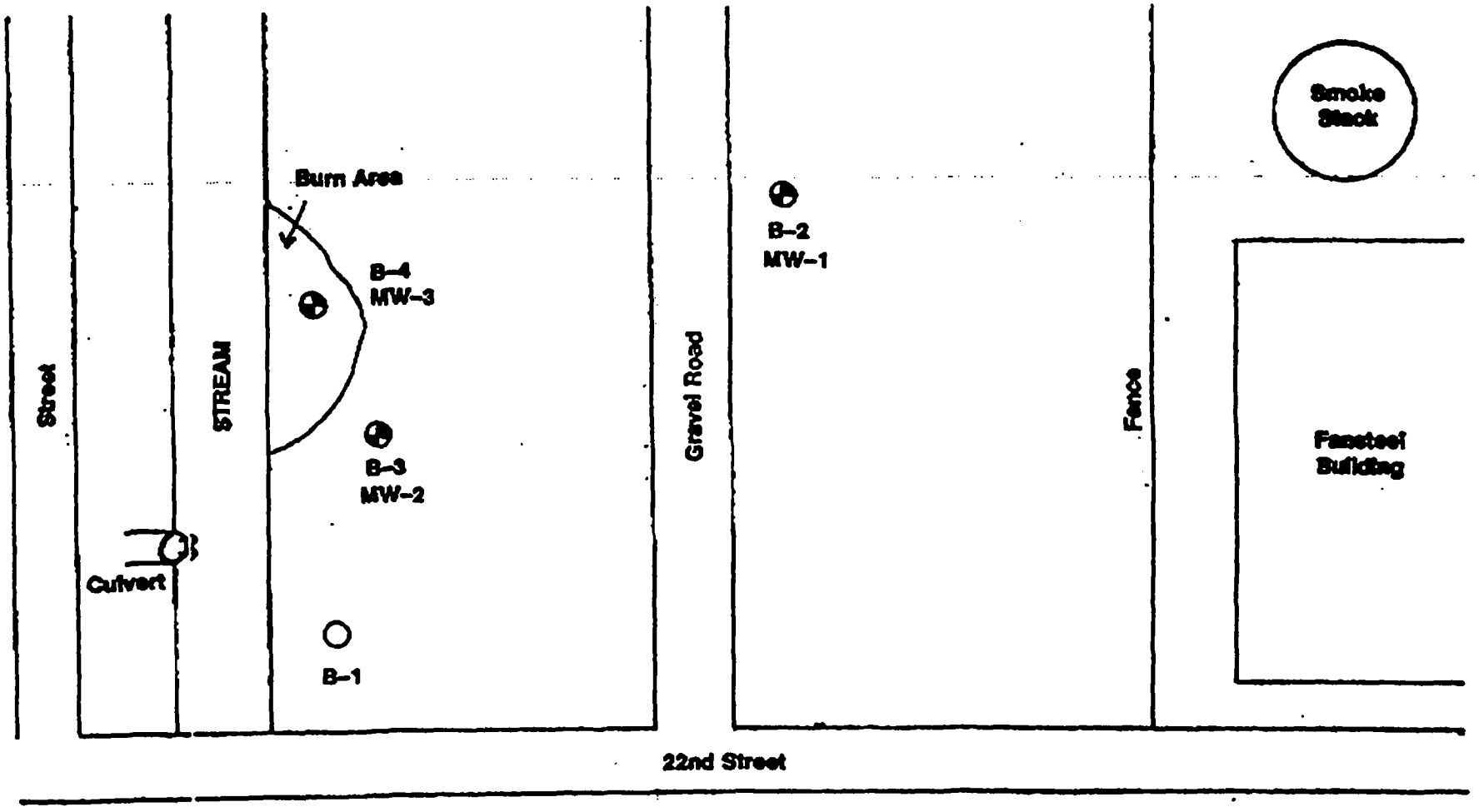
NR - Not Required

* - Duplicate not within control limits

+ - Correlation coefficient for MSA < 0.995

@ - Due to matrix interference, post analytical spike is out of control limits.

X - Result by calculation



KEY

- Monitoring Well Locations
- Boring Locations

MAECORP Incorporated		
SCALE: None	APPROVED BY: RL	DRAWN BY DCK
DATE: 1-20-88		REVISED
Boring and Well Locations		
22nd Street Stack Property, North Chicago, Illinois		DRAWING NUMBER R-A010-01