

**NEW YORK STATE SUPERFUND STANDBY CONTRACT**

**PRELIMINARY  
SITE ASSESSMENT REPORT**

**Volume I**

**Empire Electric Company**

**Site No. 2-24-015**

Work Assignment No. D002676-44

December 1999



Prepared for:

**New York State Department of  
Environmental Conservation**

50 Wolf Road, Albany, New York 12233

John Cahill, *Commissioner*

Division of Environmental Remediation

Michael J. O'Toole, Jr., P.E., *Director*

**By:**

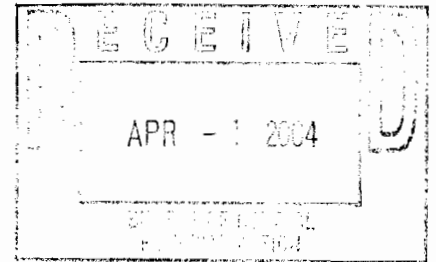
**Lawler, Matusky & Skelly Engineers LLP**

**NEW YORK STATE SUPERFUND STANDBY CONTRACT**

**PRELIMINARY SITE ASSESSMENT  
REPORT**

**EMPIRE ELECTRIC COMPANY  
SITE NO. 2-24-015**

**VOLUME I - REPORT**



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Division of Environmental Remediation**



**December 1999**



**LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS  
One Blue Hill Plaza  
Pearl River, New York 10965**

**PRELIMINARY SITE ASSESSMENT REPORT**

**EMPIRE ELECTRIC COMPANY SITE**

**SITE NO. 2-24-015**

**WORK ASSIGNMENT NO. D002676-44**

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# **PRELIMINARY SITE ASSESSMENT REPORT**

## **EMPIRE ELECTRIC COMPANY SITE**

**SITE NO. 2-24-015**

**WORK ASSIGNMENT NO. D002676-44**

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# **PRELIMINARY SITE ASSESSMENT REPORT**

## **EMPIRE ELECTRIC COMPANY SITE**

**SITE NO. 2-24-015**

**WORK ASSIGNMENT NO. D002676-44**

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## **1.0 NYSDEC SITE INVESTIGATION INFORMATION**



## SITE INVESTIGATION INFORMATION

1. SITE NAME	2. SITE NUMBER	3. TOWN/CITY/VILLAGE	4. COUNTY
Empire Electric Company	2-24-015	Brooklyn	Kings

5. REGION	6. CLASSIFICATION
2	CURRENT PROPOSED MODIFY

7. LOCATION OF SITE (Attach U.S.G.S. Topographic Map showing site location) Figure 1

8. BRIEFLY DESCRIBE THE SITE (Attach site plan showing disposal/sampling locations) Figure 2

The 0.55-acre site consists of a 100 ft by 240 ft building that occupies the entire lot. The building is currently vacant and in a state of disrepair. The roof is missing and the windows and doors are boarded up, however, the homeless have obtained entry into the building and are currently living within it. The building structure extends onto the adjacent property to the west (lot 6); this structure is in good condition and is currently used to house sets for film companies. The original building was constructed in 1892 by the Brooklyn City Railroad Company for use as a power plant for the municipally-owned trolley system. The facility was used until the 1930s and then conveyed to the City of New York in 1940. In 1951 the property was conveyed to Hastone Realty Corporation who subdivided the parcel into the two lots that exist today. On 5 September 1951 lot 9 was sold to Ben Hasnas. Under the Hasnas family the Empire Electric Company (Empire) operated at the site from 1951 to December 1986 when the property was sold to 5200 Enterprises, Inc.

Empire used the site to warehouse and re-condition electric apparatus [including polychlorinated biphenyls (PCBs)-containing transformers] and as company offices. The activities required a welding bay, a painting bay, and a solvent cleaning tank bay that utilized mineral spirits for degreasing purposes. The building consists of a basement, main floor, two first mezzanine floors, and a second mezzanine floor (see Figures 3, 4, 5, and 6). In 1986 Empire retained ENSI, Inc. to inspect the property. ENSI, Inc. collected wipe samples at various locations and based on the results (see Figures 7, 8, 9, and 10) that showed PCB contamination recommended that the building be cleaned. After cleanup was conducted ENSI, Inc. had post cleanup wipe samples collected (see Figure 11) which still showed PCB contamination as being present. Nevertheless the property was sold in December 1986 to 5200 Enterprises, Inc.

The site was listed on the New York State Registry of Inactive Hazardous Waste Sites (The Registry) on 28 February 1989 by the New York State Department of Environmental Conservation (NYSDEC) after the ENSI, Inc. report was reviewed by the New York City Department of Environmental Protection (NYCDEP). Attempts by NYSDEC to obtain Consent Orders with both the current and previous owners of the site were unsuccessful. In 1993 NYSDEC collected four shallow soil samples outside of the building along 52<sup>nd</sup> Street (see Figure 12) and had them analyzed for PCBs. The data indicated the presence of PCBs above the NYSDEC soil cleanup guidance for PCBs in shallow ( $\leq 2$  ft) soil of 1 mg/kg at state superfund sites. Subsequently, NYSDEC retained Lawler, Matusky & Skelly Engineers LLP (LMS) in March 1999 to conduct a Preliminary Site Assessment (PSA) of the Empire site to determine if the building was still contaminated and whether or not other media (soil and groundwater) had been contaminated by site activities.

The PSA investigation which was conducted in July 1999 consisted of the collection of five concrete chip samples from the basement and main floor, six oil/grease samples from the brick walls in the basement, three soil samples from breaks in the concrete in the basement floor, and one oil sample from the basement. All samples were analyzed for PCBs with the soil and oil samples also analyzed for volatile organic compounds (VOCs). In addition, two borings were installed in the vacant lot to the west of the site. At each boring two samples were collected at 0-2 ft and 2-4 ft) and analyzed for PCBs and VOCs. Six monitoring wells were also installed [two upgradient on 1<sup>st</sup> Avenue, two sidegradient on 52<sup>nd</sup> Street, and two downgradient (one on 52<sup>nd</sup> Street and one in the vacant lot)] below the water table to a depth of 15.8 to 28 ft. The wells (plus one existing well on 52<sup>nd</sup> Street) were sampled for PCBs and VOCs.

The results of the concrete chip samples (see Table 1 and Figure 13 and 14) indicated the presence of PCBs on the main floor of 4200 to 260,000 mg/kg and in the basement floor of 280 to 380 mg/kg. All results are greater than the Toxic Substance Control Act (TSCA) definition of PCB hazardous waste of 50 mg/kg. The highest concentration was found within the former PCB transformer storage area. The oil/grease sample results (see Table 2 and Figure 13) had PCBs ranging from 8.2 to 5900 mg/kg with only two of the six samples exceeding the TSCA definition of hazardous waste. The highest concentration was found underneath the former PCB transformer storage area. The shallow soil samples collected beneath the basement floor had PCBs ranging from 16 to 960 mg/kg with two samples exceeding the TSCA definition of hazardous waste (see Table 3 and Figure 13). All three samples also exceeded the NYSDEC soil cleanup guideline of 1 mg/kg in shallow soil ( $\leq 2$  ft). None of the samples exceeded the NYSDEC cleanup guidelines for VOCs.

The results of the samples collected from the borings are shown on Table 4 and Figure 15. None of the VOC results exceeded the NYSDEC cleanup guidelines, however, the 0-2 ft sample from EMSB-06 had PCBs at 6.2 mg/kg which is above the state superfund site cleanup guideline of 1 mg/kg in shallow soil. The 2-4 ft sample had PCBs at 1.3 mg/kg which is less than the cleanup guideline for soils  $> 2$  ft in depth of 10 mg/kg. The VOC results from the groundwater samples collected from the monitoring wells (see Table 5 and Figure 16) indicated that all wells had VOCs above the Class GA groundwater standards. The upgradient wells (EMMW-1 and -2) had tetrachloroethylene (PCE) at 17 and 8  $\mu\text{g/l}$ , respectively and EMMW-1 also had trichloroethylene (TCE) at 7  $\mu\text{g/l}$ . The groundwater standard

is 5 µg/l for these compounds. EMMW-3 and -4 had PCE at 26 and 7 µg/l, respectively. TCE and cis-1,2-dichloroethylene (1,2-DCE) were detected at 8 and 21 µg/l, respectively, in EMMW-3. PCE was found at 9 µg/l in the existing well, EM7W-10. The downgradient wells, EMMW-5 and -6, had 1,2-DCE at 20 µg/l in each and methyl-tertbutylether (MTBE) at 63 and 62 µg/l, respectively. MTBE is a gasoline additive, is not associated with site activities, and is most likely from one of the gasoline storage tanks located at the New York City Department of Sanitation (NYCDS) property across the street from the site on 52<sup>nd</sup> Street. PCBs were detected in only one well (EMMW-5) at a concentration of 71 µg/l, well above the groundwater standard of 0.09 µg/l.

The oil sample from the basement (see Table 6 and Figure 13) had 40 mg/kg of PCBs and low levels of VOCs. Due to the low concentration, the oil does not appear to be PCB oil and the PCBs found in it are most likely from the contaminated concrete.

a. Area 0.55 acres    b. EPA ID Number none given  
c. Completed    ( ) Phase I    ( ) Phase II    (X) PSA    ( ) RI/FS    ( ) PA/SI    ( ) Other

#### 9. HAZARDOUS WASTE DISPOSED (Include EPA Hazardous Waste Numbers)

PCBs are present in the building concrete, in oil/grease samples from the brick pillars, and in shallow soil beneath the basement floor at hazardous levels (above 50 mg/kg). EPA Hazardous Waste Number (NYSDEC): B007

#### 10. ANALYTICAL DATA AVAILABLE

a. ( ) Air (X) Groundwater ( ) Surface Water ( ) Sediment (X) Soil (X) Waste ( ) Leachate ( ) EPTox ( ) TCLP (X) Other: concrete floors and basement walls  
b. Contravention of Standards or Guidance Values    Refer to attached Tables 1, 2, 3, 4, 5 and 6.

#### 11. CONCLUSION

Hazardous levels of PCBs remain within the building in the concrete floors, on the brick pillars in the basement, and in the shallow soil beneath the basement. PCBs are present above cleanup guidelines in the exposed shallow soil in the vacant lot. PCBs are also found in the groundwater downgradient of the site above the Class GA groundwater standard. The hazardous levels of PCBs present inside the building present an immediate threat to public health as there are homeless people living within the building. The PCBs present in the exposed soil in the vacant lot present a public health threat to workers in the adjacent building and to other workers in the area. The PCBs present in the groundwater do not present a significant threat to public health since the groundwater is not used as a drinking water supply. Even if PCBs have migrated into the adjacent surface water (Bay Ridge Channel) no significant threat to the environment is seen since PCBs are present in the water body from upstate sources and it would be impossible to determine whether their presence is from the Empire site. The VOCs present in the groundwater do not indicate an observed release from the site since the downgradient levels of chlorinated solvents were not three times higher than the results from the upgradient samples. The MTBE present is not site related.

#### 12. SITE DATA

a. Nearest Surface Water: Distance 1300 ft    Direction: northwest    Classification: \_\_\_\_\_  
b. Nearest Groundwater: Depth 12 ft    Flow Direction: northwest    (X) Sole Source ( ) Primary ( ) Principal  
c. Nearest Water Supply: Distance > 9 mi    Direction: eastnorththeast    Active (X) Yes ( ) No  
d. Nearest Building: Distance (on-site)    Direction: Not applicable    Uses: Vacant-homeless people living within it  
e. In State Economic Development Zone?    ( ) Y (X) N    i. Controlled Site Access?    ( ) Y (X) N  
f. Crops or livestock on site?    ( ) Y (X) N    j. Exposed hazardous waste?    (X) Y ( ) N  
g. Documented fish or wildlife mortality?    ( ) Y (X) N    k. HRS Score \_\_\_\_\_  
h. Impact on special status fish or wildlife resource?    ( ) Y (X) N    l. For Class 2: Priority Category

#### 13. SITE OWNER'S NAME

Martin J. Goldman, c/o Goldman Copeland

#### 14. ADDRESS

11 West 19<sup>th</sup> Street, New York, New York 10011

#### 15. TELEPHONE

(212) 929-0480

#### 16. PREPARER

#### 17. APPROVED

Signature

Date

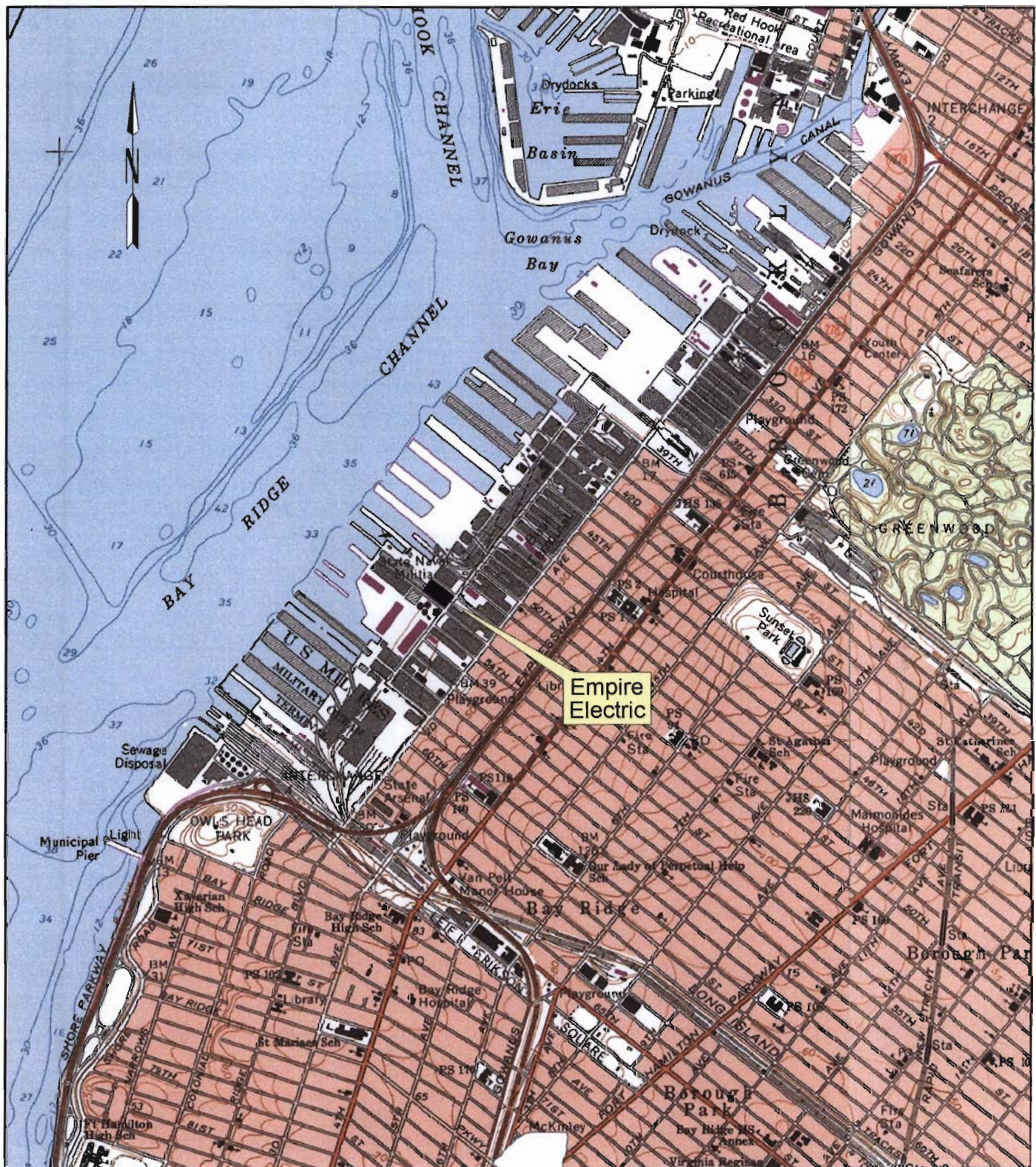
Signature

Date

Name, Title, Organization

Name, Title, Organization





Empire Electric Site: 40° 38' 57" N  
74° 01' 16" W

Map source:  
USGS 7.5-minute Quadrangle Map,  
Jersey City, NJ-NY, 1967, photorevised 1982.  
Brooklyn, NY, 1967, photorevised 1979.  
Printed from Wildflower Productions "Topo".

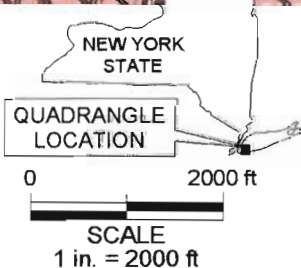


Figure 1

## Site Location

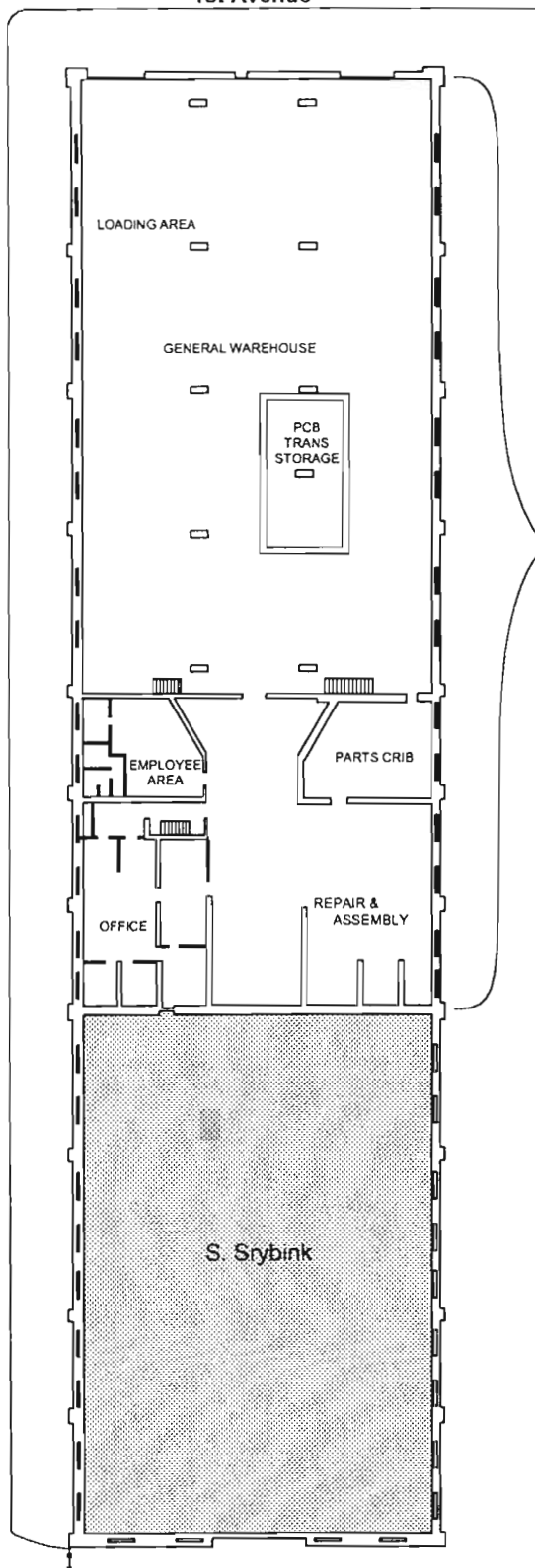
MULTI-SITE PSA  
Empire Electric  
NYSDEC I.D. No. 224015

LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
Pearl River, New York



52nd Street

1st Avenue



EMPIRE ELECTRIC COMPANY BUILDING

S. Srybink

0 50 ft  
APPROX. SCALE  
1" = 50'

MultiSitePSA\650641 site2.dsf

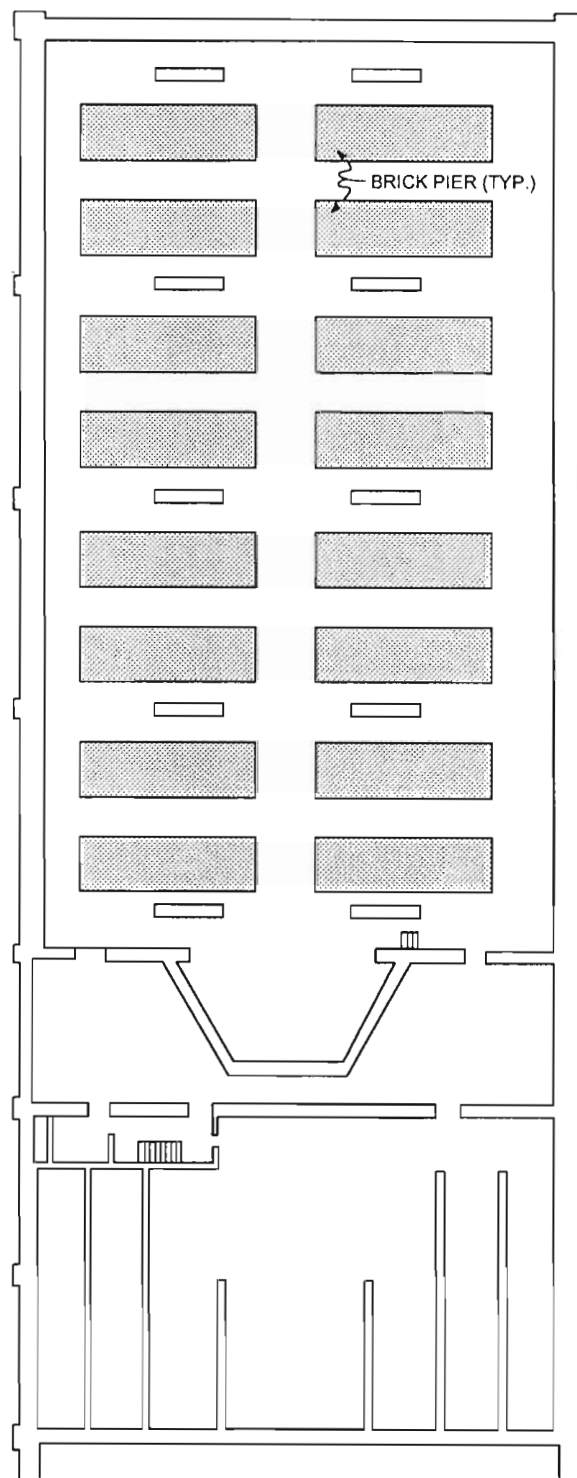
Figure 2

### Site Plan

MULTI-SITE PSA  
Empire Electric Company  
NYSDEC I.D. No. 224015

LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
Pearl River, New York





0 30 ft

~SCALE  
1 in. = ~30'

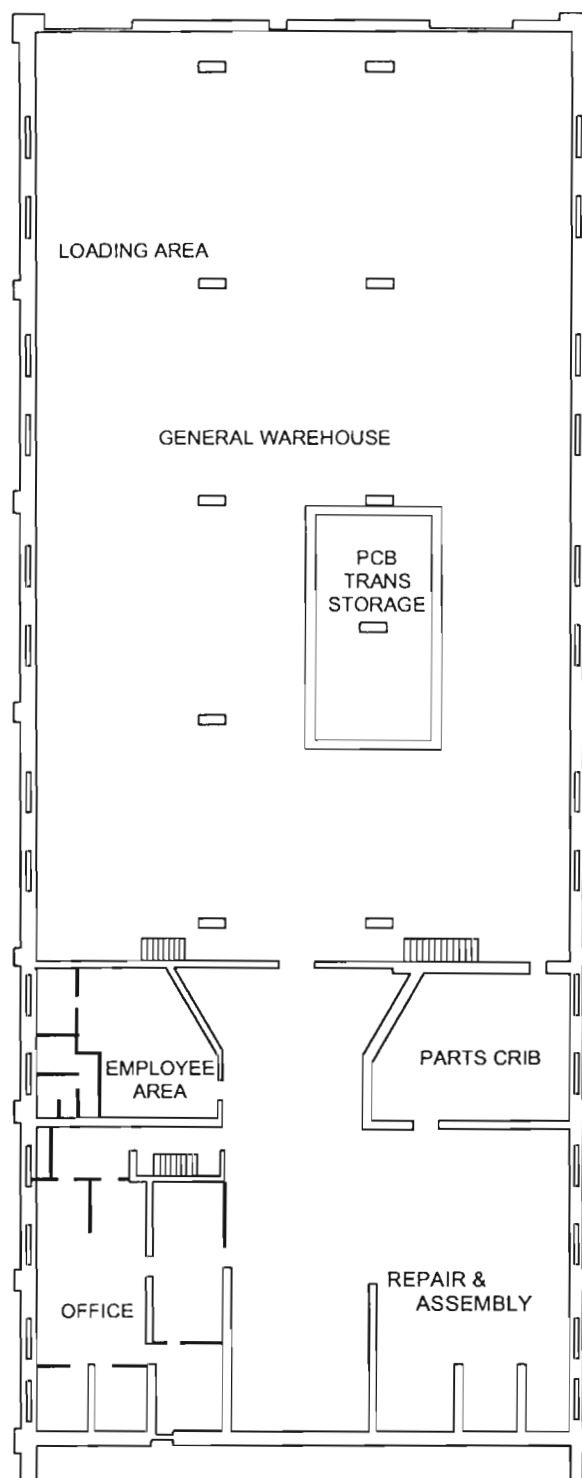
MultiSitePSA\650641 site.dsf

**Figure 3**

## **Basement Floor Plan**

**MULTI-SITE PSA**  
**Empire Electric Company**  
**NYSDEC I.D. No. 224015**

**LAWLER, MATUSKY & SKELLY ENGINEERS LLP**  
Pearl River, New York



0 30 ft



~SCALE  
1 in. = ~30'

\\MultiSitePSA\650641 site.dsf

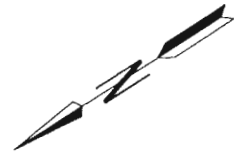
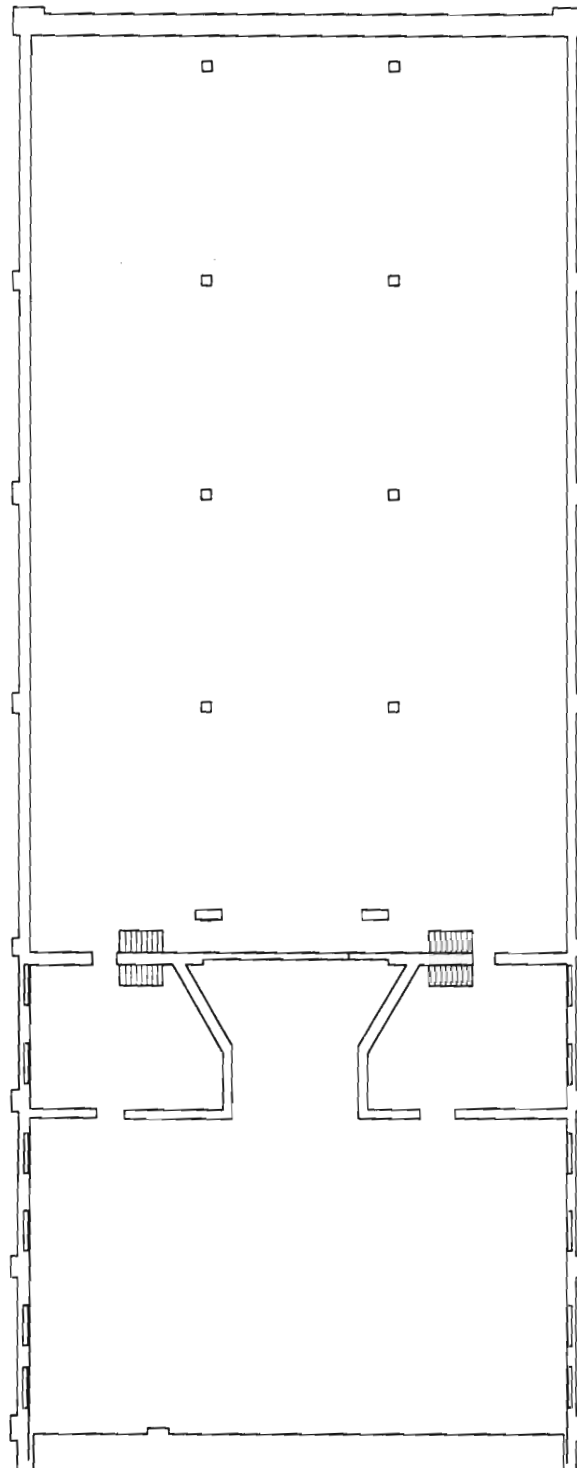
Figure 4

## Main Floor Plan

MULTI-SITE PSA  
Empire Electric Company  
NYSDEC I.D. No. 224015

LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
Pearl River, New York

# First Mezzanine



0 30 ft

~SCALE

1 in. = ~30'

\\MultiSitePSA\\650641 site.dsf

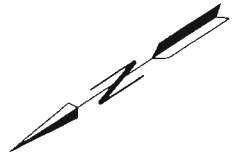
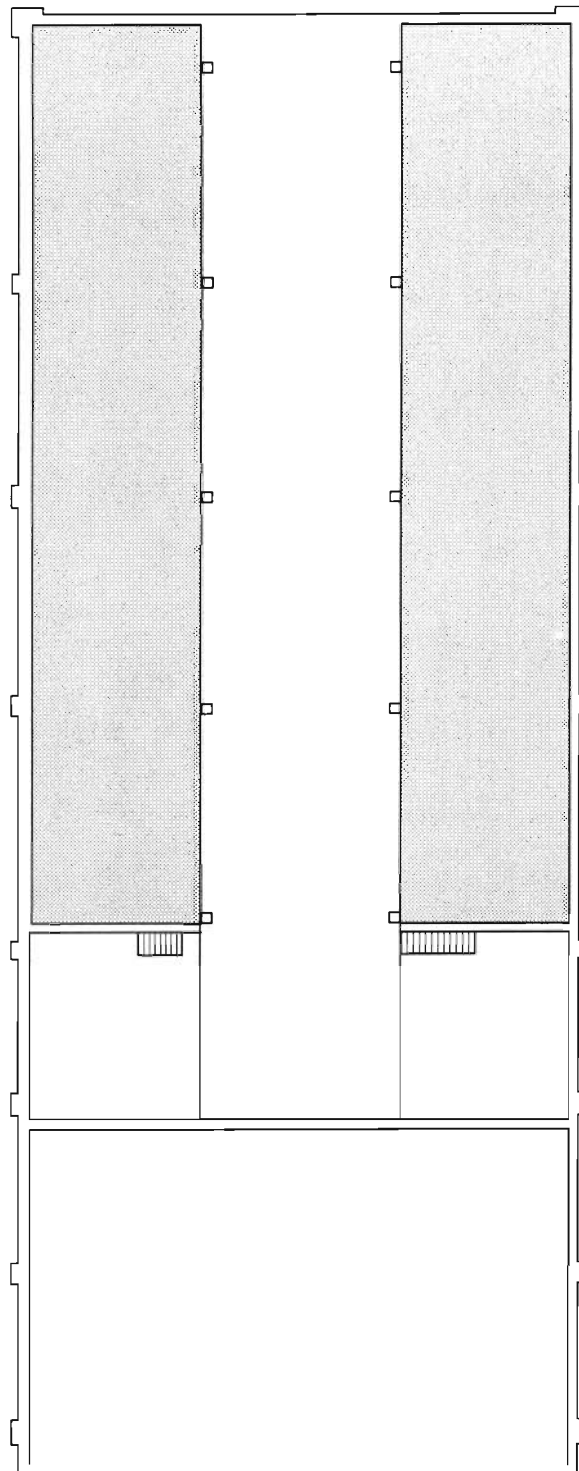
Figure 5

## First Mezzanine Floor Plan

MULTI-SITE PSA  
Empire Electric Company  
NYSDEC I.D. No. 224015

LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
Pearl River, New York

## Second Mezzanine



0 30 ft



~SCALE

1 in. = ~30'

\\MultiSitePSA\\650641 site.dsf

Figure 6

### Second Mezzanine Floor Plan

MULTI-SITE PSA  
Empire Electric Company  
NYSDEC I.D. No. 224015

LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
Pearl River, New York

# Cellar

Total PCBs  
65,000

Sample #1

Sample #2

Total PCBs  
4500

Sample #3

Total PCBs  
<50 (Field Blank)

0 30 ft

~SCALE  
1 in. = ~30'

\\MultiSitePSA\650641 site.dsf

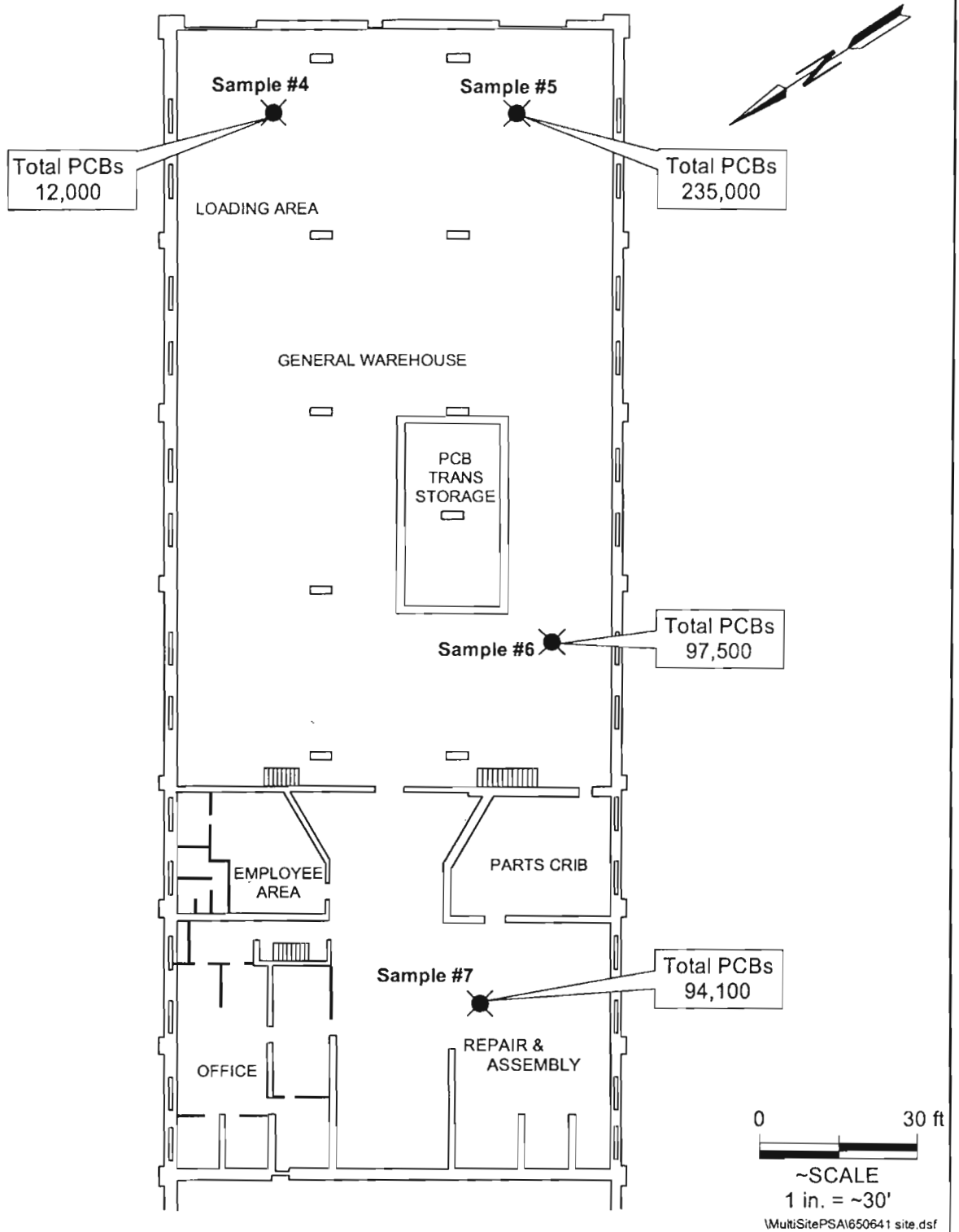
NOTE: PCB concentration in  $\mu\text{g}/100\text{cm}^2$

**Figure 7**  
**PCB Concentrations in Wipe Samples in**  
**1986 Waste Industries Basement**  
**Floor Samples (Precleanup)**

**MULTI-SITE PSA**  
**Empire Electric Company**  
**NYSDEC I.D. No. 224015**

**LAWLER, MATUSKY & SKELLY ENGINEERS LLP**  
**Pearl River, New York**

# Ground Floor



NOTE: PCB concentration in  $\mu\text{g}/100\text{cm}^2$

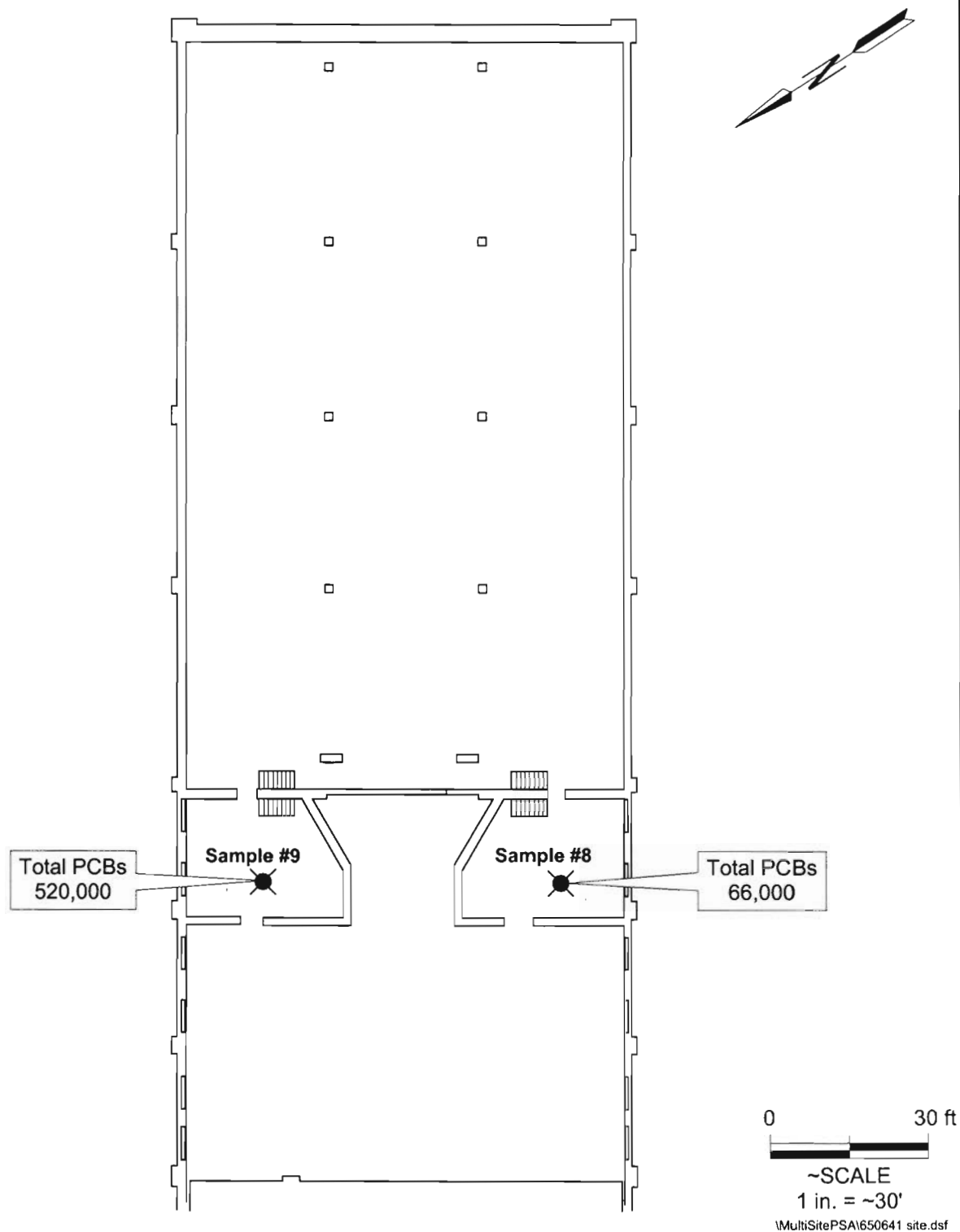
**Figure 8**  
**PCB Concentrations in Wipe Samples in**  
**1986 Waste Industries**  
**Main Floor Samples (Precleanup)**

MULTI-SITE PSA  
 Empire Electric Company  
 NYSDEC I.D. No. 224015

LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
 Pearl River, New York



## First Mezzanine



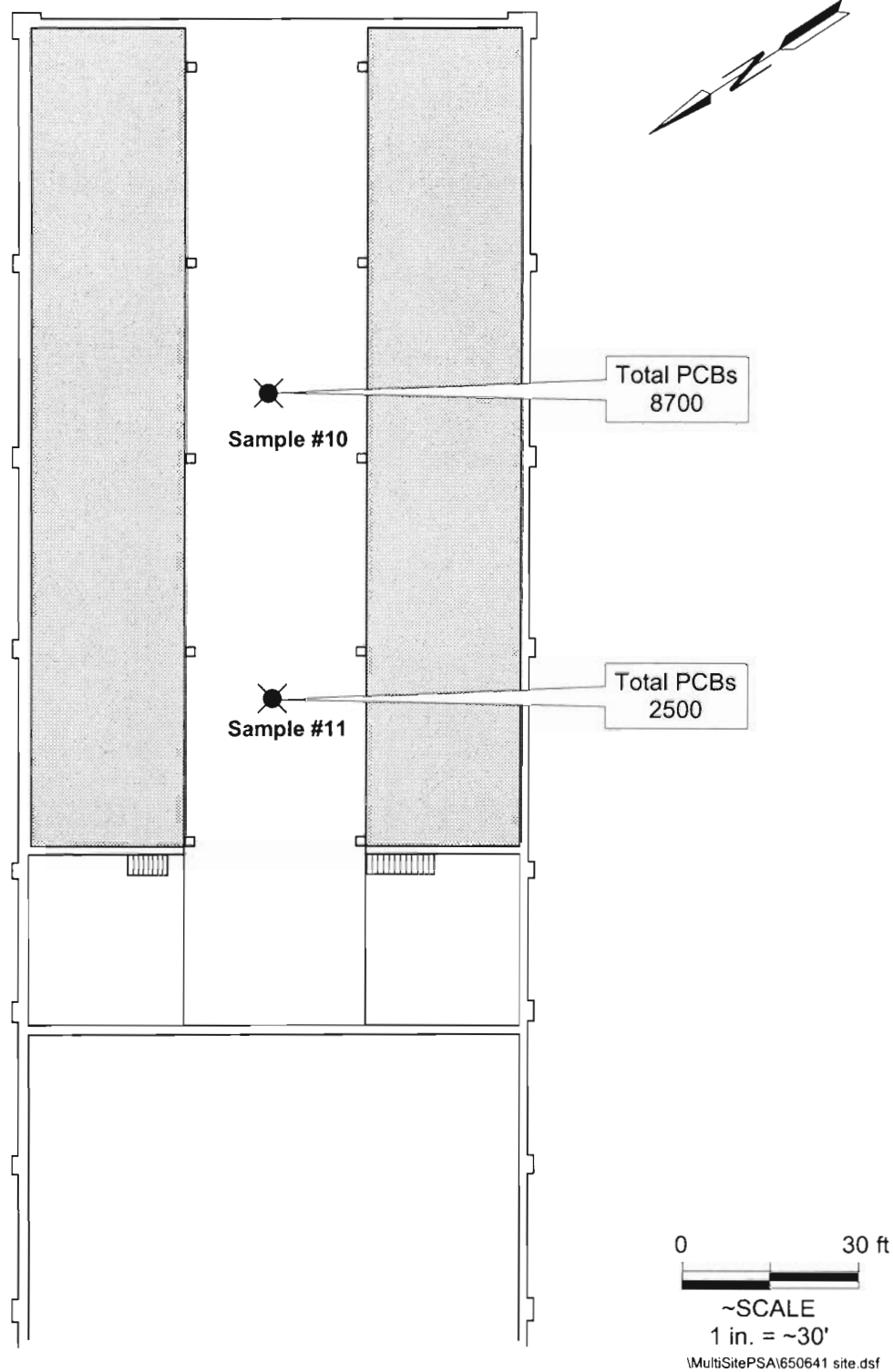
**NOTE:** PCB concentration in  $\mu\text{g}/100\text{cm}^2$

**Figure 9**  
**PCB Concentrations in Wipe Samples**  
**in 1986 Waste Industries**  
**First Mezzanine Sample Locations**  
**(Precleanup)**

**MULTI-SITE PSA**  
**Empire Electric Company**  
**NYSDEC I.D. No. 224015**

**LAWLER, MATUSKY & SKELLY ENGINEERS LLP**  
**Pearl River, New York**

## Second Mezzanine



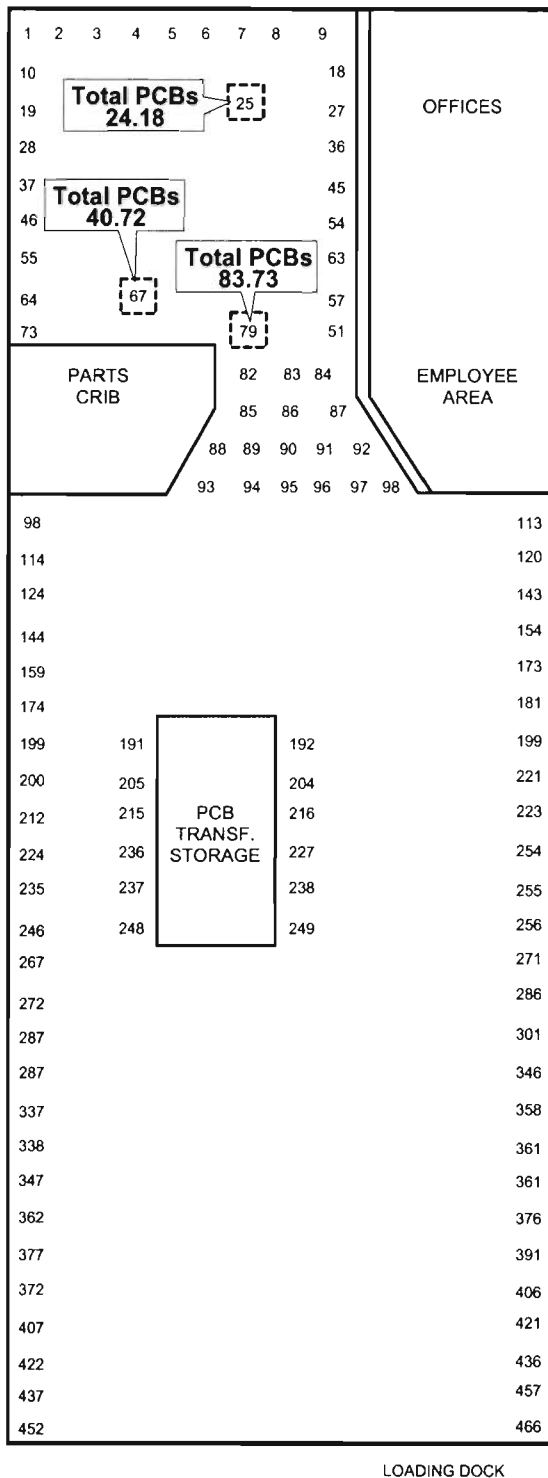
**NOTE:** PCB concentration in  $\mu\text{g}/100\text{cm}^2$

**Figure 10**  
**PCB Concentrations in Wipe Samples in**  
**1986 Waste Industries Second Mezzanine**  
**Sample Locations (Precleanup)**

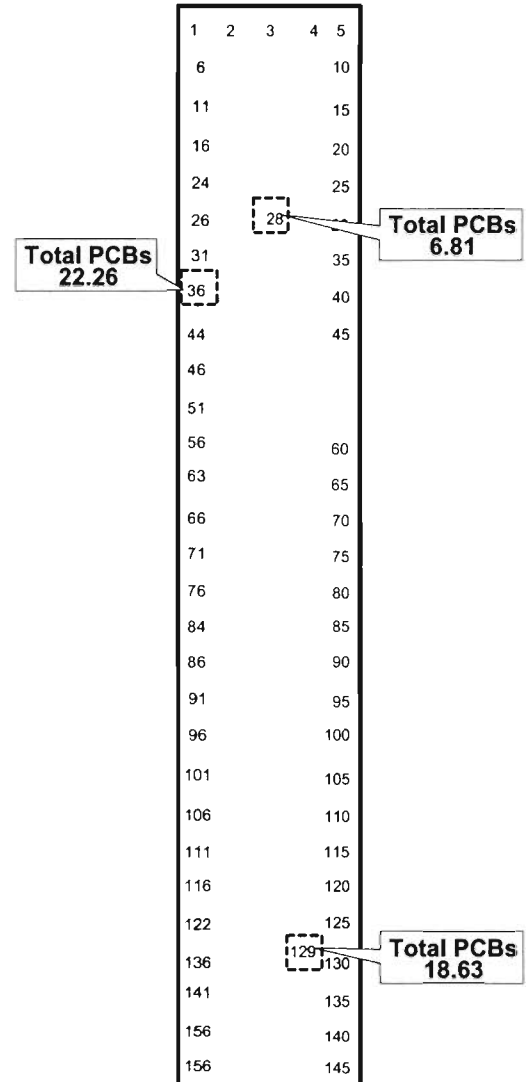
**MULTI-SITE PSA**  
**Empire Electric Company**  
**NYSDEC I.D. No. 224015**

**LAWLER, MATUSKY & SKELLY ENGINEERS LLP**  
**Pearl River, New York**

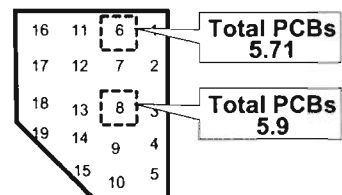
## MAIN FLOOR



## FIRST MEZZANINE



## ROOM "B"



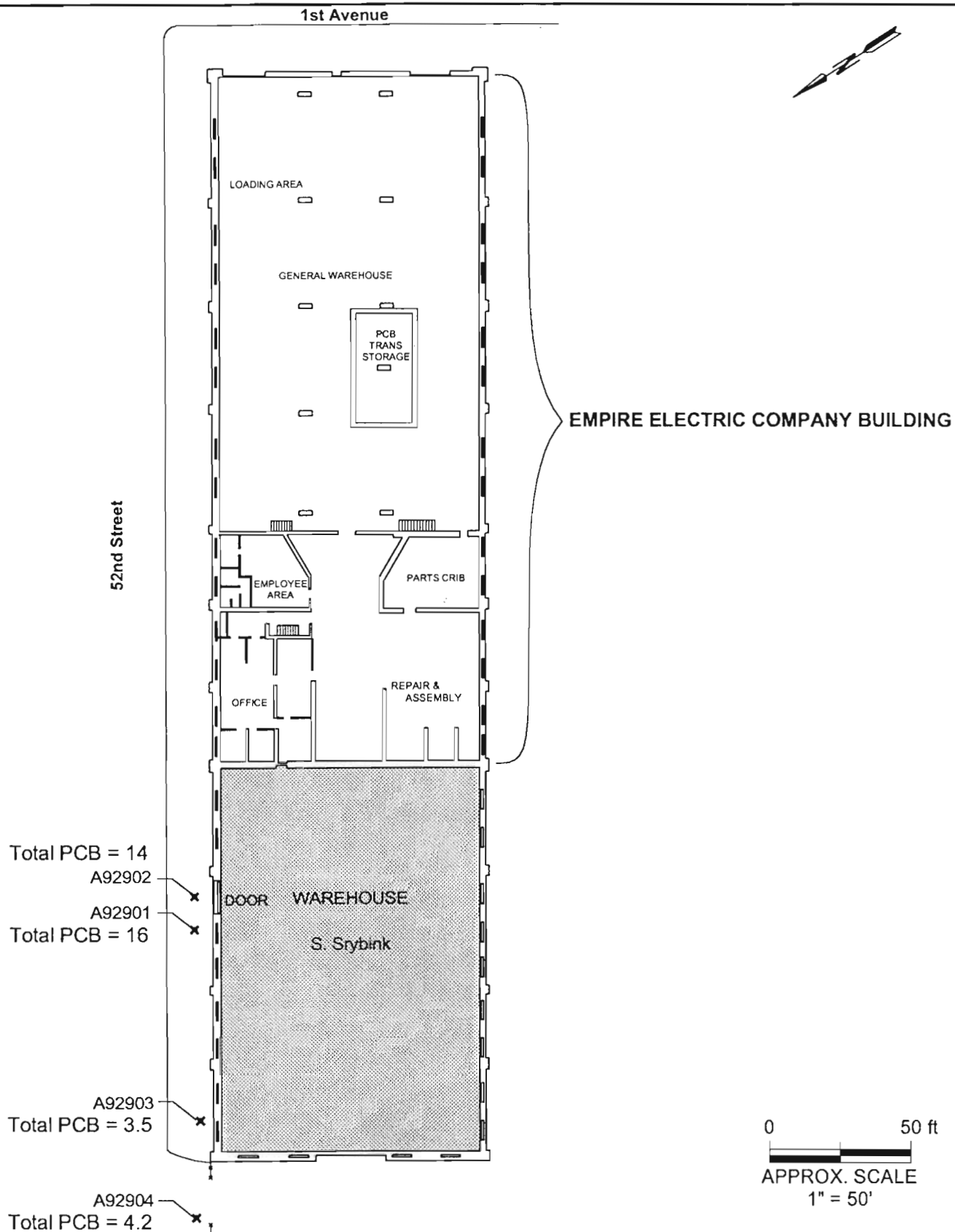
NOTE: PCB concentrations in  $\mu\text{g}/100 \text{ cm}^2$

\\MultiSitePSA\650641 site2.dsf

**Figure 11**  
**PCB Concentrations in**  
**1986 Enviropact Post Cleaning**  
**Wipe Samples**

**MULTI-SITE PSA**  
**Empire Electric Company**  
**NYSDEC I.D. No. 224015**

**LAWLER, MATUSKY & SKELLY ENGINEERS LLP**  
**Pearl River, New York**



MultiSitePSA\650641 site2.dsf

Figure 12

# PCB Concentrations in 1993 NYSDEC Soil Sample Locations

MULTI-SITE PSA  
Empire Electric Company  
NYSDEC I.D. No. 224015

LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
Pearl River, New York

NOTE: PCB concentrations  
given in mg/kg

## LEGEND

- x Soil sample location  
(location estimated based on  
photograph in Reference 14)

TABLE 1 (Page 1 of 2)

**CONCRETE CHIP DATA SUMMARY**  
**(July 1999)**  
**Empire Electric Company**  
**Site No 2-24-015**

Sample ID Date Collected	BF-01DL 07/26/1999	BF-02DL 07/26/1999	MF-01DL 07/26/1999	MF-02DL 07/26/1999	MF-03DL 07/26/1999	Hazardous Waste Criteria <sup>1</sup> (mg/kg)
<b>PCBs (mg/kg)</b>	[DL:1000:1]	[DL:1000:1]	[DL:1000000:1]	[DL:5000:1]	[DL:10000:1]	
Aroclor-1254	ND	ND	ND	ND	ND	
Aroclor-1260	<u>380 dg</u>	<u>280 dg</u>	<u>260,000 dg</u>	<u>4200 dg</u>	<u>16,000 dg</u>	
<b>Total PCBs</b>	<b>380</b>	<b>280</b>	<b>260,000</b>	<b>4200</b>	<b>16,000</b>	<b>50</b>

- 1 - TSCA definition of hazardous waste for total PCBs.  
p - Pesticide/Aroclor target analyte has >25% difference for the detected  
d - Concentration recovered from diluted sample.  
g - Value considered estimated based on data validators report (Appendix B)  
BF - Basement floor.  
BW - Basement wall.  
ND - Not detected at analytical detection limit.  
N/A - Not available.

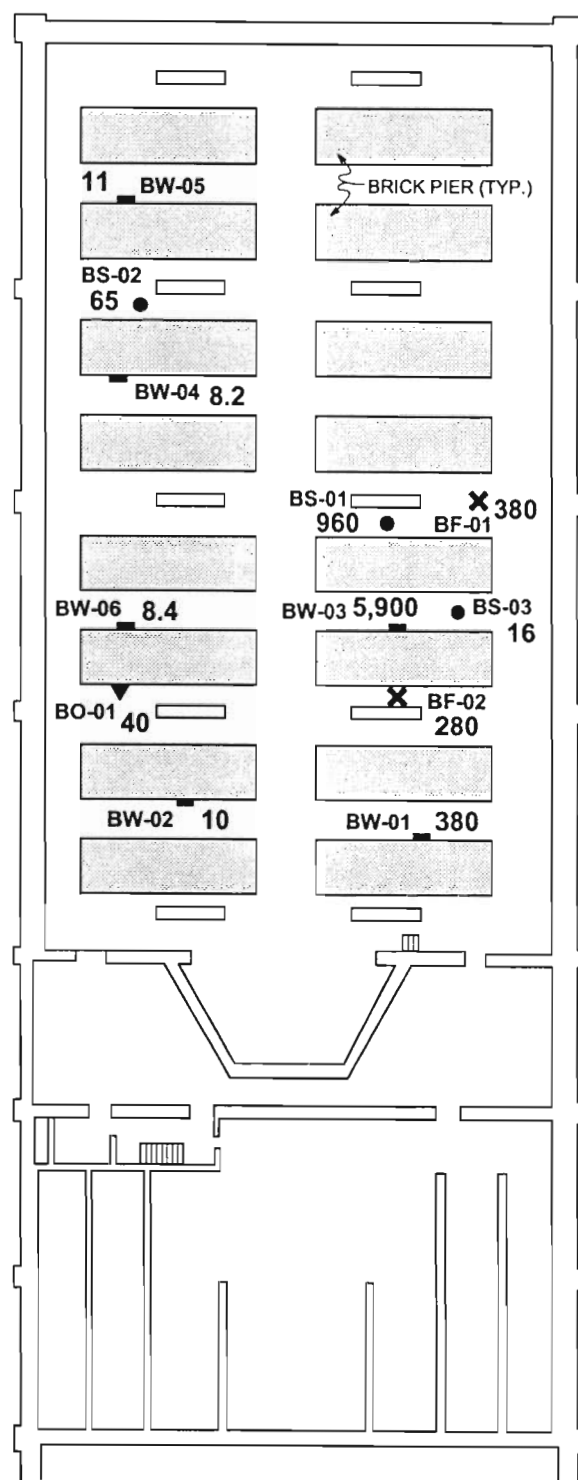
TABLE 1 (Page 2 of 2)

**CONCRETE CHIP DATA SUMMARY**  
(July 1999)  
Empire Electric Company  
Site No 2-24-015

Sample ID	FB-CONCRETE
Date Collected	07/27/1999
<b>PCBs (ug/L)</b>	
Aroclor-1254	ND
Aroclor-1260	<u>1.6</u>
<b>Total PCBs</b>	1.6

FB - Equipment blank for concrete.  
ND - Not detected at analytical detection limit.  
N/A - Not available.





#### LEGEND

- X** Floor sample
- BF-01
- Soil sample
- BS-01
- Wall scrape
- BW-01
- ▼** Oil sample
- BO-01

**NOTE:** All PCB concentrations given in mg/kg

0 30 ft

~SCALE

1 in. = ~30'

\\MultiSitePSA\650641 site.dsf

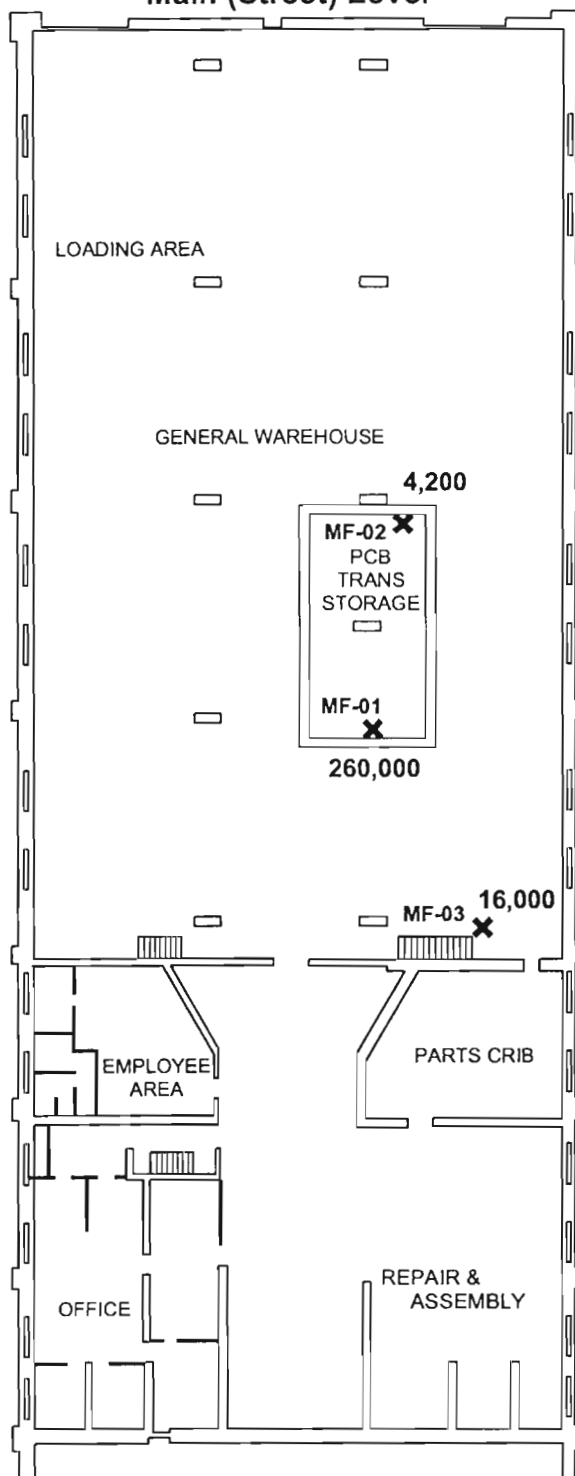
Figure 13

### 1999 PCB Concentrations in Basement Floor Samples

MULTI-SITE PSA  
Empire Electric Company  
NYSDEC I.D. No. 224015

LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
Pearl River, New York

# Main (Street) Level



0 30 ft  
~SCALE  
1 in. = ~30'

MultiSitePSA\650641 site.dsf

## LEGEND

X Floor sample  
MF-0# (Concrete 0-1")

16,000 PCB concentration (mg/kg)

Figure 14

## 1999 PCB Concentrations in Main Floor Samples

MULTI-SITE PSA  
Empire Electric Company  
NYSDEC I.D. No. 224015

LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
Pearl River, New York

TABLE 2 (Page 1 of 1)

**OIL/GREASE DATA SUMMARY**  
**(July 1999)**  
**Empire Electric Company**  
**Site No 2-24-015**

Sample ID Date Collected	BW-01DL 07/26/1999	BW-02DL 07/26/1999	BW-03DL 07/26/1999	BW-04DL 07/26/1999	BW-05 07/26/1999	BW-06 07/26/1999	Hazardous Waste Criteria <sup>1</sup> (mg/kg)
<b>PCBs (mg/kg)</b>	[DL:100:1]	[DL:5:1]	[DL:1000:1]	[DL:5:1]			
Aroclor-1254	ND	10 dpg	ND	8.2 dg	11 eg	8.4 eg	
Aroclor-1260	<u>380 dg</u>	<u>ND</u>	<u>5900 dg</u>	<u>ND</u>	<u>ND</u>	<u>ND</u>	
<b>Total PCBs</b>	<b>380</b>	<b>10</b>	<b>5900</b>	<b>8.2</b>	<b>11</b>	<b>8.4</b>	<b>50</b>

- 1 - TSCA definition of hazardous waste for total PCBs.  
p - Pesticide/Aroclor target analyte has >25% difference for the detected  
d - Concentration recovered from diluted sample.  
g - Value considered estimated based on data validators report (Appendix B)  
BF - Basement floor.  
BW - Basement wall.  
ND - Not detected at analytical detection limit.  
N/A - Not available.

TABLE 3 (Page 1 of 3)

**SHALLOW SOIL DATA SUMMARY**  
**(July 1999)**  
**Empire Electric Company**  
**Site No 2-24-015**

Sample ID Date Collected	BS-01 07/26/1999	BS-02 07/26/1999	BS-03 07/27/1999	Recommended Soil Cleanup Objective <sup>1</sup> (mg/kg)
<b>VOLATILE ORGANIC COMPOUNDS (mg/kg)</b>				
Trichlorofluoromethane	0.003 jg	0.005 jg	0.001 jg	N/A
Carbon Disulfide	ND g	0.001 jg	ND g	2.7
Tetrachloroethylene	0.002 j	0.009 g	0.011	1.4
1,2,4-Trichlorobenzene	ND	0.002 jg	ND	3.4
1,2,3-Trichlorobenzene	<u>ND</u>	<u>0.001 jg</u>	<u>ND</u>	<u>N/A</u>
<b>Total VOCs</b>	0.005 <sup>a</sup>	0.018 <sup>a</sup>	0.012 <sup>a</sup>	10 <sup>2</sup>

1 - Value taken from NYSDEC TAGM #4046 (1/94).

2 - As per TAGM#4046, Total VOCs <10 ppm.

a - Compound list does not present those compounds whose reported nondetects were either qualified as estimated or rejected by the data validator (Appendix B).

b - Found in associated blanks.

j - Estimated concentration; compound present below quantitation limit.

g - Value considered estimated based on data validators report (Appendix B)

N/A - Not available.

ND - Not detected at analytical detection limit.

Notes: - Numbers in bold exceed standard.

- Number in parentheses in sample ID is sample depth in ft.

TABLE 3 (Page 2 of 3)

**SHALLOW SOIL DATA SUMMARY**  
**(July 1999)**  
**Empire Electric Company**  
**Site No 2-24-015**

Sample ID Date Collected	BS-01DL 07/26/1999	BS-02DL 07/26/1999	BS-03DL 07/27/1999	Recommended Soil Cleanup Objective <sup>1</sup> (mg/kg)
<b>PCBs (mg/kg)</b>	[DL:2000:1]	[DL:100:1]	[DL:20:1]	
Aroclor-1260	<u>960 dg</u>	<u>65 dg</u>	<u>16 dg</u>	
Total PCBs	960	65	16	1 - 10 <sup>2</sup>

- 1 - Value taken from NYSDEC TAGM #4046 (1/94).  
3 - As per TAGM #4046, cleanup objective for total PCBs are  $\leq 1$  mg/kg for surface ( $\leq 2$  ft) and  $\leq 10$  mg/kg for subsurface ( $> 2$  ft).  
d - Concentration recovered from diluted sample.  
g - Value considered estimated based on data validators report (Appendix B)  
ND - Not detected at analytical detection limit.  
N/A - Not available.

TABLE 3 (Page 3 of 3)

**SHALLOW SOIL DATA SUMMARY**  
**(July 1999)**  
**Empire Electric Company**  
**Site No 2-24-015**

Sample ID Date Collected	FBSOILS 07/27/1999
<b>VOLATILE ORGANIC COMPOUNDS (µg/L)</b>	
Hexachlorobutadiene	<u>ND<sup>g</sup></u>
<b>Total VOCs<sup>a</sup></b>	<b>ND</b>
<b>PCBs (µg/L)</b>	
Aroclor-1260	<u>1.8</u>
<b>Total PCBs</b>	<b>1.8</b>

- 1 - This value applies to the total of all organic substances listed in the New York State Groundwater Effluent Limitations table from the Division of Water Technical and Operational Guidance Series (1.1.1) with a groundwater effluent limitation less than 100 ug/l.
- g - Value considered estimated based on data validators report (Appendix B)
- FBSOILS - Field blank for shallow soils.
- ND - Not detected at analytical detection limit.
- NR - Not run.
- Notes: - Numbers in bold exceed standard.



TABLE 4 (Page 1 of 4)

## SUBSURFACE SOIL DATA SUMMARY

(July 1999)

Empire Electric Company

Site No 2-24-015

Sample ID Date Collected	EM-B1(0-2) 07/15/1999	EM-B1(2-4) 07/15/1999	EMSB-06(0-2) 07/19/1999	Recommended Soil Cleanup Objective <sup>1</sup> (mg/kg)
<b>VOLATILE ORGANIC COMPOUNDS (mg/kg)</b>				
Trichlorofluoromethane	0.001 j	ND	0.002 jg	N/A
Chloromethane	ND	ND	0.002 jg	N/A
Bromomethane	ND	ND	0.003 jg	N/A
Chloroform	ND	ND	ND r	0.3
Trichloroethylene	0.001 j	0.002 j	0.001 jg	0.7
2-Hexanone	ND	ND	0.003 jg	N/A
Tetrachloroethylene	0.018	0.006	0.02	1.4
Toluene	ND	ND	ND	1.5
Xylene (Total)	ND	ND	ND	1.2
1,1,2,2-Tetrachloroethane	ND	ND	ND	0.6
n-Propylbenzene	ND	ND	0.002 jg	N/A
2-Chlorotoluene	ND	ND	ND	N/A
1,3,5-Trimethylbenzene	ND	ND	0.001 jg	N/A
4-Chlorotoluene	ND	ND	0.001 jg	N/A
tert-Butylbenzene	ND	ND	0.001 jg	N/A
1,2,4-Trimethylbenzene	ND	ND	0.002 jg	N/A
sec-Butylbenzene	ND	ND	0.002 jg	N/A
4-Isopropyltoluene	ND	ND	0.002 jg	N/A
1,3-Dichlorobenzene	ND	ND	0.002 jg	1.6
1,4-Dichlorobenzene	ND	ND	0.002 jg	8.5
n-Butylbenzene	ND	ND	0.002 jg	N/A
1,2-Dichlorobenzene	ND	ND	0.002 jg	7.9
1,2,4-Trichlorobenzene	ND	ND	0.006 g	3.4
Hexachlorobutadiene	ND	ND	0.004 jg	N/A
1,2,3-Trichlorobenzene	ND	ND	0.008	N/A
<b>Total VOCs</b>	<b>0.020</b>	<b>0.008</b>	<b>0.068<sup>a</sup></b>	<b>10<sup>-2</sup></b>

1 - Value taken from NYSDEC TAGM #4046 (1/94).

2 - As per TAGM#4046, Total VOCs &lt;10 ppm.

a - Compound list does not present those compounds whose reported nondetects were either qualified as estimated or rejected by the data validator (Appendix B).

b - Found in associated blanks.

j - Estimated concentration; compound present below quantitation limit.

g - Value considered estimated based on data validators report (Appendix B)

r - Value rejected by data validator but usable to show magnitude of contaminated level (Appendix B)

\*\* - This sample is a blind duplicate of EMSB-06(2-4).

N/A - Not available.

ND - Not detected at analytical detection limit.

Notes: - Numbers in bold exceed standard.

- Number in parentheses in sample ID is sample depth in ft.

**SUBSURFACE SOIL DATA SUMMARY**  
**(July 1999)**  
**Empire Electric Company**  
**Site No 2-24-015**

Sample ID Date Collected	EMSB-06(2-4) 07/19/1999	EMSB-06(4-6)RE** 07/19/1999	Recommended Soil Cleanup Objective <sup>1</sup> (mg/kg)
<b>VOLATILE ORGANIC COMPOUNDS (mg/kg)</b>			
Trichlorofluoromethane	0.002 jg	0.001 jg	N/A
Chloromethane	0.001 jg	0.002 jg	N/A
Bromomethane	0.002 jg	0.002 jg	N/A
Chloroform	0.001 jg	ND r	0.3
Trichloroethylene	0.001 jg	0.002 jg	0.7
2-Hexanone	ND g	ND g	N/A
Tetrachloroethylene	0.015 g	0.038 g	1.4
Toluene	ND	ND	1.5
Xylene (Total)	ND g	ND g	1.2
1,1,2,2-Tetrachloroethane	ND g	ND g	0.6
n-Propylbenzene	ND	ND	N/A
2-Chlorotoluene	ND	ND	N/A
1,3,5-Trimethylbenzene	ND	ND	N/A
4-Chlorotoluene	ND	ND	N/A
tert-Butylbenzene	ND	ND	N/A
1,2,4-Trimethylbenzene	ND	ND	N/A
sec-Butylbenzene	ND	ND	N/A
4-Isopropyltoluene	ND	ND	N/A
1,3-Dichlorobenzene	ND	ND	1.6
1,4-Dichlorobenzene	ND	ND	8.5
n-Butylbenzene	ND	ND	N/A
1,2-Dichlorobenzene	ND	ND	7.9
1,2,4-Trichlorobenzene	0.001 jg	0.002 jg	3.4
Hexachlorobutadiene	ND	ND	N/A
1,2,3-Trichlorobenzene	<u>0.002 jg</u>	<u>0.003 jg</u>	<u>N/A</u>
<b>Total VOCs</b>	<b>0.025<sup>a</sup></b>	<b>0.05<sup>a</sup></b>	<b>10<sup>-2</sup></b>

- 1 - Value taken from NYSDEC TAGM #4046 (1/94).  
2 - As per TAGM#4046, Total VOCs <10 ppm.  
\*\* - This sample is a blind duplicate of EMSB-06(2-4)  
a - Compound list does not present those compounds whose reported nondetects were either qualified as estimated or rejected by the data validator (Appendix B).  
b - Found in associated blanks.  
g - Value considered estimated based on data validators report (Appendix B)  
r - Value rejected by data validator but usable to show magnitude of contaminated level (Appendix B)  
\*\* - This sample is a blind duplicate of EMSB-06(2-4).  
j - Estimated concentration; compound present below quantitation limit.  
N/A - Not available.  
ND - Not detected at analytical detection limit.
- Notes:  
- Numbers in bold exceed standard.  
- Number in parentheses in sample ID is sample depth in ft.

TABLE 4 (Page 3 of 4)

## SUBSURFACE SOIL DATA SUMMARY

(July 1999)

Empire Electric Company

Site No 2-24-015

Sample ID Date Collected	EM-B1(0-2) 07/15/1999	EM-B1(2-4) 07/15/1999	EMSB-06(0-2) 07/19/1999	EMSB-06(2-4) 07/19/1999	EMSB-06(4-6)** 07/19/1999	Recommended Soil Cleanup Objective <sup>1</sup> (mg/kg)
<b>PCBs (mg/kg)</b>			(DL:10:1)			
Aroclor-1248	ND	ND	ND	ND g	ND	
Aroclor-1254	<u>ND</u>	<u>ND</u>	<u>6.2 g</u>	<u>1 pg</u>	<u>1.3 pg</u>	
<b>Total PCBs</b>	ND	ND	<b>6.2</b>	<b>1</b>	<b>1.3</b>	<b>1 - 10<sup>3</sup></b>

1 - Value taken from NYSDEC TAGM #4046 (1/94).

3 - As per TAGM #4046, cleanup objective for total PCBs are  $\leq 1$  mg/kg for surface ( $\leq 2$  ft) and  $\leq 10$  mg/kg for subsurface ( $> 2$  ft).p - Pesticide/Aroclor target analyte has  $>25\%$  difference for the detected

g - Value considered estimated based on data validators report (Appendix B)

\*\* - This sample is a blind duplicate of EMSB-06(2-4).

ND - Not detected at analytical detection limit.

N/A - Not available.

TABLE 4 (Page 4 of 4)

## SUBSURFACE SOIL DATA SUMMARY

(July 1999)

Empire Electric Company

Site No 2-24-015

<b>Sample ID</b>	<b>EB-01</b>
<b>Date Collected</b>	<b>07/19/1999</b>
<b>VOLATILE ORGANIC COMPOUNDS (µg/L)</b>	
Total VOCs	ND
PCBs (ug/l)	ND

ND - Not detected at analytical detection limit.

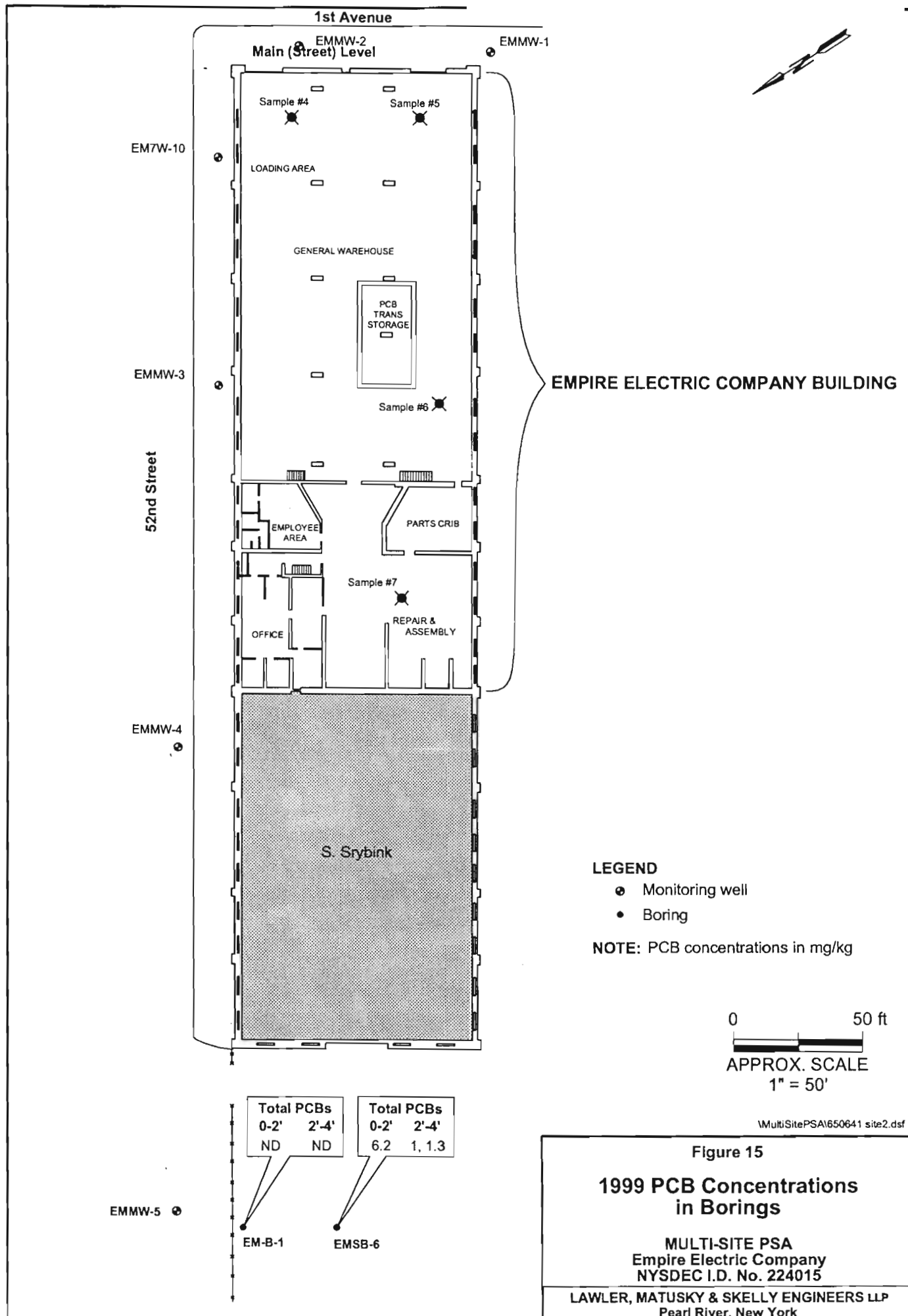


TABLE 5 (Page 1 of 3)

**GROUNDWATER DATA SUMMARY**  
**(July 1999)**  
**Empire Electric Company**  
**Site No 2-24-015**

Sample ID Date Collected	EMMW-1 07/26/1999	EMMW-2 07/26/1999	EMMW-3 07/26/1999	EMMW-4 07/26/1999	EMMW-5 07/27/1999	NYSDEC CLASS GA STANDARDS (b)
<b>VOLATILE ORGANIC COMPOUNDS (µg/L)</b>						
trans-1,2-Dichloroethylene	ND	ND	ND	ND	ND	5
Methyl tert-butyl ether	ND	ND	ND	ND	63	50*
cis-1,2-Dichloroethylene	5	ND	21	1 j	20	5
1,1-Dichloroethane	ND	ND	2 j	ND	ND	5
Chloroform	1 j	5	6	7	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	1 j	ND	ND	5
Trichloroethylene	7	3 j	8	4 j	3 j	5
Tetrachloroethylene	17	8	26	7	ND	5
1,3-Dichlorobenzene	ND	ND	ND	ND	2 j	3
1,2,4-Trichlorobenzene	ND	ND	ND	ND	1 j	5
1,2,3-Trichlorobenzene	ND	ND	2 j	ND	ND	5
Bromomethane	NDg	ND	NDg	ND	ND	5
Hexachlorobutadiene	ND	NDg	ND	NDg	NDg	0.5
<b>Total VOCs</b>	30	16	66	19	89	100*

- 1 - This value applies to the total of all organic substances listed in the New York State Groundwater Effluent Limitations table from the Division of Water Technical and Operational Guidance Series (1.1.1) with a groundwater effluent limitation less than 100 µg/l.
- 2 - New York State Department of Health (NYSDOH) drinking water Maximum Contaminant Level (MCL).
- (b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
- b - Found in associated blanks.
- j - Estimated concentration; compound present below quantitation limit.
- N/A - Not available.
- ND - Not detected at analytical detection limit.
- TB - Trip blank
- Notes: - Numbers in bold exceed standard.

TABLE 5 (Page 2 of 3)

**GROUNDWATER DATA SUMMARY**  
**(July 1999)**  
**Empire Electric Company**  
**Site No 2-24-015**

Sample ID Date Collected	EMMW-6 07/27/1999	EMMW-7** 07/27/1999	EM7W-10 07/27/1999	TB1 07/26/1999	NYSDEC CLASS GA STANDARDS (b)
<b>VOLATILE ORGANIC COMPOUNDS (µg/L)</b>					
trans-1,2-Dichloroethylene	ND	3 j	ND	ND g	5
Methyl tert-butyl ether	61	62	ND	ND g	50 <sup>2</sup>
cis-1,2-Dichloroethylene	18	20	1 j	ND g	5
1,1-Dichloroethane	ND	ND	ND	ND g	5
Chloroform	ND	ND	7	ND g	7
1,2-Dichloroethane	ND	ND	ND	ND g	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND g	5
Trichloroethylene	3 j	3 j	4 j	ND g	5
Tetrachloroethylene	ND	ND	9	ND g	5
1,3-Dichlorobenzene	ND	ND	ND	ND g	3
1,2,4-Trichlorobenzene	ND	ND	ND	ND g	5
1,2,3-Trichlorobenzene	ND	ND	ND	ND g	5
Bromomethane	ND	ND	ND	ND	5
Hexachlorobutadiene	NDg	NDg	NDg	ND	0.5
<b>Total VOCs</b>	82	88	21	ND	100 <sup>1</sup>

- 1 - This value applies to the total of all organic substances listed in the New York State Groundwater Effluent Limitations table from the Division of Water Technical and Operational Guidance Series (1.1.1) with a groundwater effluent limitation less than 100 ug/l.
- 2 - New York State Department of Health (NYSDOH) drinking water Maximum Contaminant Level (MCL).
- (b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
- b - Found in associated blanks.
- j - Estimated concentration; compound present below quantitation limit.
- g - Value considered estimated based on data validators report (Appendix B)
- \*\* - This sample is blind duplicate of EMMW-6.
- N/A - Not available.
- ND - Not detected at analytical detection limit.
- TB - Trip blank
- Notes: - Numbers in bold exceed standard.

**GROUNDWATER DATA SUMMARY**  
**(July 1999)**  
**Empire Electric Company**  
**Site No 2-24-015**

Sample ID	EMMW-1	EMMW-2	EMMW-3	EMMW-4	EMMW-5DL	EMMW-6	EMMW-7**	EM7W-10	NYSDEC CLASS GA
Date Collected	07/26/1999	07/26/1999	07/26/1999	07/26/1999	07/27/1999	07/27/1999	07/27/1999	07/27/1999	STANDARDS (b)
PCBs (ug/L)					[DL:5:1]				
Aroclor-1260	ND	ND	ND	ND	71 d	ND	ND	ND	0.09
Total PCBs	ND	ND	ND	ND	71	ND	ND	ND	0.09

- (b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.  
d - Concentration recovered from diluted sample.  
\*\* - This sample is blind duplicate of EMMW-6.  
ND - Not detected at analytical detection limit.  
N/A - Not available.



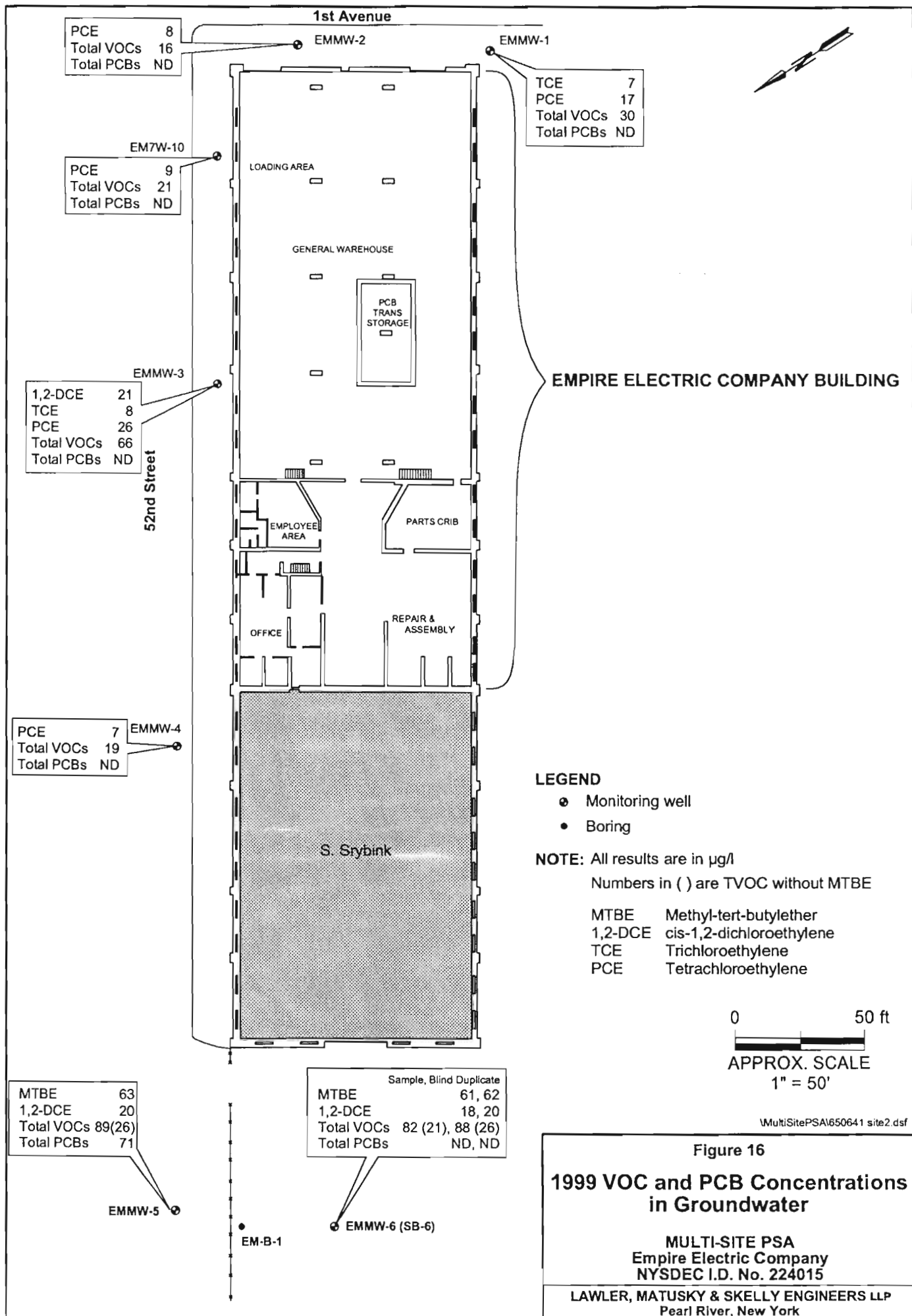


Table 6 (1 of 1)

Oil Data Summary  
(July 1999)  
Empire Electric Company  
Site No. 2-24-0.15

Sample ID Date Collected	BO-01	Hazardous Waste Criteria <sup>1</sup> (mg/kg)
<b>VOLATILE ORGANIC COMPOUNDS (mg/kg)</b>		
1,2,4-Trichlorobenzene	0.54	
1,2,3-Trichlorobenzene	0.152	
Trichlorofluoromethane	<u>NDg</u>	
<b>Total VOCs</b>	<b>0.692</b>	
<b>PCBs (mg/kg)</b>		
Aroclor-1254	<u>40 g</u>	
<b>Total PCBs</b>	<b>40</b>	<b>50</b>

- 1 - TSCA definition of hazardous waste for total PCBs.  
b - Found in associated blanks.  
g - Value considered estimated based on data validators report (Appendix B)  
N/A - Not available.  
ND - Not detected at analytical detection limit.  
Notes: - Numbers in bold exceed standard.

## **2.0 USEPA SITE INSPECTION QUESTIONNAIRE**

## **SITE SUMMARY**

**Provide a brief description of the site and its operational history. State the site name, owner, operator, type of facility and operations, size of property, active or inactive status, and years of waste generation. Summarize waste treatment, storage, or disposal activities that have or may have occurred at the site; note whether these activities are documented or alleged. Identify all source types and prior spills, floods, or fires. Summarize highlights of the PA and other investigations if available. Follow the outline on the next page:**

### **SITE CONDITIONS AND BACKGROUND**

#### **1. PHYSICAL LOCATION (Address, Lat-Long, Map Ref.)**

The Empire Electric site is located at 5200 1<sup>st</sup> Avenue in Brooklyn, New York. The site coordinates are latitude 40°38' 57" N and longitude 74°1' 16" W. This site is located approximately 0.25 miles east of Bay Ridge Channel (Upper New York Bay) in the Sunset Park section of Kings County, New York City (Figure 1 and 2). The area is primarily industrial in nature, with a potato chip manufacturer (Utz), a New York City Department of Sanitation vehicle maintenance and storage building, an overnight courier (Airborne Express), the former BUG - Kings County Works manufactured gas plant (MGP) site, and the waterfront (Bush Terminal docks) in the general vicinity. **Ref. 1.**

#### **2. SITE CHARACTERISTICS (include a description of the buildings or structures on site and their physical condition)**

The site consists of a 100 ft x 240 ft parcel (Section 1, Block 803, Lot 9) that is located on the southwest corner of 1<sup>st</sup> Avenue and 52<sup>nd</sup> Street (Figure 2). The property contains a red brick building that completely covers the lot. The adjacent lot (Section 1, Block 803, Lot 6) also has a brick building that covers the entire lot; this brick building shares a common wall with the Empire Electric site constructed in 1892 by the Brooklyn City Railroad Company for use as a power plant for the municipally-owned trolley system. Coal was used to generate electricity. The 1906 Sanborn map shows the power plant occupying the entire building (100 ft by 585 ft). The lot to the northwest (Section 1, Block 803, Lot 5) was used for coal storage. The building was used for electrical generation until the 1930s when the trolley system was abandoned. The equipment within the building was removed, and the building was left vacant and unused. In 1940 the property was conveyed to New York City as part of the Plan and Agreement of Unification and Readjustment. In 1951 the property was conveyed to Hastone Realty Corporation who subsequently subdivided the parcel into the present day lots 9 and 6. Lot 9 was sold to Ben Hasnas on 5 September 1951. From 1951 to 1986 various members of the Hasnas family owned the property until 5200 Enterprises, Inc. purchased the property from Irving and Doris Hasnas on 18 December 1986. Martin Goldman of 5200 Enterprises, Inc. is the current owner of the property. **Ref: 2, 3, 4, 5, 6.**





Figure 1

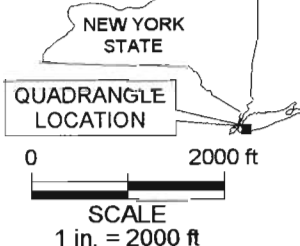
## Site Location

MULTI-SITE PSA  
Empire Electric  
NYSDEC I.D. No. 224015

LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
Pearl River, New York

Empire Electric Site: 40° 38' 57" N  
74° 01' 16" W

Map source:  
USGS 7.5-minute Quadrangle Map,  
Jersey City, NJ-NY, 1967, photorevised 1982.  
Brooklyn, NY, 1967, photorevised 1979.  
Printed from Wildflower Productions "Topo".

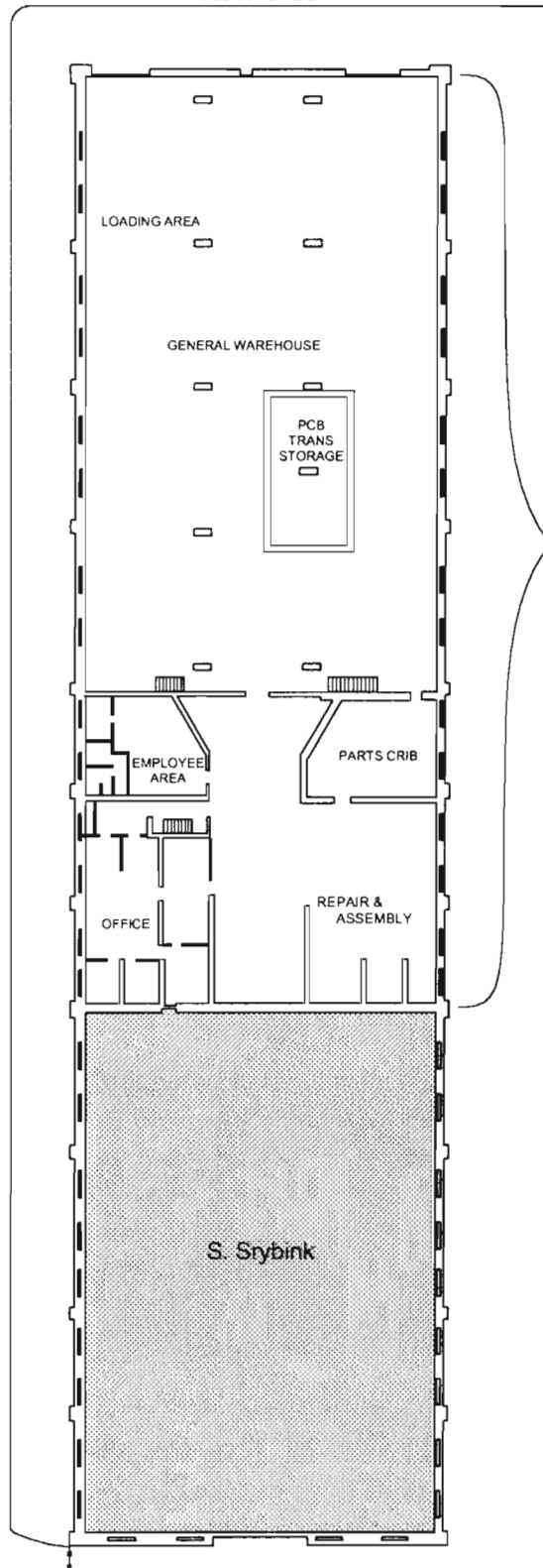




1st Avenue



52nd Street



EMPIRE ELECTRIC COMPANY BUILDING

0 50 ft  
APPROX. SCALE  
1" = 50'

\\MultiSitePSA\650641 site2.dsf

Figure 2

## Site Plan

MULTI-SITE PSA  
Empire Electric Company  
NYSDEC I.D. No. 224015

LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
Pearl River, New York

The 1951 Sanborn map shows the Empire Electric site portion of the building used for storage as well as the other half of the building. The 1978, 1980, 1991, 1992, 1993, 1994, and 1995 Sanborn maps all show the Empire Electric site being used for storage of used motors and transformers. The other half of the building (lot 6) is clearly shown as being used as a warehouse. This lot is currently owned by S. Srybink and is leased out to film companies to house sets for films. According to the owner, the property was bought from the City of New York over 40 years ago and was refurbished. It has been maintained ever since and is in good shape. Since the Empire Electric portion of the building was abandoned, the building has fallen into disrepair and most of the roof is missing. **Ref: 4, 7.**

In 1951 the Empire Electric Company acquired the abandoned property from the City. Prior to its purchase, the tall stack was dismantled and the debris from the stack placed in the basement and covered by concrete. This was done to create a more usable elevation for use as a warehouse by Empire Electric. The site was used to warehouse and re-condition electrical apparatus [including polychlorinated biphenyls (PCBs)-containing transformers] and as the company offices. The activities required a welding bay, a painting bay, and a solvent cleaning tank bay that utilized mineral spirits for degreasing purposes. The basement, the large main floor bay, and the mezzanine levels were used for warehousing apparatus. Various functions included welding, painting, and degreasing. Empire ceased operations in 1986. Prior to the sale of the property in 1986 Empire retained ENSI, Inc. to conduct an environmental inspection and sampling program. Based on this inspection and sampling program, ENSI, Inc. recommended that the building be cleaned prior to the sale. The building was cleaned and post-cleanup sampling conducted. **Ref. 3, 5.**

In 1988 the Empire Electric site was brought to the attention of the New York City Department of Environmental Protection (NYCDEP) because the New York City Department of General Services wished to lease the property. NYCDEP had reviewed the data collected by ENSI, Inc. which indicated the presence of PCB contamination within the building. This information was forwarded to the New York State Department of Environmental Conservation (NYSDEC) for appropriate action. On 28 February 1989 NYSDEC added the Empire Electric site to the Registry of Inactive Hazardous Waste Sites (The Registry) as a Class 2 site. At that time the owners of the site were listed as 5200 Enterprises and the building was in the process of being renovated. 5200 Enterprises was sent a copy of the Registry listing in March 1989. In 1989 the NYSDEC Division of Environmental Enforcement (DEE) attempted to enter into an Order on Consent with 5200 Enterprises. Subsequently, in 1990 5200 Enterprises applied for innocent landowner status claiming that the PCB contamination was not a result of their activities. In 1991 the NYSDEC DEE contacted the previous owners of the Empire Electric site (Mr. Irving Hasnas and Ms. Doris Hasnas) in an attempt to get them to enter into a consent order to remediate the site. Mr. Hasnas was the former president of the Empire Electric site. The attempt to obtain a consent order was unsuccessful. In March 1999 NYSDEC retained Lawler, Matusky, & Skelly Engineers LLP (LMS) to conduct a Preliminary Site Assessment (PSA) of the Empire Electric

Company site to determine the extent of contamination, source of contamination, and whether or not the contamination is considered hazardous. **Ref: 3, 8, 9, 10, 11, 12.**

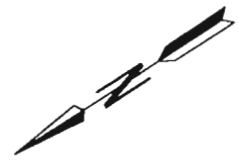
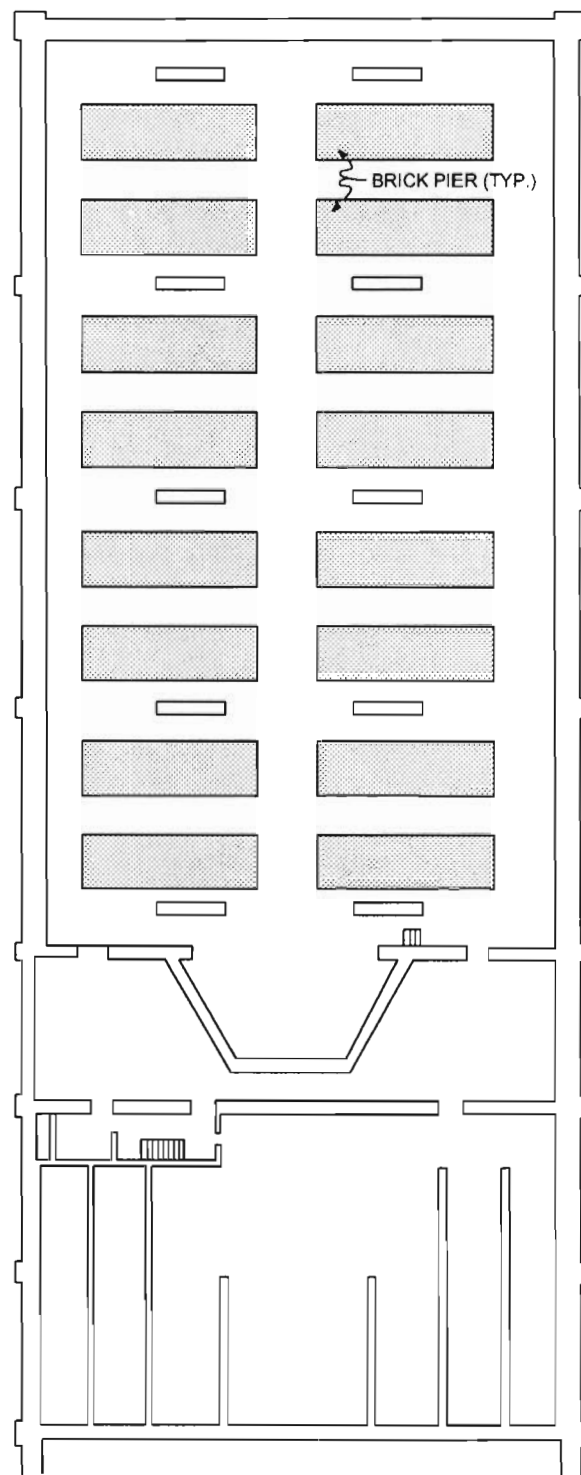
The interior of the building consists of a basement level, a first floor level, and two mezzanine levels (Figure 3, 4, 5, and 6). The basement level is divided into two areas (Figure 3). One area occupying the eastern portion of the building consists of a 100 ft wide by 160 ft long area reduced in workable area by sixteen (two rows of eight) brick columns 32 ft by 9 ft that extend up to the ceiling. The columns contain small access openings to large vertical screws assumed to have been part of the power plant machinery. Oil was observed staining the concrete at the base of several of these openings. At least two of the openings had oil pooled below the opening. **Ref: 3, 13.**

The western part of the basement consists of a 100 ft wide by 50 ft long area divided into a number of rooms. This portion of the building was reportedly used to store industrial solvents (mineral spirits) used for degreasing. Portions of this area were divided into storage rooms. A degreasing tank and associated floor drain reportedly extends from a degreasing bay located on the first floor down into this portion of the basement. The drain then passes through the common wall to the west. The tank and floor drain were not observed during the site visit conducted on 13 July 1999 since access to these portions of the building were obstructed by shelters built by vagrants occupying the building. Likewise, the drain lines from the employee area pass to the west into a portion of the basement that could not be accessed due to the occupation by homeless people. Some of the rooms have been furnished and are secured against intruders with locks or are barred from the inside. A 30 ft by 100 ft portion of the basement between the machinery piers and the hazardous storage area was presumably also used as storage. Staining is visible on the floors throughout most of the basement. Debris and refuse covers portions of the floor prohibiting the observation of those sections of floor. **Ref: 3, 13.**

The first floor of the building, above the storage portion of the basement, was used to store electrical devices (Figure 4). An approximately 40 ft by 20 ft diked area was reportedly used to store PCB transformers. This portion of the building is currently exposed to the elements since the roof has been removed. The remainder of the first floor is located above the portion of the cellar identified as the hazardous materials storage area. The northern third of this area was dedicated to office space and an employee area. The rest of the area was dedicated to a general work area and a parts crib room. The general work area also reportedly included a degreasing bay and a painting bay. The degreasing tank was not observed during the site visit but a couple of the bays were not accessible either being partitioned off to prevent access by a homeless person or due to the accumulation of refuse. **Ref: 3, 9, 13.**

Two mezzanine levels are present above the first floor. The first mezzanine area consists of two 80 ft by 37 ft rectangular sections located on either side of the western one third of the building (Figure 5). The second mezzanine consists of one 100 ft by 34 ft rectangular section extending over the center of the large east storage bay (Figure 6). Staining was visible on





0 30 ft

~SCALE  
1 in. = ~30'

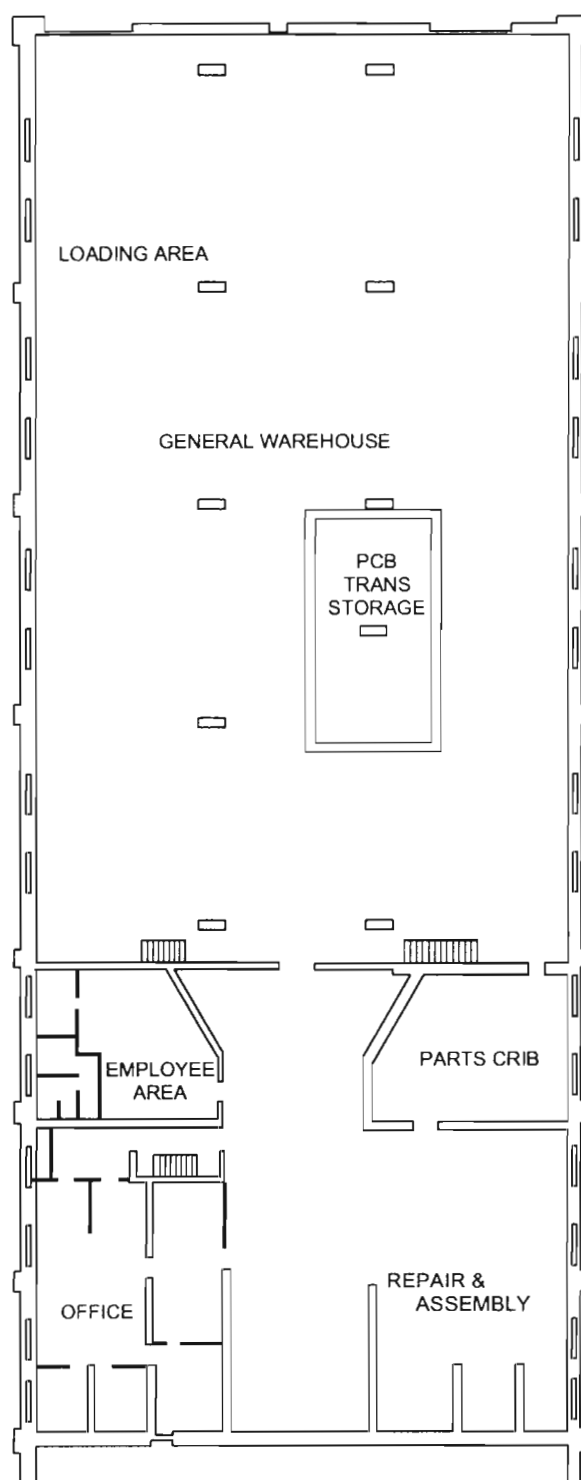
\\MultiSitePSA\650641 site.dsf

Figure 3

## Basement Floor Plan

MULTI-SITE PSA  
Empire Electric Company  
NYSDEC I.D. No. 224015

LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
Pearl River, New York



0 30 ft

~SCALE  
1 in. = ~30'

\\MultiSitePSA\\650641 site.dsf

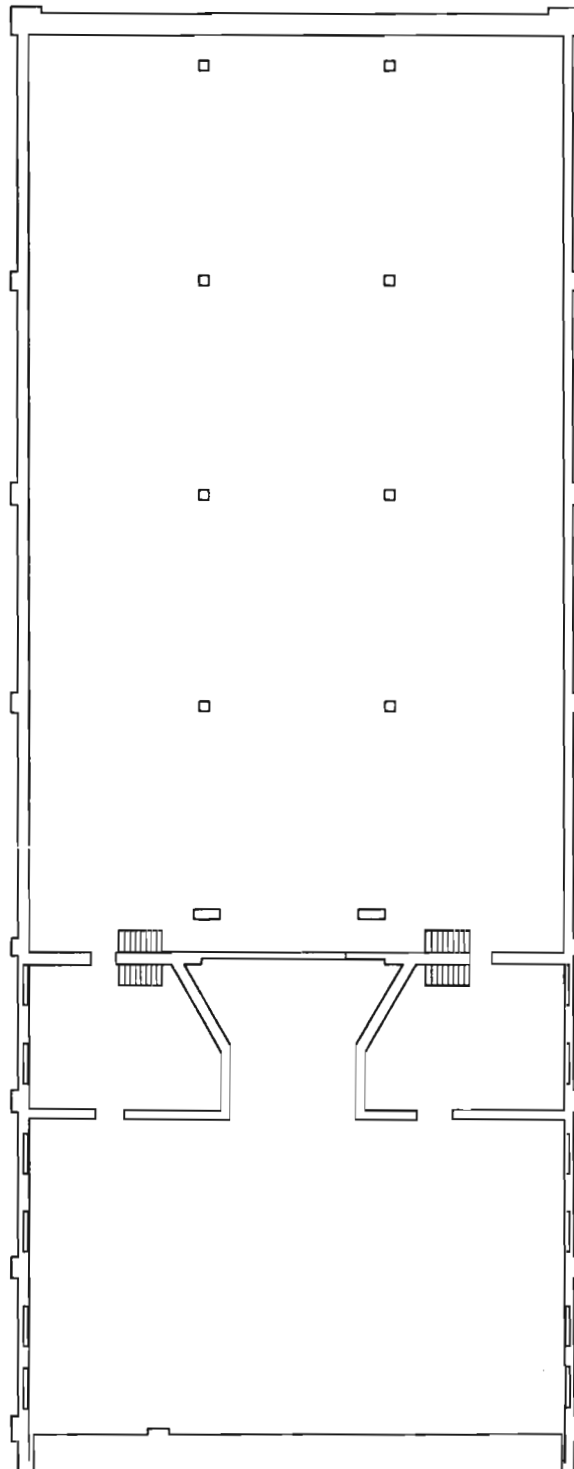
Figure 4

## Main Floor Plan

MULTI-SITE PSA  
Empire Electric Company  
NYSDEC I.D. No. 224015

LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
Pearl River, New York

# First Mezzanine



0 30 ft



~SCALE

1 in. = ~30'

\\MultiSitePSA\650641 site.dsf

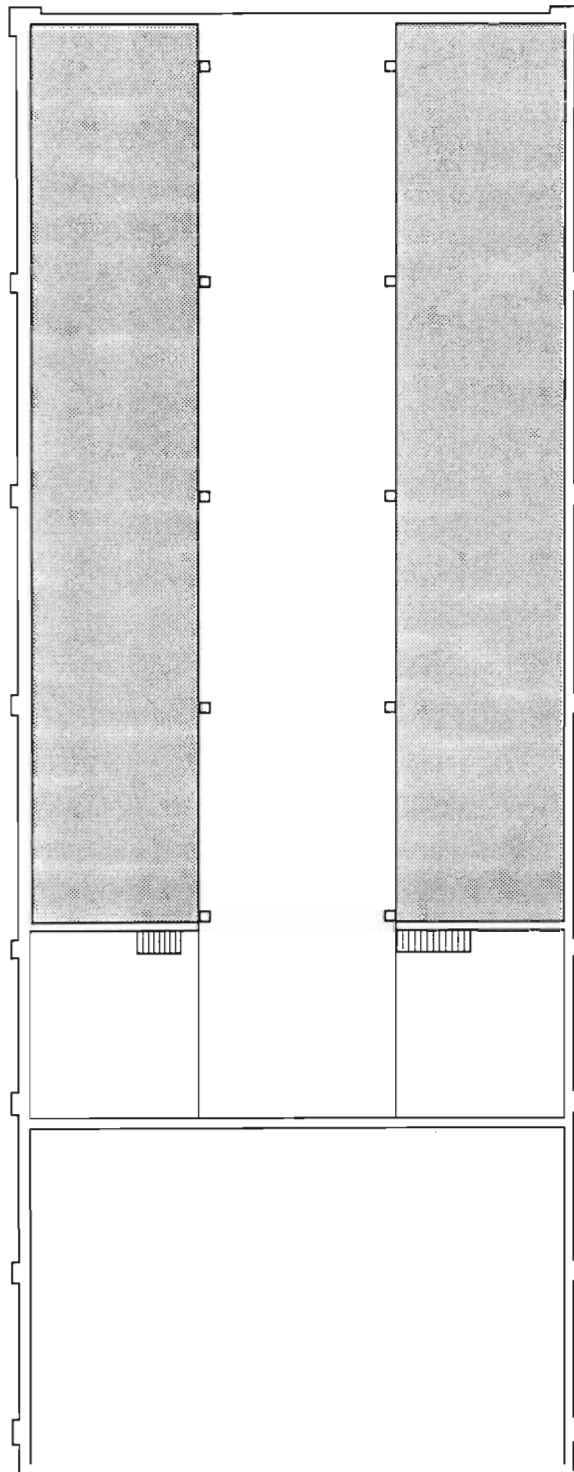
Figure 5

## First Mezzanine Floor Plan

MULTI-SITE PSA  
Empire Electric Company  
NYSDEC I.D. No. 224015

LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
Pearl River, New York

## Second Mezzanine



0 30 ft

~SCALE  
1 in. = ~30'

\\MultiSitePSA\650641 site.dsf

Figure 6

### Second Mezzanine Floor Plan

MULTI-SITE PSA  
Empire Electric Company  
NYSDEC I.D. No. 224015

LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
Pearl River, New York

portions of the concrete floors in both of these bays. The southern half of the second mezzanine had access blocked by debris barricading the doorway that was put there at some point between the initial site visit and 26 July 1999 when samples were collected in the interior of the building. **Ref: 3, 13.**

**3. RELEASE OR THREATENED RELEASE INTO THE ENVIRONMENT OF A HAZARDOUS SUBSTANCE, OR POLLUTANT OR CONTAMINANT (be certain to indicate whether this is a release from a facility as defined in 40 CFR 300.5)**

Hazardous levels [over 50 mg/kg as defined by the Toxic Substance Control Act (TSCA)] of PCBs (up to 26% or 260,000 mg/kg) were detected in concrete, oil and grease, and soil samples collected within the building (Table 1, 2, and 3). These concentrations pose a contact hazard for occupants of the building. Soil samples collected during the PSA downgradient of the Empire Electric site in the vacant lot had PCBs detected at a concentration of 6.1 mg/kg (Table 4) which exceeded the NYSDEC recommended soil clean up objectives contained in Technical and Administrative Guidance Memorandum (TAGM) #4046 (cleanup guidelines for state superfund sites). The cleanup guideline for PCBs in surficial soil ( $\leq 2$  ft) is 1 mg/kg. In addition, soil samples collected outside of the adjacent building by the NYSDEC in 1993 indicated that PCBs were present at a maximum detected concentration of 16 mg/kg. **Ref: 9, 14.**

One downgradient monitoring well (EMMW-5) contained PCBs at a concentration of 71  $\mu\text{g/l}$  well above the Class GA groundwater standard of 0.09  $\mu\text{g/l}$ . The wells upgradient of the site did not have any PCBs detected (Table 5).

**4. SITE ASSESSMENT ACTIVITIES / OBSERVATIONS**

Wipe samples collected during November 1986 prior to cleanup were collected by Waste Industries for the Empire Electric Company. These samples had total PCBs ranging from 2,500 to 520,000  $\mu\text{g}/100\text{ cm}^2$  (see Figures 7, 8, 9, and 10). Wipe sampling conducted by Enviropact, Inc. at random locations after clean-up was concluded contained PCBs at concentrations ranging from 5.71 to 83.73  $\mu\text{g}/100\text{ cm}^2$  (See Figure 11). Two other wipe samples were collected concurrently with the clean up had concentrations of total PCBs of 914.6 and 8,000  $\mu\text{g}/100\text{ cm}^2$ , however, it was unclear if sampling had been performed prior to or after the clean-up. A concrete sample was also collected at the location originally containing 520,000  $\mu\text{g}/100\text{ cm}^2$  and was found to contain PCBs at a concentration of 28.8 mg/kg. Based on these wipe sample results, the site was added to the Registry and given the site identification number 2-24-015. **Ref: 3, 9, 10.**

In July 1993, the NYSDEC Bureau of Hazardous Site Control staff collected four surficial soil samples along 52<sup>nd</sup> Street from beneath the asphalt (see Figure 12). Laboratory analysis indicated concentrations of PCBs ranging from 3.5 to 16 mg/kg which are above the NYSDEC soil cleanup levels for total PCBs in shallow soils. **Ref: 9, 14.**

**CONCRETE CHIP DATA SUMMARY**  
**(July 1999)**  
**Empire Electric Company**  
**Site No 2-24-015**

<b>Sample ID</b>	<b>FB-CONCRETE</b>
<b>Date Collected</b>	<b>07/27/1999</b>
<b>PCBs (ug/L)</b>	
Aroclor-1254	ND
Aroclor-1260	<u>1.6</u>
<b>Total PCBs</b>	<b>1.6</b>

FB - Equipment blank for concrete.  
ND - Not detected at analytical detection limit.  
N/A - Not available.

TABLE 1 (Page 1 of 2)

**CONCRETE CHIP DATA SUMMARY**

(July 1999)

Empire Electric Company

Site No 2-24-015

Sample ID Date Collected	BF-01DL 07/26/1999	BF-02DL 07/26/1999	MF-01DL 07/26/1999	MF-02DL 07/26/1999	MF-03DL 07/26/1999	Hazardous Waste Criteria <sup>1</sup> (mg/kg)
<b>PCBs (mg/kg)</b>	[DL:1000:1]	[DL:1000:1]	[DL:1000000:1]	[DL:5000:1]	[DL:10000:1]	
Aroclor-1254	ND	ND	ND	ND	ND	
Aroclor-1260	<u>380 dq</u>	<u>280 dq</u>	<u>260,000 dq</u>	<u>4200 dq</u>	<u>16,000 dq</u>	
<b>Total PCBs</b>	<b>380</b>	<b>280</b>	<b>260,000</b>	<b>4200</b>	<b>16,000</b>	<b>50</b>

- 1 - TSCA definition of hazardous waste for total PCBs.  
 p - Pesticide/Aroclor target analyte has >25% difference for the detected  
 d - Concentration recovered from diluted sample.  
 g - Value considered estimated based on data validators report (Appendix B)  
 BF - Basement floor.  
 BW - Basement wall.  
 ND - Not detected at analytical detection limit.  
 N/A - Not available.

TABLE 2 (Page 1 of 1)

**OIL/GREASE DATA SUMMARY**  
**(July 1999)**  
**Empire Electric Company**  
**Site No 2-24-015**

Sample ID Date Collected	BW-01DL 07/26/1999	BW-02DL 07/26/1999	BW-03DL 07/26/1999	BW-04DL 07/26/1999	BW-05 07/26/1999	BW-06 07/26/1999	Hazardous Waste Criteria <sup>1</sup> (mg/kg)
<b>PCBs (mg/kg)</b>	[DL:100:1]	[DL:5:1]	[DL:1000:1]	[DL:5:1]			
Aroclor-1254	ND	10 dpg	ND	8.2 dg	11 eg	8.4 eg	
Aroclor-1260	<u>380 dg</u>	<u>ND</u>	<u>5900 dg</u>	<u>ND</u>	<u>ND</u>	<u>ND</u>	
<b>Total PCBs</b>	<b>380</b>	<b>10</b>	<b>5900</b>	<b>8.2</b>	<b>11</b>	<b>8.4</b>	<b>50</b>

- 1 - TSCA definition of hazardous waste for total PCBs.  
p - Pesticide/Aroclor target analyte has >25% difference for the detected  
d - Concentration recovered from diluted sample.  
g - Value considered estimated based on data validators report (Appendix B)  
BF - Basement floor.  
BW - Basement wall.  
ND - Not detected at analytical detection limit.  
N/A - Not available.



TABLE 3 (Page 1 of 3)

**SHALLOW SOIL DATA SUMMARY**  
**(July 1999)**  
**Empire Electric Company**  
**Site No 2-24-015**

Sample ID Date Collected	BS-01 07/26/1999	BS-02 07/26/1999	BS-03 07/27/1999	Recommended Soil Cleanup Objective <sup>1</sup> (mg/kg)
<b>VOLATILE ORGANIC COMPOUNDS (mg/kg)</b>				
Trichlorofluoromethane	0.003 jg	0.005 jg	0.001 jg	N/A
Carbon Disulfide	ND g	0.001 jg	ND g	2.7
Tetrachloroethylene	0.002 j	0.009 g	0.011	1.4
1,2,4-Trichlorobenzene	ND	0.002 jg	ND	3.4
1,2,3-Trichlorobenzene	<u>ND</u>	<u>0.001 jg</u>	<u>ND</u>	<u>N/A</u>
<b>Total VOCs</b>	<b>0.005<sup>a</sup></b>	<b>0.018<sup>a</sup></b>	<b>0.012<sup>a</sup></b>	<b>10<sup>2</sup></b>

- 1 - Value taken from NYSDEC TAGM #4046 (1/94).  
2 - As per TAGM#4046, Total VOCs <10 ppm.  
a - Compound list does not present those compounds whose reported nondetects were either qualified as estimated or rejected by the data validator (Appendix B).  
b - Found in associated blanks.  
j - Estimated concentration; compound present below quantitation limit.  
g - Value considered estimated based on data validators report (Appendix B).  
N/A - Not available.  
ND - Not detected at analytical detection limit.
- Notes: - Numbers in bold exceed standard.  
- Number in parentheses in sample ID is sample depth in ft.

TABLE 3 (Page 2 of 3)

## SHALLOW SOIL DATA SUMMARY

(July 1999)

Empire Electric Company

Site No 2-24-015

Sample ID Date Collected	BS-01DL 07/26/1999	BS-02DL 07/26/1999	BS-03DL 07/27/1999	Recommended Soil Cleanup Objective <sup>1</sup> (mg/kg)
PCBs (mg/kg)	[DL:2000:1]	[DL:100:1]	[DL:20:1]	
Aroclor-1260	<u>960 dg</u>	<u>65 dg</u>	<u>16 dg</u>	
Total PCBs	960	65	16	1 - 10 <sup>2</sup>

1 - Value taken from NYSDEC TAGM #4046 (1/94).

3 - As per TAGM #4046, cleanup objective for total PCBs are  $\leq 1$  mg/kg for surface ( $\leq 2$  ft) and  $\leq 10$  mg/kg for subsurface ( $> 2$  ft).

d - Concentration recovered from diluted sample.

g - Value considered estimated based on data validators report (Appendix B)

ND - Not detected at analytical detection limit.

N/A - Not available.

**SHALLOW SOIL DATA SUMMARY**  
**(July 1999)**  
**Empire Electric Company**  
**Site No 2-24-015**

Sample ID Date Collected	FBSOILS 07/27/1999
<b>VOLATILE ORGANIC COMPOUNDS (µg/L)</b>	
Hexachlorobutadiene	<u>NDg</u>
<b>Total VOCs<sup>a</sup></b>	<b>ND</b>
<b>PCBs (µg/L)</b>	
Aroclor-1260	<u>1.8</u>
<b>Total PCBs</b>	<b>1.8</b>

- 1 - This value applies to the total of all organic substances listed in the New York State Groundwater Effluent Limitations table from the Division of Water Technical and Operational Guidance Series (1.1.1) with a groundwater effluent limitation less than 100 ug/l.
- g - Value considered estimated based on data validators report (Appendix B)
- FBSOILS - Field blank for shallow soils.
- ND - Not detected at analytical detection limit.
- NR - Not run.
- Notes: - Numbers in bold exceed standard.

## SUBSURFACE SOIL DATA SUMMARY

(July 1999)

Empire Electric Company

Site No 2-24-015

Sample ID Date Collected	EM-B1(0-2) 07/15/1999	EM-B1(2-4) 07/15/1999	EMSB-06(0-2) 07/19/1999	Recommended Soil Cleanup Objective <sup>1</sup> (mg/kg)
<b>VOLATILE ORGANIC COMPOUNDS (mg/kg)</b>				
Trichlorofluoromethane	0.001 j	ND	0.002 jg	N/A
Chloromethane	ND	ND	0.002 jg	N/A
Bromomethane	ND	ND	0.003 jg	N/A
Chloroform	ND	ND	ND r	0.3
Trichloroethylene	0.001 j	0.002 j	0.001 jg	0.7
2-Hexanone	ND	ND	0.003 jg	N/A
Tetrachloroethylene	0.018	0.006	0.02	1.4
Toluene	ND	ND	ND	1.5
Xylene (Total)	ND	ND	ND	1.2
1,1,2,2-Tetrachloroethane	ND	ND	ND	0.6
n-Propylbenzene	ND	ND	0.002 jg	N/A
2-Chlorotoluene	ND	ND	ND	N/A
1,3,5-Trimethylbenzene	ND	ND	0.001 jg	N/A
4-Chlorotoluene	ND	ND	0.001 jg	N/A
tert-Butylbenzene	ND	ND	0.001 jg	N/A
1,2,4-Trimethylbenzene	ND	ND	0.002 jg	N/A
sec-Butylbenzene	ND	ND	0.002 jg	N/A
4-Isopropyltoluene	ND	ND	0.002 jg	N/A
1,3-Dichlorobenzene	ND	ND	0.002 jg	1.6
1,4-Dichlorobenzene	ND	ND	0.002 jg	8.5
n-Butylbenzene	ND	ND	0.002 jg	N/A
1,2-Dichlorobenzene	ND	ND	0.002 jg	7.9
1,2,4-Trichlorobenzene	ND	ND	0.006 g	3.4
Hexachlorobutadiene	ND	ND	0.004 jg	N/A
1,2,3-Trichlorobenzene	ND	ND	0.008	N/A
<b>Total VOCs</b>	<b>0.020</b>	<b>0.008</b>	<b>0.068<sup>a</sup></b>	<b>10<sup>-2</sup></b>

1 - Value taken from NYSDEC TAGM #4046 (1/94).

2 - As per TAGM#4046, Total VOCs &lt;10 ppm.

a - Compound list does not present those compounds whose reported nondetects were either qualified as estimated or rejected by the data validator (Appendix B).

b - Found in associated blanks.

j - Estimated concentration; compound present below quantitation limit.

g - Value considered estimated based on data validators report (Appendix B)

r - Value rejected by data validator but usable to show magnitude of contaminated level (Appendix B)

\*\* - This sample is a blind duplicate of EMSB-06(2-4).

N/A - Not available.

ND - Not detected at analytical detection limit.

Notes: - Numbers in bold exceed standard.

- Number in parentheses in sample ID is sample depth in ft.

TABLE 4 (Page 2 of 4)

**SUBSURFACE SOIL DATA SUMMARY**  
**(July 1999)**  
**Empire Electric Company**  
**Site No 2-24-015**

Sample ID Date Collected	EMSB-06(2-4) 07/19/1999	EMSB-06(4-6)RE** 07/19/1999	Recommended Soil Cleanup Objective <sup>1</sup> (mg/kg)
<b>VOLATILE ORGANIC COMPOUNDS (mg/kg)</b>			
Trichlorofluoromethane	0.002 jg	0.001 jg	N/A
Chloromethane	0.001 jg	0.002 jg	N/A
Bromomethane	0.002 jg	0.002 jg	N/A
Chloroform	0.001 jg	ND r	0.3
Trichloroethylene	0.001 jg	0.002 jg	0.7
2-Hexanone	ND g	ND g	N/A
Tetrachloroethylene	0.015 g	0.038 g	1.4
Toluene	ND	ND	1.5
Xylene (Total)	ND g	ND g	1.2
1,1,2,2-Tetrachloroethane	ND g	ND g	0.6
n-Propylbenzene	ND	ND	N/A
2-Chlorotoluene	ND	ND	N/A
1,3,5-Trimethylbenzene	ND	ND	N/A
4-Chlorotoluene	ND	ND	N/A
tert-Butylbenzene	ND	ND	N/A
1,2,4-Trimethylbenzene	ND	ND	N/A
sec-Butylbenzene	ND	ND	N/A
4-Isopropyltoluene	ND	ND	N/A
1,3-Dichlorobenzene	ND	ND	1.6
1,4-Dichlorobenzene	ND	ND	8.5
n-Butylbenzene	ND	ND	N/A
1,2-Dichlorobenzene	ND	ND	7.9
1,2,4-Trichlorobenzene	0.001 jg	0.002 jg	3.4
Hexachlorobutadiene	ND	ND	N/A
1,2,3-Trichlorobenzene	<u>0.002 jg</u>	<u>0.003 jg</u>	<u>N/A</u>
<b>Total VOCs</b>	<b>0.025<sup>a</sup></b>	<b>0.05<sup>a</sup></b>	<b>10<sup>2</sup></b>

- 1 - Value taken from NYSDEC TAGM #4046 (1/94).  
2 - As per TAGM#4046, Total VOCs <10 ppm.  
\*\* - This sample is a blind duplicate of EMSB-06(2-4)  
a - Compound list does not present those compounds whose reported nondetects were either qualified as estimated or rejected by the data validator (Appendix B).  
b - Found in associated blanks.  
g - Value considered estimated based on data validators report (Appendix B)  
r - Value rejected by data validator but usable to show magnitude of contaminated level (Appendix B)  
\*\* - This sample is a blind duplicate of EMSB-06(2-4).  
j - Estimated concentration; compound present below quantitation limit.  
N/A - Not available.  
ND - Not detected at analytical detection limit.  
Notes: - Numbers in bold exceed standard.  
- Number in parentheses in sample ID is sample depth in ft.

TABLE 4 (Page 3 of 4)

**SUBSURFACE SOIL DATA SUMMARY**  
**(July 1999)**  
**Empire Electric Company**  
**Site No 2-24-015**

Sample ID Date Collected	EM-B1(0-2) 07/15/1999	EM-B1(2-4) 07/15/1999	EMSB-06(0-2) 07/19/1999	EMSB-06(2-4) 07/19/1999	EMSB-06(4-6)** 07/19/1999	Recommended Soil Cleanup Objective <sup>1</sup> (mg/kg)
<b>PCBs (mg/kg)</b>			[DL:10:1]			
Aroclor-1248	ND	ND	ND	ND g	ND	
Aroclor-1254	<u>ND</u>	<u>ND</u>	<b>6.2 g</b>	<u>1 pg</u>	<u>1.3 pg</u>	
<b>Total PCBs</b>	ND	ND	<b>6.2</b>	1	1.3	1 - 10 <sup>3</sup>

- 1 - Value taken from NYSDEC TAGM #4046 (1/94).  
3 - As per TAGM #4046, cleanup objective for total PCBs are  $\leq 1$  mg/kg for surface ( $\leq 2$  ft) and  $\leq 10$  mg/kg for subsurface ( $> 2$  ft).  
p - Pesticide/Aroclor target analyte has  $>25\%$  difference for the detected  
g - Value considered estimated based on data validators report (Appendix B)  
\*\* - This sample is a blind duplicate of EMSB-06(2-4).  
ND - Not detected at analytical detection limit.  
N/A - Not available.

TABLE 4 (Page 4 of 4)

**SUBSURFACE SOIL DATA SUMMARY**  
**(July 1999)**  
**Empire Electric Company**  
**Site No 2-24-015**

<b>Sample ID</b>	<b>EB-01</b>
<b>Date Collected</b>	<b>07/19/1999</b>
<b>VOLATILE ORGANIC COMPOUNDS (µg/L)</b>	
<b>Total VOCs</b>	ND
<b>PCBs (ug/l)</b>	ND

ND - Not detected at analytical detection limit.

TABLE 5 (Page 1 of 3)

GROUNDWATER DATA SUMMARY  
(July 1999)  
Empire Electric Company  
Site No 2-24-015

Sample ID Date Collected	EMMW-1 07/26/1999	EMMW-2 07/26/1999	EMMW-3 07/26/1999	EMMW-4 07/26/1999	EMMW-5 07/27/1999	NYSDEC CLASS GA STANDARDS (b)
<b>VOLATILE ORGANIC COMPOUNDS (µg/L)</b>						
trans-1,2-Dichloroethylene	ND	ND	ND	ND	ND	5
Methyl tert-butyl ether	ND	ND	ND	ND	63	50 <sup>2</sup>
cis-1,2-Dichloroethylene	5	ND	<b>21</b>	1 j	<b>20</b>	5
1,1-Dichloroethane	ND	ND	2 j	ND	ND	5
Chloroform	1 j	5	6	7	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	1 j	ND	ND	5
Trichloroethylene	<b>7</b>	3 j	<b>8</b>	4 j	3 j	5
Tetrachloroethylene	<b>17</b>	<b>8</b>	<b>26</b>	<b>7</b>	ND	5
1,3-Dichlorobenzene	ND	ND	ND	ND	2 j	3
1,2,4-Trichlorobenzene	ND	ND	ND	ND	1 j	5
1,2,3-Trichlorobenzene	ND	ND	2 j	ND	ND	5
Bromomethane	NDg	ND	NDg	ND	ND	5
Hexachlorobutadiene	ND	NDg	ND	NDg	NDg	0.5
<b>Total VOCs</b>	30	16	66	19	89	100 <sup>1</sup>

- 1 - This value applies to the total of all organic substances listed in the New York State Groundwater Effluent Limitations table from the Division of Water Technical and Operational Guidance Series (1.1.1) with a groundwater effluent limitation less than 100 µg/l.
- 2 - New York State Department of Health (NYSDOH) drinking water Maximum Contaminant Level (MCL).
- (b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
- b - Found in associated blanks.
- j - Estimated concentration; compound present below quantitation limit.
- N/A - Not available.
- ND - Not detected at analytical detection limit.
- TB - Trip blank
- Notes: - Numbers in bold exceed standard.



TABLE 5 (Page 2 of 3)

**GROUNDWATER DATA SUMMARY**  
**(July 1999)**  
**Empire Electric Company**  
**Site No 2-24-015**

Sample ID Date Collected	EMMW-6 07/27/1999	EMMW-7** 07/27/1999	EM7W-10 07/27/1999	TB1 07/26/1999	NYSDEC CLASS GA STANDARDS (b)
<b>VOLATILE ORGANIC COMPOUNDS (µg/L)</b>					
trans-1,2-Dichloroethylene	ND	3 j	ND	ND g	5
Methyl tert-butyl ether	61	62	ND	ND g	50 <sup>2</sup>
cis-1,2-Dichloroethylene	<b>18</b>	<b>20</b>	1 j	ND g	5
1,1-Dichloroethane	ND	ND	ND	ND g	5
Chloroform	ND	ND	7	ND g	7
1,2-Dichloroethane	ND	ND	ND	ND g	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND g	5
Trichloroethylene	3 j	3 j	4 j	ND g	5
Tetrachloroethylene	ND	ND	<b>9</b>	ND g	5
1,3-Dichlorobenzene	ND	ND	ND	ND g	3
1,2,4-Trichlorobenzene	ND	ND	ND	ND g	5
1,2,3-Trichlorobenzene	ND	ND	ND	ND g	5
Bromomethane	ND	ND	ND	ND	5
Hexachlorobutadiene	<u>NDg</u>	<u>NDg</u>	<u>NDg</u>	<u>ND</u>	<u>0.5</u>
<b>Total VOCs</b>	82	88	21	ND	100 <sup>1</sup>

- 1 - This value applies to the total of all organic substances listed in the New York State Groundwater Effluent Limitations table from the Division of Water Technical and Operational Guidance Series (1.1.1) with a groundwater effluent limitation less than 100 ug/l.
- 2 - New York State Department of Health (NYSDOH) drinking water Maximum Contaminant Level (MCL).
- (b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
- b - Found in associated blanks.
- j - Estimated concentration; compound present below quantitation limit.
- g - Value considered estimated based on data validators report (Appendix B)
- \*\* - This sample is blind duplicate of EMMW-6.
- N/A - Not available.
- ND - Not detected at analytical detection limit.
- TB - Trip blank
- Notes: - Numbers in bold exceed standard.

TABLE 5 (Page 3 of 3)

**GROUNDWATER DATA SUMMARY**  
**(July 1999)**  
**Empire Electric Company**  
**Site No 2-24-015**

Sample ID Date Collected	EMMW-1 07/26/1999	EMMW-2 07/26/1999	EMMW-3 07/26/1999	EMMW-4 07/26/1999	EMMW-5DL 07/27/1999	EMMW-6 07/27/1999	EMMW-7** 07/27/1999	EM7W-10 07/27/1999	NYSDEC CLASS GA STANDARDS (b)
<b>PCBs (ug/L)</b>					[DL:5:1]				
Aroclor-1260	<u>ND</u>	<u>ND</u>	<u>ND</u>	<u>ND</u>	<u>71 d</u>	<u>ND</u>	<u>ND</u>	<u>ND</u>	<u>0.09</u>
Total PCBs	ND	ND	ND	ND	71	ND	ND	ND	0.09

(b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.

d - Concentration recovered from diluted sample.

\*\* - This sample is blind duplicate of EMMW-6.

ND - Not detected at analytical detection limit.

N/A - Not available.

# Cellar

Total PCBs  
65,000

Sample #1

Sample #2

Total PCBs  
4500

Sample #3

Total PCBs  
<50 (Field Blank)

0 30 ft

~SCALE  
1 in. = ~30'

\\MultiSitePSA\650641 site.dsf

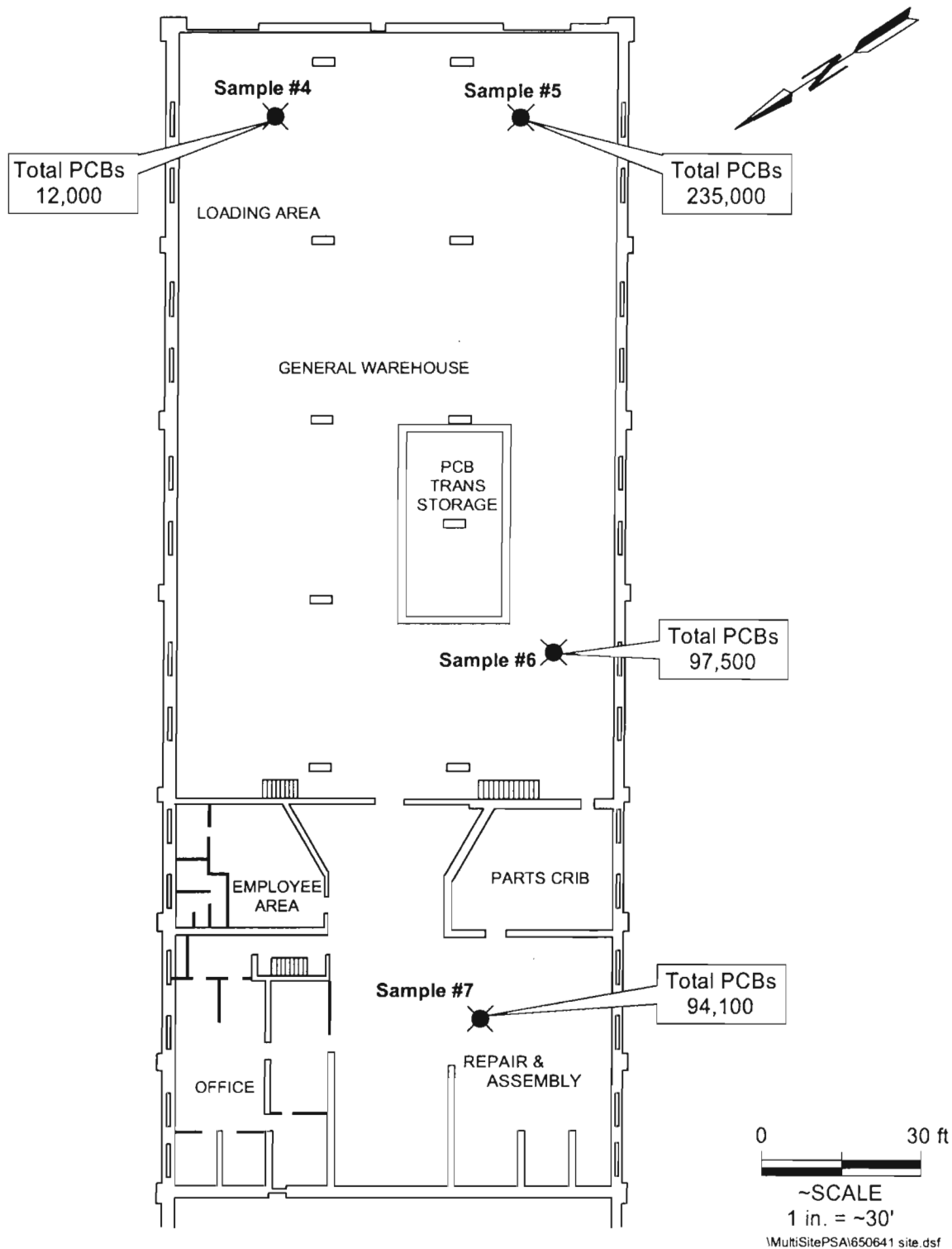
**NOTE:** PCB concentration in  $\mu\text{g}/100\text{cm}^2$

**Figure 7**  
**PCB Concentrations in Wipe Samples in**  
**1986 Waste Industries Basement**  
**Floor Samples (Precleanup)**

**MULTI-SITE PSA**  
**Empire Electric Company**  
**NYSDEC I.D. No. 224015**

**LAWLER, MATUSKY & SKELLY ENGINEERS LLP**  
**Pearl River, New York**

# Ground Floor



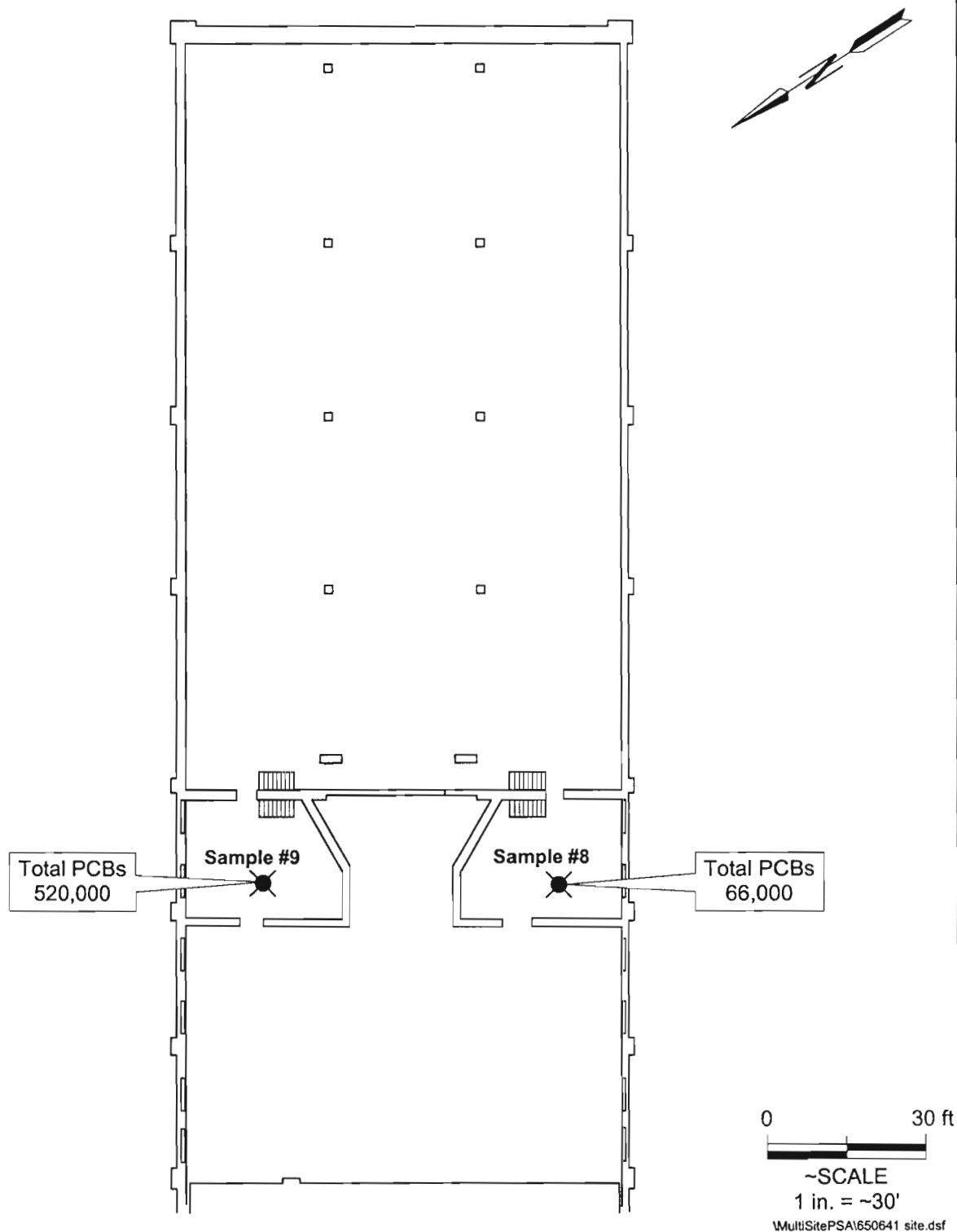
**NOTE:** PCB concentration in  $\mu\text{g}/100\text{cm}^2$

**Figure 8**  
**PCB Concentrations in Wipe Samples in**  
**1986 Waste Industries**  
**Main Floor Samples (Precleanup)**

**MULTI-SITE PSA**  
**Empire Electric Company**  
**NYSDEC I.D. No. 224015**

**LAWLER, MATUSKY & SKELLY ENGINEERS LLP**  
**Pearl River, New York**

# First Mezzanine



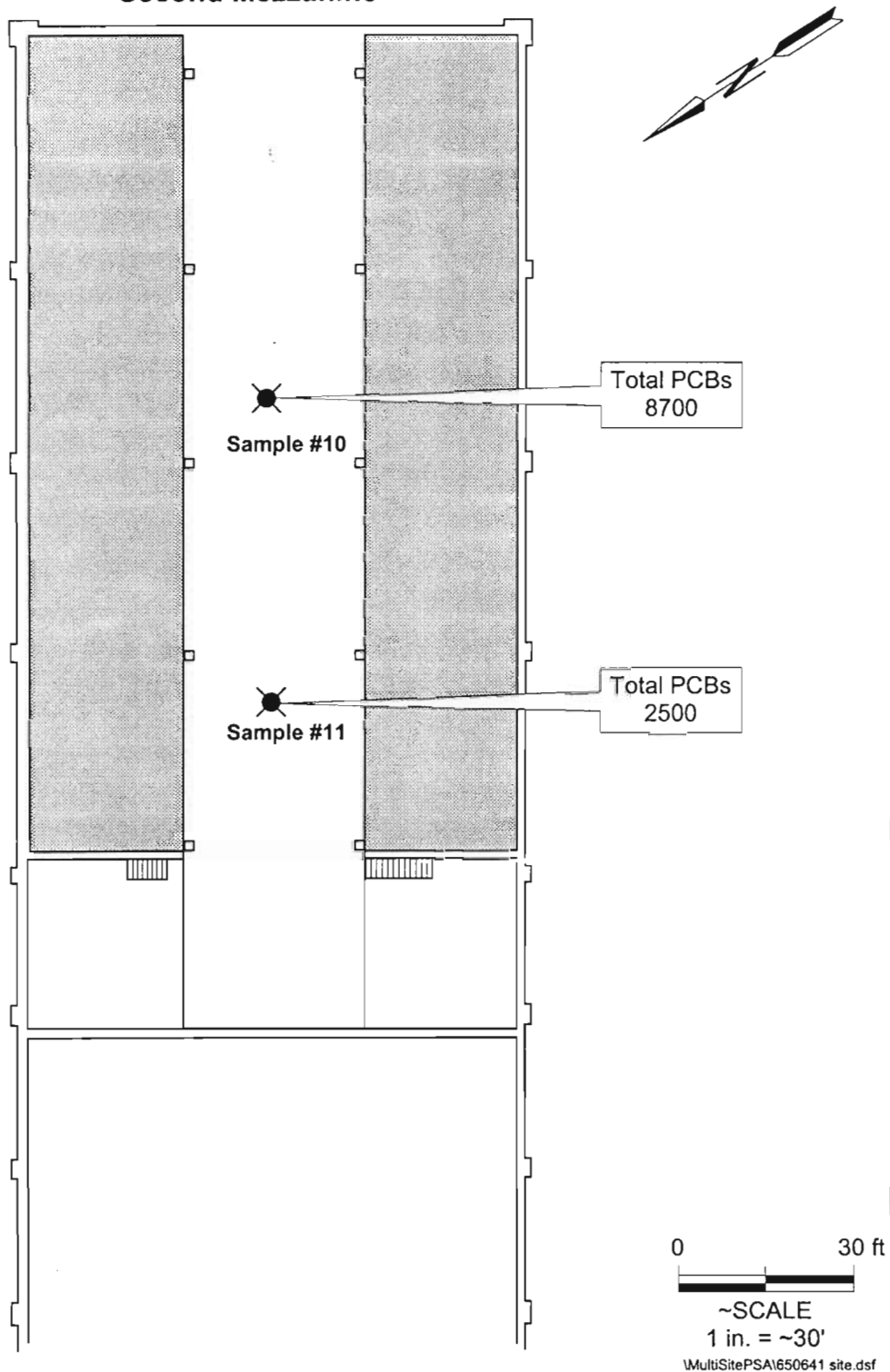
**NOTE:** PCB concentration in  $\mu\text{g}/100\text{cm}^2$

**Figure 9**  
**PCB Concentrations in Wipe Samples**  
**in 1986 Waste Industries**  
**First Mezzanine Sample Locations**  
**(Precleanup)**

**MULTI-SITE PSA**  
**Empire Electric Company**  
**NYSDEC I.D. No. 224015**

**LAWLER, MATUSKY & SKELLY ENGINEERS LLP**  
Pearl River, New York

## Second Mezzanine



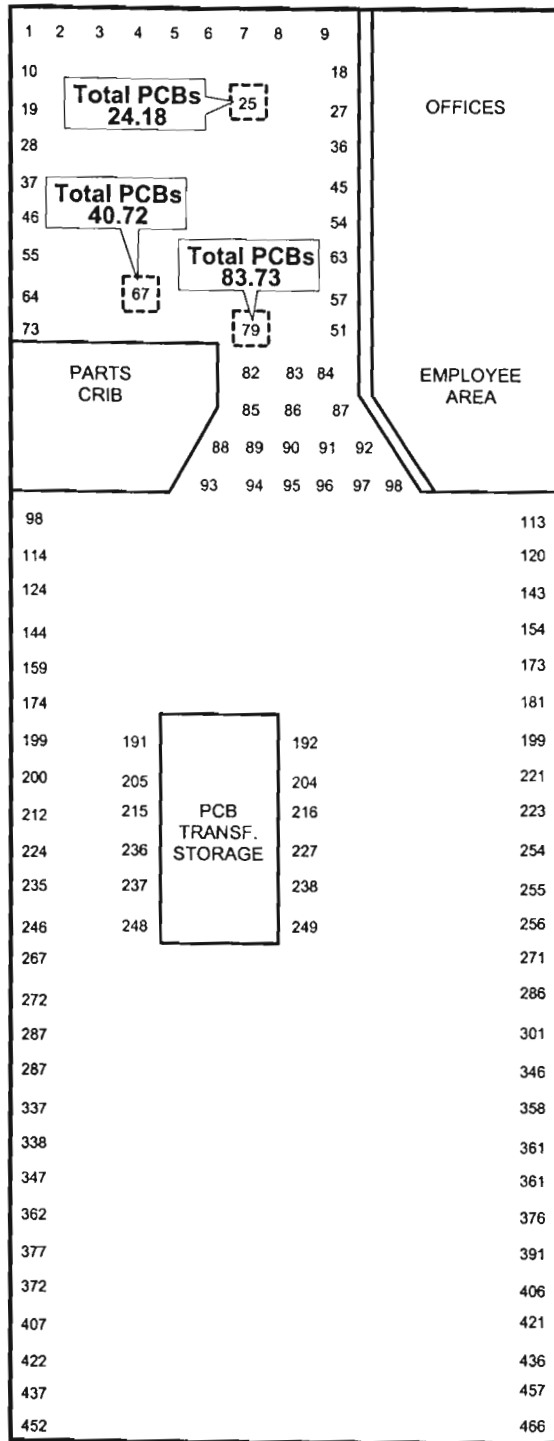
**NOTE:** PCB concentration in  $\mu\text{g}/100\text{cm}^2$

**Figure 10**  
**PCB Concentrations in Wipe Samples in**  
**1986 Waste Industries Second Mezzanine**  
**Sample Locations (Precleanup)**

**MULTI-SITE PSA**  
Empire Electric Company  
NYSDEC I.D. No. 224015

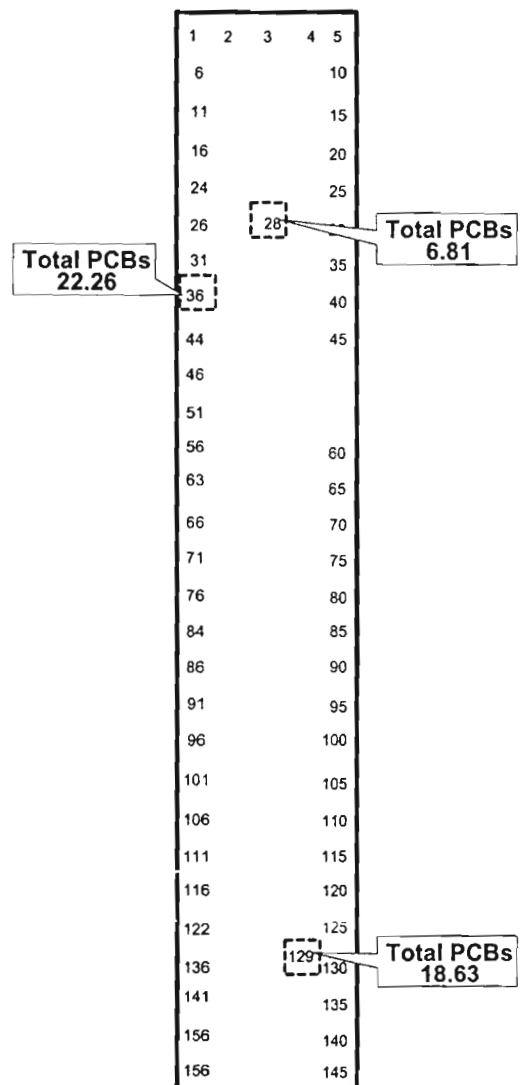
**LAWLER, MATUSKY & SKELLY ENGINEERS LLP**  
Pearl River, New York

## MAIN FLOOR

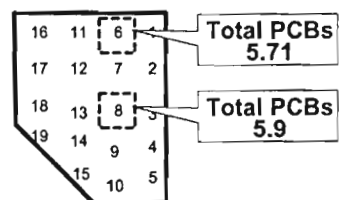


LOADING DOCK

## FIRST MEZZANINE



## ROOM "B"



NOTE: PCB concentrations in  $\mu\text{g}/100 \text{ cm}^2$

MultiSitePSA\650641 site2.dsf

**Figure 11**  
**PCB Concentrations in**  
**1986 Enviropact Post Cleaning**  
**Wipe Samples**

**MULTI-SITE PSA**  
**Empire Electric Company**  
**NYSDEC I.D. No. 224015**

**LAWLER, MATUSKY & SKELLY ENGINEERS LLP**  
Pearl River, New York

Total PCB = 14

A92902

Total PCB = 16

A92901

Total PCB = 3.5

A92903

Total PCB = 4.2

A92904

DOOR WAREHOUSE  
S. Srybink

VACANT LOT

NOTE: PCB concentrations  
given in mg/kg

LEGEND

- ✕ Soil sample location  
(location estimated based on  
photograph in Reference 14)

1st Avenue

52nd Street

LOADING AREA

GENERAL WAREHOUSE

PCB  
TRANS  
STORAGE

EMPLOYEE  
AREA

PARTS CRIB

OFFICE

REPAIR &  
ASSEMBLY

EMPIRE ELECTRIC COMPANY BUILDING

0 50 ft  
APPROX. SCALE  
1" = 50'

\\MultiSitePSA\\650641 site2.dsf

Figure 12

PCB Concentrations in 1993  
NYSDEC Soil Sample Locations

MULTI-SITE PSA  
Empire Electric Company  
NYSDEC I.D. No. 224015

LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
Pearl River, New York



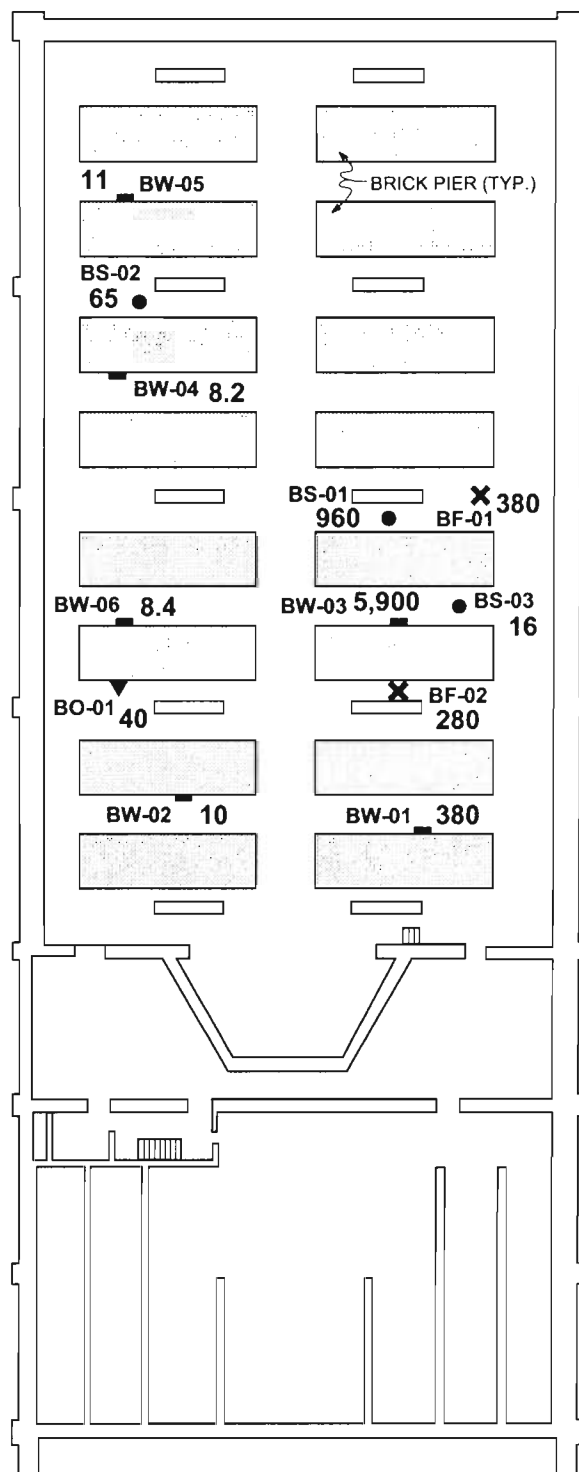
On 18 November 1997 the NYSDEC Division of Environmental Remediation (DER) staff from Region 2 and Central Office visited the site. During this visit, staff noticed that there was a movie being filmed (Row Your Boat) in the vacant lot behind the adjacent abandoned building to the west of the site. Further investigation of this property revealed the presence of stained soil in the vacant lot, and large amounts of old, miscellaneous electrical equipment in the basement of the abandoned building. **Ref: 9, 15.**

LMS conducted the PSA from May to July 1999 primarily to determine the extent of PCB contamination present at the site. File reviews were conducted in May 1999 at the NYSDEC Region 2 office in Long Island City, NY; the NYSDEC main office in Albany, NY; the New York State Department of Health (NYSDOH) office in Albany, NY; and the New York City Department of Health (NYCDOH) office in New York, NY. In addition, the NYSDEC Division of Environmental Enforcement in Tarrytown, NY and the New York City Fire Department were contacted to obtain information on the site. Environmental Data Resources, Inc. (EDR) was contacted to conduct a file search for spill records, other listed sites in the area, RCRA permits, and Sanborn maps.

A site reconnaissance was conducted on 8 June 1999 to locate sample points outside the building. At that time it was decided to wait until the drilling began before going inside the building to locate sample points within the building. The original work scope required four borings to four ft inside the building and the collection of 12 wipe samples from the floor and walls of the building. Based on the file review it was apparent that borings inside the building were not possible since the building had a basement. Since the building no longer had a roof as discovered during the site reconnaissance and, therefore, the floor and walls were exposed to the elements, wipe samples no longer seemed appropriate. A second site reconnaissance was conducted on 13 July 1999 to locate sample points inside the building. Subsequently, it was decided to substitute concrete chip sampling, brick sampling, and soil sampling for the boring and wipe sampling originally proposed. **Ref: 15.**

Five concrete chip samples were collected from the basement and main floor levels and analyzed for PCBs. The samples had PCB concentrations ranging from 200 to 260,000 mg/kg which all exceeded the TSCA definition of hazardous waste for total PCBs of 50 mg/kg. The results are provided on Table 1 and shown graphically on Figures 13 and 14. Two concrete chip samples were collected in the basement beneath the main floor level where the PCB transformer storage area was located. Three samples were collected on the main floor level (two from the area where the transformer storage area was formerly located, and one from near the stairway to the basement).

The basement walls contained numerous stains on the brick piers throughout the main basement area. The outside basement walls did not exhibit any noticeable staining or oil. Upon close inspection of these stained areas, it was observed that the dark staining had an oily/greasy consistency but also was rather dried out in most locations. The material was approximately 1/16 to 1/8 in. thick but did not appear to penetrate into the brick very far. It



# **LEGEND**

- ✕ Floor sample
- BF-01
- Soil sample
- BS-01
- ▬ Wall scrape
- BW-01
- ▼ Oil sample
- BO-01

**NOTE:** All PCB concentrations given in mg/kg

0 30 ft

~SCALE

1 in. = ~30'

MultiSitePSA1650641 site.dsf

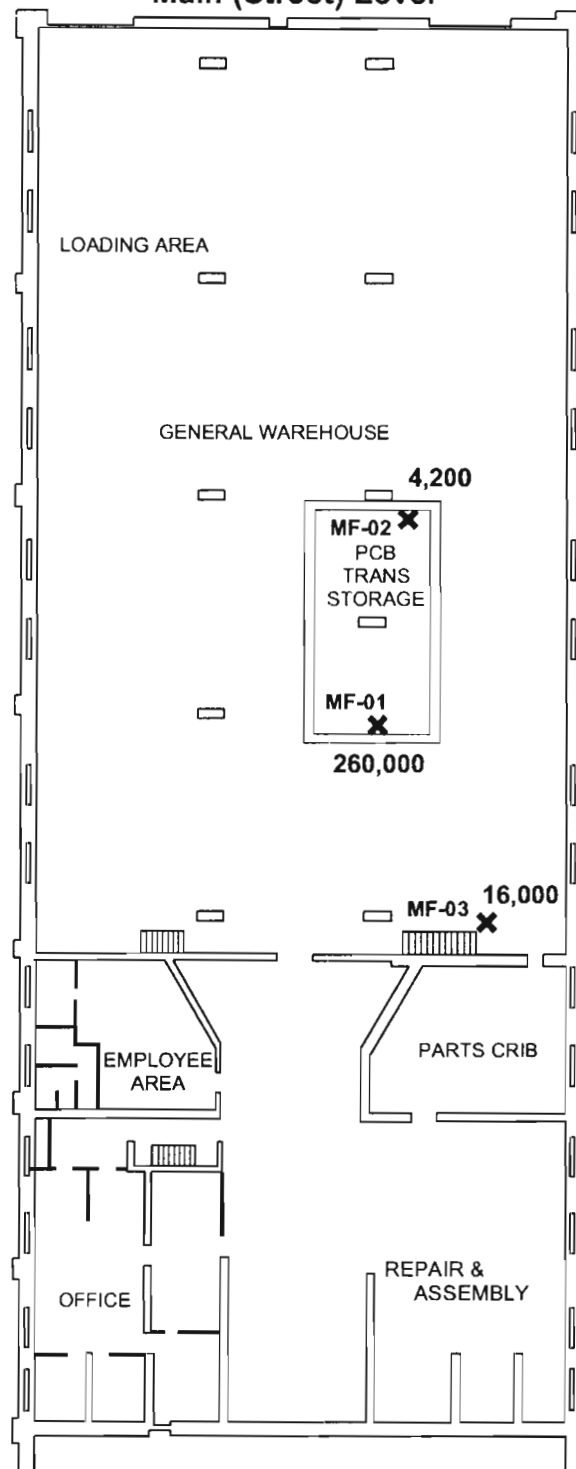
**Figure 13**

## **1999 PCB Concentrations in Basement Floor Samples**

**MULTI-SITE PSA**  
**Empire Electric Company**  
**NYSDEC I.D. No. 224015**

**LAWLER, MATUSKY & SKELLY ENGINEERS LLP**  
**Pearl River, New York**

# Main (Street) Level



0 30 ft

~SCALE

1 in. = ~30'

\\MultiSitePSA\\650641 site.dsf

## LEGEND

**X** Floor sample  
MF-0# (Concrete 0-1")

**16,000** PCB concentration (mg/kg)

Figure 14

## 1999 PCB Concentrations in Main Floor Samples

MULTI-SITE PSA  
Empire Electric Company  
NYSDEC I.D. No. 224015

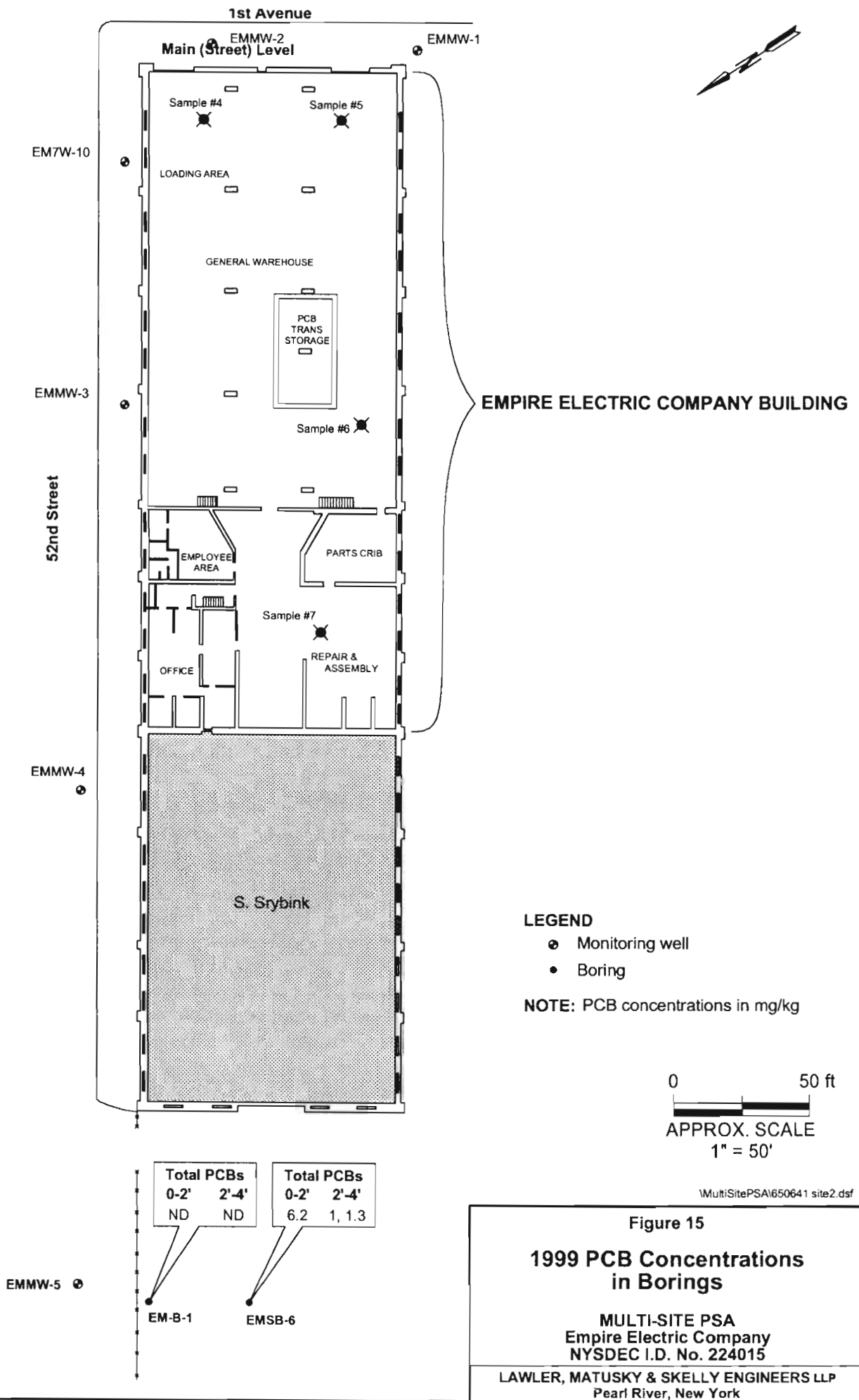
LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
Pearl River, New York

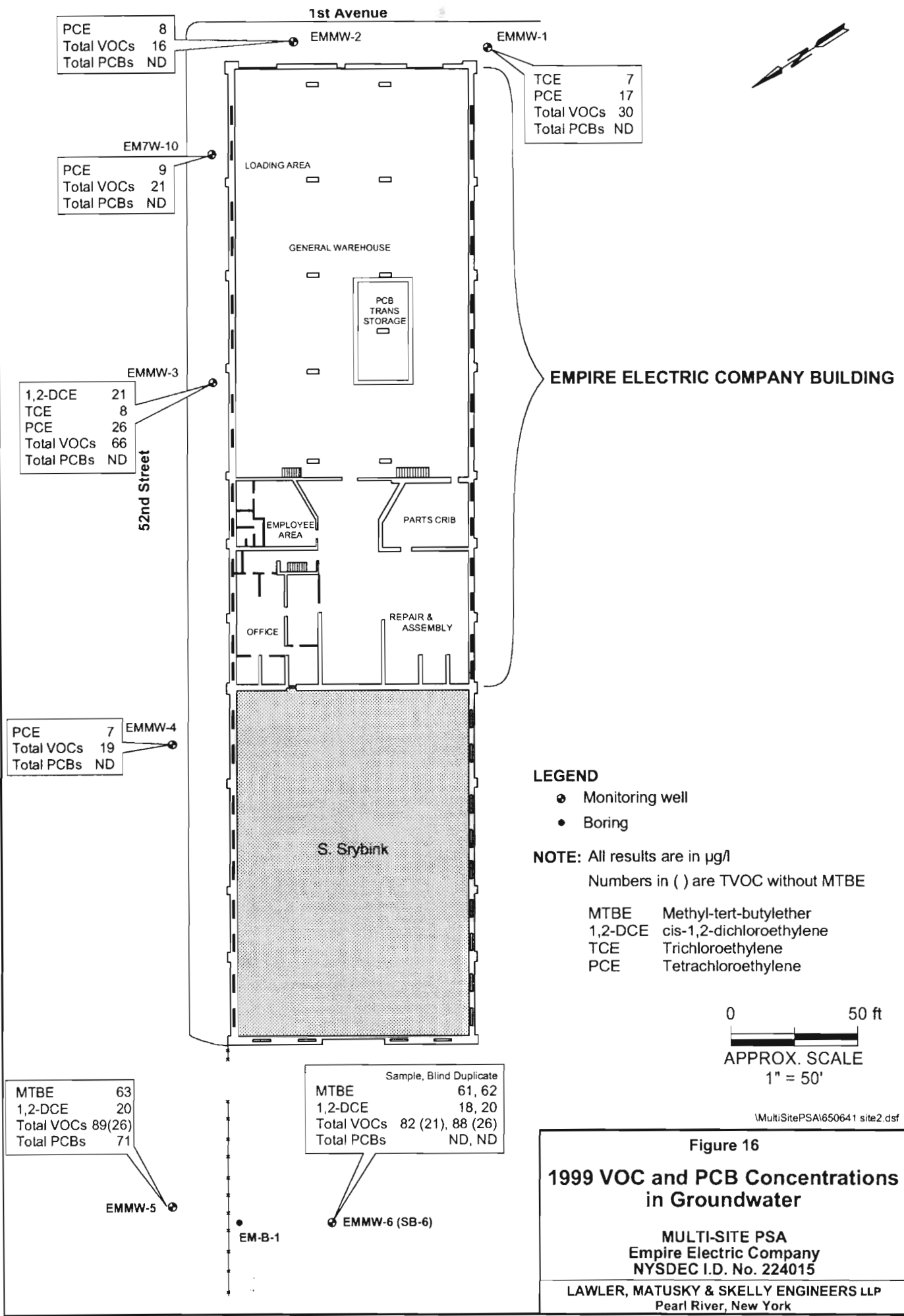
appeared that the material flowed down the outside of the brick walls possibly from the top where the brick piers met the ceiling. Six oil/grease samples were collected from the basement walls and analyzed for PCBs. Table 2 presents the data and Figure 13 graphically presents the data. PCB concentrations ranged from 6.3 to 5,900 mg/kg. Two oil/grease samples exceeded the TSCA definition of hazardous waste for total PCBs of 50 mg/kg. **Ref: 13.**

Three soil samples were collected from the basement below the concrete floor and analyzed for PCBs and volatile organic compounds (VOCs). Samples were collected from locations where the concrete was either damaged or missing. The soil at one location, BS-02, exhibited black staining and contained oily material. The three shallow soil samples (BS-01 to BS-03) collected within the building beneath the basement floor contained PCBs at concentrations ranging from 16 to 960 mg/kg which were all above the soil cleanup objectives. Two of the samples BS-01 and BS-02 had concentrations that exceeded the TSCA criteria for hazardous waste. None of the samples had any VOCs detected in excess of the NYSDEC recommended soil clean-up objectives. The results are provided in Table 3 and shown graphically on Figure 13. **Ref: 13.**

Two shallow soil borings were performed in the <sup>VOCs OK</sup> ~~the building~~ and soil samples submitted for VOC and PCB analyses at depths of 0-2 and 2-4 ft. Table 4 presents the results and Figure 15 graphically presents the data. The ground surface in the vicinity of EMSB -I exhibited dark staining. The samples were analyzed for VOCs and PCBs. None of the soil samples from the soil borings exhibited VOC concentrations exceeding NYSDEC recommended soil clean up objectives. PCBs were detected in one shallow soil boring (EMSB-6) at concentrations ranging from 1.3 mg/kg in the 2-4 ft sample to 6.2 mg/kg in the 0-2 ft sample. The sample from 0-2 ft exceeded the NYSDEC recommended soil clean-up objective of 1 mg/kg for soils at depths less than 2 ft. The other boring (EM-B 1) had no detectable PCBs.

Six monitoring wells were installed upgradient, downgradient, and sidegradient to the Empire Electric Building. Two wells (EMMW-1 and EMMW-2) were installed in the sidewalk on 1<sup>st</sup> Avenue upgradient of the site, two wells were installed alongside the building on 52<sup>nd</sup> Street (EMMW-3 and EMMW-4), one well was installed downgradient of the site on 52<sup>nd</sup> Street (EMMW-5), and one well was installed in the parking lot directly downgradient of the building (EMMW-6). These wells plus an existing monitoring well (EM7W-10), located along 52<sup>nd</sup> Street about 35 ft from the eastern corner of the building, were sampled for PCBs and VOCs. The results are provided on Table 5 and shown graphically on Figure 16. The results indicated that VOCs were present at concentrations exceeding the NYSDEC Class GA Standards in all of the monitoring wells with total concentrations of VOCs in the wells ranging from 16 to 89 µg/l with the highest concentrations found in the downgradient wells and the lowest in the upgradient wells. However, the compound found in the highest concentration, methyl tert-butyl ether (MTBE), in the downgradient wells which was not found in the upgradient wells is not related to site activities. MTBE is an octane booster used in gasoline. The New York City Department of Sanitation (NYCDOS) owns the property





across the street from the Empire Electric Company. Records indicate that there are or were four gasoline underground storage tanks (USTs) at this location. The probable source of the MTBE is from one of these tanks. PCBs were present in one well (EMMW-5) at a concentration of 71 µg/l above the groundwater standard of 0.09 µg/l. PCBs were not detected in any of the other wells including the upgradient ones. **Ref: 4, 16.**

There was oil evident in numerous locations throughout the basement at the base of the concrete piers. The oil was reddish and exhibited no strong odor. Some of the wall stains had occasional droplets of this reddish oil. One oil sample was collected at the base of a brick pier and analyzed for VOCs and PCBs. PCBs were detected at a concentration of 40 mg/kg in this oil sample; VOCs were found in very low concentrations. Table 6 presents the results and Figure 13 presents the data.

**5. CERCLA STATUS**

Not assigned.

**6. OTHER ACTIONS TO DATE (e.g., Federal removal, Federal remedial, or pre-remedial actions, State actions, other legal violations).**

To date no State or Federal remedial actions have occurred.

**7. STATE AND LOCAL AUTHORITIES ROLE (Intervention)**

The NYSDEC has informed the following past and current property owners at 5200 1<sup>st</sup> Avenue, Brooklyn, NY, Section 1, Block 803, Lot 9, that under Section 27-1305.4.a of the Environmental Conservation Law (ECL) that the site is an inactive hazardous waste disposal site. The site was listed on the Registry as a Class 2 site in February 1989.

- a) 5200 Enterprises was notified in March 1989. **Ref: 10.**
- b) Doris Hasnas and Irving Hasnas were notified in February 1991. **Ref: 12.**
- c) Martin J. Goldman was notified in May 1999. **Ref: 17.**

The NYSDEC DEE attempted to negotiate a Consent Order with both the current and past owners of the site without success. In March 1999 NYSDEC assigned LMS to conduct a PSA on the Empire Electric Site to determine the extent of contamination in and around the building. **Ref: 11, 12.**

Table 6 (1 of 1)

Oil Data Summary  
(July 1999)  
Empire Electric Company  
Site No. 2-24-0.15

Sample ID Date Collected	BO-01	Hazardous Waste Criteria <sup>1</sup> (mg/kg)
<b>VOLATILE ORGANIC COMPOUNDS (mg/kg)</b>		
1,2,4-Trichlorobenzene	0.54	
1,2,3-Trichlorobenzene	0.152	
Trichlorofluoromethane	<u>ND<sup>g</sup></u>	
<b>Total VOCs</b>	<b>0.692</b>	
<b>PCBs (mg/kg)</b>		
Aroclor-1254	<u>40<sup>g</sup></u>	
<b>Total PCBs</b>	<b>40</b>	<b>50</b>

- 1 - TSCA definition of hazardous waste for total PCBs.  
b - Found in associated blanks.  
g - Value considered estimated based on data validators report (Appendix B)  
N/A - Not available.  
ND - Not detected at analytical detection limit.  
Notes: - Numbers in bold exceed standard.



## **POSSIBLE THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES (permits - local, state, and federal)**

### **1. POSSIBLE THREATS TO THE PUBLIC HEALTH AND WELFARE**

Hazardous concentrations of PCBs as defined by TSCA, i.e., >50 mg/kg, are present within the former Empire Electric structure. The building is occupied by numerous homeless people that have converted various sections of the building into makeshift shelters. These occupants are in direct contact with PCB contaminated surfaces daily since many of them sleep on the floor in various parts of the building.

Soil samples collected by the NYSDEC in 1993 and during the PSA indicate that PCB contamination is present in the shallow soil at the Empire Electric site both beneath the building and outside the building. Most of these samples were collected under paved areas and probably do not present a threat to the public health. The soil exposed in the vacant lot west of the building had one soil sample collected that exceeded the NYSDEC recommended soil cleanup objectives for PCBs. This area is secured by a fence and is occasionally used as a parking area by the tenants using the other half of the building. This presents a potential route of exposure to these tenants. A change in the use of this property may expose occupants to a larger degree increasing the health risk.

PCBs were detected in the groundwater downgradient of the site at EMMW-5. The City of New York supplies most of its potable water from upstate sources. The closest well is at least 9 miles away in the east-northeast direction, therefore, the PCBs detected in groundwater do not present a threat to public health or welfare. The groundwater in the vicinity of the Empire Electric Company site is not expected to be used in the future.

A physical hazard is also present in that the structure has been abandoned since 1988. The exterior of the building is deteriorating and some of the masonry is loose. The slate roof on the portion of the building that still has a roof is loose. The number of broken slate tiles at the base of the building indicates that slate frequently slides off the building. The sidewalk around the building is used as a parking area and pedestrians could be struck by debris falling off of the building.

### **2. POSSIBLE THREATS TO THE ENVIRONMENT**

The hazardous levels of PCB contamination detected in the building are predominantly absorbed to the brick and concrete within the building. The PCBs detected in the soil samples collected from breaks in the basement floor indicate that some PCBs have at a minimum, impacted the soil beneath the building. It is possible that PCBs are leaching into groundwater from the building. The fact that PCBs were detected in the soils outside the building and PCBs were found in the groundwater indicates that PCBs are leaching into the

groundwater. As stated above, groundwater in the immediate vicinity of the site is not a source of potable water. Groundwater flow is to northwest towards the Bay Ridge Channel located approximately 0.25 miles from the site. There is a potential for PCB contaminated groundwater to discharge into the Bay Ridge Channel.

### **3. PERMITS - LOCAL, STATE, AND FEDERAL**

The site consists of a building that has been vacant since 1988. A file search conducted by a commercial file search company indicated that Empire Electric was registered as a Large Quantity Generator (LQG) under the Resource Conservation and Recovery Act (RCRA) database (RCRIS). The quantity and type of waste was not indicated. Attempts to obtain additional information on the RCRA permit were not successful. **Ref: 4.**

### **EXPECTED CHANGE IN THE ENVIRONMENTAL CONDITIONS SHOULD ACTION BE DELAYED OR NOT TAKEN AS CONSISTENT WITH REPORT INFORMATION AND RECOMMENDATION**

Very little change is expected in the environmental conditions at the site. The building has been abandoned since 1988 and the interior of most of the building is exposed to the elements. There is the possibility for some leaching of PCBs from the structure into the soil or groundwater below the structure. The PCBs in the soil outside of the building are predominantly covered by paved surfaces. The unpaved surfaces have a potential to leach PCBs into groundwater or into the Bay Ridge Channel due to surface drainage. Currently the unpaved area (in the vacant lot west of the site) is fenced in and locked. The vacant lot is used as a parking lot by the tenants of the building owned by S. Srybink.

### **ENFORCEMENT HISTORY OF THE SITE**

#### **1. Is there an organization taking appropriate, timely action?**

NYSDEC attempted to obtain a Consent Order with the current and previous owners of the Empire Electric site in 1989 and 1991 but were unsuccessful. LMS conducted the PSA under contract to NYSDEC in July 1999. After review of the PSA report, NYSDEC will determine the appropriate action.

### **CONCLUSIONS**

The concrete slab in the main floor area and basement area are classed as hazardous according to the TSCA definition of hazardous waste for total PCBs. The oil/grease samples collected in the basement exceeded the TSCA criteria of 50 mg/kg total PCBs at two of the six sample locations. The soil samples collected within the building beneath the basement floor exceeded the NYSDEC recommended soil clean-up objective for PCBs in soil at depths less than 2 ft of 1 mg/kg as well as the criteria for soils at depth greater than

2 feet of 10 mg/kg. Two of these samples also exceeded the TSCA definition of hazardous waste. Based on these sample results, occupants in the building could be exposed to potentially hazardous concentrations of PCBs. PCBs were detected in the soil samples collected by NYSDEC outside of the building attached to the Empire Electric structure and in the lot west of this structure during the PSA. The site is the likely source of these PCBs.

## RECOMMENDATIONS

The building should immediately be sealed to prevent the homeless from occupying the building. The homeless currently occupying the building are particularly susceptible to PCB exposure since many of them sleep on the floor and do not have access to sanitary facilities. The building should be posted that PCB contamination is present since it is unlikely that sealing the building will prevent homeless people that are living there from gaining access again.

The sampling performed during the PSA in the building was limited to several biased locations to determine the levels of PCB contamination present in the building. This sampling effort during the PSA was focused on determining the concentration of PCBs present at the site. Additional sampling for PCBs will be required to delineate the extent of contamination throughout the building to determine the portion of the building that is considered hazardous. Wipe samples initially conducted indicated that all areas of the building were contaminated including the mezzanine levels. Chip samples of concrete or brick will be required throughout the entire building to determine if the entire building or only sections of the building are hazardous.

Electrical equipment was observed by the NYSDEC in the basement of the adjoining building to the west of the Empire Electric site. Soil sampling conducted by the NYSDEC in 1993 along 52<sup>nd</sup> Street indicated that PCBs were present above the recommended soil clean-up objectives outside of the adjoining building. PCBs were also detected in the vacant lot west of the buildings at concentrations above the recommended clean-up objectives. There is no documentation indicating that Empire Electric ever occupied the adjacent portion of the building, however, there is no explanation for the presence of the electrical equipment that was observed by NYSDEC in the basement next door. In addition, the entire building was initially occupied by the City of New York when the building was used to generate electricity for the trolley. Based on the presence of the electrical equipment in the basement, and the presence of PCBs in the soils outside of the building, sampling for PCBs should be conducted inside the adjoining building to confirm that this building has not also been contaminated with PCBs.

## CITE REFERENCES

- 1 = Short term or emergency action
- 2 = Long term cleanup action
- \* = Confidential

## SITE SKETCH

**Provide a sketch of the site with available information. Indicate all pertinent features of the site and nearby environments including: delineation of site boundary, land cover/trees and other vegetation, utilities (water, electrical, gas, sewage, storm drains), sources of wastes, areas of visible and buried wastes, buildings, residences, access roads, parking areas, fences or other barriers restricting access to the site, fields, drainage channel or pathways, water bodies, wells, sensitive environments and other features such as hills and valleys. Be certain to indicate a north arrow.**

See Figure 17 and 18.

AIRBORNE  
EXPRESS

PARKING LOT

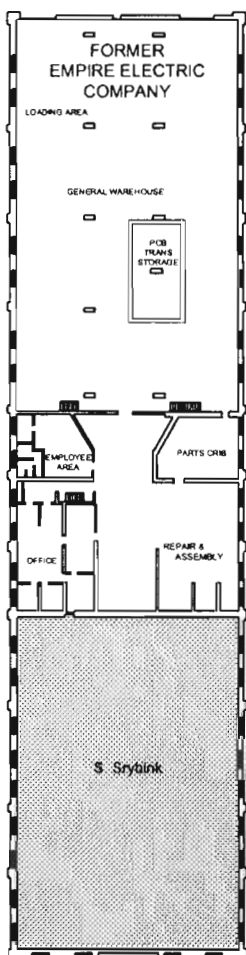
WAREHOUSE



1st Avenue

NYC  
DEPARTMENT  
OF SANITATION

52nd Street



53rd Street

ORION  
HOLDING  
COMPANY  
(FORMERLY  
CON EDISON CO.  
BUILDING)

NYC  
BUSINESS  
SERVICES

PARKING LOT

UTZ  
QUALITY FOODS,  
INC.

\\MultiSitePSA\650641 site2.dsf

0 80 ft  
APPROX. SCALE  
1" = 80'

### Figure 17 Site Sketch

MULTI-SITE PSA  
Empire Electric Company  
NYSDEC I.D. No. 224015

LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
Pearl River, New York



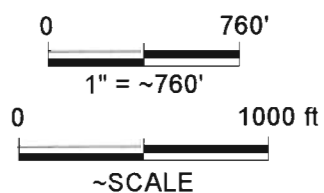
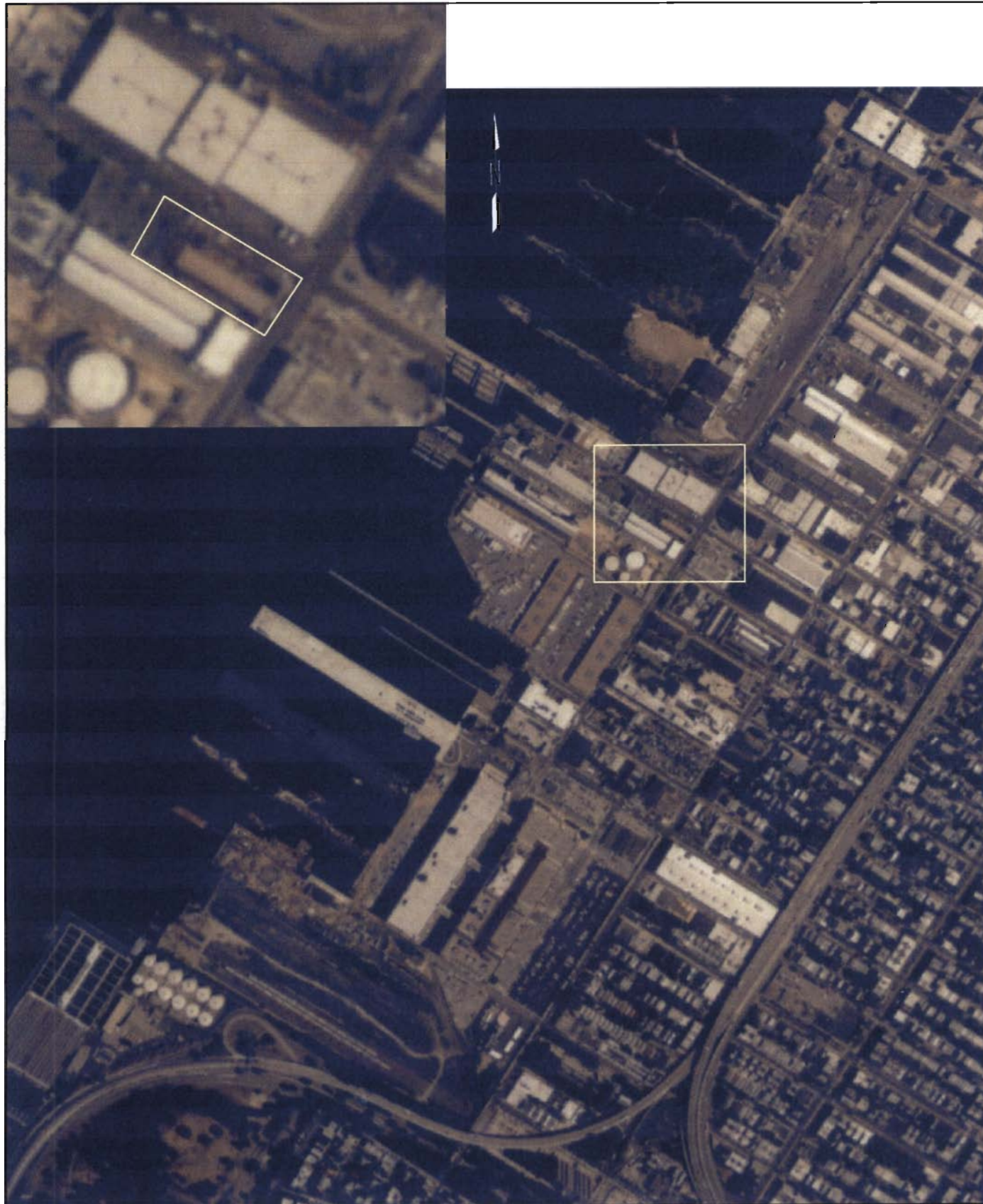


Figure 18

**Aerial Photograph**

**MULTI-SITE PSA  
Empire Electric Company  
NYSDEC I.D. No. 224015**

**LAWLER, MATUSKY & SKELLY ENGINEERS LLP  
Pearl River, New York**

**SITE ASSESSMENT REPORT:**

**PART I: SITE INFORMATION**

**1. Site Name/Alias** Empire Electric Company

**Street Address:** 5200 1<sup>st</sup> Avenue

**City:** Brooklyn

**State:** New York

**Zip Code:** 11220

**Describe Site Boundaries (North, South, East, West):** The site is bounded on the north by 52<sup>nd</sup> Street, to south by a narrow alley way and another building owned by Consolidated Edison Company of New York, Inc., to the east by 1<sup>st</sup> Avenue, and to the west by the adjoining building owned by S. Srybnik (the Empire Electric building and the Srybnik building share a common wall).

**2. County:** Kings

**County Code:** 24

**Cong. Dist.** NY-17

**3. CERCLIS ID No.** Not assigned

**Region**

**4. Section No.** 1

**Block No.** 803

**Lot No.** 9

**5. Latitude:** 40° 38' 57" N

**Longitude:** 74° 1' 16" W

**USGS Quad:** Jersey City, NJ - NY

**6. Approximate size of site:** 0.55 acres

**7. Owner:** Martin J. Goldman

C/O Goldman Copeland

**Telephone Number:** (212) 929-0480

**Owner Street Address:** 11 West 19<sup>th</sup> Street

**City:** New York

**State:** New York

**Zip Code:** 10011

**8. Operator:** Not Applicable

**Telephone Number:**

**Operator Street Address:**

**City:**

**State:**

**ZipCode:**

**9. Type of Ownership:**

Private        ☒        Federal        ☐        County        ☐        Municipal        ☐  
Unknown        ☐        Other        ☐

**10. Owner/Operator Notification on File:**

**RCRA 3001:** Date \_\_\_\_\_ **CERCLA 103c:** Date \_\_\_\_\_

**Other** (*Specify, Date*): Martin J. Goldman was notified **None:** **Unknown:**  
by NYSDEC on 21 May 1999. **Ref:** 17.

**11. Permit Information:**

Permit:                      Permit No.                      Date Issued:                      Expiration Date:

Comments: Empire Electric Company held a RCRA permit as a large quantity generator but no information is available on the permit.

12. Site Status:                      Active: ☐                      Inactive: ☒                      Unknown: ☐

**13. Years of Operation:** 1950 to 1986



14. Identify the types of waste sources (e.g., landfill, surface impoundment, piles, stained soil, above- or below-ground tanks or containers, land treatment, etc.) on site. Initiate as many waste unit numbers as needed to identify all waste sources on site.

(a) Waste Sources

Waste Unit No.	Waste Source Type	Facility Name for Unit
1.	Concrete floor slabs	Concrete floors
2.	Masonry Walls	Brick walls
3.	Soil	Soil below basement floor
4.	Soil	Shallow soil outside building

(b) Other Areas of Concern

Groundwater contamination

Identify any miscellaneous spills, dumping, etc. on site; describe the materials and identify their locations on site.

None identified. The Environmental Data Resources, Inc. data base does not list any spills, tanks, waste manifests, or any other data relevant to the Empire Electric site.

15. Describe the regulatory history of the site, including the scope and objectives of any previous response actions, investigations and litigation by State, Local and Federal agencies (indicate type, affiliation, date of investigations).

NYSDEC collected shallow soil samples outside of the Empire Electric site in 1993 and analyzed them for PCBs. The samples had total PCBs ranging from 3.5 to 16 mg/kg which are above the recommended cleanup value for shallow soils of 1 mg/kg. NYSDEC attempted to negotiate Consent Orders with both the current and previous owners of the site in 1989 and 1991, respectively. Ref: 11, 12, 14.

- a) Is the site or any waste source subject to Petroleum Exclusion? Identify petroleum products and by products that justify this decision.

No, petroleum products are not the contaminants of concern.

2. Are pesticides produced and stored on site? Does the facility apply pesticides (FIFRA or Federal Insecticide, Fungicide, and Rodenticide Act) to any part of the property?

No. Pesticides were not produced or stored on site.

- c) **Is the site or any waste source subject to RCRA Subtitle C (briefly explain)?**

The site was identified in the Resource Conservation and Recovery Act database (RCRIS) as a large quantity generator. The quantities and waste type were not reported. Attempts to obtain additional information were not successful. Ref: 4.

- d) **Is the site or any waste source maintained under the authority of the Nuclear Regulatory Commission (NRC)?**

No.

**16. Information available from:**

**Contact:** Dave Harrington      **Agency:** NYSDEC      **Telephone Number:** (518) 457-0639

**Preparer:** Karen A. Wright/E. Hollister/  
J. Thornburg      **Agency/Company:**  
Lawler, Matusky & Skelly Engineers LLP

**Date:** October 1999      **Telephone Number:** (914) 735-8300

## PART IIa: WASTE SOURCE INFORMATION

For each of the waste units (sources) identified in Part I, complete the following items.

### Waste Unit (#) 1

#### Source Type

☐ Constituent

☐ Wastestream

☐ Landfill

☐ Contaminated Soil

☐ Surface Impoundment  
(buried/backfilled)

☐ Pile (Specific type: chemical, junk,  
trash, tailings, etc.)

☐ Drums

☐ Land Treatment

☐ Tanks/Containers

☒ Other (Specify): Concrete floor slabs

**Description:** The basement and main floor slabs within the building are contaminated with hazardous levels of PCBs.

1. **Describe the types of containers, impoundments or other storage systems (i.e. concrete lined surface impoundment) and any labels that may be present.**

Not applicable.

2. **Describe the physical condition of the containers or storage systems (i.e. rusted and/or bulging metal drums).**

Not applicable.

3. **Describe any secondary containment that may be present (e.g. drums on concrete pad in building or above ground tank surrounded by berm).**

Not applicable.

**Hazardous Waste Quantity** - for each source, evaluate waste quantity by as many tiers (a-d) as you have information to support.

The total extent of hazardous levels of PCBs present in the concrete floors has not been determined. Additional sampling will be required to determine the actual volume of PCB-impacted concrete that would require disposal as a hazardous material. If the entire floor slab for the

basement (100 ft by 240 ft), main floor (100 ft by 160 ft and 60 ft by 80 ft), first mezzanine levels (2 each 80 ft by 37 ft), and second mezzanine (100 ft by 34 ft) are found to be hazardous and the thickness of the floor slab for each area is assumed to be 0.5 ft thick, the estimated volume of contaminated concrete is about 1000 yd<sup>3</sup>.

#### **Hazardous Substances/Physical State**

The hazardous substance found is PCBs which are found in the concrete floor slabs. The physical state in which the PCBs are found in is solid.

## PART IIb: WASTE SOURCE INFORMATION

For each of the waste units (sources) identified in Part I, complete the following items.

Waste Unit (#) 2

### Source Type

- |   |   |
|---|---|
| <input type="checkbox"/> Constituent                                | <input type="checkbox"/> Wastestream  |
| <input type="checkbox"/> Landfill                                   | <input type="checkbox"/> Contaminated Soil  |
| <input type="checkbox"/> Surface Impoundment<br>(buried/backfilled) | <input type="checkbox"/> Pile (Specific type: chemical, junk,<br>trash, tailings, etc.) |
| <input type="checkbox"/> Drums                                      | <input type="checkbox"/> Land Treatment   |
| <input type="checkbox"/> tanks/Containers                           | <input checked="" type="checkbox"/> Other (Specify): Masonry walls                      |

**Description:** The masonry walls are contaminated with PCBs.

1. **Describe the types of containers, impoundments or other storage systems (i.e. concrete lined surface impoundment) and any labels that may be present.**

Not applicable.

2. **Describe the physical condition of the containers or storage systems (i.e. rusted and/or bulging metal drums).**

Not applicable.

3. **Describe any secondary containment that may be present (e.g. drums on concrete pad in building or above ground tank surrounded by berm).**

Not applicable.

**Hazardous Waste Quantity** for each source, evaluate waste quantity by as many tiers (a-d) as you have information to support.

The total extent of hazardous levels of PCBs present in the masonry walls has not been determined. Additional sampling will be required to determine the actual volume of PCBs impacting the masonry walls. The walls and support pillars in the basement are brick and the PCB contamination has probably not penetrated very far into the brick. The brick pillars in the basement are 32 ft long

by 9 ft wide by 10 ft high. There are a total of 16 pillars in the basement. Assuming that the contamination has penetrated to 0.5 in. the quantity of contaminated masonry is 20 yd<sup>3</sup>.

#### **Hazardous Substances/Physical State**

The hazardous substance found is PCBs which are found in the masonry walls. The physical state in which the PCBs are found is a semi-solid state.

## PART IIc: WASTE SOURCE INFORMATION

For each of the waste units (sources) identified in Part I, complete the following items.

Waste Unit (#) 3

### Source Type

- |   |   |
|---|---|
| <input type="checkbox"/> Constituent                                | <input type="checkbox"/> Wastestream  |
| <input type="checkbox"/> Landfill                                   | <input checked="" type="checkbox"/> Contaminated Soil                                   |
| <input type="checkbox"/> Surface Impoundment<br>(buried/backfilled) | <input type="checkbox"/> Pile (Specific type: chemical, junk,<br>trash, tailings, etc.) |
| <input type="checkbox"/> Drums                                      | <input type="checkbox"/> Land Treatment   |
| <input type="checkbox"/> Tanks/Containers                           | <input type="checkbox"/> Other (Specify): Concrete floor slabs                          |

**Description:** The concrete slab in the basement has been broken in several places exposing soil which consists of sand and gravel; the soil exhibited some staining. The soil is contaminated with PCBs.

1. **Describe the types of containers, impoundments or other storage systems (i.e. concrete lined surface impoundment) and any labels that may be present.**

Not applicable.

2. **Describe the physical condition of the containers or storage systems (i.e. rusted and/or bulging metal drums).**

Not applicable.

3. **Describe any secondary containment that may be present (e.g. drums on concrete pad in building or above ground tank surrounded by berm).**

Not applicable.

**Hazardous Waste Quantity - for each source, evaluate waste quantity by as many tiers (a-d) as you have information to support.**

The total extent of surface soil contamination beneath the basement has not been delineated, however, based on the samples collected and assuming that all the soil beneath the basement (100

ft by 240 ft) is contaminated to a depth of 0.5 ft, the total volume of contaminated soil is estimated to be 360 yd<sup>3</sup>.

#### **Hazardous Substances/Physical State**

The hazardous substance found is PCBs which are found in the soil beneath the basement slabs. The physical state in which the PCBs are found is solid.



## PART IId: WASTE SOURCE INFORMATION

For each of the waste units (sources) identified in Part I, complete the following items.

Waste Unit (#) 4

Source Type

- |   |   |
|---|---|
| <input type="checkbox"/> Constituent                                | <input type="checkbox"/> Wastestream  |
| <input type="checkbox"/> Landfill                                   | <input checked="" type="checkbox"/> Contaminated Soil                                   |
| <input type="checkbox"/> Surface Impoundment<br>(buried/backfilled) | <input type="checkbox"/> Pile (Specific type: chemical, junk,<br>trash, tailings, etc.) |
| <input type="checkbox"/> Drums                                      | <input type="checkbox"/> Land Treatment   |
| <input type="checkbox"/> Tanks/Containers                           | <input type="checkbox"/> Other (Specify): Concrete floor<br>slabs                       |

**Description:** PCB contaminated soil was found in exposed shallow soil outside the building. Soil was sandy with variable amounts of debris including plastic, cinder, wood, cobbles, and coal ash.

1. **Describe the types of containers, impoundments or other storage systems (i.e. concrete lined surface impoundment) and any labels that may be present.**

Not applicable.

2. **Describe the physical condition of the containers or storage systems (i.e. rusted and/or bulging metal drums).**

Not applicable.

3. **Describe any secondary containment that may be present (e.g. drums on concrete pad in building or above ground tank surrounded by berm).**

Not applicable.

**Hazardous Waste Quantity - for each source, evaluate waste quantity by as many tiers (a-d) as you have information to support.**

The total extent of soil contamination has not been delineated, however, based on the results collected to date the volume of exposed contaminated soil is estimated to be approximately 260 yd<sup>3</sup>.

This calculation assumes a triangular area taken from boring EMSB-6 to the ends of the building that is 2 ft deep. The remaining shallow soil PCB contamination is found underneath the sidewalk which is in poor condition. This area taken as the width of the sidewalk of 15 ft by the distance between the NYSDEC sample locations A92902 to A92904 of 150 ft and a depth of 2 ft adds an additional volume of 167 yd<sup>3</sup> of contaminated soil.

#### **Hazardous Substances/Physical State**

The hazardous substance found is PCBs which are found in the soil outside the building. The physical state in which the PCBs are found is solid.

## **PART III: SAMPLING RESULTS**

### **EXISTING ANALYTICAL DATA**

**Review and summarize any previously existing groundwater, soil, sediment, surface water, air, or waste sample analyses. Discuss the precision, accuracy, representativeness and completeness of previous sampling efforts. Describe the concentrations of chemicals of concern based on available data and media impacted. These parameters should be evaluated by examining the results of routine quality control procedures. Any suspected problems with this data should be identified. This is especially if the data cannot be used for HRS purposes. Any problems should receive the immediate attention of the work assignment manager. Identify data gaps.**

In 1986 Empire Electric Company retained ENSI, Inc. to conduct an environmental audit of the facility. The inspection took place on 10 September 1986 at which point ENSI, Inc. identified five potential areas of environmental concern on the first floor: the degreasing bay, painting bay, general work area and parts crib rooms, electrical apparatus storage bay (general), and the electrical apparatus storage bay (PCB transformer). Several stained areas were located in both mezzanines and the basement had two areas that were used as storage which were of concern. ENSI, Inc. recommended that sampling be conducted specifically in the PCB transformer storage area and at other random locations. Therefore, wipe samples were collected in October 1986 prior to cleanup at the locations shown on Figures 7, 8, 9, and 10. The data (also shown on the figures) indicated total PCBs ranging from 2,500 to 520,000  $\mu\text{g}/100\text{ cm}^2$ . The samples were analyzed by Wastex Industries, Inc. A field blank was collected at location 3; the results were  $< 50\text{ }\mu\text{g/wipe}$  of PCBs. There are no suspected problems with the data. **Ref: 3.**

Based on the results obtained in October 1986 the facility was cleaned and ENSI, Inc. retained Enviropact, Inc. to collect post-cleanup wipe samples. These samples were collected in December 1986 at the random locations shown on Figure 11. As shown on Figure 11, the wipe samples contained PCBs at concentrations ranging from 5.71 to 83.73  $\mu\text{g}/100\text{ cm}^2$ . Two other wipe samples were collected in November 1986 and showed concentrations of 914.6 and 8,000  $\mu\text{g}/100\text{ cm}^2$ , however, it was unclear if sampling had been performed prior to or after the clean-up. A notation in the report indicates that the samples were collected 13 ft from the staircase. A concrete sample was also collected by Enviropact, Inc. in December 1986 at the location originally containing 520,000  $\mu\text{g}/100\text{ cm}^2$  and was found to contain PCBs at a concentration of 28.9 mg/kg. The method used to collect the wipe samples for the post clean-up sampling was to wipe the 100  $\text{cm}^2$  sampling area with the absorbent pad containing several drops of solvent. EPA recommends that the absorbent pad be saturated with hexane. Two field blanks were collected during the wipe sampling and had  $< 0.01\text{ }\mu\text{g/wipe}$  of PCBs. The fact that insufficient hexane was used on the wipe may mean that the actual concentration of PCBs was far more than the analyses indicated, i.e.,  $< \text{PCBs}$  could be absorbed with less hexane. **Ref: 3.**

In July 1993 the NYSDEC Bureau of Hazardous Site Control and NYSDEC Region 2 office collected surficial soil samples, 0-2 ft deep, at four locations outside the building. LMS compared the photocopies of the photographs taken during this investigation to photographs taken during the PSA and located the samples approximately as shown on Figure 12. The four samples were analyzed for PCBs by Nytest

Environmental, Inc. (NEI). Appropriate laboratory quality control/quality assurance (QA/QC) samples were analyzed and although two of the samples had DBC recoveries outside of QC limits, there are no suspected problems with the data. The results, provided on Figure 12, ranged from 3.5 to 16 mg/kg which are all above the NYSDEC recommended soil cleanup guideline for PCBs in shallow soil ( $\leq 2$  ft deep) of 1 mg/kg. Ref: 9, 14.

## **SITE INSPECTION RESULTS**

As appropriate to the particular site collect samples from air, drainage ditches, soil (surface and subsurface), standing pools of liquids, storage containers, stream and pond surface water, sediments (upgradient, at suspected source and downgradient) and ground water (upgradient, beneath site and downgradient). Samples are to be used for NPL listing purposes or to support an EE/CA (Engineering Evaluation/Cost Analysis) (as opposed to sampling used to determine immediate fire, explosion or direct contact hazards), and should go through CLP for full TAL and TCL analysis. Background samples are always necessary to document an observed release. Those samples that are considered background samples should be clearly identified.

A PSA was conducted in July 1999 primarily to determine the extent of PCB contamination present at the site and to determine if there were hazardous levels of PCBs in the building. Five concrete chip samples (three on the main floor and two from the basement floor) were collected (Figures 13 and 14). The samples were collected with a hammer drill and a laboratory decontaminated drill bit; holes were drilled to a depth of 1 in. with enough holes drilled at each location to collect enough pulverized sample. Sample MF01 was collected within the former PCB transformer storage area at the northwest end in an area that contained a layer of black material. MF-02 was also collected within PCB transformer storage area but at the southeast end where staining was evident. MF-03 was collected from a stained area near the stairs to the basement closest to the PCB transformer storage area. One of the basement floor samples (BF-01) was collected from a pitted area that contained some black crumbly dried oily material on the surface. The other basement floor sample (BF-02) was collected from a stained area on the floor where the stain appeared to penetrate concrete down to at least at least 1 in. Both locations were underneath the PCB transformer storage area. The locations for the main floor samples are shown on Figure 14 and the locations of the basement floor samples are shown on Figure 13. The samples were analyzed by Mitkem Corporation (Mitkem) for PCBs using NYSDEC Analytical Service Protocols (ASP) Method 8082. All samples were validated by Data Validation Services (DVS); there are no suspected problems with the data. The analytical laboratory summary sheets and data validation and usability reports are provided in Appendices A and B, respectively. Field sampling logs are provided in Appendix C. Ref: 13.

The results are summarized on Table 1 and presented graphically on Figures 13 and 14. The main floor samples ranged from 4200 to 260,000 mg/kg of total PCBs with the highest concentration detected in MF-01, within the former PCB transformer storage area. The basement floor samples ranged from 280 to 380 mg/kg of total PCBs with the highest concentration found in BF-01. All samples had total PCBs above the TSCA definition of hazardous waste of 50 mg/kg.

Six samples were collected from the brick pillars in the basement where numerous dark stains were observed. The stains appeared to be of an oil/grease consistency and about 1/8 in. thick. Samples of the stained material were collected by scraping the brick walls with a putty knife. The putty knife was cleaned between sample locations by wiping it clean with a paper towel. The locations are shown on Figure 13. All samples were analyzed by Mitkem for PCBs using NYSDEC ASP Method 8082 and validated by DVS. There are no suspected problems with the data. The analytical laboratory summary sheets and data validation and usability reports are provided in Appendices A and B, respectively. Field sampling logs are provided in Appendix C. **Ref: 13.**

The results are shown on Table 2 and presented graphically on Figure 13. The results ranged from a total of 8.2 mg/kg of PCBs at BW-04 to 5900 mg/kg of PCBs at BW-03. Only the BW-01 sample at 380 mg/kg and the BW-03 sample at 5900 mg/kg exceeded the TSCA definition of hazardous waste for PCBs; BW-03 is located underneath the PCB transformer storage area.

Three shallow soil samples were collected from the basement beneath the concrete floor. The first sample (BS-01) was collected from the area underneath the PCB transformer storage area where the floor was rather pitted and soft. BS-02 was collected from an approximate 1 ft<sup>2</sup> area in the floor where there was no concrete covering. The soil in this area was sandy and gravelly with some black staining and oily material. BS-03 was collected from a heaved area of the floor where the floor was cracked and broken up. The sample locations are shown on Figure 13. The samples were collected using a laboratory-cleaned stainless steel spoon and analyzed for VOCs and PCBs by Mitkem using NYSDEC ASP Method 8260 and 8082, respectively. The data were validated by DVS; there are no suspected problems with the data. The analytical laboratory summary sheets and data validation and usability reports are provided in Appendices A and B, respectively. Field sampling logs are provided in Appendix C. **Ref: 13.**

The results are shown on Table 3 and presented graphically on Figure 13. None of the samples had any VOCs above the NYSDEC recommended soil cleanup objectives. Total VOCs ranged from 0.005 mg/kg at BS-01 to 0.018 mg/kg at BS-02. Total PCBs ranged from 16 mg/kg at BS-03 to 960 mg/kg at B-01 with all samples above the NYSDEC recommended cleanup criteria for shallow soils ( $\leq 2$  ft) of 1 mg/kg. Two of the samples (BS-01 and BS-02) also exceeded the TSCA criteria for hazardous waste of 50 mg/kg. It should be noted that the original basement was filled in to reduce the workable height to a more manageable height, therefore, the 'soil' sampled beneath the current basement floor is fill material.

Two shallow soil borings were drilled to a depth of four ft in the vacant lot west of the building. Two samples were collected from each boring at depths of 0-2 ft and 2-4 ft. EM-B I was installed by Delta Well & Pump company (Delta) using a dedicated split-spoon sampler. The boring was located just inside the fence in the vacant lot. EMSB-06 was located outside the door of the building in the vacant lot; samples from this boring were collected by hand using a laboratory-cleaned hand auger bucket. All samples were analyzed for VOCs and PCBs by Mitkem using NYSDEC ASP Method 8260 and 8082, respectively. The data were validated by DVS; there are no suspected problems with the data. Figure 15 shows the sample locations. The analytical laboratory summary sheets and data validation and usability reports are provided in Appendices A and B, respectively.

Table 4 summarizes the data and Figure 15 graphically presents the data. None of the samples had any VOCs above the NYSDEC recommended cleanup levels. Total VOCs ranged from 0.008 mg/kg at EM-B 1 (2-4) to 0.068 at EMSB-06 (0-2). Neither of the samples collected from boring EM-B 1 had any detectable PCBs. However, EMSB-06 (0-2') contained PCBs at a concentration of 6.2 mg/kg exceeding the NYSDEC recommended soil clean-up objective of 1 mg/kg for soil less than 2 ft in depth. The 2-4 ft sample at this location had 1.3 mg/kg of total PCBs which is less than the NYSDEC recommended cleanup level of 10 mg/kg for soils >2 ft deep. None of the samples exceeded the TSCA definition of hazardous waste of 50 mg/kg.

A total of six 2-in. monitoring wells were installed by Delta using a truck-mounted drill rig using 4.25 in. hollow stem augers. Soil samples were collected using a 1.375 in. ID split-spoon sampler according to the standard penetration method ASTM-D 1586. The wells were installed below the water table to a depth 15.8 to 28 ft. A 10 ft long 10-slot sized screen was installed with the top of the screen set above the water table. Boring logs and well completion logs are provided in Appendices D and E, respectively. Two wells (EMMW-1 and -2) were installed upgradient of the site along 1<sup>st</sup> Avenue, two wells were installed along 52<sup>nd</sup> Street (EMMW-3 and -4), one well was installed downgradient of the site on 52<sup>nd</sup> Street (EMMW-5), and one well was installed in the parking lot directly downgradient of the building (EMMW-6). The deeper wells were the upgradient wells (EMMW-1 and -2) and the shallower wells were the downgradient wells (EMMW-5 and -6). It should be noted that the log from EMMW-3 indicates fill material consisting of brick and concrete down to a depth of 13 ft. EMMW-5 and -6 had debris and other indications of fill material throughout the boring. An early Sanborn map from 1905 shows that these two borings were once part of the bay and were subsequently filled in. After installation the wells were developed using a Grundfos pump until the turbidity was <50 NTU. With the exception of EMMW-5 all wells had good yields with EMMW-5 having a yield of only about 1 gpm. Development logs are provided in Appendix F. The new wells plus an existing monitoring well (EM7W-10), located along 52<sup>nd</sup> Street about 35 ft from the eastern corner of the building were sampled. Prior to sampling the wells were purged using either a grundfos pump or bailer. Three volumes of the borehole were removed unless the well was purged to dryness. After the wells recovered to at least 90% of the initial water column depth samples were collected using a dedicated disposable bailer. Well sampling logs are provide in Appendix G. All samples were analyzed by Mitkem for VOCs and PCBs using NYSDEC ASP Methods 8260 and 8082, respectively. All samples were validated by DVS; there are no suspected problems with the data. Figure 16 shows the location of the wells.

The results are summarized on Table 5 and shown graphically on Figure 16. VOCs were present at concentrations exceeding NYSDEC Class GA Standards in all of the monitoring wells with total concentrations of VOCs in the wells ranging from 16 to 89 µg/l. Cis-1,2-dichloroethylene (1,2-DCE) exceeded the NYSDEC Class GA Standard of 5 µg/l in four of the wells (EMMW-1, -3, -5, and -6) with the maximum concentration of 21 µg/l found in EMMW-3. Trichloroethylene (TCE) exceeded the NYSDEC Class GA Standard of 5 µg/l in two of the wells (EMMW-1 and -3) at a maximum concentration of 8 µg/l in EMMW-3. Tetrachloroethylene (PCE) exceeded the NYSDEC Class GA Standard of 5 µg/l in five of the wells (EMMW-1, -2, -3, -4, and EM7W-10) at a maximum concentration of 26 µg/l which was found in EMMW-3. MTBE was detected at 62 and 63 µg/l in EMMW-6 and -5, respectively; it was not detected in any of the other wells. Since this compound is used as an octave additive to gasoline, it is

not related to activities at the Empire site. The MTBE is most likely from gasoline USTs that are found on the NYCDOS property across the street from the Empire Electric Company on 52<sup>nd</sup> Street. If the MTBE is removed from the total VOCs the highest concentration of 66 µg/l is found in EMMW-3 which is just outside the Empire building. However, the levels found are not three times higher than the concentrations found in the upgradient wells (EMMW-1 and -2) and therefore cannot be considered to be an observed release.

PCBs were not found in the upgradient wells (EMMW-1 and -2) nor any of the wells located along 52<sup>nd</sup> Street along side the building (EMMW-3, -4, and EM7W-10). PCBs were also not detected in the well located directly downgradient of the building (EMMW-6), however, PCBs were present in one well (EMMW-5) located outside the gate to the vacant lot. The concentration of 71 µg/l exceeded the Class GA groundwater standard of 0.09 µg/l. Since PCBs were not found in the upgradient samples this constitutes an observed release to groundwater.

One oil sample was collected from the basement where oil was collecting at the base of a brick pier. The oil was evident in a number of places in the basement and was reddish in color but exhibited no strong odor. The oil appeared to be associated with the large vertical screws assumed to have been part of the power plant machinery located within the brick pillars. The sample (BO-01) was collected with a stainless-steel spoon and then poured into the sample jars. The sample was analyzed by Mitkem for VOC and PCB analyses using NYSDEC ASP Methods 8260 and 8082, respectively. DVS validated the sample; there are no suspected problems with the data. The results are provided on Table 6 and shown graphically on Figure 13. 1,2,4-trichlorobenzene and 1,2,3-trichlorobenzene were detected at concentrations of 0.27 and 0.076 mg/kg, respectively, and total PCBs of 40 mg/kg were found in the oil sample. The PCB concentration was less than the TSCA definition of hazardous waste of 50 mg/kg. It is likely that the PCBs found in the oil sample were absorbed from the contaminated concrete and are not contained in the oil.

## PART IV: HAZARD ASSESSMENT

### GROUNDWATER ROUTE

1. **Describe the likelihood of a release of contaminant(s) to groundwater as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release, define the supporting analytical evidence and relationship to background.**

Observed release: Evidence of hazardous substance migration from site.

Concrete chip samples, oil/grease samples, and shallow soil samples collected within the Empire Electric Company building were contaminated with PCBs above the TSCA definition of hazardous waste of 50 mg/kg. The highest concentration found was in a concrete chip sample collected on the main floor (MF-01) within the former transformer storage area. The concentration detected was 260,000 mg/kg (26%) of total PCBs. Records from site operations indicate that the site was used to warehouse and recondition electrical apparatus including PCB transformers. **Ref: 3.**

Shallow soil samples collected outside the Empire Electric site had total PCBs that exceeded the NYSDEC recommended cleanup level of 1 mg/kg for soils  $\leq 2$  ft deep. Groundwater samples collected upgradient of the site along 1<sup>st</sup> Avenue (EMMW-1 and -2) had no detectable PCBs. Sidegradient samples collected along 52<sup>nd</sup> Street (EMMW-3 and -4, EM7W-10) also had no detectable PCBs. One downgradient well (EMMW-6) located outside of the vacant lot on 52<sup>nd</sup> Street had 71  $\mu\text{g/l}$  of PCBs, well above the Class GA groundwater standard of 0.09  $\mu\text{g/l}$ .

2. **Describe the aquifer of concern; include information such as stratigraphy, depth, thickness, geologic composition, areas of karst terrain, permeability, overlying strata, confining layers, interconnections, discontinuities, depth to water table, groundwater flow direction. Attach a sketch of stratigraphic column.**

The aquifer of concern is the Upper Glacial Aquifer (UGA). The area is underlain by unconsolidated glacial deposits with bedrock at a depth of over 500 feet beneath the surface. The Upper Glacial and Jameco/Magothy formations, consisting of highly permeable sand and gravel, extend down to a depth of about 300 feet below the surface. The onsite soils generally consist of orange brown fine to medium sand. From field observation depth to water varies from 12 to 21 ft below grade. The regional groundwater flow direction for the area is north northwesterly toward the Bay Ridge Channel. **Ref: 18.**

According to the Figure 9 from the Final Report, Volume 1 of 2, Brooklyn/Queens Aquifer Study, the approximate depth from ground surface to the bottom of the UGA is approximately 200 ft; the Gardiner's Clay is located approximately 200-275 ft below grade; and the Jameco aquifer from is approximately 275-350 ft below grade with bedrock at 350 ft below grade. **Ref: 18.**



Intrinsic permeability of clay can be anywhere from  $10^{-6}$  to  $10^{-3}$  darcy's, while glacial outwash can be in the range of 1 to  $10^2$  darcy's. The UGA typically has a moderate to high permeability, the Jameco/Magothy usually has a high permeability, while the Gardiner's Clay, is considered a confining layer with a very low permeability. **Ref: 19.**

Movement of water through the unconsolidated deposits that underlie Long Island is a function of the hydraulic conductivity. The hydraulic conductivity of the UGA is about six times more than the Magothy aquifer. The horizontal hydraulic conductivity of the Gardiners confining unit is several orders of magnitude less than that of the aquifers, and the vertical hydraulic conductivity of the upper aquifers and confining units is an order of magnitude less than their horizontal hydraulic conductivity. The horizontal hydraulic conductivity of the upper aquifers is 10 to about 36 times that of their vertical hydraulic conductivity. Thus, under an equal hydraulic gradient, groundwater moves more rapidly horizontally than vertically through these units, more rapidly horizontally through aquifers than through the confining units, and more rapidly through the UGA than through the Magothy aquifer. **Ref: 20.**

**3. What is the depth from the lowest point of waste disposal/storage to the highest seasonal level of the saturated zone of the aquifer(s) of concern?**

The floor of the basement is approximately 10 ft below grade. PCBs were found within the concrete in the floor and the shallow soil (0 - 4 in.) just beneath the basement floor. There are no signs of flooding in the basement, however, since the roof is missing, rainwater can get into the basement. There are numerous cracks, missing concrete, and soil exposed in the basement. The water levels during this sampling event were approximately 10 feet below the basement floor or 20 ft below ground surface (bgs). The depth to the highest seasonal level of the water table is most likely somewhere between 10 and 20 ft bgs.

**4. What is the permeability value of the least permeable continuous intervening stratum between the ground surface and the top of the aquifer of concern?**

The soils are fine to medium sand with traces to little silt. Intrinsic permeability (darcy's) of glacial outwash and well sorted sands is 1 to  $10^2$ , however, as per field observations, this should be on the lower end of the scale, 1 to  $10^1$ . **Ref: 19.**

**5. What is the net precipitation at the site (inches)?**

The annual precipitation for Kings County is 43.35 in. The evaporation during July through October is 21.28 in. This yields a net precipitation of 22.07 in. **Ref: 21.**

6. **What is the distance to and depth of the nearest well that is currently used for drinking purposes?**

According to the EDR report the closest public water supply well is located 1.75 miles to the southeast of the site. The well services the Boro Park Bungalows, Fraser Road, Kiamesha Lake, NY. No major violations have been reported and the depth of the well is unknown. According to NYCDEP all wells (including private as well as public wells) used for drinking must be permitted in Brooklyn. There are no permitted potable water wells in Brooklyn. The well mentioned for Boro Park Bungalows is either misplaced information, or the well there is used for landscaping or similar purposes. The closest well used for drinking water purposes is located in Ozone Park, Queens and is more than 9 miles to the eastnortheast of the site. Ref: 4, 22, 23, 24.

7. **If a release to groundwater is observed or suspected, determine the number of people that obtain drinking water from wells that are documented or suspected to be actually contaminated by hazardous substance(s) attributed to an observed release from the site.**

There are no water supply wells between the source and the Bay Ridge Channel which is located approximately 0.25 miles to the northwest. Groundwater flow is to the north northwest towards the Bay Ridge Channel, therefore, there are no people obtaining drinking water from any wells contaminated by PCBs attributed to the Empire Electric site. Also according to NYCDEP there are no water supply wells in Brooklyn. Ref: 22.

8. **Identify the population served by wells (private + municipal) located within 4 miles of the site that draw from the aquifer(s) of concern.**

There are no people that draw water from the aquifer of concern. According to NYCDEP there are no potable water wells in Brooklyn and that the NYCDEP supplies the population with water from upstate reservoirs. Ref: 22.

<u>Distance</u>	<u>Population</u>		
	<u>Aquifer A</u>	<u>Aquifer B</u>	<u>Aquifer C</u>
0 - 1/4 mi	0	Not Affected	Not Affected
>1/4 - 1/2 mi	0	Not Affected	Not Affected
>1/2 - 1 mi	0	Not Affected	Not Affected
>1 - 2 mi	0	Not Affected	Not Affected
>2 - 3 mi	0	Not Affected	Not Affected
>3 - 4 mi	0	Not Affected	Not Affected

**State whether groundwater is blended with surface water, groundwater, or both before distribution.**

Not applicable since the groundwater is not used as a drinking water source.

**Is a designated well head protection area within 4 miles of the site?**

Not applicable since the groundwater is not used as a drinking water source. Also the site lies outside of any wellhead protection areas. **Ref: 22, 25.**

**Does a waste source overlie a designated or proposed wellhead protection area? If a release to groundwater is observed or suspected, does a designated or proposed wellhead protection area lie within the contaminant boundary of the release?**

Not applicable since the groundwater is not used as a drinking water source and the site lies outside of any wellhead protection areas. **Ref: 22, 25.**

9. **Identify one of the following resource uses of groundwater within 4 miles of the site (i.e., commercial livestock watering, ingredient in commercial food preparation, supply for commercial aquaculture, supply for major, or designated water recreation area, excluding drinking water use, irrigation (5-acre minimum) of commercial food or commercial forage crops, unusable).**

Groundwater that would be affected by the site is not utilized for resource uses. All water used for commercial use is obtained either from upstate reservoirs or from wells that are not affected by the site contamination. **Ref: 22.**

## **SURFACE WATER ROUTE**

10. **Describe the likelihood of a release of contaminant(s) to surface water as follows: release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release, define the supporting analytical evidence and relationship to background.**

Release to surface water would be via overland flow or via groundwater to the Bay Ridge Channel, which is located northwest of the site. No surface water sampling has been performed to date to determine if a release to surface water has occurred. However, based on the data collected to date the contamination appears to be confined to the site. In addition, due to the significant amount of PCBs that are found in the Hudson River from other sources it would not be possible to ascertain whether a release to surface water from the site had occurred. **Ref: 1.**

11. **Identify the nearest downslope surface water. Include a description of possible surface drainage patterns from the site.**

The nearest downslope surface water is the Bay Ridge Channel. According to field observation drainage would most likely go down the street into the channel. There are no storm drains along 52<sup>nd</sup> Street. **Ref: 1.**

12. **What is the distance to the nearest downslope surface water? Measure the distance along a course that runoff can be expected to follow.**

The Bay Ridge Channel is located 0.25 miles to the northwest of the site.

13. **Identify all surface water body types within 15 downstream miles.**

<u>Name</u>	<u>Water Body Type</u>	<u>Flow</u>	<u>Saline/ Fresh/Brackish</u>	<u>Distance</u>
Bay Ridge Channel	Channel	Tidal	Saline	PPE to 0.75 miles
The Narrows	Bay	Tidal	Saline	0.75 to 3.85 miles
Lower Bay	Bay	Tidal	Saline	3.85 to 12.8 miles
False Hook Channel	Channel	Tidal	Saline	12.8 to 14.5 miles
Atlantic Ocean	Ocean	Tidal	Saline	14.5 to 15.0 miles

**Ref: 1.**

14. **Determine the 2 yr, 24 hr rainfall (inches) for the site?**

Based upon weather data generated by Northeast Regional Climate Center, the 24-hour rainfall over a 2-year period can be expected to be at least 3.39 - 3.67 in. **Ref: 26.**

**15. Determine size of drainage area (Acres) for the sources at the site?**

Approximately 3.2 acres of land is exposed that might receive rainfall and/or sheetflow at this site. This figure does include some paved areas. **Ref: 1.**

**16. Describe the predominant soil group in the drainage area?**

The soil in the area is classified as till which has a variable structure, usually poorly sorted diamict deposition beneath glacier ice, relatively impermeable with variable clast content. The soil in the area of the site is classified as Ug - Urban Land. This classification contains areas where at least 85 percent of the surface is covered with asphalt, concrete, or institutional sites. Most areas are nearly level, some are gentle sloping. Many areas are rectangular or long and narrow and are adjacent to local main roadways. In many areas, rapid or very rapid runoff prevents adequate discharge of runoff from intense rainstorms to safe outlets. According to the boring logs the soil is fill, fine to medium sand with trace to little silt. **Ref: 27, 28.**

**17. Determine the floodplain (1 yr., 10 yr., 100 yr., 500 yr., none) that the site is within.**

The site is not situated within a flood zone as identified in the Flood Insurance Rate Map provided by the Federal Emergency Management Agency. It is in Zone C, an area of minimal flooding. **Ref: 29.**

**18. Identify drinking water intakes in surface waters within 15 miles downstream of the point of surface water entry. For each intake identify: the name of the surface water body in which the intake is located, the distance in miles from the point of surface water entry, population served, and stream flow at the intake location.**

<u>Intake</u>	<u>WB Type</u>	<u>Distance From PPE</u>	<u>Pop. Served</u>	<u>Flow (cfs)</u>
---------------	--------------------	------------------------------	--------------------	-------------------

There are no drinking water intakes downstream of the point of surface water entry. Since the surface water body is saline it cannot be used as a drinking water supply. The water bodies downstream are classified as I which is for saline waters. **Ref: 30.**

**2. Identify fisheries that exist within 15 miles downstream of the point of surface water entry. For each fishery specify the following information:**

<u>Fishery</u>	<u>WB Type</u>	<u>Distance From PPE</u>	<u>Flow (cfs)</u>	<u>Saline/Fresh/Brackish</u>
----------------	--------------------	------------------------------	-------------------	------------------------------

The waters of the Atlantic Ocean within three nautical miles from the coastline, including Long Island Sound and the Hudson River up to the Tappan Zee Bridge are part of the marine and coastal

district of New York. These areas are protected as marine habitats which produce over 75% of the commercially and recreationally important finfish and shellfish species in the world. Ref: 31.

20. **Identify surface water sensitive environments that exist within 15 miles of the point of surface water entry.**

<u>Environment</u>	<u>WB Type</u>	<u>Distance from PPE</u>	<u>Flow (cfs)</u>	<u>Wetland Frontage (miles)</u>
--------------------	----------------	------------------------------	-------------------	-------------------------------------

The coastline in the immediate vicinity of the Empire site is classified as LZ (Littoral Zone). This area is within 0-6 ft depth at mean low tide and is protected by NYSDEC as a tidal wetland. Ref: 32.

21. **If a release to surface water is observed or suspected, identify any intakes, fisheries, and sensitive environments from question Nos. 18-20 that are or may be actually contaminated by hazardous substance(s) attributed to an observed release from the site.**

There were not any releases to surface water that were observed or suspected from the site, therefore, no intakes, fisheries, or sensitive environments are impacted.

22. **Identify whether the surface water is used for any of the following purposes, such as: irrigation (5 acre minimum) of commercial food or commercial forage crops, watering of commercial livestock, commercial food preparation, recreation, potential drinking water supply?**

The surface water bodies in the area, Bay Ridge Channel, The Narrows, and the Lower Bay, are utilized for shipping and boating. These waters are classified as I and its best usage is for secondary contact recreation and fishing. The waters are also suitable for fish propagation and survival. This classification is for saline waters which cannot be used for irrigation purposes, food preparation, or drinking water. Ref: 30.

## **SOIL EXPOSURE PATHWAY**

- 23. Determine the number of people that occupy residences or attend school or day care on or within 200 feet of an area of observed contamination.**

Based on field observation, there are approximately 20-30 people inhabiting the Empire Electric building. There are no other known residences within 200 feet of the site. **Ref: 13.**

- 24. Determine the number of people that regularly work on or within 200 feet of an area of observed or suspected contamination.**

There are approximately 99 full-time employees across the street, approximately 100 ft to the north east at the Department of Sanitation Building. Other businesses in the area are: Airborne Express, on the corner approximately 100 ft to the east, who employs approximately 130 people including drivers; a warehouse on the corner approximately 100 ft to the south who had approximately 10-15 employees (who were in the process of moving out); and approximately 50 employees in the building approximately 5 ft to the southwest (formerly owned by Consolidated Edison and recently sold to Orion Holding Company). A little over 300 ft to the west is an Utz Quality Foods, Inc. warehouse with approximately 40-50 employees. The adjoining building to the Empire Electric site is leased periodically to film companies, therefore, the number of employees working inside the building varies. At the time of the site reconnaissance it was estimated that there were 10 people in the building. **Ref: 7, 33, 34.**

- 25. Identify terrestrial sensitive environments on or within 200 feet of an area of observed or suspected contamination.**

According to field observations and maps of the area there are no identified terrestrial sensitive environments are located within 200 feet of the site. **Ref: 1, 32.**

- 26. Identify whether there are any of the following resource uses, such as commercial agriculture, silviculture, livestock production or grazing within an observed or suspected contamination boundary?**

According to field observation there are no resource uses of these types in the area of the site. The contaminated soil is located within a fenced- in vacant lot that is occasionally used as a parking facility. The other contaminated soil is located underneath the building or underneath the sidewalk on 52<sup>nd</sup> Street.

## AIR ROUTE

27. Describe the likelihood of release of contaminants to air as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release define the supporting analytical evidence and relationship to background.

Since no air samples have been collected to date no observed release to the air of any contaminants from the Empire Electric site has been confirmed. However, since PCBs were detected in shallow soil in the vacant lot, which is unpaved, a release to the air is suspected. PCBs were also detected in the soil beneath the building.

28. Determine populations that reside within 4 miles of the site.

Distance	Population
----------	------------

0 (on-site)	20-30
0 - 1/4 mi	4,098
>1/4 - 1/2 mi	12,292
>1/2 - 1 mi	49,253
>1 - 2 mi	159,000
>2 - 3 mi	292,800
>3 - 4 mi	498,900

Ref: 35, 36.

29. Identify sensitive environments and wetlands acreage (wetland acreage only for wetlands sensitive environment) within 4 miles of the site.

<u>Distance</u>	<u>Type of Sensitive Environment</u>	<u>Actual Distance from site (miles)</u>	<u>Wetland Acreage</u>
0 (on-site)	None		
0-1/4 mi.	None		
>1/4- 1/2 mi.	Littoral Zone Wetland	0.25	0.6 acres
>1/2 - 1 mi.	Littoral Zone Wetland	0.5	1.2 acres
	Owls Head Park	0.75	34.4 acres
	Sunset Park	0.8	24.1 acres
>1-2 mi.	Littoral Zone Wetland	1.0	6.7 acres
	Red Hook Recreational Area	1.25	5.5 acres
>2-3 mi.	Littoral Zone Wetland	2.0	7.3 acres
	Red Hook Park	2.05	8.0 acres



>3-4 mi.	Dyker Beach Park	2.1	207 acres
	Prospect Park	2.4	482 acres
	Fort Hamilton Park	2.8	7.3 acres
	Littoral Zone Wetland	3.0	14.1 acres
	Brooklyn Botanical Gardens	3.1	55.1 acres
	Gravesend Park	3.3	6.4 acres
	Fort Greene Park	3.5	29.8 acres
	Whitman Park	3.5	24 acres
	Battery Park	3.6	14.7 acres
	Arthur Von Briesen Park	3.6	14.4 acres
	Hard Park	3.7	38.4 acres
	Allison Park	3.8	69 acres

**Ref: 1, 32, 37.**

- 30. If a release to air is observed or suspected, determine the number of people that reside or are suspected to reside within the area of air contamination (might be actual contamination) from the release.**

There are currently 20-30 people that reside within the Empire Electric site building. **Ref: 13.**

- 31. If a release to air is observed or suspected, identify any sensitive environments, listed in question No. 29, that are or may be located within the area of air contamination from the release.**

The Littoral Zone wetland which is located approximately 0.25 miles from the site is the closest sensitive environment that could be impacted by the site. The other sensitive areas would most likely not be impacted due to their distance from the site and the many tall buildings in the area that would impede wind-blown dust from depositing in these areas. **Ref: 1, 32.**

**APPENDIX A**  
**ANALYTICAL LABORATORY SUMMARY SHEETS**

**MITKEM  
CORPORATION**

August 17, 1999

LMS Engineers  
One Blue Hill Plaza, PO Box 150  
Pearl River, NY 10965  
Attn: Ms. Maria Heincz

RE: Client Project: Empire Electric, # 650-255  
Lab Project #: 61329

Dear Ms. Heincz:

Enclosed please find the data report of the required analyses for the samples associated with the above referenced project. If you have any questions regarding this report, please call me.

We appreciate your business.

Sincerely,

*Kin Chiu*

Kin Chiu  
Technical Director

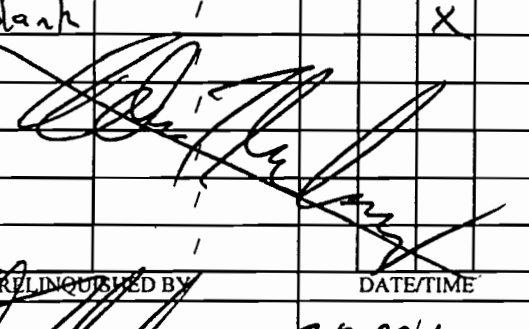
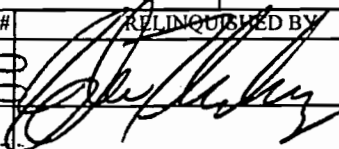
**LAWLER, MATUSKY &  
SKELLY ENGINEERS LLP**

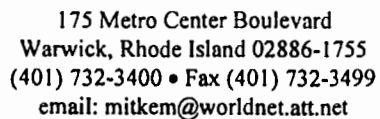
**AUG 18 1999**

**For Hazardous Waste Section**

# CHAIN-OF-CUSTODY RECORD

 Page 1 of 1

REPORT TO							INVOICE TO							LAB PROJECT #:			
COMPANY <u>LMS Engineers</u>				PHONE <u>(401) 735-2300</u>			COMPANY				PHONE			<u>61329</u>			
NAME <u>Mariz Heine</u>				FAX <u>(401) 735-2466</u>			NAME				FAX						
ADDRESS <u>1 Blue Hill Plaza, PO. Box 1509</u>							ADDRESS							TURNAROUND TIME:			
CITY/ST/ZIP <u>Barl River, NY 10965</u>							CITY/ST/ZIP										
CLIENT PROJECT NAME: <u>Empire Electric</u>			CLIENT PROJECT #: <u>650</u>			CLIENT P.O.#:			REQUESTED ANALYSES							COMMENTS	
SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS									
<u>EB-01</u>	<u>7-19-99 0840</u>			<u>X</u>			<u>03</u>	<u>5</u>	<u>3</u>	<u>2</u>							
<u>EMSB-06 (0-2')</u>	<u>7-19-99 1010</u>				<u>X</u>		<u>04</u>	<u>2</u>	<u>1</u>	<u>1</u>							
<u>EMSB-06 (2-4')</u>	<u>7-19-99 1030</u>				<u>X</u>		<u>05</u>	<u>2</u>	<u>1</u>	<u>1</u>							
<u>EMSB-06 (2-4') MS</u>	<u>7-19-99 1030</u>				<u>X</u>		<u>05</u>	<u>2</u>	<u>1</u>	<u>1</u>							
<u>EMSB-06 (2-4') MS</u>	<u>7-19-99 1030</u>				<u>X</u>		<u>05</u>	<u>2</u>	<u>1</u>	<u>1</u>							
<u>EMSB-06 (4-6')</u>	<u>7-19-99 1045</u>				<u>X</u>		<u>06</u>	<u>2</u>	<u>1</u>	<u>1</u>							
<u>Temp Blank</u>	<u>1</u>			<u>X</u>				<u>1</u>									
																	
TSF#	RELINQUISHED BY		DATE/TIME		ACCEPTED BY		DATE/TIME		ADDITIONAL REMARKS:					COOLER TEMP:			
<u>1</u>			<u>7-19-99 1200</u>		<u>Steve Kachelski</u>		<u>7-20-99 9:45</u>		<u>804339124874</u>					<u>40C</u>			
<u>2</u>			<u>1</u>				<u>1</u>										
<u>3</u>			<u>1</u>				<u>1</u>										

Page 1 of 1

WHITE: LABORATORY COPY

**PINK: CLIENT'S COPY**

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB01RE

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) WATER

Lab Sample ID: 61329003RE

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V5B3588

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/30/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

75-71-8-----	Dichlorodifluoromethane	1	J
74-87-3-----	Chloromethane	5	U
75-01-4-----	Vinyl Chloride	5	U
74-83-9-----	Bromomethane	5	U
75-00-3-----	Chloroethane	5	U
75-69-4-----	Trichlorofluoromethane	5	U
67-64-1-----	Acetone	3	JB
75-35-4-----	1,1-Dichloroethene	5	U
74-88-4-----	Iodomethane	5	U
75-15-0-----	Carbon Disulfide	5	U
75-09-2-----	Methylene Chloride	2	JB
1634-04-4-----	Methyl tert-butyl ether	1	U
156-60-5-----	trans-1,2-Dichloroethene	5	U
108-05-4-----	Vinyl acetate	5	U
75-34-3-----	1,1-Dichloroethane	5	U
78-93-3-----	2-Butanone	5	U
156-59-2-----	cis-1,2-Dichloroethene	5	U
590-20-7-----	2,2-Dichloropropane	5	U
74-97-5-----	Bromochloromethane	5	U
67-66-3-----	Chloroform	5	U
71-55-6-----	1,1,1-Trichloroethane	5	U
563-58-6-----	1,1-Dichloropropene	5	U
56-23-5-----	Carbon Tetrachloride	5	U
107-06-2-----	1,2-Dichloroethane	5	U
71-43-2-----	Benzene	5	U
79-01-6-----	Trichloroethene	5	U
78-87-5-----	1,2-Dichloropropane	5	U
74-95-3-----	Dibromomethane	5	U
75-27-4-----	Bromodichloromethane	5	U
110-75-8-----	2-Chloroethyl vinyl ether	5	U
10061-01-5-----	cis-1,3-Dichloropropene	5	U
108-10-1-----	4-Methyl-2-pentanone	5	U
108-88-3-----	Toluene	5	U
10061-02-6-----	trans-1,3-Dichloropropene	5	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB01RE

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) WATER

Lab Sample ID: 61329003RE

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V5B3588

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/30/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

79-00-5-----	1,1,2-Trichloroethane	5	U
142-28-9-----	1,3-Dichloropropane	5	U
591-78-6-----	2-Hexanone	5	U
127-18-4-----	Tetrachloroethene	5	U
124-48-1-----	Dibromochloromethane	5	U
106-93-4-----	1,2-Dibromoethane	5	U
108-90-7-----	Chlorobenzene	5	U
630-20-6-----	1,1,1,2-Tetrachloroethane	5	U
100-41-4-----	Ethylbenzene	5	U
1330-20-7-----	Xylene (Total)	5	U
100-42-5-----	Styrene	5	U
75-25-2-----	Bromoform	5	U
98-82-8-----	Isopropylbenzene	5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	5	U
96-18-4-----	1,2,3-Trichloropropane	5	U
108-86-1-----	Bromobenzene	5	U
103-65-1-----	n-Propylbenzene	5	U
95-49-8-----	2-Chlorotoluene	5	U
108-67-8-----	1,3,5-Trimethylbenzene	5	U
106-43-4-----	4-Chlorotoluene	5	U
98-06-6-----	tert-Butylbenzene	5	U
95-63-6-----	1,2,4-Trimethylbenzene	5	U
135-98-8-----	sec-Butylbenzene	5	U
99-87-6-----	4-Isopropyltoluene	5	U
541-73-1-----	1,3-Dichlorobenzene	5	U
106-46-7-----	1,4-Dichlorobenzene	5	U
104-51-8-----	n-Butylbenzene	5	U
95-50-1-----	1,2-Dichlorobenzene	5	U
96-12-8-----	1,2-Dibromo-3-chloropropane	5	U
120-82-1-----	1,2,4-Trichlorobenzene	5	U
87-68-3-----	Hexachlorobutadiene	5	U
91-20-3-----	Naphthalene	5	U
87-61-6-----	1,2,3-Trichlorobenzene	5	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EB01RE

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) WATER

Lab Sample ID: 61329003RE

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V5B3588

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/30/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EB01

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) WATER

Lab Sample ID: 61329003

Sample wt/vol: 1000 (g/ml) ML

Lab File ID: E3B2096F

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 07/20/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/20/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 07/24/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

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

Q

12674-11-2-----Aroclor-1016	1.0	U
11104-28-2-----Aroclor-1221	1.0	U
1114-16-5-----Aroclor-1232	1.0	U
53469-21-9-----Aroclor-1242	1.0	U
12672-29-6-----Aroclor-1248	1.0	U
11097-69-1-----Aroclor-1254	1.0	U
11096-82-5-----Aroclor-1260	1.0	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMB102

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329001

Sample wt/vol: 5.1 (g/mL) G

Lab File ID: V5B3373

Level: (low/med) LOW

Date Received: 07/16/99

% Moisture: not dec. 11

Date Analyzed: 07/21/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (mL)

Soil Aliquot Volume: (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

75-71-8-----	Dichlorodifluoromethane	1	JB
74-87-3-----	Chloromethane	6	U
75-01-4-----	Vinyl Chloride	6	U
74-83-9-----	Bromomethane	6	U
75-00-3-----	Chloroethane	6	U
75-69-4-----	Trichlorofluoromethane	1	J
67-64-1-----	Acetone	5	JB
75-35-4-----	1,1-Dichloroethene	6	U
74-88-4-----	Iodomethane	6	U
75-15-0-----	Carbon Disulfide	6	U
75-09-2-----	Methylene Chloride	12	B
1634-04-4-----	Methyl tert-butyl ether	6	U
156-60-5-----	trans-1,2-Dichloroethene	6	U
108-05-4-----	Vinyl acetate	6	U
75-34-3-----	1,1-Dichloroethane	6	U
78-93-3-----	2-Butanone	6	U
156-59-2-----	cis-1,2-Dichloroethene	6	U
590-20-7-----	2,2-Dichloropropane	6	U
74-97-5-----	Bromochloromethane	6	U
67-66-3-----	Chloroform	6	U
71-55-6-----	1,1,1-Trichloroethane	6	U
563-58-6-----	1,1-Dichloropropene	6	U
56-23-5-----	Carbon Tetrachloride	6	U
107-06-2-----	1,2-Dichloroethane	6	U
71-43-2-----	Benzene	6	U
79-01-6-----	Trichloroethene	1	J
78-87-5-----	1,2-Dichloropropane	6	U
74-95-3-----	Dibromomethane	6	U
75-27-4-----	Bromodichloromethane	6	U
110-75-8-----	2-Chloroethyl vinyl ether	6	U
10061-01-5-----	cis-1,3-Dichloropropene	6	U
108-10-1-----	4-Methyl-2-pentanone	6	U
108-88-3-----	Toluene	6	U
10061-02-6-----	trans-1,3-Dichloropropene	6	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMB102

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329001

Sample wt/vol: 5.1 (g/mL) G

Lab File ID: V5B3373

Level: (low/med) LOW

Date Received: 07/16/99

% Moisture: not dec. 11

Date Analyzed: 07/21/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (mL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
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79-00-5-----	1,1,2-Trichloroethane	6	U
142-28-9-----	1,3-Dichloropropane	6	U
591-78-6-----	2-Hexanone	6	U
127-18-4-----	Tetrachloroethene	18	
124-48-1-----	Dibromochloromethane	6	U
106-93-4-----	1,2-Dibromoethane	6	U
108-90-7-----	Chlorobenzene	6	U
630-20-6-----	1,1,1,2-Tetrachloroethane	6	U
100-41-4-----	Ethylbenzene	6	U
1330-20-7-----	Xylene (Total)	6	U
100-42-5-----	Styrene	6	U
75-25-2-----	Bromoform	6	U
98-82-8-----	Isopropylbenzene	6	U
79-34-5-----	1,1,2,2-Tetrachloroethane	6	U
96-18-4-----	1,2,3-Trichloropropane	6	U
108-86-1-----	Bromobenzene	6	U
103-65-1-----	n-Propylbenzene	6	U
95-49-8-----	2-Chlorotoluene	6	U
108-67-8-----	1,3,5-Trimethylbenzene	6	U
106-43-4-----	4-Chlorotoluene	6	U
98-06-6-----	tert-Butylbenzene	6	U
95-63-6-----	1,2,4-Trimethylbenzene	6	U
135-98-8-----	sec-Butylbenzene	6	U
99-87-6-----	4-Isopropyltoluene	6	U
541-73-1-----	1,3-Dichlorobenzene	6	U
106-46-7-----	1,4-Dichlorobenzene	6	U
104-51-8-----	n-Butylbenzene	6	U
95-50-1-----	1,2-Dichlorobenzene	6	U
96-12-8-----	1,2-Dibromo-3-chloropropane	6	U
120-82-1-----	1,2,4-Trichlorobenzene	6	U
87-68-3-----	Hexachlorobutadiene	6	U
91-20-3-----	Naphthalene	6	U
87-61-6-----	1,2,3-Trichlorobenzene	6	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EMB102

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329001

Sample wt/vol: 5.1 (g/mL) G

Lab File ID: V5B3373

Level: (low/med) LOW

Date Received: 07/16/99

% Moisture: not dec. 11

Date Analyzed: 07/21/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (mL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EMB102

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329001

Sample wt/vol: 30.6 (g/mL) G

Lab File ID: E3B2094F

% Moisture: 6 decanted: (Y/N) N

Date Received: 07/16/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/20/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 07/24/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

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

Q

12674-11-2-----Aroclor-1016	35	U
11104-28-2-----Aroclor-1221	35	U
1114-16-5-----Aroclor-1232	35	U
53469-21-9-----Aroclor-1242	35	U
12672-29-6-----Aroclor-1248	35	U
11097-69-1-----Aroclor-1254	35	U
11096-82-5-----Aroclor-1260	35	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMB124

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329002

Sample wt/vol: 5.3 (g/mL) G

Lab File ID: V5B3374

Level: (low/med) LOW

Date Received: 07/16/99

% Moisture: not dec. 11

Date Analyzed: 07/21/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (mL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

75-71-8-----	Dichlorodifluoromethane	1	JB
74-87-3-----	Chloromethane	5	U
75-01-4-----	Vinyl Chloride	5	U
74-83-9-----	Bromomethane	5	U
75-00-3-----	Chloroethane	5	U
75-69-4-----	Trichlorofluoromethane	5	U
67-64-1-----	Acetone	5	JB
75-35-4-----	1,1-Dichloroethene	5	U
74-88-4-----	Iodomethane	5	U
75-15-0-----	Carbon Disulfide	5	U
75-09-2-----	Methylene Chloride	5	JB
1634-04-4-----	Methyl tert-butyl ether	5	U
156-60-5-----	trans-1,2-Dichloroethene	5	U
108-05-4-----	Vinyl acetate	5	U
75-34-3-----	1,1-Dichloroethane	5	U
78-93-3-----	2-Butanone	5	U
156-59-2-----	cis-1,2-Dichloroethene	5	U
590-20-7-----	2,2-Dichloropropane	5	U
74-97-5-----	Bromochloromethane	5	U
67-66-3-----	Chloroform	5	U
71-55-6-----	1,1,1-Trichloroethane	5	U
563-58-6-----	1,1-Dichloropropene	5	U
56-23-5-----	Carbon Tetrachloride	5	U
107-06-2-----	1,2-Dichloroethane	5	U
71-43-2-----	Benzene	5	U
79-01-6-----	Trichloroethene	2	J
78-87-5-----	1,2-Dichloropropane	5	U
74-95-3-----	Dibromomethane	5	U
75-27-4-----	Bromodichloromethane	5	U
110-75-8-----	2-Chloroethyl vinyl ether	5	U
10061-01-5-----	cis-1,3-Dichloropropene	5	U
108-10-1-----	4-Methyl-2-pentanone	5	U
108-88-3-----	Toluene	5	U
10061-02-6-----	trans-1,3-Dichloropropene	5	U

FORM I VOA

021

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMB124

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329002

Sample wt/vol: 5.3 (g/mL) G

Lab File ID: V5B3374

Level: (low/med) LOW

Date Received: 07/16/99

% Moisture: not dec. 11

Date Analyzed: 07/21/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (mL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

79-00-5-----	1,1,2-Trichloroethane	5	U
142-28-9-----	1,3-Dichloropropane	5	U
591-78-6-----	2-Hexanone	5	U
127-18-4-----	Tetrachloroethene	6	
124-48-1-----	Dibromochloromethane	5	U
106-93-4-----	1,2-Dibromoethane	5	U
108-90-7-----	Chlorobenzene	5	U
630-20-6-----	1,1,1,2-Tetrachloroethane	5	U
100-41-4-----	Ethylbenzene	5	U
1330-20-7-----	Xylene (Total)	5	U
100-42-5-----	Styrene	5	U
75-25-2-----	Bromoform	5	U
98-82-8-----	Isopropylbenzene	5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	5	U
96-18-4-----	1,2,3-Trichloropropane	5	U
108-86-1-----	Bromobenzene	5	U
103-65-1-----	n-Propylbenzene	5	U
95-49-8-----	2-Chlorotoluene	5	U
108-67-8-----	1,3,5-Trimethylbenzene	5	U
106-43-4-----	4-Chlorotoluene	5	U
98-06-6-----	tert-Butylbenzene	5	U
95-63-6-----	1,2,4-Trimethylbenzene	5	U
135-98-8-----	sec-Butylbenzene	5	U
99-87-6-----	4-Isopropyltoluene	5	U
541-73-1-----	1,3-Dichlorobenzene	5	U
106-46-7-----	1,4-Dichlorobenzene	5	U
104-51-8-----	n-Butylbenzene	5	U
95-50-1-----	1,2-Dichlorobenzene	5	U
96-12-8-----	1,2-Dibromo-3-chloropropane	5	U
120-82-1-----	1,2,4-Trichlorobenzene	5	U
87-68-3-----	Hexachlorobutadiene	5	U
91-20-3-----	Naphthalene	5	U
87-61-6-----	1,2,3-Trichlorobenzene	5	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EMB124

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329002

Sample wt/vol: 5.3 (g/mL) G

Lab File ID: V5B3374

Level: (low/med) LOW

Date Received: 07/16/99

% Moisture: not dec. 11

Date Analyzed: 07/21/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (mL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EMB124

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329002

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: E3B2095F

% Moisture: 9 decanted: (Y/N) N

Date Received: 07/16/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/20/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 07/24/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

12674-11-2-----	Aroclor-1016	36	U
11104-28-2-----	Aroclor-1221	36	U
1114-16-5-----	Aroclor-1232	36	U
53469-21-9-----	Aroclor-1242	36	U
12672-29-6-----	Aroclor-1248	36	U
11097-69-1-----	Aroclor-1254	36	U
11096-82-5-----	Aroclor-1260	36	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMSB0602

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329004

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: V5B3394

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. 8

Date Analyzed: 07/22/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (mL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.      COMPOUND      CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG      Q

75-71-8-----	Dichlorodifluoromethane	2	BJ
74-87-3-----	Chloromethane	2	J
75-01-4-----	Vinyl Chloride	5	U
74-83-9-----	Bromomethane	3	J
75-00-3-----	Chloroethane	5	U
75-69-4-----	Trichlorofluoromethane	2	J
67-64-1-----	Acetone	11	B
75-35-4-----	1,1-Dichloroethene	5	U
74-88-4-----	Iodomethane	5	U
75-15-0-----	Carbon Disulfide	5	U
75-09-2-----	Methylene Chloride	9	
1634-04-4-----	Methyl tert-butyl ether	5	U
156-60-5-----	trans-1,2-Dichloroethene	5	U
108-05-4-----	Vinyl acetate	5	U
75-34-3-----	1,1-Dichloroethane	5	U
78-93-3-----	2-Butanone	5	U
156-59-2-----	cis-1,2-Dichloroethene	5	U
590-20-7-----	2,2-Dichloropropane	5	U
74-97-5-----	Bromochloromethane	5	U
67-66-3-----	Chloroform	5	U
71-55-6-----	1,1,1-Trichloroethane	5	U
563-58-6-----	1,1-Dichloropropene	5	U
56-23-5-----	Carbon Tetrachloride	5	U
107-06-2-----	1,2-Dichloroethane	5	U
71-43-2-----	Benzene	5	U
79-01-6-----	Trichloroethene	1	J
78-87-5-----	1,2-Dichloropropane	5	U
74-95-3-----	Dibromomethane	5	U
75-27-4-----	Bromodichloromethane	5	U
110-75-8-----	2-Chloroethyl vinyl ether	5	U
10061-01-5-----	cis-1,3-Dichloropropene	5	U
108-10-1-----	4-Methyl-2-pentanone	5	U
108-88-3-----	Toluene	5	U
10061-02-6-----	trans-1,3-Dichloropropene	5	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMSB0602

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329004

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: V5B3394

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. 8

Date Analyzed: 07/22/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (mL)

Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
79-00-5-----	1,1,2-Trichloroethane	5	U
142-28-9-----	1,3-Dichloropropane	5	U
591-78-6-----	2-Hexanone	3	J
127-18-4-----	Tetrachloroethene	20	
124-48-1-----	Dibromochloromethane	5	U
106-93-4-----	1,2-Dibromoethane	5	U
108-90-7-----	Chlorobenzene	5	U
630-20-6-----	1,1,1,2-Tetrachloroethane	5	U
100-41-4-----	Ethylbenzene	5	U
1330-20-7-----	Xylene (Total)	5	U
100-42-5-----	Styrene	5	U
75-25-2-----	Bromoform	5	U
98-82-8-----	Isopropylbenzene	5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	5	U
96-18-4-----	1,2,3-Trichloropropane	5	U
108-86-1-----	Bromobenzene	5	U
103-65-1-----	n-Propylbenzene	2	J
95-49-8-----	2-Chlorotoluene	5	U
108-67-8-----	1,3,5-Trimethylbenzene	1	J
106-43-4-----	4-Chlorotoluene	1	J
98-06-6-----	tert-Butylbenzene	1	J
95-63-6-----	1,2,4-Trimethylbenzene	2	J
135-98-8-----	sec-Butylbenzene	2	J
99-87-6-----	4-Isopropyltoluene	2	J
541-73-1-----	1,3-Dichlorobenzene	2	J
106-46-7-----	1,4-Dichlorobenzene	2	J
104-51-8-----	n-Butylbenzene	2	J
95-50-1-----	1,2-Dichlorobenzene	2	J
96-12-8-----	1,2-Dibromo-3-chloropropane	5	U
120-82-1-----	1,2,4-Trichlorobenzene	6	
87-68-3-----	Hexachlorobutadiene	4	J
91-20-3-----	Naphthalene	11	B
87-61-6-----	1,2,3-Trichlorobenzene	8	

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EMSB0602

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329004

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: V5B3394

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. 8

Date Analyzed: 07/22/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (mL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 71-23-8	1-PROPANOL	4.52	12	NJ
2.	UNKNOWN	13.92	16	J
3.				
4.				
5.				
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMSB0602RE

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329004RE

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: V5B3401

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. 8

Date Analyzed: 07/22/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (mL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

75-71-8-----	Dichlorodifluoromethane	3	BJ
74-87-3-----	Chloromethane	5	U
75-01-4-----	Vinyl Chloride	5	U
74-83-9-----	Bromomethane	5	U
75-00-3-----	Chloroethane	5	U
75-69-4-----	Trichlorofluoromethane	2	J
67-64-1-----	Acetone	4	BJ
75-35-4-----	1,1-Dichloroethene	5	U
74-88-4-----	Iodomethane	5	U
75-15-0-----	Carbon Disulfide	5	U
75-09-2-----	Methylene Chloride	8	
1634-04-4-----	Methyl tert-butyl ether	5	U
156-60-5-----	trans-1,2-Dichloroethene	5	U
108-05-4-----	Vinyl acetate	5	U
75-34-3-----	1,1-Dichloroethane	5	U
78-93-3-----	2-Butanone	5	U
156-59-2-----	cis-1,2-Dichloroethene	5	U
590-20-7-----	2,2-Dichloropropane	5	U
74-97-5-----	Bromochloromethane	5	U
67-66-3-----	Chloroform	5	U
71-55-6-----	1,1,1-Trichloroethane	5	U
563-58-6-----	1,1-Dichloropropene	5	U
56-23-5-----	Carbon Tetrachloride	5	U
107-06-2-----	1,2-Dichloroethane	5	U
71-43-2-----	Benzene	5	U
79-01-6-----	Trichloroethene	2	J
78-87-5-----	1,2-Dichloropropane	5	U
74-95-3-----	Dibromomethane	5	U
75-27-4-----	Bromodichloromethane	5	U
110-75-8-----	2-Chloroethyl vinyl ether	5	U
10061-01-5-----	cis-1,3-Dichloropropene	5	U
108-10-1-----	4-Methyl-2-pentanone	5	U
108-88-3-----	Toluene	5	U
10061-02-6-----	trans-1,3-Dichloropropene	5	U

FORM I VOA

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMSB0602RE

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329004RE

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: V5B3401

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. 8

Date Analyzed: 07/22/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (mL)

Soil Aliquot Volume: (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

79-00-5-----	1,1,2-Trichloroethane	5	U
142-28-9-----	1,3-Dichloropropane	5	U
591-78-6-----	2-Hexanone	5	U
127-18-4-----	Tetrachloroethene	13	
124-48-1-----	Dibromochloromethane	5	U
106-93-4-----	1,2-Dibromoethane	5	U
108-90-7-----	Chlorobenzene	5	U
630-20-6-----	1,1,1,2-Tetrachloroethane	5	U
100-41-4-----	Ethylbenzene	5	U
1330-20-7-----	Xylene (Total)	2	J
100-42-5-----	Styrene	5	U
75-25-2-----	Bromoform	5	U
98-82-8-----	Isopropylbenzene	5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	5	U
96-18-4-----	1,2,3-Trichloropropane	5	U
108-86-1-----	Bromobenzene	5	U
103-65-1-----	n-Propylbenzene	1	J
95-49-8-----	2-Chlorotoluene	1	J
108-67-8-----	1,3,5-Trimethylbenzene	2	J
106-43-4-----	4-Chlorotoluene	1	J
98-06-6-----	tert-Butylbenzene	2	J
95-63-6-----	1,2,4-Trimethylbenzene	2	J
135-98-8-----	sec-Butylbenzene	2	J
99-87-6-----	4-Isopropyltoluene	2	J
541-73-1-----	1,3-Dichlorobenzene	1	J
106-46-7-----	1,4-Dichlorobenzene	1	J
104-51-8-----	n-Butylbenzene	2	J
95-50-1-----	1,2-Dichlorobenzene	5	U
96-12-8-----	1,2-Dibromo-3-chloropropane	5	U
120-82-1-----	1,2,4-Trichlorobenzene	1	J
87-68-3-----	Hexachlorobutadiene	3	J
91-20-3-----	Naphthalene	2	BJ
87-61-6-----	1,2,3-Trichlorobenzene	2	J

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EMSB0602RE

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329004RE

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: V5B3401

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. 8

Date Analyzed: 07/22/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (mL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	13.91	8	J
2.				
3.				
4.				
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FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EMSB0602

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329004

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: E3B2479F

% Moisture: 10 decanted: (Y/N) N

Date Received: 07/20/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/20/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/13/99

Injection Volume: 1.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	370	U
11104-28-2-----Aroclor-1221	370	U
1114-16-5-----Aroclor-1232	370	U
53469-21-9-----Aroclor-1242	370	U
12672-29-6-----Aroclor-1248	370	U
11097-69-1-----Aroclor-1254	6200	
11096-82-5-----Aroclor-1260	370	U



1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMSB0624

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329005

Sample wt/vol: 5.1 (g/mL) G

Lab File ID: V5B3395

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. 10

Date Analyzed: 07/22/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (mL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

75-71-8-----	Dichlorodifluoromethane	2	BJ
74-87-3-----	Chloromethane	1	J
75-01-4-----	Vinyl Chloride	5	U
74-83-9-----	Bromomethane	2	J
75-00-3-----	Chloroethane	5	U
75-69-4-----	Trichlorofluoromethane	2	J
67-64-1-----	Acetone	6	B
75-35-4-----	1,1-Dichloroethene	5	U
74-88-4-----	Iodomethane	5	U
75-15-0-----	Carbon Disulfide	5	U
75-09-2-----	Methylene Chloride	7	
1634-04-4-----	Methyl tert-butyl ether	5	U
156-60-5-----	trans-1,2-Dichloroethene	5	U
108-05-4-----	Vinyl acetate	5	U
75-34-3-----	1,1-Dichloroethane	5	U
78-93-3-----	2-Butanone	5	U
156-59-2-----	cis-1,2-Dichloroethene	5	U
590-20-7-----	2,2-Dichloropropane	5	U
74-97-5-----	Bromochloromethane	5	U
67-66-3-----	Chloroform	1	J
71-55-6-----	1,1,1-Trichloroethane	5	U
563-58-6-----	1,1-Dichloropropene	5	U
56-23-5-----	Carbon Tetrachloride	5	U
107-06-2-----	1,2-Dichloroethane	5	U
71-43-2-----	Benzene	5	U
79-01-6-----	Trichloroethene	1	J
78-87-5-----	1,2-Dichloropropane	5	U
74-95-3-----	Dibromomethane	5	U
75-27-4-----	Bromodichloromethane	5	U
110-75-8-----	2-Chloroethyl vinyl ether	5	U
10061-01-5-----	cis-1,3-Dichloropropene	5	U
108-10-1-----	4-Methyl-2-pentanone	5	U
108-88-3-----	Toluene	5	U
10061-02-6-----	trans-1,3-Dichloropropene	5	U

FORM I VOA

652

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMSB0624

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329005

Sample wt/vol: 5.1 (g/mL) G

Lab File ID: V5B3395

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. 10

Date Analyzed: 07/22/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (mL)

Soil Aliquot Volume: (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

79-00-5-----	1,1,2-Trichloroethane	5	U
142-28-9-----	1,3-Dichloropropane	5	U
591-78-6-----	2-Hexanone	5	U
127-18-4-----	Tetrachloroethene	15	
124-48-1-----	Dibromochloromethane	5	U
106-93-4-----	1,2-Dibromoethane	5	U
108-90-7-----	Chlorobenzene	5	U
630-20-6-----	1,1,1,2-Tetrachloroethane	5	U
100-41-4-----	Ethylbenzene	5	U
1330-20-7-----	Xylene (Total)	5	U
100-42-5-----	Styrene	5	U
75-25-2-----	Bromoform	5	U
98-82-8-----	Isopropylbenzene	5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	5	U
96-18-4-----	1,2,3-Trichloropropane	5	U
108-86-1-----	Bromobenzene	5	U
103-65-1-----	n-Propylbenzene	5	U
95-49-8-----	2-Chlorotoluene	5	U
108-67-8-----	1,3,5-Trimethylbenzene	5	U
106-43-4-----	4-Chlorotoluene	5	U
98-06-6-----	tert-Butylbenzene	5	U
95-63-6-----	1,2,4-Trimethylbenzene	5	U
135-98-8-----	sec-Butylbenzene	5	U
99-87-6-----	4-Isopropyltoluene	5	U
541-73-1-----	1,3-Dichlorobenzene	5	U
106-46-7-----	1,4-Dichlorobenzene	5	U
104-51-8-----	n-Butylbenzene	5	U
95-50-1-----	1,2-Dichlorobenzene	5	U
96-12-8-----	1,2-Dibromo-3-chloropropane	5	U
120-82-1-----	1,2,4-Trichlorobenzene	1	J
87-68-3-----	Hexachlorobutadiene	5	U
91-20-3-----	Naphthalene	3	BJ
87-61-6-----	1,2,3-Trichlorobenzene	2	J

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EMSB0624

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329005

Sample wt/vol: 5.1 (g/mL) G

Lab File ID: V5B3395

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. 10

Date Analyzed: 07/22/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (mL)

Soil Aliquot Volume: (uL)

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	13.91	7	J
2.				
3.				
4.				
5.				
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FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EMSB0624

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329005

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: E3B2098F

% Moisture: 13 decanted: (Y/N) N

Date Received: 07/20/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/20/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 07/24/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	38	U
11104-28-2-----Aroclor-1221	38	U
1114-16-5-----Aroclor-1232	38	U
53469-21-9-----Aroclor-1242	38	U
12672-29-6-----Aroclor-1248	38	U
11097-69-1-----Aroclor-1254	1000	
11096-82-5-----Aroclor-1260	38	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMSB0646

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329006

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: V5B3396

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. 11

Date Analyzed: 07/22/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (mL)

Soil Aliquot Volume: (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

75-71-8-----	Dichlorodifluoromethane	3	BJ
74-87-3-----	Chloromethane	6	U
75-01-4-----	Vinyl Chloride	6	U
74-83-9-----	Bromomethane	2	J
75-00-3-----	Chloroethane	6	U
75-69-4-----	Trichlorofluoromethane	4	J
67-64-1-----	Acetone	14	B
75-35-4-----	1,1-Dichloroethene	6	U
74-88-4-----	Iodomethane	6	U
75-15-0-----	Carbon Disulfide	6	U
75-09-2-----	Methylene Chloride	40	
1634-04-4-----	Methyl tert-butyl ether	6	U
156-60-5-----	trans-1,2-Dichloroethene	6	U
108-05-4-----	Vinyl acetate	6	U
75-34-3-----	1,1-Dichloroethane	6	U
78-93-3-----	2-Butanone	6	U
156-59-2-----	cis-1,2-Dichloroethene	6	U
590-20-7-----	2,2-Dichloropropane	6	U
74-97-5-----	Bromochloromethane	6	U
67-66-3-----	Chloroform	1	J
71-55-6-----	1,1,1-Trichloroethane	6	U
563-58-6-----	1,1-Dichloropropene	6	U
56-23-5-----	Carbon Tetrachloride	6	U
107-06-2-----	1,2-Dichloroethane	6	U
71-43-2-----	Benzene	6	U
79-01-6-----	Trichloroethene	3	J
78-87-5-----	1,2-Dichloropropane	6	U
74-95-3-----	Dibromomethane	6	U
75-27-4-----	Bromodichloromethane	6	U
110-75-8-----	2-Chloroethyl vinyl ether	6	U
10061-01-5-----	cis-1,3-Dichloropropene	6	U
108-10-1-----	4-Methyl-2-pentanone	6	U
108-88-3-----	Toluene	1	J
10061-02-6-----	trans-1,3-Dichloropropene	6	U

FORM I VOA

*Handwritten:*  
1/10/00  
duplicate  
of EMSB0646  
24

*Handwritten:* 642

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMSB0646

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329006

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: V5B3396

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. 11

Date Analyzed: 07/22/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (mL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

79-00-5-----	1,1,2-Trichloroethane	6	U
142-28-9-----	1,3-Dichloropropane	6	U
591-78-6-----	2-Hexanone	6	U
127-18-4-----	Tetrachloroethene	92	
124-48-1-----	Dibromochloromethane	6	U
106-93-4-----	1,2-Dibromoethane	6	U
108-90-7-----	Chlorobenzene	6	U
630-20-6-----	1,1,1,2-Tetrachloroethane	6	U
100-41-4-----	Ethylbenzene	6	U
1330-20-7-----	Xylene (Total)	6	U
100-42-5-----	Styrene	6	U
75-25-2-----	Bromoform	6	U
98-82-8-----	Isopropylbenzene	6	U
79-34-5-----	1,1,2,2-Tetrachloroethane	4	J
96-18-4-----	1,2,3-Trichloropropane	6	U
108-86-1-----	Bromobenzene	6	U
103-65-1-----	n-Propylbenzene	6	U
95-49-8-----	2-Chlorotoluene	6	U
108-67-8-----	1,3,5-Trimethylbenzene	6	U
106-43-4-----	4-Chlorotoluene	6	U
98-06-6-----	tert-Butylbenzene	6	U
95-63-6-----	1,2,4-Trimethylbenzene	1	J
135-98-8-----	sec-Butylbenzene	6	U
99-87-6-----	4-Isopropyltoluene	1	J
541-73-1-----	1,3-Dichlorobenzene	6	U
106-46-7-----	1,4-Dichlorobenzene	6	U
104-51-8-----	n-Butylbenzene	1	J
95-50-1-----	1,2-Dichlorobenzene	6	U
96-12-8-----	1,2-Dibromo-3-chloropropane	6	U
120-82-1-----	1,2,4-Trichlorobenzene	3	J
87-68-3-----	Hexachlorobutadiene	6	U
91-20-3-----	Naphthalene	5	BJ
87-61-6-----	1,2,3-Trichlorobenzene	4	J

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EMSB0646

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329006

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: V5B3396

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. 11

Date Analyzed: 07/22/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (mL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 556-67-2	CYCLOTETRASILOXANE, OCTAMETH	11.44	14	NJ
2.	UNKNOWN	13.92	35	J
3.	UNKNOWN	15.56	8	J
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMSB0646RE

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329006RE

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: V5B3402

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. 11

Date Analyzed: 07/22/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (mL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

75-71-8-----	Dichlorodifluoromethane	2	BJ
74-87-3-----	Chloromethane	2	J
75-01-4-----	Vinyl Chloride	6	U
74-83-9-----	Bromomethane	2	J
75-00-3-----	Chloroethane	6	U
75-69-4-----	Trichlorofluoromethane	1	J
67-64-1-----	Acetone	7	B
75-35-4-----	1,1-Dichloroethene	6	U
74-88-4-----	Iodomethane	6	U
75-15-0-----	Carbon Disulfide	6	U
75-09-2-----	Methylene Chloride	22	
1634-04-4-----	Methyl tert-butyl ether	6	U
156-60-5-----	trans-1,2-Dichloroethene	6	U
108-05-4-----	Vinyl acetate	6	U
75-34-3-----	1,1-Dichloroethane	6	U
78-93-3-----	2-Butanone	6	U
156-59-2-----	cis-1,2-Dichloroethene	6	U
590-20-7-----	2,2-Dichloropropane	6	U
74-97-5-----	Bromochloromethane	6	U
67-66-3-----	Chloroform	6	U
71-55-6-----	1,1,1-Trichloroethane	6	U
563-58-6-----	1,1-Dichloropropene	6	U
56-23-5-----	Carbon Tetrachloride	6	U
107-06-2-----	1,2-Dichloroethane	6	U
71-43-2-----	Benzene	6	U
79-01-6-----	Trichloroethene	2	J
78-87-5-----	1,2-Dichloropropane	6	U
74-95-3-----	Dibromomethane	6	U
75-27-4-----	Bromodichloromethane	6	U
110-75-8-----	2-Chloroethyl vinyl ether	6	U
10061-01-5-----	cis-1,3-Dichloropropene	6	U
108-10-1-----	4-Methyl-2-pentanone	6	U
108-88-3-----	Toluene	6	U
10061-02-6-----	trans-1,3-Dichloropropene	6	U



1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMSB0646RE

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329006RE

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: V5B3402

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. 11

Date Analyzed: 07/22/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (mL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

79-00-5-----1,1,2-Trichloroethane	6	U
142-28-9-----1,3-Dichloropropane	6	U
591-78-6-----2-Hexanone	6	U
127-18-4-----Tetrachloroethene	38	
124-48-1-----Dibromochloromethane	6	U
106-93-4-----1,2-Dibromoethane	6	U
108-90-7-----Chlorobenzene	6	U
630-20-6-----1,1,1,2-Tetrachloroethane	6	U
100-41-4-----Ethylbenzene	6	U
1330-20-7-----Xylene (Total)	6	U
100-42-5-----Styrene	6	U
75-25-2-----Bromoform	6	U
98-82-8-----Isopropylbenzene	6	U
79-34-5-----1,1,2,2-Tetrachloroethane	6	U
96-18-4-----1,2,3-Trichloropropane	6	U
108-86-1-----Bromobenzene	6	U
103-65-1-----n-Propylbenzene	6	U
95-49-8-----2-Chlorotoluene	6	U
108-67-8-----1,3,5-Trimethylbenzene	6	U
106-43-4-----4-Chlorotoluene	6	U
98-06-6-----tert-Butylbenzene	6	U
95-63-6-----1,2,4-Trimethylbenzene	6	U
135-98-8-----sec-Butylbenzene	6	U
99-87-6-----4-Isopropyltoluene	6	U
541-73-1-----1,3-Dichlorobenzene	6	U
106-46-7-----1,4-Dichlorobenzene	6	U
104-51-8-----n-Butylbenzene	6	U
95-50-1-----1,2-Dichlorobenzene	6	U
96-12-8-----1,2-Dibromo-3-chloropropane	6	U
120-82-1-----1,2,4-Trichlorobenzene	2	J
87-68-3-----Hexachlorobutadiene	6	U
91-20-3-----Naphthalene	3	BJ
87-61-6-----1,2,3-Trichlorobenzene	3	J

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EMSB0646RE

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329006RE

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: V5B3402

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. 11

Date Analyzed: 07/22/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (mL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	1.47	530	J
2.	UNKNOWN	13.91	12	J
3.	UNKNOWN	15.57	6	J
4.	UNKNOWN	18.00	7	J
5.	UNKNOWN	19.35	6	J
6.				
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FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EMSB0646

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) SOIL

Lab Sample ID: 61329006

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: E3B2111F

% Moisture: 11 decanted: (Y/N) N

Date Received: 07/20/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/20/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 07/24/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

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

Q

12674-11-2-----Aroclor-1016	37	U
11104-28-2-----Aroclor-1221	37	U
1114-16-5-----Aroclor-1232	37	U
53469-21-9-----Aroclor-1242	37	U
12672-29-6-----Aroclor-1248	37	U
11097-69-1-----Aroclor-1254	1300	
11096-82-5-----Aroclor-1260	37	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB01

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) WATER

Lab Sample ID: 61329003

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4766

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/27/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

75-71-8-----	Dichlorodifluoromethane	5	U
74-87-3-----	Chloromethane	5	U
75-01-4-----	Vinyl Chloride	5	U
74-83-9-----	Bromomethane	5	U
75-00-3-----	Chloroethane	5	U
75-69-4-----	Trichlorofluoromethane	5	U
75-35-4-----	1,1-Dichloroethene	5	U
67-64-1-----	Acetone	5	U
74-88-4-----	Iodomethane	5	U
75-15-0-----	Carbon Disulfide	5	U
75-09-2-----	Methylene Chloride	5	U
156-60-5-----	trans-1,2-Dichloroethene	5	U
1634-04-4-----	Methyl tert-butyl ether	5	U
75-34-3-----	1,1-Dichloroethane	5	U
108-05-4-----	Vinyl acetate	5	U
156-59-2-----	cis-1,2-Dichloroethene	5	U
590-20-7-----	2,2-Dichloropropane	5	U
78-93-3-----	2-Butanone	5	U
74-97-5-----	Bromochloromethane	5	U
67-66-3-----	Chloroform	5	U
71-55-6-----	1,1,1-Trichloroethane	5	U
563-58-6-----	1,1-Dichloropropene	5	U
56-23-5-----	Carbon Tetrachloride	5	U
107-06-2-----	1,2-Dichloroethane	5	U
71-43-2-----	Benzene	5	U
79-01-6-----	Trichloroethene	5	U
78-87-5-----	1,2-Dichloropropane	5	U
74-95-3-----	Dibromomethane	5	U
75-27-4-----	Bromodichloromethane	5	U
110-75-8-----	2-Chloroethyl vinyl ether	5	U
10061-01-5-----	cis-1,3-Dichloropropene	5	U
108-10-1-----	4-Methyl-2-pentanone	5	U
108-88-3-----	Toluene	5	U
10061-02-6-----	trans-1,3-Dichloropropene	5	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB01

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) WATER

Lab Sample ID: 61329003

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4766

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/27/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

79-00-5-----	1,1,2-Trichloroethane	5	U
142-28-9-----	1,3-Dichloropropane	5	U
127-18-4-----	Tetrachloroethene	5	U
591-78-6-----	2-Hexanone	5	U
124-48-1-----	Dibromochloromethane	5	U
106-93-4-----	1,2-Dibromoethane	5	U
108-90-7-----	Chlorobenzene	5	U
630-20-6-----	1,1,1,2-Tetrachloroethane	5	U
100-41-4-----	Ethylbenzene	5	U
1330-20-7-----	Xylene (Total)	5	U
100-42-5-----	Styrene	5	U
75-25-2-----	Bromoform	5	U
98-82-8-----	Isopropylbenzene	5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	5	U
108-86-1-----	Bromobenzene	5	U
96-18-4-----	1,2,3-Trichloropropane	5	U
103-65-1-----	n-Propylbenzene	5	U
95-49-8-----	2-Chlorotoluene	5	U
108-67-8-----	1,3,5-Trimethylbenzene	5	U
106-43-4-----	4-Chlorotoluene	5	U
98-06-6-----	tert-Butylbenzene	5	U
95-63-6-----	1,2,4-Trimethylbenzene	5	U
135-98-8-----	sec-Butylbenzene	5	U
541-73-1-----	1,3-Dichlorobenzene	5	U
99-87-6-----	4-Isopropyltoluene	5	U
106-46-7-----	1,4-Dichlorobenzene	5	U
104-51-8-----	n-Butylbenzene	5	U
95-50-1-----	1,2-Dichlorobenzene	5	U
96-12-8-----	1,2-Dibromo-3-chloropropane	5	U
120-82-1-----	1,2,4-Trichlorobenzene	5	U
87-68-3-----	Hexachlorobutadiene	5	U
91-20-3-----	Naphthalene	5	U
87-61-6-----	1,2,3-Trichlorobenzene	5	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EB01

Lab Name: MITKEM CORP.

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61329

Matrix: (soil/water) WATER

Lab Sample ID: 61329003

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4766

Level: (low/med) LOW

Date Received: 07/20/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/27/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
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Analytical Data Package for LMS Engineers

Client Project: Empire Electric, #650-642

SDG# 61407B (Aqueous samples)

Mitkem Project ID: 61407

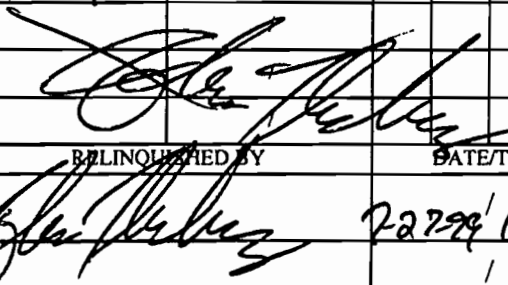
Revised September 3, 1999

LAWLER, MATUSKY &  
SKELLY ENGINEERS LLP

SEP 07 1999

For Hazardous Waste Section

000001

REPORT TO										INVOICE TO														
COMPANY <i>LWS Engineers</i>					PHONE					COMPANY					PHONE									
NAME <i>Maria Heine</i>					FAX					NAME					FAX									
ADDRESS <i>1 Blue Hill Plaza, P.O. Box 1509</i>										ADDRESS														
CITY/ST/ZIP <i>Pearl River NY 10965</i>										CITY/ST/ZIP														
CLIENT PROJECT NAME:					CLIENT PROJECT #:					CLIENT P.O.#:					REQUESTED ANALYSES									
<i>Empire Electric</i>					<i>LSO-</i>																			
SAMPLE IDENTIFICATION		DATE/TIME SAMPLED		COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	COMMENTS													
<i>EMMW-1</i>		<i>7-26-99 1515</i>			<i>X</i>	<i>X</i>			<i>01</i>	<i>2</i>	<i>2</i>	<i>NO 8022</i>												
<i>EMMW-2</i>		<i>7-26-99 1540</i>			<i>X</i>	<i>X</i>			<i>02</i>	<i>2</i>	<i>2</i>													
<i>EMMW-3</i>		<i>7-26-99 1600</i>			<i>X</i>	<i>X</i>			<i>03</i>	<i>2</i>	<i>2</i>													
<i>EMMW-4</i>		<i>7-26-99 1625</i>			<i>X</i>	<i>X</i>			<i>04</i>	<i>2</i>	<i>2</i>													
<i>EMMW-10</i>		<i>7-27-99 1015</i>			<i>X</i>	<i>X</i>			<i>05</i>	<i>2</i>	<i>2</i>													
<i>EMMW-5</i>		<i>7-27-99 1045</i>			<i>X</i>	<i>X</i>			<i>06</i>	<i>2</i>	<i>2</i>													
<i>EMMW-6 (MG)</i>		<i>7-27-99 1115</i>			<i>X</i>	<i>X</i>			<i>07</i>	<i>2</i>	<i>2</i>													
<i>EMMW-6 (NSD)</i>		<i>7-27-99 1115</i>			<i>X</i>	<i>X</i>			<i>07</i>	<i>2</i>	<i>2</i>													
<i>EMMW-7</i>		<i>7-27-99 1200</i>			<i>X</i>	<i>X</i>			<i>08</i>	<i>2</i>	<i>2</i>													
																								
TSF#	RELIQUISHED BY				DATE/TIME				ACCEPTED BY				DATE/TIME				ADDITIONAL REMARKS:				COOLER TEMP:			
<i>1</i>	<i>[Signature]</i>				<i>7-27-99 1700</i>				<i>Steve Lindelke</i>				<i>7-28-99 9:20</i>				<i>Temp Blank Included.</i>				<i>3° 3' 40"</i>			
<i>2</i>					<i>/</i>								<i>/</i>											
<i>3</i>					<i>/</i>								<i>/</i>											



# CHAIN-OF-CUSTODY RECORD

Page \_\_\_\_ of \_\_\_\_

REPORT TO								INVOICE TO								LAB PROJECT #:			
COMPANY <i>LMS Engineers</i>				PHONE <i>(914) 735-8300</i>				COMPANY				PHONE				<i>61407</i>			
NAME <i>Maria Heine</i>				FAX <i>(914) 735-7466</i>				NAME				FAX							
ADDRESS <i>1 Blue Hill Plaza, Rt. Box 1509</i>								ADDRESS								TURNAROUND TIME:			
CITY/ST/ZIP <i>Pearl River, NY 10965</i>								CITY/ST/ZIP											
CLIENT PROJECT NAME: <i>Empire Electric</i>				CLIENT PROJECT #: <i>650-</i>				CLIENT P.O.#:				<div style="text-align: center;">REQUESTED ANALYSES</div> <div style="text-align: center;"> <i>VOC 8260</i> </div>							
SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	COMMENTS										
<i>EM MW-1</i>	<i>7-26-99' 1515</i>		<i>X</i>	<i>X</i>			<i>01</i>	<i>3</i>	<i>3</i>										
<i>EM MW-2</i>	<i>7-26-99' 1540</i>		<i>X</i>	<i>X</i>			<i>02</i>	<i>3</i>	<i>3</i>										
<i>EM MW-3</i>	<i>7-26-99' 1600</i>		<i>X</i>	<i>X</i>			<i>03</i>	<i>3</i>	<i>3</i>										
<i>EM MW-4</i>	<i>7-26-99' 1625</i>		<i>X</i>	<i>X</i>			<i>04</i>	<i>3</i>	<i>3</i>										
<i>EM TW-10</i>	<i>7-27-99' 1015</i>		<i>X</i>	<i>X</i>			<i>05</i>	<i>3</i>	<i>3</i>										
<i>EM MW-5</i>	<i>7-27-99' 1045</i>		<i>X</i>	<i>X</i>			<i>06</i>	<i>3</i>	<i>3</i>										
<i>EM MW-6</i>	<i>7-27-99' 1115</i>		<i>X</i>	<i>X</i>			<i>07</i>	<i>3</i>	<i>3</i>										
<i>EM MW-6(MS)</i>	<i>7-27-99' 1115</i>		<i>X</i>	<i>X</i>				<i>3</i>	<i>3</i>										
<i>EM MW-6(MSO)</i>	<i>7-27-99' 1115</i>		<i>X</i>	<i>X</i>				<i>3</i>	<i>3</i>										
<i>EM MW-7</i>	<i>7-27-99' 1200</i>		<i>X</i>	<i>X</i>			<i>08</i>	<i>3</i>	<i>3</i>										
<i>Trip Blank</i>	<i>7-26-99' -</i>			<i>X</i>			<i>09</i>	<i>2</i>	<i>2</i>										
<i>Temp Blank</i>	<i>-</i>			<i>X</i>				<i>1</i>	<i>1</i>										
TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY				DATE/TIME	ADDITIONAL REMARKS:								COOLER TEMP:			
<i>1</i>	<i>[Signature]</i>	<i>7-27-99' 1200</i>	<i>Steve Vadecki</i>				<i>7-28-99' 9:20</i>									<i>3° 3° 4°</i>			
<i>2</i>		<i>/</i>					<i>/</i>												
<i>3</i>		<i>/</i>					<i>/</i>												

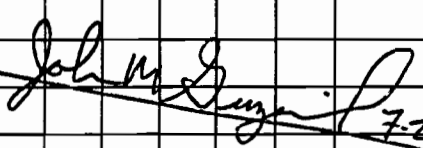
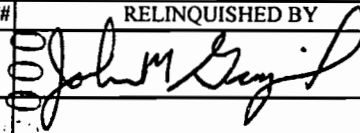
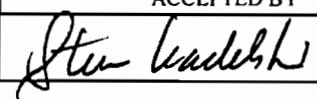
# CHAIN-OF-CUSTODY RECORD

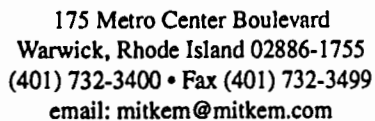
Page 1 of 2

REPORT TO								INVOICE TO								LAB PROJECT #:																									
COMPANY <u>LMS Engineers</u>				PHONE <u>914 735 8300</u>				COMPANY				PHONE				<u>61407</u>																									
NAME <u>Maria Heimer</u>				FAX <u>914 735 8300</u>				NAME <u>Finance Dept</u>				FAX																													
ADDRESS <u>1 Blue Hill Plaza PO 1509</u>								ADDRESS								TURNAROUND TIME:																									
CITY/ST/ZIP <u>Pearl River, NY 10965</u>								CITY/ST/ZIP																																	
CLIENT PROJECT NAME: <u>Empire Electric</u>				CLIENT PROJECT #: <u>650-642</u>				CLIENT P.O.#:				<div style="text-align: center;">REQUESTED ANALYSES</div> <div style="text-align: center; font-size: 2em; transform: rotate(-45deg);">PCBs 8082</div>																													
SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	COMMENTS																																
BW-01	7-26-99' 1050		X			X	10	3	3								includes MS+MSD																								
BW-02	7-26-99' 1110		X			X	11	1	1																																
BW-03	7-26-99' 1135		X			X	12	1	1																																
BW-04	7-26-99' 1145		X			X	13	1	1																																
BW-05	7-26-99' 1315		X			X	14	1	1																																
BW-06	7-26-99' 1335		X			X	15	1	1																																
BF-01	7-26-99' 1405		X			X	16	1	1																																
BF-02	7-26-99' 1425		X			X	17	1	1																																
MF-01	7-26-99' 1520		X			X	18	1	1																																
MF-02	7-26-99' 1540		X			X	19	1	1																																
MF-03	7-26-99' 1605		X			X	20	1	1																																
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>TSF#</th> <th>RELINQUISHED BY</th> <th>DATE/TIME</th> <th>ACCEPTED BY</th> <th>DATE/TIME</th> <th>ADDITIONAL REMARKS:</th> <th>COOLER TEMP:</th> </tr> </thead> <tbody> <tr> <td>1</td> <td><u>John M. Gungil</u></td> <td><u>7-27-99' 1700</u></td> <td><u>Steve Kudelski</u></td> <td><u>7-28-99' 9:20</u></td> <td rowspan="3"></td> <td><u>3° 3° 4°</u></td> </tr> <tr> <td>2</td> <td>/</td> <td>/</td> <td>/</td> <td>/</td> </tr> <tr> <td>3</td> <td>/</td> <td>/</td> <td>/</td> <td>/</td> </tr> </tbody> </table>																		TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME	ADDITIONAL REMARKS:	COOLER TEMP:	1	<u>John M. Gungil</u>	<u>7-27-99' 1700</u>	<u>Steve Kudelski</u>	<u>7-28-99' 9:20</u>		<u>3° 3° 4°</u>	2	/	/	/	/	3	/	/	/	/
TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME	ADDITIONAL REMARKS:	COOLER TEMP:																																			
1	<u>John M. Gungil</u>	<u>7-27-99' 1700</u>	<u>Steve Kudelski</u>	<u>7-28-99' 9:20</u>		<u>3° 3° 4°</u>																																			
2	/	/	/	/																																					
3	/	/	/	/																																					

# CHAIN-OF-CUSTODY RECORD

Page 2 of 2

REPORT TO							INVOICE TO							LAB PROJECT #:					
COMPANY <u>LMS Engineers</u>				PHONE <u>914 735 8700</u>			COMPANY <u>LMS Eng.</u>				PHONE			<u>61407</u>					
NAME <u>Maria Helincz</u>				FAX <u>914 735 7466</u>			NAME <u>Finance Dept.</u>				FAX								
ADDRESS <u>1 Blue Hill Plaza PO 1509</u>							ADDRESS							TURNAROUND TIME:					
CITY/ST/ZIP <u>Pearl River, NY 10965</u>							CITY/ST/ZIP												
CLIENT PROJECT NAME: <u>Empire Electric</u>			CLIENT PROJECT #: <u>650-642</u>			CLIENT P.O.#:			REQUESTED ANALYSES										
SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS											COMMENTS
✓ BS-01	7.26.99' 1415		X		X		21	2	1	1									
✓ BS-02	7.26.99' 1445		X		X		22	2	1	1									
✓ BS-02 ms	7.26.99' 1445		X		X			2	1	1									
✓ BS-02 MSD	7.26.99' 1445		X		X			2	1	1									
✓ FB-Soils	7.27.99' 0755		X	X			23	4	2	2								Field Blank	
✓ BS-03	7.27.99' 0945		X		X		24	2	1	1									
✓ FB-Concrete	7.27.99' 0745		X	X			25	2		2								Field Blank	
EM MW-06	7.27.99' 1115		X	X			07	2		2									
<div style="text-align: center;">   7.27.99 </div>																			
TSF#	RELINQUISHED BY		DATE/TIME		ACCEPTED BY			DATE/TIME		ADDITIONAL REMARKS:							COOLER TEMP:		
1			7.27.99' 1700					7-28-99' 9:20									33°-4°		
2			/					/											
3			/					/											

Page 1 of 1[illegible]

SEP 07 1999

SDG Narrative

For Hazardous Waste Section

Mitkem Corporation submits the enclosed data package in response to LMS Engineers' Empire Electric project. Under this deliverable, PCB analysis results are presented for eleven aqueous, fourteen soil and one oil samples that were received on July 28, 1999. Analyses were performed per specifications in the project's contract and the chain of custody forms. Due to the large number of samples, the analysis results are presented in two separate sample delivery groups. This data package included the results for the aqueous samples. The sample chain of custody forms and the results for the volatile organic analyses were presented in an earlier package and are not included here.

The ASP summary forms are revised to reflect new analysis dates. In addition, per client's request, the sample chromatogram integration reports are included with each of the samples.

The following samples are submitted in this data package (SDG # 61407B):

<u>Client ID</u>	<u>Truncated ID</u>	<u>Lab ID</u>	<u>Analysis</u>
EMMW-1	EMMW1	61407001	P
EMMW-2	EMMW2	61407002	P
EMMW-3	EMMW3	61407003	P
EMMW-4	EMMW4	61407004	P
EM7W-10	EM7W10	61407005	P
EMMW-5	EMMW5	61407006	P
EMMW-6	EMMW6	61407007	P
EMMW-7	EMMW7	61407008	P
FB-SOILS	FBSOILS	61407023	P
FB-CONCRETE	CONCRETE	61407025	P
EMMW-6MS	EMMW6MS	61407027	P
EMMW-6MSD	EMMW6MSD	61407028	P

\* Due to software limitations, the LCSs are labeled as BBLK03LCS and BBLK04LCS for the PCB analysis.

P = PCB - NYSDEC ASP Method 8082

The analyses were performed according to NYSDEC ASP protocols (October 1995 update) and reported per NYSDEC ASP requirement for Category B deliverable.

The following observation and/or deviations are observed for the following analyses:

00 0004  
2

1. Overall Observation:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required.

2. PCB Analysis:

Surrogate recovery: recoveries were within the QC limit

Lab control sample: spike recoveries were within the QC limit for both LCSs.

Matrix spike/matrix spike duplicate: duplicate matrix spikes were performed on EMMW6; spike recovery and duplicate RPDs met the advisory QC limits.

Calibration: the analyses were performed using dual column calibration. Initial calibration and calibration verifications met the method criteria for both columns.

Sample analysis: Sample EMMW5 was analyzed at 5x dilution due to the high concentration of target analyte in the sample. No other unusual observation was made for the analyses.

I certify that this data package is in compliance, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.



Kin S. Chiu  
Technical Director  
9/3/99

00 003  
0006

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BF01

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407016

Sample wt/vol: 30.8 (g/mL) G

Lab File ID: E3B2876F

% Moisture: 7 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 100.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

12674-11-2-----Aroclor-1016	3400	U
11104-28-2-----Aroclor-1221	3400	U
1114-16-5-----Aroclor-1232	3400	U
53469-21-9-----Aroclor-1242	3400	U
12672-29-6-----Aroclor-1248	3400	U
11097-69-1-----Aroclor-1254	3400	U
11096-82-5-----Aroclor-1260	340000	E

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BF01DL

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407016DL

Sample wt/vol: 30.8 (g/mL) G

Lab File ID: E3B2877F

% Moisture: 7 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1000.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	34000	U
11104-28-2-----Aroclor-1221	34000	U
1114-16-5-----Aroclor-1232	34000	U
53469-21-9-----Aroclor-1242	34000	U
12672-29-6-----Aroclor-1248	34000	U
11097-69-1-----Aroclor-1254	34000	U
11096-82-5-----Aroclor-1260	380000	D



FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BF02

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407017

Sample wt/vol: 30.4 (g/mL) G

Lab File ID: E3B2878F

% Moisture: 10 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 100.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	3600	U
11104-28-2-----Aroclor-1221	3600	U
1114-16-5-----Aroclor-1232	3600	U
53469-21-9-----Aroclor-1242	3600	U
12672-29-6-----Aroclor-1248	3600	U
11097-69-1-----Aroclor-1254	3600	U
11096-82-5-----Aroclor-1260	200000	E

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BF02DL

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407017DL

Sample wt/vol: 30.4 (g/mL) G

Lab File ID: E3B2879F

% Moisture: 10 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000(uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0(uL)

Dilution Factor: 1000.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	36000	U
11104-28-2-----Aroclor-1221	36000	U
1114-16-5-----Aroclor-1232	36000	U
53469-21-9-----Aroclor-1242	36000	U
12672-29-6-----Aroclor-1248	36000	U
11097-69-1-----Aroclor-1254	36000	U
11096-82-5-----Aroclor-1260	280000	D

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BW01

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407010

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: E3B2858F

% Moisture: 3 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 100000 (uL)

Date Analyzed: 08/28/99

Injection Volume: 1.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N

pH: 14.0

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	3400	U
11104-28-2-----Aroclor-1221	3400	U
1114-16-5-----Aroclor-1232	3400	U
53469-21-9-----Aroclor-1242	3400	U
12672-29-6-----Aroclor-1248	3400	U
11097-69-1-----Aroclor-1254	3400	U
11096-82-5-----Aroclor-1260	290000	E

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BW01DL

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407010DL

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: E3B2859R

% Moisture: 3 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 100000 (uL)

Date Analyzed: 08/28/99

Injection Volume: 1.0 (uL)

Dilution Factor: 100.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	34000	U
11104-28-2-----Aroclor-1221	34000	U
1114-16-5-----Aroclor-1232	34000	U
53469-21-9-----Aroclor-1242	34000	U
12672-29-6-----Aroclor-1248	34000	U
11097-69-1-----Aroclor-1254	34000	U
11096-82-5-----Aroclor-1260	380000	D

FORM I PCB

0010

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BW02

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407011

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: E3B2864F

% Moisture: 11 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 30000 (uL)

Date Analyzed: 08/28/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

12674-11-2-----Aroclor-1016	110	U
11104-28-2-----Aroclor-1221	110	U
1114-16-5-----Aroclor-1232	110	U
53469-21-9-----Aroclor-1242	110	U
12672-29-6-----Aroclor-1248	110	U
11097-69-1-----Aroclor-1254	6400	E
11096-82-5-----Aroclor-1260	110	U

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BW02DL

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407011DL

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: E3B2865F

% Moisture: 11 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 30000 (uL)

Date Analyzed: 08/28/99

Injection Volume: 1.0 (uL)

Dilution Factor: 5.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	550	U
11104-28-2-----Aroclor-1221	550	U
1114-16-5-----Aroclor-1232	550	U
53469-21-9-----Aroclor-1242	550	U
12672-29-6-----Aroclor-1248	550	U
11097-69-1-----Aroclor-1254	10000	D
11096-82-5-----Aroclor-1260	550	U

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BW03

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407012

Sample wt/vol: 30.4 (g/mL) G

Lab File ID: E3B2866F

% Moisture: 9 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 100000 (uL)

Date Analyzed: 08/28/99

Injection Volume: 1.0 (uL)

Dilution Factor: 100.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	36000	U
11104-28-2-----Aroclor-1221	36000	U
1114-16-5-----Aroclor-1232	36000	U
53469-21-9-----Aroclor-1242	36000	U
12672-29-6-----Aroclor-1248	36000	U
11097-69-1-----Aroclor-1254	36000	U
11096-82-5-----Aroclor-1260	3800000	E

FORM I PCB

0022

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BW03DL

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407012DL

Sample wt/vol: 30.4 (g/mL) G

Lab File ID: E3B2867F

% Moisture: 9 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 100000 (uL)

Date Analyzed: 08/28/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1000.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	360000	U
11104-28-2-----Aroclor-1221	360000	U
1114-16-5-----Aroclor-1232	360000	U
53469-21-9-----Aroclor-1242	360000	U
12672-29-6-----Aroclor-1248	360000	U
11097-69-1-----Aroclor-1254	360000	U
11096-82-5-----Aroclor-1260	5900000	D



FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BW04

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407013

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: E3B2872F

% Moisture: 40 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/28/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----	Aroclor-1016	55	U
11104-28-2-----	Aroclor-1221	55	U
1114-16-5-----	Aroclor-1232	55	U
53469-21-9-----	Aroclor-1242	55	U
12672-29-6-----	Aroclor-1248	55	U
11097-69-1-----	Aroclor-1254	6300	E
11096-82-5-----	Aroclor-1260	55	U

FORM I PCB

0024

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BW04DL

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407013DL

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: E3B2873F

% Moisture: 40 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/28/99

Injection Volume: 1.0 (uL)

Dilution Factor: 5.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	280	U
11104-28-2-----Aroclor-1221	280	U
1114-16-5-----Aroclor-1232	280	U
53469-21-9-----Aroclor-1242	280	U
12672-29-6-----Aroclor-1248	280	U
11097-69-1-----Aroclor-1254	8200	D
11096-82-5-----Aroclor-1260	280	U

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BW05

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407014

Sample wt/vol: 30.4 (g/mL) G

Lab File ID: E3B2874F

% Moisture: 13 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 30000 (uL)

Date Analyzed: 08/28/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	110	U
11104-28-2-----Aroclor-1221	110	U
1114-16-5-----Aroclor-1232	110	U
53469-21-9-----Aroclor-1242	110	U
12672-29-6-----Aroclor-1248	110	U
11097-69-1-----Aroclor-1254	11000	E
11096-82-5-----Aroclor-1260	110	U

FORM I PCB

0020

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BW06

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407015

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: E3B2875F

% Moisture: 13 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 100000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----	Aroclor-1016	380	U
11104-28-2-----	Aroclor-1221	380	U
1114-16-5-----	Aroclor-1232	380	U
53469-21-9-----	Aroclor-1242	380	U
12672-29-6-----	Aroclor-1248	380	U
11097-69-1-----	Aroclor-1254	8400	<del>E</del>
11096-82-5-----	Aroclor-1260	380	U

E 7/2/99

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MF01

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407018

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: E3B2939F

% Moisture: 0 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/31/99

Injection Volume: 1.0 (uL)

Dilution Factor: 100000.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	3300000	U
11104-28-2-----Aroclor-1221	3300000	U
1114-16-5-----Aroclor-1232	3300000	U
53469-21-9-----Aroclor-1242	3300000	U
12672-29-6-----Aroclor-1248	3300000	U
11097-69-1-----Aroclor-1254	3300000	U
11096-82-5-----Aroclor-1260	190000000	E

FORM I PCB

0023

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MF01DL

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407018DL

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: E3B2940F

% Moisture: 0 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/31/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1000000.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	33000000	U
11104-28-2-----Aroclor-1221	33000000	U
1114-16-5-----Aroclor-1232	33000000	U
53469-21-9-----Aroclor-1242	33000000	U
12672-29-6-----Aroclor-1248	33000000	U
11097-69-1-----Aroclor-1254	33000000	U
11096-82-5-----Aroclor-1260	26000000	D

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MF02

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407019

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: E3B2886F

% Moisture: 4 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1000.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

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

Q

12674-11-2-----Aroclor-1016	34000	U
11104-28-2-----Aroclor-1221	34000	U
1114-16-5-----Aroclor-1232	34000	U
53469-21-9-----Aroclor-1242	34000	U
12672-29-6-----Aroclor-1248	34000	U
11097-69-1-----Aroclor-1254	34000	U
11096-82-5-----Aroclor-1260	1600000	E

FORM I PCB

0030

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MF02DL

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407019DL

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: E3B2887F

% Moisture: 4 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 5000.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	170000	U
11104-28-2-----Aroclor-1221	170000	U
1114-16-5-----Aroclor-1232	170000	U
53469-21-9-----Aroclor-1242	170000	U
12672-29-6-----Aroclor-1248	170000	U
11097-69-1-----Aroclor-1254	170000	U
11096-82-5-----Aroclor-1260	4200000	D



FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MF03

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407020

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: E3B2888F

% Moisture: 2 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1000.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	34000	U
11104-28-2-----Aroclor-1221	34000	U
1114-16-5-----Aroclor-1232	34000	U
53469-21-9-----Aroclor-1242	34000	U
12672-29-6-----Aroclor-1248	34000	U
11097-69-1-----Aroclor-1254	34000	U
11096-82-5-----Aroclor-1260	9900000	E

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MF03DL

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407020DL

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: E3B2889F

% Moisture: 2 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 10000.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	340000	U
11104-28-2-----Aroclor-1221	340000	U
1114-16-5-----Aroclor-1232	340000	U
53469-21-9-----Aroclor-1242	340000	U
12672-29-6-----Aroclor-1248	340000	U
11097-69-1-----Aroclor-1254	340000	U
11096-82-5-----Aroclor-1260	16000000	D

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

CONCRETE

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407025

Sample wt/vol: 1000 (g/ml) ML

Lab File ID: E3B2908F

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	1.0	U
1114-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	1.0	U
11096-82-5-----	Aroclor-1260	1.6	_____

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

B001

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) OIL

Lab Sample ID: 61407026

Sample wt/vol: 1000 (g/ml) ML

Lab File ID: E3B2906F

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) DILUTION

Date Extracted: 07/28/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/G Q

12674-11-2-----Aroclor-1016	1.0	U
11104-28-2-----Aroclor-1221	1.0	U
1114-16-5-----Aroclor-1232	1.0	U
53469-21-9-----Aroclor-1242	1.0	U
12672-29-6-----Aroclor-1248	1.0	U
11097-69-1-----Aroclor-1254	20	
11096-82-5-----Aroclor-1260	1.0	U

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BS01

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407021

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: E3B2890F

% Moisture: 27 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 200.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----	Aroclor-1016	9000	U
11104-28-2-----	Aroclor-1221	9000	U
1114-16-5-----	Aroclor-1232	9000	U
53469-21-9-----	Aroclor-1242	9000	U
12672-29-6-----	Aroclor-1248	9000	U
11097-69-1-----	Aroclor-1254	9000	U
11096-82-5-----	Aroclor-1260	530000	E

FORM I PCB

0012

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BS01DL

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407021DL

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: E3B2891F

% Moisture: 27 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 2000.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	90000	U
11104-28-2-----Aroclor-1221	90000	U
1114-16-5-----Aroclor-1232	90000	U
53469-21-9-----Aroclor-1242	90000	U
12672-29-6-----Aroclor-1248	90000	U
11097-69-1-----Aroclor-1254	90000	U
11096-82-5-----Aroclor-1260	960000	D

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BS02

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407022

Sample wt/vol: 30.5 (g/mL) G

Lab File ID: E3B2892F

% Moisture: 18 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

12674-11-2-----Aroclor-1016	400	U
11104-28-2-----Aroclor-1221	400	U
1114-16-5-----Aroclor-1232	400	U
53469-21-9-----Aroclor-1242	400	U
12672-29-6-----Aroclor-1248	400	U
11097-69-1-----Aroclor-1254	400	U
11096-82-5-----Aroclor-1260	46000	E

FORM I PCB

0014

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BS02DL

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407022DL

Sample wt/vol: 30.5 (g/mL) G

Lab File ID: E3B2893F

% Moisture: 18 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 100.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	4000	U
11104-28-2-----Aroclor-1221	4000	U
1114-16-5-----Aroclor-1232	4000	U
53469-21-9-----Aroclor-1242	4000	U
12672-29-6-----Aroclor-1248	4000	U
11097-69-1-----Aroclor-1254	4000	U
11096-82-5-----Aroclor-1260	65000	D



FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BS03

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407024

Sample wt/vol: 30.5 (g/mL) G

Lab File ID: E3B2904F

% Moisture: 10 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 2.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	72	U
11104-28-2-----Aroclor-1221	72	U
1114-16-5-----Aroclor-1232	72	U
53469-21-9-----Aroclor-1242	72	U
12672-29-6-----Aroclor-1248	72	U
11097-69-1-----Aroclor-1254	72	U
11096-82-5-----Aroclor-1260	11000	E

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BS03DL

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407024DL

Sample wt/vol: 30.5 (g/mL) G

Lab File ID: E3B2905F

% Moisture: 10 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 20.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	720	U
11104-28-2-----Aroclor-1221	720	U
1114-16-5-----Aroclor-1232	720	U
53469-21-9-----Aroclor-1242	720	U
12672-29-6-----Aroclor-1248	720	U
11097-69-1-----Aroclor-1254	720	U
11096-82-5-----Aroclor-1260	16000	D

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

FBSOILS

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407023

Sample wt/vol: 1000 (g/ml) ML

Lab File ID: E3B2907F

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

12674-11-2-----Aroclor-1016	1.0	U
11104-28-2-----Aroclor-1221	1.0	U
1114-16-5-----Aroclor-1232	1.0	U
53469-21-9-----Aroclor-1242	1.0	U
12672-29-6-----Aroclor-1248	1.0	U
11097-69-1-----Aroclor-1254	1.0	U
11096-82-5-----Aroclor-1260	1.8	

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EMMW1

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407001

Sample wt/vol: 1000 (g/ml) ML

Lab File ID: E3B2819F

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/28/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/27/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

12674-11-2-----Aroclor-1016	1.0	U
11104-28-2-----Aroclor-1221	1.0	U
1114-16-5-----Aroclor-1232	1.0	U
53469-21-9-----Aroclor-1242	1.0	U
12672-29-6-----Aroclor-1248	1.0	U
11097-69-1-----Aroclor-1254	1.0	U
11096-82-5-----Aroclor-1260	1.0	U

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EMMW2

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407002

Sample wt/vol: 1000 (g/ml) ML

Lab File ID: E3B2820F

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/28/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/27/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	1.0	U
1114-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	1.0	U
11096-82-5-----	Aroclor-1260	1.0	U

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EMMW3

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407003

Sample wt/vol: 1000 (g/ml) ML

Lab File ID: E3B2821F

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/28/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/27/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

12674-11-2-----Aroclor-1016	1.0	U
11104-28-2-----Aroclor-1221	1.0	U
1114-16-5-----Aroclor-1232	1.0	U
53469-21-9-----Aroclor-1242	1.0	U
12672-29-6-----Aroclor-1248	1.0	U
11097-69-1-----Aroclor-1254	1.0	U
11096-82-5-----Aroclor-1260	1.0	U

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EMMW4

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407004

Sample wt/vol: 1000 (g/ml) ML

Lab File ID: E3B2822F

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/28/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/27/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	1.0	U
1114-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	1.0	U
11096-82-5-----	Aroclor-1260	1.0	U

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EMMW5

Lab Name: MITKEM CORPORATION Contract:  
Lab Code: MITKEM Case No.: SAS No.: SDG No.: 61407B  
Matrix: (soil/water) WATER Lab Sample ID: 61407006  
Sample wt/vol: 1000 (g/ml) ML Lab File ID: E3B2824F  
% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_ Date Received: 07/28/99  
Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 07/28/99  
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/27/99  
Injection Volume: 1.0 (uL) Dilution Factor: 1.0  
GPC Cleanup: (Y/N) N pH: \_\_\_\_\_ Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

12674-11-2-----Aroclor-1016	1.0	U
11104-28-2-----Aroclor-1221	1.0	U
1114-16-5-----Aroclor-1232	1.0	U
53469-21-9-----Aroclor-1242	1.0	U
12672-29-6-----Aroclor-1248	1.0	U
11097-69-1-----Aroclor-1254	1.0	U
11096-82-5-----Aroclor-1260	56	E



FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EMMW5DL

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407006DL

Sample wt/vol: 1000 (g/ml) ML

Lab File ID: E3B2844F

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/28/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/28/99

Injection Volume: 1.0 (uL)

Dilution Factor: 5.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
12674-11-2-----	Aroclor-1016	5.0	U
11104-28-2-----	Aroclor-1221	5.0	U
1114-16-5-----	Aroclor-1232	5.0	U
53469-21-9-----	Aroclor-1242	5.0	U
12672-29-6-----	Aroclor-1248	5.0	U
11097-69-1-----	Aroclor-1254	5.0	U
11096-82-5-----	Aroclor-1260	71	D

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EMMW6

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407007

Sample wt/vol: 1000 (g/ml) ML

Lab File ID: E3B2825F

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/28/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/27/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

12674-11-2-----Aroclor-1016	1.0	U
11104-28-2-----Aroclor-1221	1.0	U
1114-16-5-----Aroclor-1232	1.0	U
53469-21-9-----Aroclor-1242	1.0	U
12672-29-6-----Aroclor-1248	1.0	U
11097-69-1-----Aroclor-1254	1.0	U
11096-82-5-----Aroclor-1260	1.0	U

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EMMW7

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407008

Sample wt/vol: 1000 (g/ml) ML

Lab File ID: E3B2826F

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/28/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/27/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	1.0	U
1114-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	1.0	U
11096-82-5-----	Aroclor-1260	1.0	U

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EM7W10

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407005

Sample wt/vol: 1000 (g/ml) ML

Lab File ID: E3B2823F

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/28/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/27/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	1.0	U
1114-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	1.0	U
11096-82-5-----	Aroclor-1260	1.0	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMMW1

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407001

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V5B3615

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/31/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

75-71-8-----	Dichlorodifluoromethane	5	U
74-87-3-----	Chloromethane	5	U
75-01-4-----	Vinyl Chloride	5	U
74-83-9-----	Bromomethane	5	U
75-00-3-----	Chloroethane	5	U
75-69-4-----	Trichlorofluoromethane	5	U
67-64-1-----	Acetone	5	U
75-35-4-----	1,1-Dichloroethene	5	U
74-88-4-----	Iodomethane	5	U
75-15-0-----	Carbon Disulfide	5	U
75-09-2-----	Methylene Chloride	3	J
1634-04-4-----	Methyl tert-butyl ether	1	U
156-60-5-----	trans-1,2-Dichloroethene	5	U
108-05-4-----	Vinyl acetate	5	U
75-34-3-----	1,1-Dichloroethane	5	U
78-93-3-----	2-Butanone	5	U
156-59-2-----	cis-1,2-Dichloroethene	5	
590-20-7-----	2,2-Dichloropropane	5	U
74-97-5-----	Bromochloromethane	5	U
67-66-3-----	Chloroform	1	J
71-55-6-----	1,1,1-Trichloroethane	5	U
563-58-6-----	1,1-Dichloropropene	5	U
56-23-5-----	Carbon Tetrachloride	5	U
107-06-2-----	1,2-Dichloroethane	5	U
71-43-2-----	Benzene	5	U
79-01-6-----	Trichloroethene	7	
78-87-5-----	1,2-Dichloropropane	5	U
74-95-3-----	Dibromomethane	5	U
75-27-4-----	Bromodichloromethane	5	U
110-75-8-----	2-Chloroethyl vinyl ether	5	U
10061-01-5-----	cis-1,3-Dichloropropene	5	U
108-10-1-----	4-Methyl-2-pentanone	5	U
108-88-3-----	Toluene	5	U
10061-02-6-----	trans-1,3-Dichloropropene	5	U

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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMMW1

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407001

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V5B3615

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/31/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

79-00-5-----	1,1,2-Trichloroethane	5	U
142-28-9-----	1,3-Dichloropropane	5	U
591-78-6-----	2-Hexanone	5	U
127-18-4-----	Tetrachloroethene	17	
124-48-1-----	Dibromochloromethane	5	U
106-93-4-----	1,2-Dibromoethane	5	U
108-90-7-----	Chlorobenzene	5	U
630-20-6-----	1,1,1,2-Tetrachloroethane	5	U
100-41-4-----	Ethylbenzene	5	U
1330-20-7-----	Xylene (Total)	5	U
100-42-5-----	Styrene	5	U
75-25-2-----	Bromoform	5	U
98-82-8-----	Isopropylbenzene	5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	5	U
96-18-4-----	1,2,3-Trichloropropane	5	U
108-86-1-----	Bromobenzene	5	U
103-65-1-----	n-Propylbenzene	5	U
95-49-8-----	2-Chlorotoluene	5	U
108-67-8-----	1,3,5-Trimethylbenzene	5	U
106-43-4-----	4-Chlorotoluene	5	U
98-06-6-----	tert-Butylbenzene	5	U
95-63-6-----	1,2,4-Trimethylbenzene	5	U
135-98-8-----	sec-Butylbenzene	5	U
99-87-6-----	4-Isopropyltoluene	5	U
541-73-1-----	1,3-Dichlorobenzene	5	U
106-46-7-----	1,4-Dichlorobenzene	5	U
104-51-8-----	n-Butylbenzene	5	U
95-50-1-----	1,2-Dichlorobenzene	5	U
96-12-8-----	1,2-Dibromo-3-chloropropane	5	U
120-82-1-----	1,2,4-Trichlorobenzene	5	U
87-68-3-----	Hexachlorobutadiene	5	U
91-20-3-----	Naphthalene	5	U
87-61-6-----	1,2,3-Trichlorobenzene	5	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EMMW1

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407001

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V5B3615

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/31/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

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.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMMW2

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407002

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4920

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/03/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
75-71-8	Dichlorodifluoromethane	5	U	
74-87-3	Chloromethane	5	U	
75-01-4	Vinyl Chloride	5	U	
74-83-9	Bromomethane	5	U	
75-00-3	Chloroethane	5	U	
75-69-4	Trichlorofluoromethane	5	U	
75-35-4	1,1-Dichloroethene	5	U	
67-64-1	Acetone	5	U	
74-88-4	Iodomethane	5	U	
75-15-0	Carbon Disulfide	5	U	
75-09-2	Methylene Chloride	5	U	
156-60-5	trans-1,2-Dichloroethene	5	U	
1634-04-4	Methyl tert-butyl ether	5	U	
75-34-3	1,1-Dichloroethane	5	U	
108-05-4	Vinyl acetate	5	U	
156-59-2	cis-1,2-Dichloroethene	5	U	
590-20-7	2,2-Dichloropropane	5	U	
78-93-3	2-Butanone	5	U	
74-97-5	Bromochloromethane	5	U	
67-66-3	Chloroform	5	U	
71-55-6	1,1,1-Trichloroethane	5	U	
563-58-6	1,1-Dichloropropene	5	U	
56-23-5	Carbon Tetrachloride	5	U	
107-06-2	1,2-Dichloroethane	5	U	
71-43-2	Benzene	5	U	
79-01-6	Trichloroethene	3	J	
78-87-5	1,2-Dichloropropane	5	U	
74-95-3	Dibromomethane	5	U	
75-27-4	Bromodichloromethane	5	U	
110-75-8	2-Chloroethyl vinyl ether	5	U	
10061-01-5	cis-1,3-Dichloropropene	5	U	
108-10-1	4-Methyl-2-pentanone	5	U	
108-88-3	Toluene	5	U	
10061-02-6	trans-1,3-Dichloropropene	5	U	



1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMMW2

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407002

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4920

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/03/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

79-00-5-----	1,1,2-Trichloroethane	5	U
142-28-9-----	1,3-Dichloropropane	5	U
127-18-4-----	Tetrachloroethene	8	
591-78-6-----	2-Hexanone	5	U
124-48-1-----	Dibromochloromethane	5	U
106-93-4-----	1,2-Dibromoethane	5	U
108-90-7-----	Chlorobenzene	5	U
630-20-6-----	1,1,1,2-Tetrachloroethane	5	U
100-41-4-----	Ethylbenzene	5	U
1330-20-7-----	Xylene (Total)	5	U
100-42-5-----	Styrene	5	U
75-25-2-----	Bromoform	5	U
98-82-8-----	Isopropylbenzene	5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	5	U
108-86-1-----	Bromobenzene	5	U
96-18-4-----	1,2,3-Trichloropropane	5	U
103-65-1-----	n-Propylbenzene	5	U
95-49-8-----	2-Chlorotoluene	5	U
108-67-8-----	1,3,5-Trimethylbenzene	5	U
106-43-4-----	4-Chlorotoluene	5	U
98-06-6-----	tert-Butylbenzene	5	U
95-63-6-----	1,2,4-Trimethylbenzene	5	U
135-98-8-----	sec-Butylbenzene	5	U
541-73-1-----	1,3-Dichlorobenzene	5	U
99-87-6-----	4-Isopropyltoluene	5	U
106-46-7-----	1,4-Dichlorobenzene	5	U
104-51-8-----	n-Butylbenzene	5	U
95-50-1-----	1,2-Dichlorobenzene	5	U
96-12-8-----	1,2-Dibromo-3-chloropropane	5	U
120-82-1-----	1,2,4-Trichlorobenzene	5	U
87-68-3-----	Hexachlorobutadiene	5	U
91-20-3-----	Naphthalene	5	U
87-61-6-----	1,2,3-Trichlorobenzene	5	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EMMW2

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407002

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4920

Level: (low/med) LOW

Date Received: 07/28/99

%Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/03/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMMW3

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407003

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V5B3617

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/31/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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75-71-8-----	Dichlorodifluoromethane	5	U
74-87-3-----	Chloromethane	5	U
75-01-4-----	Vinyl Chloride	5	U
74-83-9-----	Bromomethane	5	U
75-00-3-----	Chloroethane	5	U
75-69-4-----	Trichlorofluoromethane	5	U
67-64-1-----	Acetone	5	
75-35-4-----	1,1-Dichloroethene	5	U
74-88-4-----	Iodomethane	5	U
75-15-0-----	Carbon Disulfide	5	U
75-09-2-----	Methylene Chloride	3	J
1634-04-4-----	Methyl tert-butyl ether	1	U
156-60-5-----	trans-1,2-Dichloroethene	5	U
108-05-4-----	Vinyl acetate	5	U
75-34-3-----	1,1-Dichloroethane	2	J
78-93-3-----	2-Butanone	5	U
156-59-2-----	cis-1,2-Dichloroethene	21	
590-20-7-----	2,2-Dichloropropane	5	U
74-97-5-----	Bromochloromethane	5	U
67-66-3-----	Chloroform	6	
71-55-6-----	1,1,1-Trichloroethane	1	J
563-58-6-----	1,1-Dichloropropene	5	U
56-23-5-----	Carbon Tetrachloride	5	U
107-06-2-----	1,2-Dichloroethane	5	U
71-43-2-----	Benzene	5	U
79-01-6-----	Trichloroethene	8	
78-87-5-----	1,2-Dichloropropane	5	U
74-95-3-----	Dibromomethane	5	U
75-27-4-----	Bromodichloromethane	5	U
110-75-8-----	2-Chloroethyl vinyl ether	5	U
10061-01-5-----	cis-1,3-Dichloropropene	5	U
108-10-1-----	4-Methyl-2-pentanone	5	U
108-88-3-----	Toluene	5	U
10061-02-6-----	trans-1,3-Dichloropropene	5	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMMW3

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407003

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V5B3617

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/31/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

79-00-5-----	1,1,2-Trichloroethane	5	U
142-28-9-----	1,3-Dichloropropane	5	U
591-78-6-----	2-Hexanone	5	U
127-18-4-----	Tetrachloroethene	26	
124-48-1-----	Dibromochloromethane	5	U
106-93-4-----	1,2-Dibromoethane	5	U
108-90-7-----	Chlorobenzene	5	U
630-20-6-----	1,1,1,2-Tetrachloroethane	5	U
100-41-4-----	Ethylbenzene	5	U
1330-20-7-----	Xylene (Total)	5	U
100-42-5-----	Styrene	5	U
75-25-2-----	Bromoform	5	U
98-82-8-----	Isopropylbenzene	5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	5	U
96-18-4-----	1,2,3-Trichloropropane	5	U
108-86-1-----	Bromobenzene	5	U
103-65-1-----	n-Propylbenzene	5	U
95-49-8-----	2-Chlorotoluene	5	U
108-67-8-----	1,3,5-Trimethylbenzene	5	U
106-43-4-----	4-Chlorotoluene	5	U
98-06-6-----	tert-Butylbenzene	5	U
95-63-6-----	1,2,4-Trimethylbenzene	5	U
135-98-8-----	sec-Butylbenzene	5	U
99-87-6-----	4-Isopropyltoluene	5	U
541-73-1-----	1,3-Dichlorobenzene	5	U
106-46-7-----	1,4-Dichlorobenzene	5	U
104-51-8-----	n-Butylbenzene	5	U
95-50-1-----	1,2-Dichlorobenzene	5	U
96-12-8-----	1,2-Dibromo-3-chloropropane	5	U
120-82-1-----	1,2,4-Trichlorobenzene	5	U
87-68-3-----	Hexachlorobutadiene	5	U
91-20-3-----	Naphthalene	5	U
87-61-6-----	1,2,3-Trichlorobenzene	2	J

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EMMW3

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407003

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V5B3617

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 07/31/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMMW4

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407004

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4921

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/03/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
74-88-4	Iodomethane	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
108-05-4	Vinyl acetate	5	U
156-59-2	cis-1,2-Dichloroethene	1	J
590-20-7	2,2-Dichloropropane	5	U
78-93-3	2-Butanone	5	U
74-97-5	Bromochloromethane	5	U
67-66-3	Chloroform	7	
71-55-6	1,1,1-Trichloroethane	5	U
563-58-6	1,1-Dichloropropene	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	4	J
78-87-5	1,2-Dichloropropane	5	U
74-95-3	Dibromomethane	5	U
75-27-4	Bromodichloromethane	5	U
110-75-8	2-Chloroethyl vinyl ether	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMMW4

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407004

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4921

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/03/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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79-00-5-----	1,1,2-Trichloroethane	5	U
142-28-9-----	1,3-Dichloropropane	5	U
127-18-4-----	Tetrachloroethene	7	
591-78-6-----	2-Hexanone	5	U
124-48-1-----	Dibromochloromethane	5	U
106-93-4-----	1,2-Dibromoethane	5	U
108-90-7-----	Chlorobenzene	5	U
630-20-6-----	1,1,1,2-Tetrachloroethane	5	U
100-41-4-----	Ethylbenzene	5	U
1330-20-7-----	Xylene (Total)	5	U
100-42-5-----	Styrene	5	U
75-25-2-----	Bromoform	5	U
98-82-8-----	Isopropylbenzene	5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	5	U
108-86-1-----	Bromobenzene	5	U
96-18-4-----	1,2,3-Trichloropropane	5	U
103-65-1-----	n-Propylbenzene	5	U
95-49-8-----	2-Chlorotoluene	5	U
108-67-8-----	1,3,5-Trimethylbenzene	5	U
106-43-4-----	4-Chlorotoluene	5	U
98-06-6-----	tert-Butylbenzene	5	U
95-63-6-----	1,2,4-Trimethylbenzene	5	U
135-98-8-----	sec-Butylbenzene	5	U
541-73-1-----	1,3-Dichlorobenzene	5	U
99-87-6-----	4-Isopropyltoluene	5	U
106-46-7-----	1,4-Dichlorobenzene	5	U
104-51-8-----	n-Butylbenzene	5	U
95-50-1-----	1,2-Dichlorobenzene	5	U
96-12-8-----	1,2-Dibromo-3-chloropropane	5	U
120-82-1-----	1,2,4-Trichlorobenzene	5	U
87-68-3-----	Hexachlorobutadiene	5	U
91-20-3-----	Naphthalene	5	U
87-61-6-----	1,2,3-Trichlorobenzene	5	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EMMW4

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407004

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4921

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/03/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMMW5

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407006

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4923

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/03/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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75-71-8-----	Dichlorodifluoromethane	5	U
74-87-3-----	Chloromethane	5	U
75-01-4-----	Vinyl Chloride	5	U
74-83-9-----	Bromomethane	5	U
75-00-3-----	Chloroethane	5	U
75-69-4-----	Trichlorofluoromethane	5	U
75-35-4-----	1,1-Dichloroethene	5	U
67-64-1-----	Acetone	5	U
74-88-4-----	Iodomethane	5	U
75-15-0-----	Carbon Disulfide	5	U
75-09-2-----	Methylene Chloride	5	U
156-60-5-----	trans-1,2-Dichloroethene	5	U
1634-04-4-----	Methyl tert-butyl ether	63	
75-34-3-----	1,1-Dichloroethane	5	U
108-05-4-----	Vinyl acetate	5	U
156-59-2-----	cis-1,2-Dichloroethene	20	
590-20-7-----	2,2-Dichloropropane	5	U
78-93-3-----	2-Butanone	5	U
74-97-5-----	Bromochloromethane	5	U
67-66-3-----	Chloroform	5	U
71-55-6-----	1,1,1-Trichloroethane	5	U
563-58-6-----	1,1-Dichloropropene	5	U
56-23-5-----	Carbon Tetrachloride	5	U
107-06-2-----	1,2-Dichloroethane	5	U
71-43-2-----	Benzene	5	U
79-01-6-----	Trichloroethene	3	J
78-87-5-----	1,2-Dichloropropane	5	U
74-95-3-----	Dibromomethane	5	U
75-27-4-----	Bromodichloromethane	5	U
110-75-8-----	2-Chloroethyl vinyl ether	5	U
10061-01-5-----	cis-1,3-Dichloropropene	5	U
108-10-1-----	4-Methyl-2-pentanone	5	U
108-88-3-----	Toluene	5	U
10061-02-6-----	trans-1,3-Dichloropropene	5	U

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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMMW5

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407006

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4923

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/03/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

79-00-5-----	1,1,2-Trichloroethane	5	U
142-28-9-----	1,3-Dichloropropane	5	U
127-18-4-----	Tetrachloroethene	5	U
591-78-6-----	2-Hexanone	5	U
124-48-1-----	Dibromochloromethane	5	U
106-93-4-----	1,2-Dibromoethane	5	U
108-90-7-----	Chlorobenzene	5	U
630-20-6-----	1,1,1,2-Tetrachloroethane	5	U
100-41-4-----	Ethylbenzene	5	U
1330-20-7-----	Xylene (Total)	5	U
100-42-5-----	Styrene	5	U
75-25-2-----	Bromoform	5	U
98-82-8-----	Isopropylbenzene	5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	5	U
108-86-1-----	Bromobenzene	5	U
96-18-4-----	1,2,3-Trichloropropane	5	U
103-65-1-----	n-Propylbenzene	5	U
95-49-8-----	2-Chlorotoluene	5	U
108-67-8-----	1,3,5-Trimethylbenzene	5	U
106-43-4-----	4-Chlorotoluene	5	U
98-06-6-----	tert-Butylbenzene	5	U
95-63-6-----	1,2,4-Trimethylbenzene	5	U
135-98-8-----	sec-Butylbenzene	5	U
541-73-1-----	1,3-Dichlorobenzene	2	J
99-87-6-----	4-Isopropyltoluene	5	U
106-46-7-----	1,4-Dichlorobenzene	5	U
104-51-8-----	n-Butylbenzene	5	U
95-50-1-----	1,2-Dichlorobenzene	5	U
96-12-8-----	1,2-Dibromo-3-chloropropane	5	U
120-82-1-----	1,2,4-Trichlorobenzene	1	J
87-68-3-----	Hexachlorobutadiene	5	U
91-20-3-----	Naphthalene	5	U
87-61-6-----	1,2,3-Trichlorobenzene	5	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EMMW5

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407006

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4923

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/03/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMMW6

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407007

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4945

Level: (low/med) LOW

Date Received: 07/28/99

%Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/04/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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75-71-8-----	Dichlorodifluoromethane	5	U
74-87-3-----	Chloromethane	5	U
75-01-4-----	Vinyl Chloride	5	U
74-83-9-----	Bromomethane	5	U
75-00-3-----	Chloroethane	5	U
75-69-4-----	Trichlorofluoromethane	5	U
75-35-4-----	1,1-Dichloroethene	5	U
67-64-1-----	Acetone	5	U
74-88-4-----	Iodomethane	5	U
75-15-0-----	Carbon Disulfide	5	U
75-09-2-----	Methylene Chloride	5	U
156-60-5-----	trans-1,2-Dichloroethene	5	U
1634-04-4-----	Methyl tert-butyl ether	61	
75-34-3-----	1,1-Dichloroethane	5	U
108-05-4-----	Vinyl acetate	5	U
156-59-2-----	cis-1,2-Dichloroethene	18	
590-20-7-----	2,2-Dichloropropane	5	U
78-93-3-----	2-Butanone	5	U
74-97-5-----	Bromochloromethane	5	U
67-66-3-----	Chloroform	5	U
71-55-6-----	1,1,1-Trichloroethane	5	U
563-58-6-----	1,1-Dichloropropene	5	U
56-23-5-----	Carbon Tetrachloride	5	U
107-06-2-----	1,2-Dichloroethane	5	U
71-43-2-----	Benzene	5	U
79-01-6-----	Trichloroethene	3	J
78-87-5-----	1,2-Dichloropropane	5	U
74-95-3-----	Dibromomethane	5	U
75-27-4-----	Bromodichloromethane	5	U
110-75-8-----	2-Chloroethyl vinyl ether	5	U
10061-01-5-----	cis-1,3-Dichloropropene	5	U
108-10-1-----	4-Methyl-2-pentanone	5	U
108-88-3-----	Toluene	5	U
10061-02-6-----	trans-1,3-Dichloropropene	5	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMMW6

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407007

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4945

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/04/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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79-00-5-----	1,1,2-Trichloroethane	5	U
142-28-9-----	1,3-Dichloropropane	5	U
127-18-4-----	Tetrachloroethene	5	U
591-78-6-----	2-Hexanone	5	U
124-48-1-----	Dibromochloromethane	5	U
106-93-4-----	1,2-Dibromoethane	5	U
108-90-7-----	Chlorobenzene	5	U
630-20-6-----	1,1,1,2-Tetrachloroethane	5	U
100-41-4-----	Ethylbenzene	5	U
1330-20-7-----	Xylene (Total)	5	U
100-42-5-----	Styrene	5	U
75-25-2-----	Bromoform	5	U
98-82-8-----	Isopropylbenzene	5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	5	U
108-86-1-----	Bromobenzene	5	U
96-18-4-----	1,2,3-Trichloropropane	5	U
103-65-1-----	n-Propylbenzene	5	U
95-49-8-----	2-Chlorotoluene	5	U
108-67-8-----	1,3,5-Trimethylbenzene	5	U
106-43-4-----	4-Chlorotoluene	5	U
98-06-6-----	tert-Butylbenzene	5	U
95-63-6-----	1,2,4-Trimethylbenzene	5	U
135-98-8-----	sec-Butylbenzene	5	U
541-73-1-----	1,3-Dichlorobenzene	5	U
99-87-6-----	4-Isopropyltoluene	5	U
106-46-7-----	1,4-Dichlorobenzene	5	U
104-51-8-----	n-Butylbenzene	5	U
95-50-1-----	1,2-Dichlorobenzene	5	U
96-12-8-----	1,2-Dibromo-3-chloropropane	5	U
120-82-1-----	1,2,4-Trichlorobenzene	5	U
87-68-3-----	Hexachlorobutadiene	5	U
91-20-3-----	Naphthalene	5	U
87-61-6-----	1,2,3-Trichlorobenzene	5	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EMMW6

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407007

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4945

Level: (low/med) LOW

Date Received: 07/28/99

%Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/04/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMMW7

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407008

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4946

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/04/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

75-71-8-----	Dichlorodifluoromethane	5	U
74-87-3-----	Chloromethane	5	U
75-01-4-----	Vinyl Chloride	5	U
74-83-9-----	Bromomethane	5	U
75-00-3-----	Chloroethane	5	U
75-69-4-----	Trichlorofluoromethane	5	U
75-35-4-----	1,1-Dichloroethene	5	U
67-64-1-----	Acetone	5	U
74-88-4-----	Iodomethane	5	U
75-15-0-----	Carbon Disulfide	5	U
75-09-2-----	Methylene Chloride	5	U
156-60-5-----	trans-1,2-Dichloroethene	3	J
1634-04-4-----	Methyl tert-butyl ether	62	
75-34-3-----	1,1-Dichloroethane	5	U
108-05-4-----	Vinyl acetate	5	U
156-59-2-----	cis-1,2-Dichloroethene	20	
590-20-7-----	2,2-Dichloropropane	5	U
78-93-3-----	2-Butanone	5	U
74-97-5-----	Bromochloromethane	5	U
67-66-3-----	Chloroform	5	U
71-55-6-----	1,1,1-Trichloroethane	5	U
563-58-6-----	1,1-Dichloropropene	5	U
56-23-5-----	Carbon Tetrachloride	5	U
107-06-2-----	1,2-Dichloroethane	5	U
71-43-2-----	Benzene	5	U
79-01-6-----	Trichloroethene	3	J
78-87-5-----	1,2-Dichloropropane	5	U
74-95-3-----	Dibromomethane	5	U
75-27-4-----	Bromodichloromethane	5	U
110-75-8-----	2-Chloroethyl vinyl ether	5	U
10061-01-5-----	cis-1,3-Dichloropropene	5	U
108-10-1-----	4-Methyl-2-pentanone	5	U
108-88-3-----	Toluene	5	U
10061-02-6-----	trans-1,3-Dichloropropene	5	U

FORM I VOA

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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EMMW7

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407008

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4946

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/04/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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79-00-5-----	1,1,2-Trichloroethane	5	U
142-28-9-----	1,3-Dichloropropane	5	U
127-18-4-----	Tetrachloroethene	5	U
591-78-6-----	2-Hexanone	5	U
124-48-1-----	Dibromochloromethane	5	U
106-93-4-----	1,2-Dibromoethane	5	U
108-90-7-----	Chlorobenzene	5	U
630-20-6-----	1,1,1,2-Tetrachloroethane	5	U
100-41-4-----	Ethylbenzene	5	U
1330-20-7-----	Xylene (Total)	5	U
100-42-5-----	Styrene	5	U
75-25-2-----	Bromoform	5	U
98-82-8-----	Isopropylbenzene	5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	5	U
108-86-1-----	Bromobenzene	5	U
96-18-4-----	1,2,3-Trichloropropane	5	U
103-65-1-----	n-Propylbenzene	5	U
95-49-8-----	2-Chlorotoluene	5	U
108-67-8-----	1,3,5-Trimethylbenzene	5	U
106-43-4-----	4-Chlorotoluene	5	U
98-06-6-----	tert-Butylbenzene	5	U
95-63-6-----	1,2,4-Trimethylbenzene	5	U
135-98-8-----	sec-Butylbenzene	5	U
541-73-1-----	1,3-Dichlorobenzene	5	U
99-87-6-----	4-Isopropyltoluene	5	U
106-46-7-----	1,4-Dichlorobenzene	5	U
104-51-8-----	n-Butylbenzene	5	U
95-50-1-----	1,2-Dichlorobenzene	5	U
96-12-8-----	1,2-Dibromo-3-chloropropane	5	U
120-82-1-----	1,2,4-Trichlorobenzene	5	U
87-68-3-----	Hexachlorobutadiene	5	U
91-20-3-----	Naphthalene	5	U
87-61-6-----	1,2,3-Trichlorobenzene	5	U



1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EMMW7

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407008

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4946

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/04/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EM7W10

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407005

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4975

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/05/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.                      COMPOUND                      CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L                      Q

75-71-8-----	Dichlorodifluoromethane	5	U
74-87-3-----	Chloromethane	5	U
75-01-4-----	Vinyl Chloride	5	U
74-83-9-----	Bromomethane	5	U
75-00-3-----	Chloroethane	5	U
75-69-4-----	Trichlorofluoromethane	5	U
75-35-4-----	1,1-Dichloroethene	5	U
67-64-1-----	Acetone	5	U
74-88-4-----	Iodomethane	5	U
75-15-0-----	Carbon Disulfide	5	U
75-09-2-----	Methylene Chloride	5	U
156-60-5-----	trans-1,2-Dichloroethene	5	U
1634-04-4-----	Methyl tert-butyl ether	5	U
75-34-3-----	1,1-Dichloroethane	5	U
108-05-4-----	Vinyl acetate	5	U
156-59-2-----	cis-1,2-Dichloroethene	1	J
590-20-7-----	2,2-Dichloropropane	5	U
78-93-3-----	2-Butanone	5	U
74-97-5-----	Bromochloromethane	5	U
67-66-3-----	Chloroform	7	
71-55-6-----	1,1,1-Trichloroethane	5	U
563-58-6-----	1,1-Dichloropropene	5	U
56-23-5-----	Carbon Tetrachloride	5	U
107-06-2-----	1,2-Dichloroethane	5	U
71-43-2-----	Benzene	5	U
79-01-6-----	Trichloroethene	4	J
78-87-5-----	1,2-Dichloropropane	5	U
74-95-3-----	Dibromomethane	5	U
75-27-4-----	Bromodichloromethane	5	U
110-75-8-----	2-Chloroethyl vinyl ether	5	U
10061-01-5-----	cis-1,3-Dichloropropene	5	U
108-10-1-----	4-Methyl-2-pentanone	5	U
108-88-3-----	Toluene	5	U
10061-02-6-----	trans-1,3-Dichloropropene	5	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EM7W10

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407005

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4975

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/05/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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79-00-5-----1,1,2-Trichloroethane	5	U
142-28-9-----1,3-Dichloropropane	5	U
127-18-4-----Tetrachloroethene	9	
591-78-6-----2-Hexanone	5	U
124-48-1-----Dibromochloromethane	5	U
106-93-4-----1,2-Dibromoethane	5	U
108-90-7-----Chlorobenzene	5	U
630-20-6-----1,1,1,2-Tetrachloroethane	5	U
100-41-4-----Ethylbenzene	5	U
1330-20-7-----Xylene (Total)	5	U
100-42-5-----Styrene	5	U
75-25-2-----Bromoform	5	U
98-82-8-----Isopropylbenzene	5	U
79-34-5-----1,1,2,2-Tetrachloroethane	5	U
108-86-1-----Bromobenzene	5	U
96-18-4-----1,2,3-Trichloropropane	5	U
103-65-1-----n-Propylbenzene	5	U
95-49-8-----2-Chlorotoluene	5	U
108-67-8-----1,3,5-Trimethylbenzene	5	U
106-43-4-----4-Chlorotoluene	5	U
98-06-6-----tert-Butylbenzene	5	U
95-63-6-----1,2,4-Trimethylbenzene	5	U
135-98-8-----sec-Butylbenzene	5	U
541-73-1-----1,3-Dichlorobenzene	5	U
99-87-6-----4-Isopropyltoluene	5	U
106-46-7-----1,4-Dichlorobenzene	5	U
104-51-8-----n-Butylbenzene	5	U
95-50-1-----1,2-Dichlorobenzene	5	U
96-12-8-----1,2-Dibromo-3-chloropropane	5	U
120-82-1-----1,2,4-Trichlorobenzene	5	U
87-68-3-----Hexachlorobutadiene	5	U
91-20-3-----Naphthalene	5	U
87-61-6-----1,2,3-Trichlorobenzene	5	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EM7W10

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407005

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4975

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/05/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EM7W10DL

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407005DL

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4944

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/04/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 5.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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75-71-8-----	Dichlorodifluoromethane	25	U
74-87-3-----	Chloromethane	25	U
75-01-4-----	Vinyl Chloride	25	U
74-83-9-----	Bromomethane	25	U
75-00-3-----	Chloroethane	25	U
75-69-4-----	Trichlorofluoromethane	25	U
75-35-4-----	1,1-Dichloroethene	25	U
67-64-1-----	Acetone	25	U
74-88-4-----	Iodomethane	25	U
75-15-0-----	Carbon Disulfide	25	U
75-09-2-----	Methylene Chloride	25	U
156-60-5-----	trans-1,2-Dichloroethene	25	U
1634-04-4-----	Methyl tert-butyl ether	25	U
75-34-3-----	1,1-Dichloroethane	25	U
108-05-4-----	Vinyl acetate	25	U
156-59-2-----	cis-1,2-Dichloroethene	25	U
590-20-7-----	2,2-Dichloropropane	25	U
78-93-3-----	2-Butanone	25	U
74-97-5-----	Bromochloromethane	25	U
67-66-3-----	Chloroform	6	DJ
71-55-6-----	1,1,1-Trichloroethane	25	U
563-58-6-----	1,1-Dichloropropene	25	U
56-23-5-----	Carbon Tetrachloride	25	U
107-06-2-----	1,2-Dichloroethane	25	U
71-43-2-----	Benzene	25	U
79-01-6-----	Trichloroethene	25	U
78-87-5-----	1,2-Dichloropropane	25	U
74-95-3-----	Dibromomethane	25	U
75-27-4-----	Bromodichloromethane	25	U
110-75-8-----	2-Chloroethyl vinyl ether	25	U
10061-01-5-----	cis-1,3-Dichloropropene	25	U
108-10-1-----	4-Methyl-2-pentanone	25	U
108-88-3-----	Toluene	25	U
10061-02-6-----	trans-1,3-Dichloropropene	25	U

FORM I VOA

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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EM7W10DL

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407005DL

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4944

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/04/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 5.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

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

CAS NO.

COMPOUND

Q

79-00-5-----	1,1,2-Trichloroethane	25	U
142-28-9-----	1,3-Dichloropropane	25	U
127-18-4-----	Tetrachloroethene	25	U
591-78-6-----	2-Hexanone	25	U
124-48-1-----	Dibromochloromethane	25	U
106-93-4-----	1,2-Dibromoethane	25	U
108-90-7-----	Chlorobenzene	25	U
630-20-6-----	1,1,1,2-Tetrachloroethane	25	U
100-41-4-----	Ethylbenzene	25	U
1330-20-7-----	Xylene (Total)	25	U
100-42-5-----	Styrene	25	U
75-25-2-----	Bromoform	25	U
98-82-8-----	Isopropylbenzene	25	U
79-34-5-----	1,1,2,2-Tetrachloroethane	25	U
108-86-1-----	Bromobenzene	25	U
96-18-4-----	1,2,3-Trichloropropane	25	U
103-65-1-----	n-Propylbenzene	25	U
95-49-8-----	2-Chlorotoluene	25	U
108-67-8-----	1,3,5-Trimethylbenzene	25	U
106-43-4-----	4-Chlorotoluene	25	U
98-06-6-----	tert-Butylbenzene	25	U
95-63-6-----	1,2,4-Trimethylbenzene	25	U
135-98-8-----	sec-Butylbenzene	25	U
541-73-1-----	1,3-Dichlorobenzene	25	U
99-87-6-----	4-Isopropyltoluene	25	U
106-46-7-----	1,4-Dichlorobenzene	25	U
104-51-8-----	n-Butylbenzene	25	U
95-50-1-----	1,2-Dichlorobenzene	25	U
96-12-8-----	1,2-Dibromo-3-chloropropane	25	U
120-82-1-----	1,2,4-Trichlorobenzene	25	U
87-68-3-----	Hexachlorobutadiene	25	U
91-20-3-----	Naphthalene	7	DJB
87-61-6-----	1,2,3-Trichlorobenzene	7	DJB

FORM I VOA

OLM03.0

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1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EM7W10DL

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407005DL

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4944

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/04/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 5.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1.				
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB1

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407009

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4976

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/05/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5 U	
74-87-3	Chloromethane	5 U	
75-01-4	Vinyl Chloride	5 U	
74-83-9	Bromomethane	5 U	
75-00-3	Chloroethane	5 U	
75-69-4	Trichlorofluoromethane	5 U	
75-35-4	1,1-Dichloroethene	5 U	
67-64-1	Acetone	5 U	
74-88-4	Iodomethane	5 U	
75-15-0	Carbon Disulfide	5 U	
75-09-2	Methylene Chloride	5 U	
156-60-5	trans-1,2-Dichloroethene	5 U	
1634-04-4	Methyl tert-butyl ether	5 U	
75-34-3	1,1-Dichloroethane	5 U	
108-05-4	Vinyl acetate	5 U	
156-59-2	cis-1,2-Dichloroethene	5 U	
590-20-7	2,2-Dichloropropane	5 U	
78-93-3	2-Butanone	5 U	
74-97-5	Bromochloromethane	5 U	
67-66-3	Chloroform	5 U	
71-55-6	1,1,1-Trichloroethane	5 U	
563-58-6	1,1-Dichloropropene	5 U	
56-23-5	Carbon Tetrachloride	5 U	
107-06-2	1,2-Dichloroethane	5 U	
71-43-2	Benzene	5 U	
79-01-6	Trichloroethene	5 U	
78-87-5	1,2-Dichloropropane	5 U	
74-95-3	Dibromomethane	5 U	
75-27-4	Bromodichloromethane	5 U	
110-75-8	2-Chloroethyl vinyl ether	5 U	
10061-01-5	cis-1,3-Dichloropropene	5 U	
108-10-1	4-Methyl-2-pentanone	5 U	
108-88-3	Toluene	5 U	
10061-02-6	trans-1,3-Dichloropropene	5 U	



1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB1

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407009

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4976

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/05/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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79-00-5-----	1,1,2-Trichloroethane	5	U
142-28-9-----	1,3-Dichloropropane	5	U
127-18-4-----	Tetrachloroethene	5	U
591-78-6-----	2-Hexanone	5	U
124-48-1-----	Dibromochloromethane	5	U
106-93-4-----	1,2-Dibromoethane	5	U
108-90-7-----	Chlorobenzene	5	U
630-20-6-----	1,1,1,2-Tetrachloroethane	5	U
100-41-4-----	Ethylbenzene	5	U
1330-20-7-----	Xylene (Total)	5	U
100-42-5-----	Styrene	5	U
75-25-2-----	Bromoform	5	U
98-82-8-----	Isopropylbenzene	5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	5	U
108-86-1-----	Bromobenzene	5	U
96-18-4-----	1,2,3-Trichloropropane	5	U
103-65-1-----	n-Propylbenzene	5	U
95-49-8-----	2-Chlorotoluene	5	U
108-67-8-----	1,3,5-Trimethylbenzene	5	U
106-43-4-----	4-Chlorotoluene	5	U
98-06-6-----	tert-Butylbenzene	5	U
95-63-6-----	1,2,4-Trimethylbenzene	5	U
135-98-8-----	sec-Butylbenzene	5	U
541-73-1-----	1,3-Dichlorobenzene	5	U
99-87-6-----	4-Isopropyltoluene	5	U
106-46-7-----	1,4-Dichlorobenzene	5	U
104-51-8-----	n-Butylbenzene	5	U
95-50-1-----	1,2-Dichlorobenzene	5	U
96-12-8-----	1,2-Dibromo-3-chloropropane	5	U
120-82-1-----	1,2,4-Trichlorobenzene	5	U
87-68-3-----	Hexachlorobutadiene	5	U
91-20-3-----	Naphthalene	5	U
87-61-6-----	1,2,3-Trichlorobenzene	5	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB1

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407009

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: V2C4976

Level: (low/med) LOW

Date Received: 07/28/99

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 08/05/99

GC Column: DB-624 ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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**APPENDIX B**

**DATA VALIDATION AND USABILITY REPORTS**

## **DATA USEABILITY REPORT**

This usability report covers the analytical results, submitted by Mitkem Corporation (Mitkem), for the field sampling investigation, conducted by Lawler, Matusky & Skelly Engineers LLP (LMS) between 15 and 27 July 1999 at the Empire Electric Site. The analytical report submitted by Mitkem, sample designation group (SDG) 61329, 61047A and 61047B was validated by Data Validation Services. LMS reviewed the data validator's final report and assessed the analytical data against the project data quality objectives (DQOs) in preparation of this report. Where resulting quality control (QC) data did not fall within protocol requirements the reported data in the Focused Remedial Investigation Report (FRI) have been appropriately qualified. The data submitted by Mitkem are useable to approximate levels of select environmental contaminants in samples collected as part of the Empire Electric Site investigation.

A total of eight (8) aqueous samples, eight soil samples and one oil sample were collected as part of the Empire Electric Site investigation and analyzed for target compound list (TCL) volatile organic compounds and TCL polychlorinated biphenyls (PCBs). An additional eleven (11) soil samples were collected and analyzed for TCL PCBs. All of the analyses were conducted in accordance with the most recent version of the New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) (October 1995).

Those instances where the reported data were noncompliant are described in the data validator's report. This report presents a discussion of any impacts that noncompliant data and any other issues raised by the validator may have on the usability of the reported results.

### **Volatile Organic Compound Analysis**

Samples submitted to Mitkem were analyzed for TCL VOCs in accordance with NYSDEC ASP Method 8260B. Where reported concentrations may have been affected by QC failures the data usability is discussed below:

1. Acetone, methylene chloride, dichlorodifluoromethane and naphthalene were detected in certain of the method and trip blanks associated with the sampling events at levels which were comparable to detections in field samples. The presence of these compounds in the samples, therefore, is not considered to be representative of site conditions and the validator rejected all detections of these compounds. Acetone, methylene chloride dichlorodifluoromethane and naphthalene were removed as detected compounds in the final data summary table prepared by LMS.

2. The technical holding time for the analysis of trip blank TB-1 (SDG 61407A) was exceeded by one day. There were no target compounds detected in sample TB-1, however, all non-detects are considered estimated because of the possible bias. The qualified results are useful to show that elevated levels of these compounds are not present in the trip blank.
3. The subsurface soil sample analyses of EMSB-06(0-2), EMSB-06(2-4) and EMSB-06(4-6) exhibited severe matrix effects which affected a number of the later eluting compounds. The internal standard recoveries of d4-1,4-dichlorobenzene and d5-chlorobenzene were well below criteria. As a result, the initial analyses of EMSB-06(2-4) and EMSB-06(0-2) and the reanalysis ("RE") of EMSB-06(4-6) were considered the most representative of environmental conditions and are presented in LMS' data summary tables. Sample results are further qualified as follows:
  - All compounds detected in these samples are qualified as estimated and flagged in the data summary tables with a "g".
  - Sample non-detect for the following compounds are rejected following validation protocol as a result of the uncertainty of analyses caused by sample matrix interference.

chloroethane	trichlorofluoromethane
1,1-dichloroethene	acetone
iodomethane	carbon disulfide
methylene chloride	trans-1,2-dichloroethene
methyl tert-butyl ether	1,1,-dichloroethane
vinyl acetate	cis-1,2-dichloroethene
2,2-dichloropropane	2-butanone
bromochloromethane	chloroform
1,1,1-trichloroethane	1,1-dichloropropene
carbon tetrachloride	1,2-dichloroethane
benzene	

The validator notes, however, that the matrix spike recoveries of EMSB-06(2-4) were within or close to acceptance range for all analytes. Although matrix spike recoveries do not always represent how sample components in soils will recover their recovery none the less indicates the likelihood that significant concentrations of the rejected analytes are present in the samples. A review of analytical results from all other unaffected subsurface soils as well as shallow soil and groundwater samples indicate that the rejected analytes are not characteristic contaminants of the site. Results are useable to show that significant

concentrations of the rejected analytes are not present in the affected samples and, based on similar and other matrices sampled, would not appear to be characteristic site contaminants.

- For samples EMSB-06(2-4) and EMSB-06(4-6) the following compound results are considered estimated:

1,3-dichloropropane	tetrachloroethene
2-hexanone	dibromochloromethane
1,2-dibromomethane	chlorobenzene
1,1,2,2,-tetrachloroethane	ethylbenzene
xylene (total)	styrene
bromoform	

Where compounds have been detected, results in the summary tables have been qualified with a “g” to indicate the detection is estimated. For those compounds that were not detected the non-detects are also qualified as estimated, however, not all of the compounds above have been included in the summary tables. Those compounds that were not detected in any of the samples of similar matrix are not reported. The qualified results are useful to show the relative levels of these compounds in the affected samples.

- The laboratory case narrative indicated that low-level concentrations reported below quantitation levels (“j” qualified in the summary tables) were likely the result of sample carryover. The validator indicated that supporting evidence to corroborate this statement was not provided and, therefore, the data has not been rejected or further qualified.
4. Analyses of the shallow soil samples BS01, BS02, and BS03 exhibited matrix effects exhibited in low internal standard recoveries. Sample results for the following analytes in sample BS-01 and BS-03 are considered estimated and in sample BS-2 the non-detect for the following compounds are rejected following validation protocol as a result of the uncertainty of analyses caused by sample matrix interference.

chloroethane	trichlorofluoromethane
1,1-dichloroethene	acetone
iodomethane	carbon disulfide
methylene chloride	trans-1,2-dichloroethene
methyl tert-butyl ether	1,1,-dichloroethane
vinyl acetate	cis-1,2-dichloroethene
2,2-dichloropropane	2-butanone

bromochloromethane	chloroform
1,1,1-trichloroethane	1,1-dichloropropene
carbon tetrachloride	1,2-dichloroethane
benzene	

The validator notes, however, that the matrix spike recoveries of BS-02 were within or close to acceptance range for all analytes with the exception of vinyl acetate. Although matrix spike recoveries do not always represent how sample components in soils will recover their recovery none the less indicates the likelihood that significant concentrations of the rejected analytes are present in the samples. A review of analytical results from all other unaffected subsurface soils as well as shallow soil and groundwater samples indicate that the rejected analytes are not characteristic contaminants of the site. Analytical results are useable to indicate that significant concentrations of the rejected analytes are not present in sample BS-02, and based on similar and other matrices sampled, would not appear to be characteristic site contaminants.

In addition all other sample detections are considered estimated with the exception of vinyl acetate which is rejected due to the lack of recovery in the matrix spike. Sample detections are useable to indicate the relative levels of these compounds. Although the analyses of vinyl acetate in sample BS-02 was rejected, the compound has not been demonstrated to be a site contaminant.

Where compounds have been detected in samples BS-01 and BS-03, results in the summary tables have been qualified with a "g" to indicate the detection is estimated. For those compounds that were not detected, the non-detects are also qualified as estimated, however, not all of the compounds above have been included in the summary tables. Those compounds that were not detected in any of the samples of similar matrix are not reported. The qualified results are useful to show the relative levels of these compounds in the affected samples.

5. Due to a math error involved with the dilution and analyses of the oil sample B0-01, sample results reported in the form 1 were reported incorrectly. Summary tables have been revised to account for the corrected values. No other qualification is warranted and data is useable as reported.
6. As a result of low daily calibration standards the following compounds are considered estimated possibly biased low.

Trichlorofluoromethane and acetone in sample B001

Bromomethane in samples EMMW1 and EMMW3

Acetone and hexachlorobutadiene in samples EM7W-10, -2, -4, -5, -6, -7 and the field blank FBSOILS.

Sample results have been qualified in the summary data tables where appropriate. The qualified results are useful to show the relative levels of these compounds in the affected samples.

7. The initial analyses of sample EM7W10 should be used and not the reanalysis REEM7W10. The reanalysis sample was therefore not included in the summary tables.

In every other respect of data validation and review, the TCL VOC results are usable as reported by the laboratory.

#### **PCB Analysis**

Samples submitted to Mitkem for TCL PCB analyses were performed in accordance with NYSDEC ASP Method 8082. Where reported concentrations may have been affected by QC failures the data usability is discussed below:

1. All analytical results from SDGs 61407 and 61407B are reported from the resubmission results. Initial analyses (with the exception of sample EMSB-06(0-2) discussed in item #6 below) for these samples were performed on a single column which is not allowed for under ASP. Samples were reanalyzed within holding time and processed using dual column analyses. Data summary tables report only the reanalysis for these samples.
2. As a result of improper numerical calculation, the "p" flags were not applied properly for a number of sample results. Data validation highlighted affected samples and sample results in the data summary tables are appropriately qualified.

Sample flagged with a "p" qualifier are also considered estimated. Affected samples in the data summary tables have been appropriately qualified. The qualified results are useful to show the relative levels of these compounds in the affected samples.



3. Reported concentrations of Aroclor 1254 in samples BW-04 and B0-01 should be considered estimated due to poor correlation between sample congeners and standards. The validator indicates matrix effects, poor integration or weathering of the PCBs in the matrix. The qualified results are useful to show the relative levels of these compounds in the affected samples.
4. Review of the chromatogram for sample EMSB-06(2-4) indicated the possible presence of unreported Aroclor 1248 in the sample at levels close to the contract required detection limit (CRDL) of 38 µg/kg although limitation in the raw data made confirmation of presence not possible. Data tables have been edited to include Aroclor 1248 as non-detect but estimated.
5. Sample BW-05 produced a response of Aroclor 1254 that was above the instrument calibration run. No dilution analyses was performed until after the laboratory was questioned on the issue. Sample reanalysis was conducted outside of holding time and proper supporting documentation was not provided. Sample results from the initial analyses are therefore used and qualified as estimated. The qualified results are useful to show the relative levels of these compounds in the affected sample.
6. Sample EMSB-06(0-2) was processed on only a single column. Dual column processing was not performed for this particular sample. Sample results are qualified as estimated. The qualified results are useful to show the relative levels of these compounds in the affected samples.
7. PCB detection of Aroclor 1260 in field blanks Concrete and FB SOILS were found to be likely the result of carryover from previous analyses. Aroclor results in sample analyses are of sufficient magnitude to not warrant any qualification. Data is useable as reported for this QC issue.
8. Surrogate recoveries for a number of the samples that exhibited elevated PCB levels could not be evaluated as a result of sample dilution. Surrogates, added at the time of sample preparation, were effectively “diluted out” of the sample. Samples results exhibiting elevated PCB concentrations are therefore considered estimated. The qualified results are useful to show the relative levels of these compounds in the affected samples.
9. Soil matrix spike EMSB-06(2-4) showed elevated recoveries which were likely due to contribution of sample Aroclor components. Sample results are already qualified as estimated and no further qualification is warranted. Soil matrix spike of BS02 produced good Aroclor 1016 recoveries. Results of Aroclor 1260 in that sample as well as both Aroclors in spikes of BW01 were not useable due to either high sample analyte concentrations or dilution. Sample results are already qualified as estimated and no further qualification is warranted.

## **General Summary of Significant Non-Compliance Issues**

### **Volatile Organic Compound Analyses**

VOC analyses were done within accepted protocol with the exception of the technical rejection of a number of compounds in four soil samples as a result of significant matrix effects. The matrix effects limited the ability of the analyses to detect a number of VOCs at low levels. Sample results have been properly qualified. Data is useable under this initial site investigation to identify those VOC compounds which are site contaminants. Sample components that were qualified were compound detections at or below quantitation limits.

### **Polychlorinated Biphenyl Analyses**

The verification of PCB concentrations in site samples was hindered as a result of insufficient documentation generated by the software utilized by the laboratory. In addition, a number of soil samples exhibited significant matrix interference which made PCB quantitation in the samples difficult. LMS, our contract validator, DVS, and Mitkem were in constant contact in order to produce data that was able to meet project data quality objectives. The results contained within the data summary tables are properly qualified and are useable to indicate the relative levels of PCB contaminants in the various media sampled and meet data quality objectives for this preliminary site investigation. Mitkem has been in touch with the PCB software distributor to get an update of the program which will generate the necessary documentation to allow full verification by the validator. In the mean time the necessary documentation will be generated by the laboratory by hand for any future assignments.

# Data Validation Services

120 Cobble Creek Road P. O. Box 208

North Creek, N. Y. 12853

Phone 518-251-4429

Facsimile 518-251-4428

LAWLER, MATUSKY &  
SKELLY ENGINEERS LLP

SEP 14 1999

For Hazardous Waste Section

September 12, 1999

Dr. Maria Heincz  
LMS Engineers  
One Blue Hill Plaza  
Pearl River, NY 10965

RE: Validation of NYSDEC Empire Electric Site Data Packages  
Mitekem SDG Nos. 61329, 61407A, and 61407B

Dear Dr. Heincz:

Review has been completed for the data packages generated by Mitekem Laboratories, pertaining to samples collected 7/15/99 through 7/27/99 at the NYSDEC Empire Electric Site. Eight aqueous, eight soil, and one oil sample were analysed for volatiles and PCBs. Eleven additional soil samples were analysed for PCBs. Matrix spikes/duplicates, field blanks, and trip blanks were also processed. The methodology utilized are those of the 1995 NYSDEC ASP/SW846.

Data validation was performed with guidance from the most current editions of the USEPA CLP National Functional Guidelines for Organic Data Review and the USEPA SOPs HW-6. The following items were reviewed:

- \* Data Completeness
- \* Custody Documentation
- \* Holding Times
- \* Surrogate and Internal Standard Recoveries
- \* Matrix Spike Recoveries/Duplicate Correlations
- \* Preparation/Calibration Blanks
- \* Control Spike/Laboratory Control Samples
- \* Instrumental Tunes
- \* Calibration Standards
- \* Instrument IDLs
- \* Method Compliance
- \* Sample Result Verification

Those items showing deficiencies are discussed in the following sections of this report. All others were found to be acceptable as outlined in the above-mentioned validation procedures, and as applicable for the methodology. Unless noted specifically in the following text, reported results are substantiated by the raw data, and generated in compliance with protocol requirements.

**In summary**, sample processing for volatile analytes was primarily conducted with compliance to protocol requirements and with adherence to quality criteria, and most reported results are usable with minor qualification. Exceptions include rejection of some of the volatile parameters in four soil samples due to excessive matrix effect. The PCB results for samples in SDGs 61407A and 61407B have been resubmitted following reanalysis. Some of those results have also been additionally edited to include the previously omitted "P" flag. Numerous additional qualifications of PCB reported results as estimated have also been made due to matrix or analyte interferences or processing issues. These issues are discussed in detail in the following sections.

Attached to this report are copies of laboratory resubmission communications, revised report forms, laboratory case narratives, and laboratory NYSDEC Sample Identification/Requirement summary forms. These should be reviewed in conjunction with this report. Also attached is a compliance chart.

### **Data Completeness/General**

The PCB quantitative results are generated from software algorithms for which insufficient documentation is available for verification. The raw data initially provided for all data packages include only instrumental output which reflects the analyst's review. The raw data also did not include the information needed to derive the standard factors used in the sample calculations. Therefore, it was not possible during validation review to fully verify the accuracy of the quantitative (detected) values reported, nor to accurately determine the absence/presence of nonreported Aroclor mixtures.

Upon request, SDGs 61407A and 61407B were reanalysed (within holding time) for PCBs to include dual column processing. The laboratory was also requested to provide more complete instrumental output to aid in validation review. These additional submissions for those two delivery groups provided a capability to evaluate presence of alternate Aroclors, and also to show derivation of some of the standard software algorithms.

In summary, the five soil samples in SDG 61329 have not undergone full qualitative or quantitative verification due to limited raw data documentation. Based upon the review of the standard raw data resubmitted for the other two groups, it is probable that the reported detected values are generated from proper software data. Qualitative determinations for, and some of the reported detected values of, samples in SDGs 61407 and 61407B have undergone full validation review. However, numerous additional qualifications and concerns, some affecting possible false negatives and noncompliances in processing, are discussed later in this text.

### **Volatile Analyses by NYSDEC ASP/EPA 8260**

Technical holding times were met, with the exception of that for TB-1(61407A), and the reanalysis of equipment blank EB01. The initial analysis of EB01 showed a surrogate recovery one percentage point below the limit. That initial analysis result can be used without qualification (as indicated by the sensitivity of the system as compared to the reported detection limits). Results for TB-1 should be considered estimated ("J"), possibly biased low, due to analysis one day past holding time.

Methylene chloride, acetone, dichlorodifluoromethane, and naphthalene were detected in certain of the method and trip blanks at concentrations similar to those of the samples at instrument level. The sample reported detections of these analytes should therefore be edited to reflect nondetection at the sample CRDL, or at the originally reported value, whichever is greater.

The internal standard summary Forms 8, and the analyst review, should utilize a "-50%" action limit for areas, rather than "-75%" criterion used.

Samples EMSB-06(0-2), EMSB-06(2-4), and EMSB-06(4-6) consistently exhibited severe matrix effect which affects the usability of the later-eluting target analytes. The internal standard d4-1,4-dichlorobenzene produced recoveries of only 8% to 12% in the best analyses of the samples. The internal standard d5-chlorobenzene produced recoveries at 25% in two of the samples. The initial analyses of EMSB-06(2-4) and EMSB-06(0-2), and the reanalysis ("-RE") of EMSB-06(4-6), should be used with the following qualifications:

- \* Edit potential contaminants as noted above
- \* Detected analyte values should all be considered estimated ("J")
- \* Nondetected analyte results for all target analytes (21 of them) following bromoform on the Form 1 should be rejected ("R"). However, although validation protocols require that rejection, it is noted that the matrix spikes of EMSB-06(2-4) produced recoveries within, or close to, the acceptance ranges for all analytes. The spikes were performed at a concentration of 50 ug/L, and showed detections. Therefore it is probable that sample constituents at that concentration should have also showed detection. However, this cannot be assumed in totality because recovering spike compounds added to the soil is not fully representative of recovering sample components inherent in the soil.
- \* For samples EMSB-06(2-4) and EMSB-06(4-6), results for the 11 analytes falling between 1,3-dichloropropane and bromoform, inclusive, on the Form 1, should be qualified as estimated ("J").
- \* The TIC results for EMSB-06(4-6) should be used from the initial analysis, because raw data for TICs were not reported with the reanalysis.
- \* The laboratory commented in the narrative that the low level detections in these samples may result from standard carryover. The samples were run multiple times with consistent results. The reasoning behind the laboratory explanation is not clear, and should not be used to reject the presence of the reported analytes unless further justification is provided.

Samples BS01, BS02, and BS03 exhibited matrix effect indicating qualification of analyte values. The internal standard d4-1,4-dichlorobenzene produced recoveries of only 20% in BS02, and recoveries >25% and <50% in BS01 and BS03. The other two internal standards also produced recoveries >25% and <50% in BS02. Due to improper low area evaluation, no reanalyses were performed on BS01 and BS03. Qualifications should be as follows:

- \* Edit potential contaminants as noted above
- \* Nondetected analyte results for all target analytes (21 of them) following bromoform on the Form 1 should be rejected ("R") for sample BS02. However, although validation protocols require that rejection, it is noted that the matrix spikes of BS02 produced recoveries within, or close to, the acceptance ranges for all analytes except vinyl acetate. The spikes were performed at a concentration of 50 ug/L, and showed detections. Therefore it is probable that sample

constituents at that concentration should have also showed detection. However, this cannot be assumed in totality because recovering spike compounds added to the soil is not fully representative of recovering sample components inherent in the soil.

- \* All other analyte values for BS02 should be considered estimated, with the exception of vinyl acetate, whose result should be rejected ("R") due to lack of recovery in the matrix spikes of the sample.
- \* Analyte results for target analytes (21 of them) following bromoform on the Form 1 should be considered estimated for samples BS01 and BS03.
- \* TICs reported for BS02 are rejected due to low level copresence in the associated blank

The preparation/analysis log shows that the oil sample BO01 was initially added as 5 g to 5 mL, with 100 uL of that added to the purge volume. It is not specified whether the initial 5 mL material was methanol or water. However, it must be assumed that the sample and material were miscible, or using 100 uL aliquot for purging would not have been appropriate. Therefore, addition of 5 g and 5 mL of miscible material makes a twofold dilution. This twofold factor was not incorporated into the final calculation. The results for BO01 (detections and detection limits) should be edited to be twice those originally reported.

The result for methyl-t-butyl ether in EMMW1, and the method blank VBLK5U in SDG 61329, should have been reported as "5U", not "1U."

Results for trichlorofluoromethane and acetone in BO01 are qualified estimated due to low daily calibration standard responses (27%D and 31%D).

Results for bromomethane in EMMW1 and EMMW3 are qualified estimated due to low daily calibration standard response (35%D).

The acetone and hexachlorobutadiene results should be considered estimated, possibly biased low, in samples EM7W10, EMMW2, EMMW4, EMMW5, EMMW6, EMMW7, and FBSOILS due to low calibration standard responses (26%D to 39%D).

Elevated standard responses for analytes not detected in the samples are not noted for qualification, as reported results are unaffected.

Only the initial analysis of EM7W10 should be used (not the "-DL").

Aqueous matrix spikes of EMMW6 and low level soil matrix spikes of BS02 and EMSB-06(2-4) showed generally acceptable accuracy and precision values, showing several slightly outlying recoveries not affecting sample reported results (exception of vinyl acetate, noted above).

Any Tentatively Identified Compounds (TICs) reported by the laboratory with the "B" qualifier are contaminants, and should be rejected from consideration as sample components.

## PCB Analyses by NYSDEC ASP/EPA 8082

The data package documentation should be improved to include an ability to trace the derivation of standard response factors, and the unedited integration output. As is, quantitative results for samples in SDG 61329, and for all Aroclor 1254 detections, are not fully validated (see earlier discussion). It is noted that no errors were determined during evaluation of the quantitative results for Aroclor 1260 in the samples in SDGs 61407A and 61407B.

All reported results for samples in SDGs 61407 and 61407B should be derived only from the resubmitted (9/03/99 revision) results. Certain of those report forms (attached) have been revised to include the "P" flag, which had been originally misapplied only to those exceeding 40% difference (rather than the required 25% difference). Additionally, the laboratory is incorrectly calculating the Percent Difference value used for application of the "P" flag; they are actually calculating (and reporting on the Forms 10) a Relative Percent Difference value. Therefore, the following sample results should also be edited to include the "P" flag:

Aroclor 1254 in EMSB-06(2-4)

Aroclor 1254 in EMSB-06(4-6)

Aroclor 1254 in BW02-DL

All Aroclor values with the "P" flag (including the revisions, and edits noted above) should be also qualified as estimated ("J") due to dual column quantitative variance indicating possible interferences.

Some of the reported concentrations involved use of congeners showing very poor correlation to the standard proportions, sometimes due to the use of congeners which showed interference contribution or poor integration, or to weathering of the PCB mixture in the sample. Values for these should be considered estimated:

Aroclor 1254 in BW04

Aroclor 1254 in BO01

Evaluation of the chromatogram for EMSB-06(2-4) indicates the possible presence of unreported Aroclor 1248 at levels close to the CRDL. Due to limitations in raw data (see above), the actual values cannot be determined during validation. Total PCB concentrations in the sample are unlikely to exceed 2 mg/kg.

Sample BW05 produced response above the instrument calibration range, and was not run at dilution. Following a request regarding this issue, the sample was run at dilution beyond holding time (no supporting documentation provided). The initial result should be used, but considered estimated.

Sample EMSB-06(0-2) was processed only on a single column. Therefore the reported value for Aroclor 1254 should be considered estimated ("J"), with an unknown bias direction. Based upon the dual column difference values observed in samples with similar matrix, the bias is not expected to exceed 40%.

Results for analyte values initially flagged as "E" should be derived from dilution analyses. Unless noted specifically herein, all other values for the sample can be derived from the initial analysis.

The field blanks CONCRETE and FBSOILS showed low level detections of Aroclor 1260 (1.6 and 1.8 ug/L, above the detection limit of 1 ug/L). It is noted that the initial analysis of FBSOILS produced detection of Aroclor 1260 at 23 ug/L, although the reanalysis (within holding time) showed only 1.8 ug/L. Review of the runlog shows that the initial analysis followed that of a high concentration sample. Additionally, the dilution reanalysis of BW02 shows significant responses for Aroclor 1260 (about 10 times the adjusted CRDL) which were not detected in the initial analysis. Therefore, it appears to be laboratory injection system carryover contamination. Sample reported detections of Aroclor 1260 are at concentrations high enough that no qualification to their values is recommended due to this contamination issue

Certain of the sample exhibited very high analyte concentrations. In these cases, dilution prevents evaluation of surrogate recoveries. Solvency of the method may be exceeded, and all very high concentration values should be considered to have a possible low bias.

Surrogate recoveries were acceptable when not dilution beyond reliable detection, or affected by interferences.

Retention times for surrogate DCB were out of the required range for some samples due to interference from target analytes.

Soil matrix spikes of EMSB-06(2-4) showed elevated recoveries of Aroclor 1260 (221% and 218%). This is likely due to contribution from the sample Aroclor components. The detected analyte Aroclor 1254 result is already estimated due to dual column variance. Soil matrix spikes of BS02 produced good Aroclor 1016 recoveries. Results for Aroclor 1260 in those spikes, and results for both Aroclors in the spikes of BW01 are not usable for evaluation due either to high sample analyte concentrations or to dilution. Aqueous matrix spikes EMMW6 were acceptable. Spike blank recoveries are acceptable.

The matrix spikes of BW01 were poorly evaluated for Aroclor 1016 response, which was diluted beyond reliable reporting. The laboratory used only one peak for quantitation, and it was a congener response from the Aroclor 1260 in the sample. The Forms 1 for them should have showed "E" flag for Aroclor 1260.

The following issues summarize the processing concerns observed in these data packages:

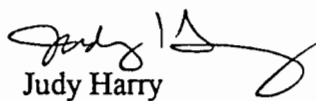
- 1) False negatives, where Aroclors 1248 and 1260 were detected but not reported
- 2) Dual column analyses were not initially performed for most samples
- 3) Some samples (including an equipment blank) exhibited interference related to either sulfur and/or column carryover.
- 4) Evidence of injection system carryover
- 5) Analyses included processing with excessively elevated baselines
- 6) Incorrect calculation of the dual column %D value
- 7) Improper application of the "P" flag action level
- 8) Only one peak was used in calculation of some of the Aroclor 1016 spike values
- 9) Quantitation of different Aroclor mixtures utilized common congeners



- 10) Chromatograms are not scaled properly
- 11) Isomer selection for quantitation was not selective to eliminate interferences or poor baselines
- 12) Insufficient integration documentation was provided, thus prohibiting secondary review

Please do not hesitate to contact me if questions or comments arise during your review of this report.

Very truly yours,

  
Judy Harry

# COMPLIANCE CHART

Project: LMS Engineers Empire Electric Site

SDG Nos. Mitkem SDG Nos. 61329, 61407, and 61407A

Protocol: NYSDEC 1995 ASP/SW846

Rec. Date	Sample ID	Matrix	VOA	PCB	Noncompliance
07-16-99	EM-B1(0-2)	Soil	OK	OK	
07-16-99	EM-B1(2-4)	Soil	OK	OK	
07-20-99	EMSB-06(0-2)	Soil	OK	NO	3
07-20-99	EMSB-06(2-4)	Soil	OK	OK	
07-20-99	EMSB-06(4-6)	Soil	OK	OK	
07-28-99	EMMW-1	Aqueous	OK	OK	
07-28-99	EMMW-2	Aqueous	OK	OK	
07-28-99	EMMW-3	Aqueous	OK	OK	
07-28-99	EMMW-4	Aqueous	OK	OK	
07-28-99	EMMW-5	Aqueous	OK	OK	
07-28-99	EMMW-6	Aqueous	OK	OK	
07-28-99	EMMW-7	Aqueous	OK	OK	
07-28-99	EM7W-10	Aqueous	OK	OK	
07-28-99	BW-01	Soil	NR	OK	
07-28-99	BW-02	Soil	NR	OK	
07-28-99	BW-03	Soil	NR	OK	
07-28-99	BW-04	Soil	NR	OK	
07-28-99	BW-05	Soil	NR	NO	4
07-28-99	BW-06	Soil	NR	OK	
07-28-99	BF-01	Soil	NR	OK	
07-28-99	BF-02	Soil	NR	OK	
07-28-99	MF-01	Soil	NR	OK	
07-28-99	MF-02	Soil	NR	OK	
07-28-99	MF-03	Soil	NR	OK	
07-28-99	BS-01	Soil	NO	OK	2
07-28-99	BS-02	Soil	OK	OK	
07-28-99	BS-03	Soil	NO	OK	2
07-28-99	BO-01	Soil	OK	OK	
07-28-99	TB-1	Aqueous	NO	NR	1
07-20-99	EB-01	Aqueous	NO	OK	1
07-28-99	Field Blank-Soil	Aqueous	OK	OK	
07-28-99	Field Blank-Concr	Aqueous	NR	OK	

1. Volatile holding time exceeded.
2. No volatile reanalyses due to incorrect lower internal standard area limit
3. Only one column for PCB analysis
4. No PCB dilution analysis

See also other concern in processing outlined in validation text.

# Data Validation Services

120 Cobble Creek Road P. O. Box 208

North Creek, NY 12853

Phone (518) 251-4429

Facsimile (518) 251-4428

## Facsimile Transmission

TO: Ed Lawler and Kin Chiu

COMPANY: Mitkem

FAX NUMBER: 401 732 3499

FROM: Judy Harry 

DATE: 09-08-99

No. of pages (including cover): 1

COMMENTS: RE: LMS Engineers  
NYSDEC Empire Electric Superfund Site  
Mitkem SDGs 61329, 61407A and 61407B

The "P" qualifiers were not properly applied for the samples exhibiting dual column differences greater than 25%. Please provide corrected copies of the Forms 1 for the affected samples.

Please fax these corrections as soon as possible to both Maria Heincz and myself as soon as possible. This project is urgent. Thank you.

cc: Maria Heincz, LMS Engineers

☐ Hardcopy to follow

☒ Hardcopy not to follow

# Data Validation Services

120 Cobble Creek Road P. O. Box 208

North Creek, NY 12853

Phone (518) 251-4429

Facsimile (518) 251-4428

## Facsimile Transmission

TO: Ed Lawler and Kin Chiu

COMPANY: Mitkem

FAX NUMBER: 401 732 3499

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No. of pages (including cover): 2

COMMENTS: RE: LMS Engineers  
NYSDEC Empire Electric Superfund Site  
Mitkem SDGs 61329, 61407A and 61407B

The following information is required for completion of the validation of the above-noted project. Please response as soon as possible, due to the urgency of project deadlines:

1. Review of the response factor information on the Forms 6 and 7 for Aroclors 1660 and Aroclor 1254 shows incorrect values for column DB-1701 for Aroclors 1660 and for both columns for Aroclor 1254. This is true for analysis sequences 6-7-99 and 8-19-99. The factors for Aroclors 1660 on DB608 **do** match the raw data. Please explain, and provide corrected summary forms, as necessary.
2. Please also clarify the concentration of the low level Aroclor standards. The raw data indicates 0.1 ng/uL, but the summary Forms 6 show 0.2 ng/uL. The erroneous response factors discussed above do not match with either concentration.

3. Aroclor 1254 in sample 61407-014 (BW05) was reported with a response twofold higher than the highest calibration standard (flagged with "E"). No dilution was reported, and no comment was present in the narrative. Please discuss, and submit the dilution analysis, if available. No dilution run was noted on the instrument log for the sample.
4. The PCB MDL study summary that I requested in my transmittal of 8-27-99 was not included in the revised data packages. Please forward the applicable study summaries.

Please call as soon as it is apparent when this information can be provided. Please also provide copies of all responses to Maria Heincz at LMS. Thank you.

cc: Maria Heincz, LMS Engineers

☐ Hardcopy to follow

☒ Hardcopy not to follow



## MEMORANDUM

September 9, 1999

To: Judy Harry, Data Validation Services

Fr: Ed Lawler, Laboratory Operations Manager

A handwritten signature in dark ink, appearing to be "EL" or "Ed Lawler", written over the "Fr:" line.

Re: LMS Engineers, NYSDEC Empire Electric Project, Data Review Questions,  
Mitkem SDGs 61329, 61407A, 61407B

The following information is provided in response to your facsimile of yesterday. The items are numbered as in your fax.

1. Response factors on the Forms 6 and 7 are produced using either peak area or height, depending on the judgement of the analyst. Once area or height is selected, it is used uniformly for that analyte in all subsequent calculations based on that initial calibration. Due to a software limitation, only peak area is reported on the quantitation report (raw data) under "response". Mitkem has discussed this limitation with the software vendor (Thru-Put Systems), who have indicated that this limitation will be eliminated in a future revision of the software.

Per your previous request, we have provided with the most recent submittal of the 61407 SDGs a print-out for each sample that lists every peak detected, not just those which were identified as target analytes. This print-out includes both area and height measurements for these peaks. Attached to this memo are example print-outs for the 5 level calibration for aroclor 1660 from August 20, 1999. This will allow you to verify that the software is correctly calculating response factors, and applying these to samples to generate concentrations.

2. The concentration for the lowest level aroclor standards is 0.1 ng/uL. The "name" of the lowest concentration standard remains "0.2 ng/uL", residual from a prior time when that was both the name and concentration of the lowest calibration standard.
3. Aroclor 1254 in sample BW05 (Mitkem ID 61407-014) is over the calibration range of the instrument. Dilution analysis was not performed. This analysis has just been performed today, although it is just beyond the 40<sup>th</sup> day from sample extraction. The Form 1 for the dilution analysis is attached for your information.

**MITKEM**  
**CORPORATION**

4. Summary results of the PCB MDL study are attached.

(from your second facsimile of yesterday)

1. "P" qualifiers were applied at 40% due to our reading of NYSDEC ASP 10/95 Methods 8000A, 8000B and 8082. It had been our interpretation that ASP Section B, Forms Instructions applied to the use of these forms for ASP-CLP methods, rather than for ASP-SW-846 methods. Thank you for pointing out that the Category A and B form instructions apply to ASP SW-846 methods. We will modify our analysis method to properly flag at 25% difference between the two column concentrations. Corrected Form 1s will be provided as soon as they are available, either later today or tomorrow.

If you have any questions or require additional information, please do not hesitate to call me.

CC: Maria Heincz, LMS Engineers (without attachments)

9/09/99 THU 17:25 FAX 401 732 3499

MITKEM CORPORATION

003

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BW02DL

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407011DL

Sample wt/vol: 30.3 (g/mL) G

Lab File ID: E3B2865F

% Moisture: 11 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 30000(uL)

Date Analyzed: 08/28/99

Injection Volume: 1.0(uL)

Dilution Factor: 5.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

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

Q

12674-11-2-----Aroclor-1016

550 U

11104-28-2-----Aroclor-1221

550 U

1114-16-5-----Aroclor-1232

550 U

33469-21-9-----Aroclor-1242

550 U

12672-29-6-----Aroclor-1248

550 U

11097-69-1-----Aroclor-1254

10000 D

11096-82-5-----Aroclor-1260

550 U



09/09/99 THU 17:25 FAX 401 732 3499

MITKEM CORPORATION

004

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BF01

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407016

Sample wt/vol: 30.8 (g/mL) G

Lab File ID: E3B2876F

% Moisture: 7 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 100.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

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

Q

12674-11-2-----Aroclor-1016	3400	U
11104-28-2-----Aroclor-1221	3400	U
1114-16-5-----Aroclor-1232	3400	U
53469-21-9-----Aroclor-1242	3400	U
12672-29-6-----Aroclor-1248	3400	U
11097-69-1-----Aroclor-1254	3400	U
11096-82-5-----Aroclor-1260	340000	EP

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BS02

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407022

Sample wt/vol: 30.5 (g/mL) G

Lab File ID: E3B2892F

% Moisture: 18 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N

pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg) UG/KG	Q
12674-11-2-----	Aroclor-1016	400	U
11104-28-2-----	Aroclor-1221	400	U
1114-16-5-----	Aroclor-1232	400	U
53469-21-9-----	Aroclor-1242	400	U
12672-29-6-----	Aroclor-1248	400	U
11097-69-1-----	Aroclor-1254	400	U
11096-82-5-----	Aroclor-1260	46000	EP

Lab Name: MITKEM CORPORATION

Contract:

BS03

Lab Code: MITKEM Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407024

Sample wt/vol: 30.5 (g/mL) G

Lab File ID: E3B2904F

% Moisture: 10 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/29/99

Injection Volume: 1.0 (uL)

Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

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

Q

12674-11-2-----Aroclor-1016	72	U
11104-28-2-----Aroclor-1221	72	U
1114-16-5-----Aroclor-1232	72	U
53469-21-9-----Aroclor-1242	72	U
12672-29-6-----Aroclor-1248	72	U
11097-69-1-----Aroclor-1254	72	U
11096-82-5-----Aroclor-1260	11000	EP

FORM I PCB

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BW01

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407A

Matrix: (soil/water) SOIL

Lab Sample ID: 61407010

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: E3B2858F

% Moisture: 3 decanted: (Y/N) N

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 100000 (uL)

Date Analyzed: 08/28/99

Injection Volume: 1.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N

pH: 14.0

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

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

Q

12674-11-2-----Aroclor-1016	3400	U
11104-28-2-----Aroclor-1221	3400	U
1114-16-5-----Aroclor-1232	3400	U
53469-21-9-----Aroclor-1242	3400	U
12672-29-6-----Aroclor-1248	3400	U
11097-69-1-----Aroclor-1254	3400	U
11096-82-5-----Aroclor-1260	290000	EP

BW02DL

Contract:

Case No.:

SAS No. :

SDG No.: 61407A

Lab Sample ID: 61407011DL

Lab File ID: E3B2865F

Date Received: 07/28/99

Date Extracted:07/29/99

Date Analyzed: 08/28/99

Dilution Factor: 5.0

pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) Y

COMPOUND

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	550	U
11104-28-2-----Aroclor-1221	550	U
1114-16-5-----Aroclor-1232	550	U
53469-21-9-----Aroclor-1242	550	U
12672-29-6-----Aroclor-1248	550	U
11097-69-1-----Aroclor-1254	10000	D
11096-82-5-----Aroclor-1260	550	U

FORM I PCB

FORM 1  
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EMMW5

Lab Name: MITKEM CORPORATION

Contract:

Lab Code: MITKEM

Case No.:

SAS No.:

SDG No.: 61407B

Matrix: (soil/water) WATER

Lab Sample ID: 61407006

Sample wt/vol: 1000 (g/ml) ML

Lab File ID: E3B2824F

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 07/28/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/28/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/27/99

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

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

Q

12674-11-2-----Aroclor-1016	1.0	U
11104-28-2-----Aroclor-1221	1.0	U
1114-16-5-----Aroclor-1232	1.0	U
53469-21-9-----Aroclor-1242	1.0	U
12672-29-6-----Aroclor-1248	1.0	U
11097-69-1-----Aroclor-1254	1.0	U
11096-82-5-----Aroclor-1260	56	EP

## MITKEM CORPORATION

## MDL Study

Preparation Method: 3510  
 Analysis Method: SW845 8082  
 Matrix: Aqueous

Date: Dec-98  
 Analyst: Gongmin Lei  
 Instrument: EI  
 Units: µg/L

Analyte	Amt Spiked	Concentration								Average	SD	MDL <sup>1</sup>
		E1A9199	E1A9200	E1A9201	E1A9202	E1A9203	E1A9204	E1A9205	E1A9206			
Aroclor 1016	0.15	0.204	0.205	0.175	0.202	0.203	0.197	0.211	0.207	0.2005	0.011058	0.035
Aroclor 1260	0.15	0.183	0.21	0.17	0.191	0.193	0.199	0.197	0.198	0.192625	0.01194	0.037

## MDL Study

Preparation Method: 3550  
 Analysis Method: SW846 8082  
 Matrix: Soil

Date: Dec-98  
 Analyst: Gongmin Lei  
 Instrument: EI  
 Units: µg/Kg

Analyte	Amt Spiked	Concentration								Average	SD	MDL <sup>2</sup>
		MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07				
Aroclor 1016	8.33	11.22	11.7	10.45	11.98	11.36	10.66	12.14		11.35857	0.638499	1.91
Aroclor 1260	8.33	11.19	9.28	9.65	9.94	9.42	9.29	9.74		9.787143	0.664774	1.99

$$^1\text{MDL} = \text{SD} \cdot 3.14$$

$$^2\text{MDL} = \text{SD} \cdot 2.998$$

New York State Department of Environmental Conservation  
Sample Identification and Analytical Requirements Summary

SDG: 61329

Empire Electric 650-255

[illegible]



# Mitkem Corporation

## New York State Department of Environmental Conservation

### Sample Preparation and Analyses Summary Volatile (VOA) Analyses

Project Name:

SDG: 61329

Empire electric 650-255

Laboratory Sample ID	Matrix	Date Collected	Date Received at Lab	Date Extracted	Date Analyzed
61329001	SL	7/15/99	7/16/99		7/21/99
-002	↓	↓	↓		↓
-003	AD	7/19/99	7/20/99		7/27/99
-004	SL				7/22/99
-005	↓	↓	↓		↓
-006					
-007					
-008	↓	↓	↓		↓
-009	↓	↓	↓		↓

7/30/99

# Mitkem Corporation

New York State Department of Environmental Conservation

## Sample Preparation and Analyses Summary Pesticides/PCB Analyses

Project Name:

SDG: 61329

Empire Electric 650-255

Laboratory Sample ID	Matrix	Date Collected	Date Received at Lab	Date Extracted	Date Analyzed
61329001	SL	7/15/99	7/16/99	7/20/99	7/21/99
-002	↓	↓	↓	↓	↓
-003	AQ	7/19/99	7/20/99	7/20/99	7/24/99
-004	SL	↓	↓	↓	7/21/99
-005	↓	↓	↓	↓	↓
-006	↓	↓	↓	↓	↓
-007	↓	↓	↓	↓	↓
-008	↓	↓	↓	↓	↓
-009	↓	↓	↓	↓	↓

# Mitkem Corporation

New York State Department of Environmental Conservation

## Sample Preparation and Analyses Summary - Volatile (VOA) Analyses

Project Name:

SDG: 61329

Empire Electric 650-255

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Low/Med. Level	Dil./Conc. Factor
61329001	SL	8260 B		Low	1.0
-002	↓	↓		↓	↓
-003	AQ				
-004	SL				
-005					
-006	↓	↓		↓	↓
-007					
-008					
-009	↓	↓		↓	↓

# Mitkem Corporation

New York State Department of Environmental Conservation

## Sample Preparation and Analyses Summary - Pesticide/PCB Analyses

Project Name:

SDG: 61329

Empire Electric 650-255

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxiliary Cleanup	Dil/Conc Factor
61329001	SL	8082	3550 B	NA	1.0
-002	↓	↓	↓	↓	↓
-003	AQ	↓	↓	↓	↓
-004	SL	↓	↓	↓	10.0
-005	↓	↓	↓	↓	1.0
-006	↓	↓	↓	↓	↓
-007	↓	↓	↓	↓	↓
-008	↓	↓	↓	↓	↓
-009	↓	↓	↓	↓	↓

Mitkem Corporation

New York State Department of Environmental Conservation  
Sample Identification and Analytical Requirements Summary

Project Name:

NYSD&C Empire Electric / 650-642

SDG: 61407

Customer Sample Code	Laboratory Sample Code	Analytical Requirements				
		VOA GC/MS Method #	BNA GC/MS Method #	Pest PCBs Method #	Metals	Other
EMMW-1	61407(X)1	8260 B		8082		
EMMW-2	-002					
EMMW-3	-003					
EMMW-4	-004					
EMMW-10	-005					
EMMW-5	-006					
EMMW-6	-007					
EMMW-7	-008			✓		
Trip Blank 1	-009	✓				
BLW-01	-010			8082		
BLW-02	-011					
BLW-03	-012					
BLW-04	-013					
BLW-05	-014					
BLW-06	-015					
BF-01	-016					
BF-02	-017					
MF-01	-018			✓		

NYASP 10/9

Mitkem Corporation

New York State Department of Environmental Conservation  
Sample Identification and Analytical Requirements Summary

Project Name:

SDG: 61407

NYSDDEC Empire Electric/650-642

Customer Sample Code	Laboratory Sample Code	Analytical Requirements				
		VOA GC/MS Method #	BNA GC/MS Method #	Pest PCBs Method #	Metals	Other
MF-02	61407D19			8082		
MF-03	-020					
BS-01	-021	8260B				
BS-02	-022	↓				
FB-Soils	-023	↓				
BS-03	-024	✓				
FB-Concrete	-025					
BD-01	-026	8260B				
EMMW-6 MS	-027	↓				
EMMW-6 MSD	-028	↓				
MSB1	-029	✓				
BW-01 MS	-030					
BW-01 MSD	-031					
MSB2	-032					
BS-02 MS	-033	8260B				
BS-02 MSD	-034	↓				
MSB3	-035	✓		✓		

NYASP 10/9

00 002

# Mitkem Corporation

New York State Department of Environmental Conservation

## Sample Preparation and Analyses Summary. Volatile (VOA) Analyses

Project Name:

SDG: 61402

NYSDDEC Empire Electric / 650-642

Laboratory Sample ID	Matrix	Date Collected	Date Received at Lab	Date Extracted	Date Analyzed
61402001	AQ	7/26/99	7/28/99		7/31/99
-002	↓	↓	↓		8/3/99
-003	↓	↓	↓		7/31/99
-004	↓	↓	↓		8/3/99
-005	↓	7/27/99	↓		8/4, 8/5/99
-006	↓	↓	↓		8/3/99
-007	↓	↓	↓		8/4/99
-008	↓	↓	↓		↓
-009	↓	7/26/99	↓		8/5/99
-021	SL	↓	↓		8/4/99
-022	↓	↓	↓		8/2/99, 8/3/99
-023	AQ	7/27/99	↓		8/4, 8/5/99
-024	SL	↓	↓		8/4/99
-026	↓	↓	↓		8/5/99
-027	AQ	↓	↓		8/4/99
-028	↓	↓	↓		↓
-029	↓	↓	↓		7/31/99

NYASP 10/95

## Mitkem Corporation

New York State Department of Environmental Conservation

### Sample Preparation and Analyses Summary.

#### Volatile (VOA) Analyses

Project Name:

SDG: 6/407

Project Name: NYSDOC Empire Electric / 650-642

[illegible]

NYASP 10/95

00 004



# Mitkem Corporation

New York State Department of Environmental Conservation

## Sample Preparation and Analyses Summary Pesticides/PCB Analyses

Project Name:

NYSD& Empire Electric / 650-642

SOG: 61407

Laboratory Sample ID	Matrix	Date Collected	Date Received at Lab	Date Extracted	Date Analyzed
61407001	AQ	7/26/99	7/28/99	7/28/99	8/27/99
-002					8/27/99
-003					8/27/99
-004		↓			8/27/99
-005		7/27/99			8/27/99
-006					8/27/99
-007					8/27/99
-008	↓	↓		↓	8/27/99
-010	SL	7/26/99		7/29/99	8/28/99
-011					8/28/99
-012					8/28/99
-013					8/28/99
-014					8/28/99
-015					8/29/99
-016					8/29/99
-017					8/29/99
-018	↓	↓	↓	↓	8/31/99

NYASP 10/95

# Mitkem Corporation

New York State Department of Environmental Conservation

## Sample Preparation and Analyses Summary Pesticides/PCB Analyses

Project Name:

NYSDEC

Empire Electric / 650-642

SOG: 61407

Laboratory Sample ID	Matrix	Date Collected	Date Received at Lab	Date Extracted	Date Analyzed
61407019	SL	7/26/99	7/28/99	7/29/99	8/24/99
-020					8/28/99
-021					8/29/99
-022	↓	↓		↓	8/29/99
-023	AQ	7/27/99			8/29/99
-024	SL				8/29/99
-025	AQ			↓	8/29/99
-026	SL			7/28/99	8/29/99
-027	AQ			7/28/99	8/27/99
-028	↓			7/28/99	8/27/99
-029	↓	↓		↓	8/28/99
-030	SL	7/26/99		7/29/99	8/28/99
-031				↓	8/28/99
-032				LCS	8/28/99
-033				7/29/99	8/28/99
-034				↓	8/29/99
-035	↓	↓	↓	LCS	8/28/99

NYASP 10/95

# Milkem Corporation

New York State Department of Environmental Conservation

## Sample Preparation and Analyses Summary - Pesticide/PCB Analyses

Project Name:

NYSD&C

EMPIRE Electric/650-642

SDG: 61407

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxiliary Cleanup	Dil/Conc Factor
61407001	AQ	8082	3510	N/A	1
002					1
003					1
004					1
005					1
006					1, 5
007					1
008	↓		↓		1
010	SL		3550		10, 100
011					1, 5
012					100, 1000
013					1, 5
014					1
015					1
016					100, 1000
017	↓	↓	↓	↓	100, 1000

NYASP 10/95

# Milkem Corporation

New York State Department of Environmental Conservation

## Sample Preparation and Analyses Summary Pesticide/PCB Analyses

Project Name:

NYSDEL Empire Electric / 650-642

SOG: 61407

Laboratory Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxiliary Cleanup	Dil/Conc Factor
61407018	SL	8082	3550	N/A	100,000, 1,000,000
019	↓	↓	↓	↓	1000, 5000
020	↓	↓	↓	↓	1000, 10,000
021	↓	↓	↓	↓	200, 2000
022	SL	↓	↓	↓	100, 100
023	AQ	↓	3570	↓	1
024	SL	↓	3550	↓	2, 20
025	AQ	↓	3570	↓	1
026	SL	↓	3550	↓	1
027	AQ	↓	3570	↓	1
028	↓	↓	↓	↓	1
029	↓	↓	↓	↓	1
030	SL	↓	3550	↓	10
031	↓	↓	↓	↓	10
032	↓	↓	↓	↓	1
033	↓	↓	↓	↓	100,000, 1,000,000

10 NYASP 10/95

## SDG Narrative

Mitkem Corporation submits the enclosed data package in response to LMS Engineers' Empire Electric project. Under this deliverable, analysis results are presented for eleven aqueous, fourteen soil and one oil samples that were received on July 28, 1999. Analyses were performed per specifications in the project's contract and the chain of custody forms. Due to the large number of samples, the analysis results are presented in two separate sample delivery groups. This data package included the results for the soil and oil samples.

The following samples are submitted in this data package (SDG # 61407A):

<u>Client ID</u>	<u>Truncated ID</u>	<u>Lab ID</u>	<u>Analysis</u>
BW-01	BW01	61407010	P
BW-02	BW02	61407011	P
BW-03	BW03	61407012	P
BW-04	BW04	61407013	P
BW-05	BW05	61407014	P
BW-06	BW06	61407015	P
BF-01	BF01	61407016	P
BF-02	BF02	61407017	P
MF-01	MF01	61407018	P
MF-02	MF02	61407019	P
MF-03	MF03	61407020	P
BS-01	BS01	61407021	V,P
BS-02	BS02	61407022	V,P
BS-03	BS03	61407024	V,P
BO-01	BO01	61407026	V,P
BW-01MS	BW01MS	61407030	P
BW-01MSD	BW01MSD	61407031	P
MSB2*		61407032	P
BS-02MS	BS02MS	61407033	V,P
BS-02MSD	BS02MSD	61407034	V,P
MSB3*		61407035	V,P

\* Due to software limitations, the LCSs are labeled as VBLK5XLCS for the volatile analysis, and as BBLK02LCS (for soil) and BBLK04 (for oil) for the PCB analysis.

V = Volatile Organics – NYSDEC ASP Method 8260B

P = PCB – NYSDEC ASP Method 8082

The analyses were performed according to NYSDEC ASP protocols (October 1995 update) and reported per NYSDEC ASP requirement for Category B deliverable.

The following observation and/or deviations are observed for the following analyses:

1. Overall Observation:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required.

2. Volatile Analysis:

Holding time: the oil sample was analyzed on the 8<sup>th</sup> day of validated time of sample receipt (VTSR)

Surrogate recovery: recoveries were within the QC limits

Lab control sample: the MSB3 is labeled as VBLK5xLCS in the data package; spike recoveries were within the QC limits with the exception that bromomethane and carbon disulfide exceeded the QC limits.

Matrix spike/matrix spike duplicate: duplicate matrix spikes were performed on BS02. Vinyl acetate was not recovered and that several analytes were recovered out of the advisory QC limits in both spikes.

Sample analysis: the 3<sup>rd</sup> internal standard area counts exceeded the QC limit for sample BS02 and its matrix spike; the area counts were within the limits in the matrix spike duplicate. Due to sample matrix problem, the oil sample was analyzed using the medium level approach. No other unusual observation was made for the analysis.

3. PCB Analysis:

Surrogate recovery: recoveries could not be determined for many samples due to the excessive dilutions that were required.

Lab control sample: the LCS is labeled as BBLK02LCS for MSB3 (soil LCS) and BBLK04LCS for MSB2 (oil LCS) in the data package; spike recoveries were within the QC limit for both LCSs.

Matrix spike/matrix spike duplicate: duplicate matrix spikes were performed on BS02 and BW01; spike recovery and duplicate RPDs were poor for both samples due to the much higher concentration of Aroclor in both samples.

Calibration: the analyses were performed using single column calibration. Aroclor 1016 was high bias in two of the continuing calibration verifications. The associated analyses were not repeated as the Aroclor was not detected in any of these samples.

Sample analysis: Due to high PCB concentration and challenging sample matrix, most of the samples were analyzed at dilution together with larger than normal final extract volume. These included:

<u>Sample ID</u>	<u>Dilution</u>	<u>Final Extract volume (mL)*</u>
BF01	1000	
BF02	1000	
BS01	200	
BS02	100	
BS03	20	
BW01	100	100
BW01MS	10	100
BW01MSD	10	100
BW02	5	30
BW03	1000	100
BW04	5	
BW05	10	30
BW06	1	100
MF01	100000	
MF02	4000	
MF03	10000	

\*10 mL (normal final extract volume) unless specified

Due to these dilution, the surrogates were diluted out and their retention time could not be determined in Form 8.

I certify that this data package is in compliance, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.



Kin S. Chiu  
Technical Director  
7/19/99

## SDG Narrative

Mitkem Corporation submits the enclosed data package in response to LMS's Empire Electric project. Under this deliverable, analysis results are presented for one aqueous and five soil samples that were received on July 16 and 20, 1999, and logged in under Mitkem Project Number 61329. Analyses were performed per specifications in the project's proposal and the chain of custody form.

The following samples are submitted in this data package:

<u>Client ID</u>	<u>Truncated ID</u>	<u>Lab ID</u>	<u>Analysis</u>
EM-B1(0-2')	EMB102	61329001	V, P
EM-B1(2-4')	EMB124	61329002	V, P
EB-01	EB01	61329003	V, P
EMSB-06(0-2)	EMSB0602	61329004	V, P
EMSB-06(2-4)	EMSB0624	61329005	V, P
EMSB-06(4-6)	EMSB0646	61329006	V, P
EMSB-06(2-4)MS	EMSB0624MS	61329007	V, P
EMSB-06(2-4)MSD	EMSB0624MSD	61329008	V, P
MSB1 *	VBLK5LLCS *	61329009	V, P

\*Due to software limitations, the client ID is presented as VBLK5LLCs in the data package.

V = Volatiles by NYSDEC ASP Method 8260B

P = PCB by NYSDEC ASP Method 8082

The analyses were performed according to NSYDEC ASP methods (1/99 revision) and reported per ASP requirement for Category B deliverable.

The analyses were performed with strict adherence to the SOW with the following exceptions and observations:

### 1. Volatile Analysis:

Surrogate recovery: recoveries were within the QC limits with the following exception: The initial analysis for EB01 exhibited one surrogate that was out of the QC limit; re-analysis of the sample at the 10<sup>th</sup> date after sample receipt exhibited compliant recovery. Both sets of data are presented in the package. Two surrogates were out in EMSB0624 and its duplicate matrix spikes; two surrogates were also out in EMSB0646 and its re-analysis. The surrogate recoveries were within the QC limits for the initial analysis for



EMSB0602. The re-analysis that was performed to demonstrate the effect of matrix on the recovery of the internal standard area counts exhibited one out of limit recovery.

Lab control samples: both aqueous and solid LCS were performed. Spike recoveries in both sets were within the QC limits.

Matrix spike/matrix spike duplicate: duplicate matrix spikes were performed on EMSB0624. Due to sample matrix effect, the recoveries of many of the analytes were out of the advisory QC limits.

Sample analysis: Many target analytes that were determined in low levels (below the reporting limit) were probably due to carry-over from standards from previous analyses. No other unusual observations were made for the analyses.

## 2. PCB Analysis:

Surrogate recovery: recoveries were within the QC limits for the aqueous samples; for the soil samples, DCB was recovered high for EMSB0602. Please note that the sample was analyzed using only one column and that the high bias recovery was due to the co-eluting interferences from the high concentration of Aroclor 1254 in the sample.

Lab control sample: spike recoveries were within the QC limits for both the aqueous and solid LCS.

Matrix spike/matrix spike duplicate; duplicate matrix spikes were performed on EMSB0624. The recovery of Aroclor 1016 was within the advisory QC limits for both spikes; the Aroclor 1260 recovery was high bias in both spikes and was due to co-eluting interferences from the high concentration of Aroclor 1254 in the native sample.

Calibrations: two sets of initial calibrations were included in the package. In the first set, Aroclor 1254 was analyzed at four levels. This is compliant as the method only required a minimum of three levels. In the second set of initial calibration, the calibration was performed using only one column. Again, this is allowed by the method for multi-component analytes including PCB analysis. As a result, the affected forms (Form 6,7 and 8) only exhibited values for one column.

Sample analysis: sample EMSB0602 was analyzed at 10x dilution due to high concentration of target analyte in the sample. The single column calibration approach was used to analyze sample EMSB0602. As a result, please note that the surrogate recovery form (Form 2) and Form 10 only exhibited single column result for the sample. No other unusual observation was made for the analysis.

I certify that this data package is in compliance, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

*Kin Chiu*

Kin S. Chiu  
Technical Director  
8/17/99

## SDG Narrative

Mitkem Corporation submits the enclosed data package in response to LMS Engineers' Empire Electric project. Under this deliverable, analysis results are presented for the PCB analysis of eleven aqueous, fourteen soil and one oil samples that were received on July 28, 1999. Analyses were performed per specifications in the project's contract and the chain of custody forms. Due to the large number of samples, the analysis results are presented in two separate sample delivery groups. This data package included the results for the soil and oil samples. The sample chain of custody forms and the results for the volatile organic analyses were presented in an earlier package and are not included here.

The ASP summary forms are revised to reflect new analysis dates. In addition, per client's request, the sample chromatogram integration reports are included with each of the samples.

The following samples are submitted in this data package (SDG # 61407A):

<u>Client ID</u>	<u>Truncated ID</u>	<u>Lab ID</u>	<u>Analysis</u>
BW-01	BW01	61407010	P
BW-02	BW02	61407011	P
BW-03	BW03	61407012	P
BW-04	BW04	61407013	P
BW-05	BW05	61407014	P
BW-06	BW06	61407015	P
BF-01	BF01	61407016	P
BF-02	BF02	61407017	P
MF-01	MF01	61407018	P
MF-02	MF02	61407019	P
MF-03	MF03	61407020	P
BS-01	BS01	61407021	P
BS-02	BS02	61407022	P
BS-03	BS03	61407024	P
BO-01	BO01	61407026	P
BW-01MS	BW01MS	61407030	P
BW-01MSD	BW01MSD	61407031	P
BS-02MS	BS02MS	61407033	P
BS-02MSD	BS02MSD	61407034	P

\* Due to software limitations, the LCSs are labeled as BBLK02LCS (for soil) and BBLK01LCS (for oil) for the PCB analysis.

P = PCB - NYSDEC ASP Method 8082

The analyses were performed according to NYSDEC ASP protocols (October 1995 update) and reported per NYSDEC ASP requirement for Category B deliverable. The following observation and/or deviations are observed for the following analyses:

1. Overall Observation:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required.

2. PCB Analysis:

Surrogate recovery: recoveries could not be determined for many samples due to the excessive dilutions that were required.

Lab control sample: spike recoveries were within the QC limit for the oil and solid LCSs.

Matrix spike/matrix spike duplicate: duplicate matrix spikes were performed on BS02 and BW01; spike recovery and duplicate RPDs were poor for both samples due to the much higher concentration of Aroclor in the native samples.

Calibration: the analyses were performed using dual column calibration. Both initial calibration and calibration verifications met the method criteria for both columns.

Sample analysis: Due to high PCB concentration and challenging sample matrix, most of the samples were analyzed at dilution together with larger than normal final extract volume.

Due to these dilution, the surrogates were diluted out and their retention time could not be determined in Form 8.

I certify that this data package is in compliance, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.



Kin S. Chiu  
Technical Director  
9/3/99

### SDG Narrative

Mitkem Corporation submits the enclosed data package in response to LMS Engineers' Empire Electric project. Under this deliverable, analysis results are presented for eleven aqueous, fourteen soil and one oil samples that were received on July 28, 1999. Analyses were performed per specifications in the project's contract and the chain of custody forms. Due to the large number of samples, the analysis results are presented in two separate sample delivery groups. This data package included the results for the aqueous samples.

The following samples are submitted in this data package (SDG # 61407B):

<u>Client ID</u>	<u>Truncated ID</u>	<u>Lab ID</u>	<u>Analysis</u>
EMMW-1	EMMW1	61407001	V,P
EMMW-2	EMMW2	61407002	V,P
EMMW-3	EMMW3	61407003	V,P
EMMW-4	EMMW4	61407004	V,P
EM7W-10	EM7W10	61407005	V,P
EMMW-5	EMMW5	61407006	V,P
EMMW-6	EMMW6	61407007	V,P
EMMW-7	EMMW7	61407008	V,P
TRIP BLANK 1	TB1	61407009	V
FB-SOILS	FBSOILS	61407023	V,P
FB-CONCRETE	CONCRETE	61407025	P
EMMW-6MS	EMMW6MS	61407027	V,P
EMMW-6MSD	EMMW6MSD	61407028	V,P
MSB1*		61407035	V,P

\* Due to software limitations, the LCSs are labeled as VBLK5VLCS for the volatile analysis, and as BBLK01LCS for the PCB analysis.

V = Volatile Organics – NYSDEC ASP Method 8260B

P = PCB – NYSDEC ASP Method 8082

The analyses were performed according to NYSDEC ASP protocols (October 1995 update) and reported per NYSDEC ASP requirement for Category B deliverable.

The following observation and/or deviations are observed for the following analyses:

### 1. Overall Observation:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required.

### 2. Volatile Analysis:

Holding time: TB1 was analyzed on the 8<sup>th</sup> day of validated time of sample receipt (VTSR), EM7W10 was analyzed on the 7<sup>th</sup> day of VTSR at dilution. The sample was re-analyzed without dilution on the 8<sup>th</sup> day of VTSR. FBSOIL was re-analyzed at dilution on the 8<sup>th</sup> day of VTSR to demonstrate the effect of sample matrix on the surrogate recovery.

Surrogate recovery: recoveries were within the QC limits with the exception that one surrogate was out in FBSOIL; this was verified as matrix effect by re-analysis.

Lab control sample: the MSB1 is labeled as VBLK5VLCS in the data package; spike recoveries were within the QC limits.

Matrix spike/matrix spike duplicate: duplicate matrix spikes were performed on EMMW6. Three analytes including 1,2,4-trichlorobenzene, 1,2,3-trichlorobenzene and hexachlorobutadiene were recovered out of the advisory QC limits in both spikes.

Calibration: bromomethane exceeded the QC limit for the continuing calibration that was performed on V5 on 7/31/99. The calibration was compliant as the mean response factor of the target analytes met the method criteria.

Sample analysis: Sample EM7W10DL was included to demonstrate that the sample was initially analyzed within 7<sup>th</sup> day of VTSR. No other unusual observation was made for the analysis.

### 3. PCB Analysis:

Surrogate recovery: recoveries were within the QC limit

Lab control sample: the LCS is labeled as BBLK01LCS in the data package; please note that another LCS was also analyzed as part of laboratory QC; spike recoveries were within the QC limit for both LCSs.

Matrix spike/matrix spike duplicate: duplicate matrix spikes were performed on EMMW6; spike recovery and duplicate RPDs met the advisory QC limits.

Calibration: the analyses were performed using single column calibration. Aroclor 1016 was high bias in two of the continuing calibration verifications. The associated analyses were not repeated as the Aroclor was not detected in any of these samples.

Sample analysis: Sample EMMW5 was analyzed at 5x dilution due to the high concentration of target analyte in the sample. No other unusual observation was made for the analyses.

I certify that this data package is in compliance, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.



Kin S. Chiu  
Technical Director  
7/19/99

## SDG Narrative

Mitkem Corporation submits the enclosed data package in response to LMS Engineers' Empire Electric project. Under this deliverable, PCB analysis results are presented for eleven aqueous, fourteen soil and one oil samples that were received on July 28, 1999. Analyses were performed per specifications in the project's contract and the chain of custody forms. Due to the large number of samples, the analysis results are presented in two separate sample delivery groups. This data package included the results for the aqueous samples. The sample chain of custody forms and the results for the volatile organic analyses were presented in an earlier package and are not included here.

The ASP summary forms are revised to reflect new analysis dates. In addition, per client's request, the sample chromatogram integration reports are included with each of the samples.

The following samples are submitted in this data package (SDG # 61407B):

<u>Client ID</u>	<u>Truncated ID</u>	<u>Lab ID</u>	<u>Analysis</u>
EMMW-1	EMMW1	61407001	P
EMMW-2	EMMW2	61407002	P
EMMW-3	EMMW3	61407003	P
EMMW-4	EMMW4	61407004	P
EM7W-10	EM7W10	61407005	P
EMMW-5	EMMW5	61407006	P
EMMW-6	EMMW6	61407007	P
EMMW-7	EMMW7	61407008	P
FB-SOILS	FBSOILS	61407023	P
FB-CONCRETE	CONCRETE	61407025	P
EMMW-6MS	EMMW6MS	61407027	P
EMMW-6MSD	EMMW6MSD	61407028	P

\* Due to software limitations, the LCSs are labeled as BBLK03LCS and BBLK04LCS for the PCB analysis.

P = PCB - NYSDEC ASP Method 8082

The analyses were performed according to NYSDEC ASP protocols (October 1995 update) and reported per NYSDEC ASP requirement for Category B deliverable.

The following observation and/or deviations are observed for the following analyses:



1. Overall Observation:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required.

2. PCB Analysis:

Surrogate recovery: recoveries were within the QC limit

Lab control sample: spike recoveries were within the QC limit for both LCSs.

Matrix spike/matrix spike duplicate: duplicate matrix spikes were performed on EMMW6; spike recovery and duplicate RPDs met the advisory QC limits.

Calibration: the analyses were performed using dual column calibration. Initial calibration and calibration verifications met the method criteria for both columns.

Sample analysis: Sample EMMW5 was analyzed at 5x dilution due to the high concentration of target analyte in the sample. No other unusual observation was made for the analyses.

I certify that this data package is in compliance, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.



Kin S. Chiu  
Technical Director  
9/3/99

**APPENDIX C**  
**FIELD SAMPLING LOGS**

1/2

LAWLER, MATUSKY & SKELLY ENGINEERS  
**CHIP** ~~XXXX~~ SAMPLE DATA SHEET

Date: 7.26.99
Job No. 650-642
Wipe Area: -

Site: Empire Electric	
Crew: JG BC	
Solvent/Wipe Material: —	

SAMPLE ID No.	SAMPLE TIME	SURFACE MATERIAL	COMMENTS
BW-01	1050	Brick*	* Sample collected from brick wall with a putty knife. Material is caked on ~ 1/16 - 1/8" thick. Black oily material * collected ms/msd here Material contains very slight sweet odor
BW-02	1110	Brick*	Sample method same as above Material more moist than last sample & thicker material seems to have some silty-clay underneath
BW-03	1135	Brick*	Same as above. Collected from wall under where PCB Transformer Storage area was
BW-04	1145	Brick*	Material scraped off brick as with other samples. Here material was a little more tan w/ oily droplets
BW-05	1315	Brick*	Material scraped off brick support wall w/ putty knife. Drier & not as oily as other samples

2/2

LAWLER, MATUSKY & SKELLY ENGINEERS  
**CHIP** ~~XXXX~~ SAMPLE DATA SHEET

Date: 7.26.99
Job No. 650-642
Wipe Area: —

Site: Empire Electric
Crew: SG, BC
Solvent/Wipe Material: —

SAMPLE ID No.	SAMPLE TIME	SURFACE MATERIAL	COMMENTS
BW-06	1335	Brick*	Black oily material scraped off brick walls w/ putty knife. Material ~1/16" thick on wall in this area. Lge stain on wall
BF-01	1405	Concrete	Collected w/ hammer drill from floor in area w/ blk oil/crumbly material on surface.
BF-02	1425	Concrete	Same method as above. from stained area
MF-01	1520	Concrete	Stained floor area along where west end of PCB Transformer storage area was located. Blk layer on surf. (Slight sweet odor)
MF-02	1540	Concrete	Slightly stained area along east end of area where PCB Transformer Storage was located
MF-03	1605	Concrete	Stained area near south set of stairs - (basement access)

\* Field Blank performed on following morning: (7.27.99/0745)

FB-Concrete

Water provided by Mitkem poured over field-cleaned putty knife & lab-cleaned drill bit into foil-lined pen & into clean set of bottles

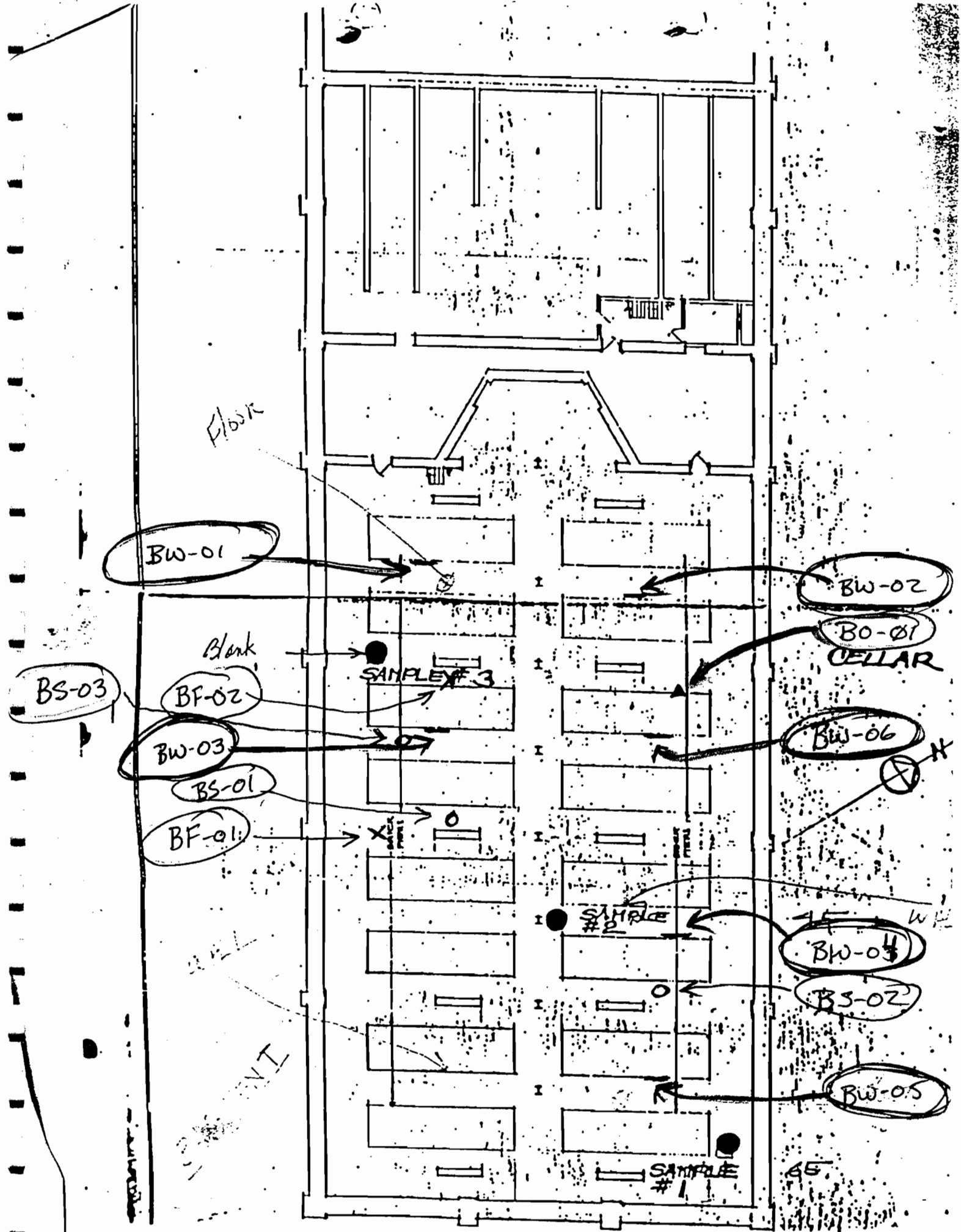
Date: 7.26.99 / 7.27.99  
 Crew: JG BC  
 Site: Empire Electric

LAWLER, MATUSKY & SKELLY ENGINEERS  
 FIELD DATA SHEET FOR SOIL SEDIMENT SAMPLES  
 Job No: 650-642

Oper: Soils  
 Thermometer No: \_\_\_\_\_

STA. NO.	TIME	SMPL DPTH	METHOD	TEXT.	CLR.	ODOR	SAMPLE BOTTLES				COMMENTS
							SAMPLE PARAMETERS	BOT. Nos.	SAMPLE PARAMETERS	BOT. Nos.	
BS-01	7.26 1415	0-3"	s/s Spoon pan	silty sandy material	Brn	—	PCBs	1			Collected from area of concrete floor in basement and where PCB Transformer Storage was located Concrete here was rather crumbled + soft
							VOCs	1			
BS-02	7.26 1445	0-4"	s/s Spoon + pan	Sandy gravelly fill some brick some oil/greasy material	Brn	—	PCBs	3	(MS, MSD)		Collected from Square area where there was no concrete floor
							VOCs	3	(MS, MSD)		
FB-Soils	7.27 0755	—	s/s Spoon + Pan	—	—	—	PCBs	2	12		Water provided by Mittum poured over lab-decanned spoon onto foil-lined pan into bottles
							VOCs	3	40-ml		
BS-03	7.27 0945	0-3"	"	sandy silty fill w/ brck	Brn	—	PCBs	1			Collected from heave area under basement floor  under area on main floor where PCB Storage Area was
							VOCs	1			





MAIN (STREET)  
LEVEL  
STREET LEVEL

MF-01

MF-02

MF-03

REPAIR & ASSEMBLY

SAMPLE  
#7

OFFICE

PARTS  
CRIB

EMPL.  
AREA

SAMPLE  
#6

TRANS  
STORAGE

GENERAL WAREHOUSE

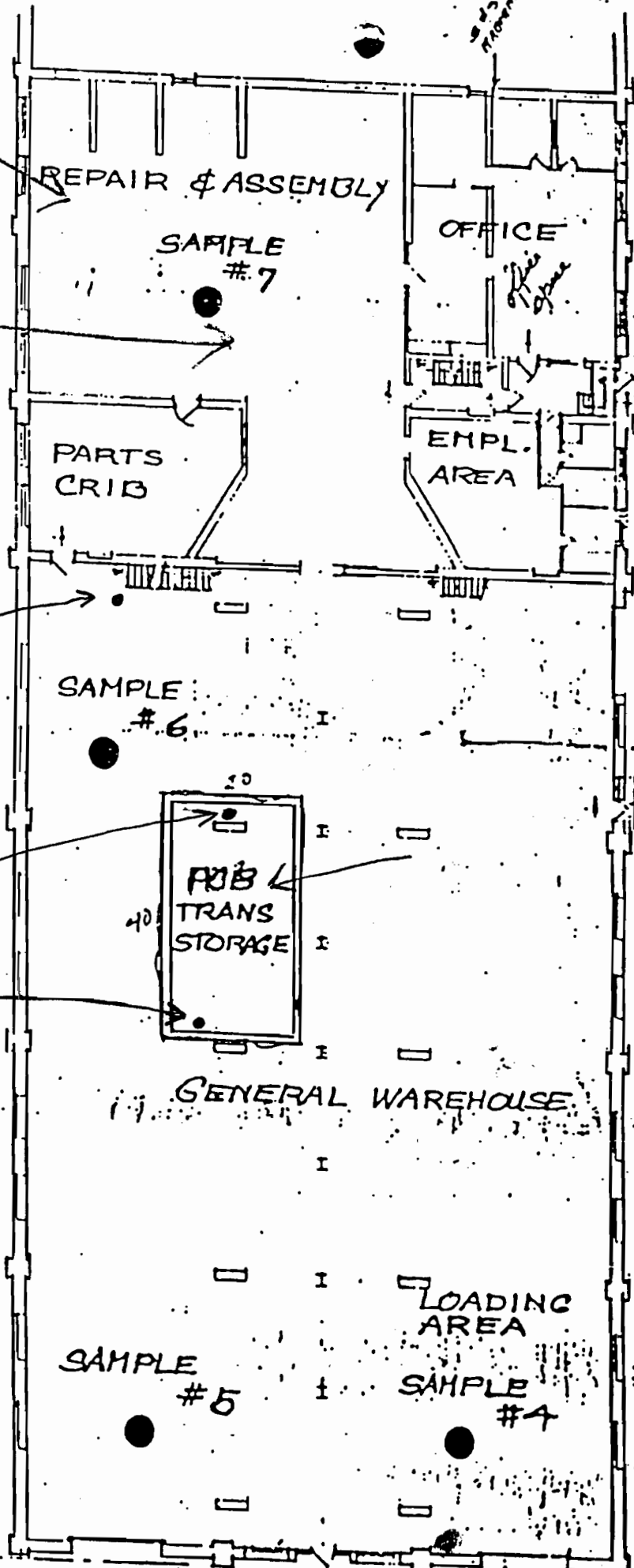
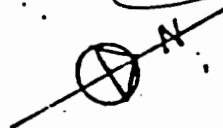
LOADING  
AREA

SAMPLE  
#5

SAMPLE  
#4

Roof

Roof





**APPENDIX D**  
**BORING LOGS**

# LMS

## Test Boring Log

**Boring No.: MW-1**

Sheet 1 of 1

**Project Name:** Empire Electric Company Site

Project No.: 650-642

**Client:** NYSDEC

Date: Start 7-12-99

Driller: Delta Well &amp; Pump

Finish 7-12-99

**Drilling Method:** Failing F-7 (HSA)

**Total Depth: 28 ft**

**Boring Location:**

**Depth To Water:**

Coordinates:

Surf. Elevation:

**Logged By:** John Thornburg

Hole Diameter: 8-in.

**Monitoring Instrument(s):** PID

[illegible]

## Test Boring Log

Sheet 1 of 1

Project No.: 650-642

Date: Start 7-13-99

Finish 7-13-99

Total Depth:

<b>Depth To Water:</b>	
------------------------	--

Surf. Elevation:	
------------------	--

Hole Diameter: 8-in.
----------------------

Monitoring Instrument(s): PID

[illegible]

**Boring No.: MW-3**

Sheet 1 of 1

**Project Name:** Empire Electric Company Site

Project No.: 650-642

**Client:** NYSDEC

Date: Start 7-13-99

Driller: Delta Well &amp; Pump

Finish 7-13-99

**Drilling Method:** Failing F-7 (HSA)

**Total Depth: 27 ft**

**Boring Location:**

Depth To Water:	
-----------------	--

Coordinates:

Surf. Elevation:

**Logged By:** John Thornburg

<b>Hole Diameter:</b> 8-in.
-----------------------------

**Monitoring Instrument(s):** PID

[illegible]

# LMS

## Test Boring Log

**Boring No.: MW-4**

Sheet 1 of 1

**Project Name:** Empire Electric Company Site

Project No.: 650-642

<b>Client:</b>	NYSDEC
----------------	--------

Date: Start 7-14-99

Driller: Delta Well &amp; Pump

Finish 7-14-99

**Drilling Method:** Failing F-7 (HSA)

**Total Depth:**

**Boring Location:**

<b>Depth To Water:</b>	
------------------------	--

Coordinates:

Surf. Elevation:

**Logged By:** John Thornburg

**Hole Diameter: 8-in.**

Monitoring Instrument(s): PID

[illegible]

# Test Boring Log

**Boring No.: MW-5**

Sheet 1 of 1

**Project Name:** Empire Electric Company Site

Project No.: 650-642

**Client:** NYSDEC

Date: Start 7-14-99

Driller: Delta Well &amp; Pump

Finish 7-14-99

**Drilling Method:** Failing F-7 (HSA)**Total Depth:**

**Boring Location:**

**Depth To Water:**

Coordinates:

**Surf. Elevation:**

**Logged By:** John Thornburg

**Hole Diameter: 8-in.**

**Monitoring Instrument(s):** PID

[illegible]

## Test Boring Log

**Boring No.: MW-6**

Sheet 1 of 1

**Project Name:** Empire Electric Company Site

Project No.: 650-642

**Client:** NYSDEC

Date: Start 7-15-99

**Driller:** Delta Well & Pump

Finish 7-15-99

Drilling Method: Failing F-7 (HSA)

<b>Total Depth:</b>	
---------------------	--

**Boring Location:**

**Depth To Water:**

Coordinates:

Surf. Elevation:

**Logged By:** John Thornburg

<b>Hole Diameter:</b> 8-in.
-----------------------------

**Monitoring Instrument(s):** PID

[illegible]

**APPENDIX E**  
**WELL COMPLETION LOGS**



# MONITORING WELL COMPLETION LOG

PROJECT NUMBER

650-642

PROJECT NAME

Empire Electric

WELL No:

EMMW-1

CLIENT:

NYS DEC

LOCATION:

1st Ave.

DATE DRILLED:

7-12-99

DATE DEVELOPED:

7-16-99

WELL CONSTRUCTION COMPLETED:

7-12-99

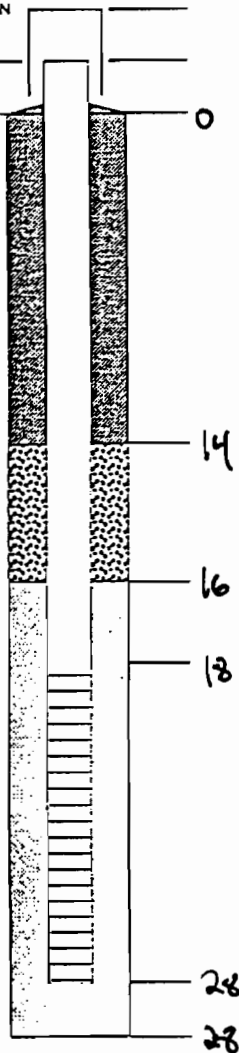
DEVELOPING METHOD:

Grubbs Pump

PROTECTIVE CASING ELEVATION

CASING ELEVATION

GRADE ELEVATION



NOT TO SCALE

INSPECTOR:

John Thorburg

DRILLING CONTRACTOR:

Delta Well

TYPE OF WELL:

Monitoring

STATIC WATER LEVEL:

DATE:

7-2-99

MEASURING POINT:

TOC

TOTAL DEPTH OF WELL:

28.0'

TOTAL DEPTH OF BORING:

28.0'

DRILLING METHOD

TYPE:

4 1/2" HSA

DIAMETER:

3"

CASING:

N/A

SAMPLING METHOD

TYPE:

SPT

DIAMETER:

2 in.

WEIGHT:

140

FALL:

24 in.

INTERVAL:

5-ft

RISER PIPE LEFT IN PLACE

MATERIAL:

PVC

DIAMETER:

2-in

LENGTH:

18.0 ft

JOINT TYPE:

Flush

SCREEN

MATERIAL:

PVC

INTERVAL:

DIAMETER:

2-in.

STRATIGRAPHIC UNITS SCREENED:

SLOT SIZE:

0.010

FILTER PACK

GRADE:

SAND:

#1

GRAVEL:

NATURAL:

AMOUNT:

300 #

INTERVAL:

16-28"

SEAL(s)

NOTES:

CHECK APPLICABLE

Portland Cement

INTERVAL:

AMOUNT:

Bentonite Slurry

INTERVAL:

AMOUNT:

Bentonite Pellets

✓

14-16"

5 gal.

Other:

Bentonite

✓

2-14"

1 bag

LOCKING CASING:

☐ NO

☒ YES

KEY NO:



LAWLER, MATUSKY & SKELLY ENGINEERS I

# MONITORING WELL COMPLETION LOG

PROJECT NUMBER

650-642

PROJECT NAME

Empire Electric

WELL No.:

EMW-2

CLIENT:

NYS DEC

LOCATION:

1st Ave

DATE DRILLED:

7-13-99

DATE DEVELOPED:

7-16-99

WELL CONSTRUCTION COMPLETED:

7-13-99

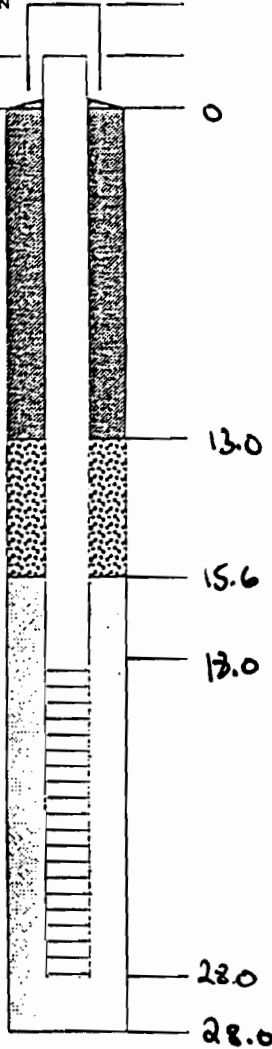
DEVELOPING METHOD:

Gravel Pump

PROTECTIVE CASING ELEVATION

CASING ELEVATION

GRADE ELEVATION



NOT TO SCALE

INSPECTOR:

John Thorberg

DRILLING CONTRACTOR:

Delta Well

TYPE OF WELL:

Monitoring

STATIC WATER LEVEL:

20.81

DATE:

7-28-99

MEASURING POINT:

TOC

TOTAL DEPTH OF WELL:

TOTAL DEPTH OF BORING:

DRILLING METHOD

TYPE:

4 1/4" #5A

DIAMETER:

2"

CASING:

N/A

SAMPLING METHOD

TYPE:

SPT

DIAMETER:

2 in.

WEIGHT:

140

FALL:

24 in.

INTERVAL:

5-ft

RISER PIPE LEFT IN PLACE

MATERIAL:

PVC

DIAMETER:

2-in

LENGTH:

18.0 ft

JOINT TYPE:

Flush

SCREEN

MATERIAL:

PVC

INTERVAL:

DIAMETER:

2-in.

STRATIGRAPHIC UNITS SCREENED:

SLOT SIZE:

0.010

FILTER PACK

GRADE:

SAND:

#1

GRAVEL:

NATURAL:

AMOUNT:

~500 #

INTERVAL:

15.6 - 23-ft

SEAL(s)

NOTES:

CHECK APPLICABLE

Portland Cement

INTERVAL:

AMOUNT:

Bentonite Slurry

INTERVAL:

AMOUNT:

Bentonite Pellets

✓

13-15.6

AMOUNT:

5 gal

Other: *acrylic*

✓

2-13.0

AMOUNT:

1 bag

LOCKING CASING:

☐ NO

☐ YES

KEY NO:

LMS

LAWLER, MATUSKY & SKELLY ENGINEERS

# MONITORING WELL COMPLETION LOG

PROJECT NUMBER  
650-642

PROJECT NAME  
Empire Electric

WELL No.:  
EMMW-3

CLIENT:  
NYS DEC

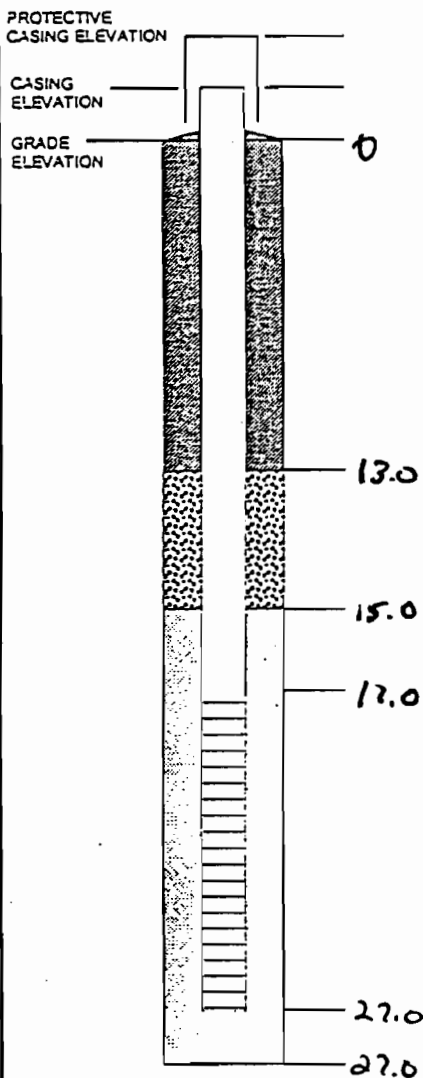
LOCATION:

DATE DRILLED:  
7-13-89

DATE DEVELOPED:  
7-16-89

WELL CONSTRUCTION COMPLETED:  
7-13-89

DEVELOPING METHOD:  
Gravel Pump



NOT TO SCALE

INSPECTOR:  
John Thornburg

DRILLING CONTRACTOR:  
Delta Well

TYPE OF WELL:  
Monitoring

STATIC WATER LEVEL:  
17.71

DATE:  
7/26/89

MEASURING POINT:  
TOC

TOTAL DEPTH OF WELL:  
27.0'

TOTAL DEPTH OF BORING:  
27.0'

DRILLING METHOD

TYPE:  
4 1/2" HSA

DIAMETER:  
3"

CASING:  
N/A

SAMPLING METHOD

TYPE:  
N/A

DIAMETER:

WEIGHT:

FALL:

INTERVAL:

RISER PIPE LEFT IN PLACE

MATERIAL:  
PVC

DIAMETER:  
2-in

LENGTH:

JOINT TYPE:

SCREEN

MATERIAL:  
PVC

INTERVAL:  
17-27.0'

DIAMETER:  
2-in

STRATIGRAPHIC UNITS SCREENED:

SLOT SIZE:  
0.010

FILTER PACK

GRADE:

SAND:  
#1

GRAVEL:

NATURAL:

AMOUNT:  
~300 #

INTERVAL:  
15.0-27.0'

SEAL(s)

NOTES: Drilled with mud down with no sampling of soil due to utility wires.

CHECK APPLICABLE  
Portland Cement

INTERVAL:

AMOUNT:

Bentonite Slurry

INTERVAL:

AMOUNT:

Bentonite Pellets

✓ 15-17.0'

AMOUNT:

Other: bentonite

✓ 1-13.0

AMOUNT:

LOCKING CASING: ☐ NO

☐ YES

KEY NO:



LAWLER, MATUSKY & SKELLY ENGINEERS

# MONITORING WELL COMPLETION LOG

PROJECT NUMBER

650-642

PROJECT NAME:

Empire Electric

WELL No.:

EMMW-4

CLIENT:

NYSDIEC

LOCATION:

52nd St.

DATE DRILLED:

7-14-99

DATE DEVELOPED:

7-16-99

WELL CONSTRUCTION COMPLETED:

7-14-99

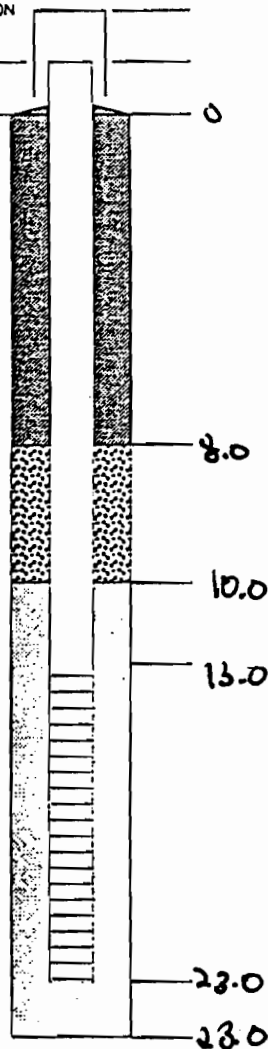
DEVELOPING METHOD:

Gravel Pump

PROTECTIVE  
CASING ELEVATION

CASING  
ELEVATION

GRADE  
ELEVATION



NOT TO SCALE

INSPECTOR:

John Thorburg

DRILLING CONTRACTOR:

Delta Well

TYPE OF WELL:

Monitoring

STATIC WATER LEVEL:

15.17

DATE:

7-26-99

MEASURING POINT:

TOC

TOTAL DEPTH OF WELL:

23.0'

TOTAL DEPTH OF BORING:

23.0'

DRILLING METHOD

TYPE:

4 1/2" HSA

DIAMETER:

3"

CASING:

N/A

SAMPLING METHOD

TYPE:

SPT

DIAMETER:

2 in.

WEIGHT:

140

FALL:

24 in.

INTERVAL:

5-ft

RISER PIPE LEFT IN PLACE

MATERIAL:

PVC

DIAMETER:

2 in

LENGTH:

13.0

JOINT TYPE:

Flush

SCREEN

MATERIAL:

PVC

INTERVAL:

13.0 - 23.0'

DIAMETER:

2 in.

STRATIGRAPHIC UNITS SCREENED:

SLOT SIZE:

0.010

FILTER PACK

GRADE:

SAND:

#1

GRAVEL:

NATURAL:

AMOUNT:

~300 #

INTERVAL:

10.0 - 23.0'

SEAL(s)

NOTES:

CHECK APPLICABLE

Portland Cement

INTERVAL:

AMOUNT:

Bentonite Slurry

INTERVAL:

AMOUNT:

Bentonite Pellets

INTERVAL:

AMOUNT:

Other:

INTERVAL:

AMOUNT:

LOCKING CASING:

☐ NO

☒ YES

KEY NO:

LMS

LAWLER, MATUSKY & SKELLY ENGINEERS

**APPENDIX F**  
**WELL DEVELOPMENT LOGS**

[illegible]

End:\_\_\_\_\_

Date: 7-16-99	<b>LMS</b> Lawler, Matusky & Skelly Engineers LLP WELL DEVELOPMENT LOG WELL No. <u>EMW-4</u>	pH Meter: 49903
Crew: JRT		Cond. Meter: TLC-8
Job No: 650-642		Therm: TLC-8
Site: Empire		Turb. Meter: DEC-15C

[illegible]

Depth of Well:    Start:\_\_\_\_\_

End:\_\_\_\_\_

# MONITORING WELL COMPLETION LOG

PROJECT NUMBER

650-642

PROJECT NAME

Empire Electric

WELL No.:

EMMW-5

CLIENT:

NYSDIEC

LOCATION:

Sand St.

DATE DRILLED:

7-14-99

DATE DEVELOPED:

7-15-99

WELL CONSTRUCTION COMPLETED:

7-14-99

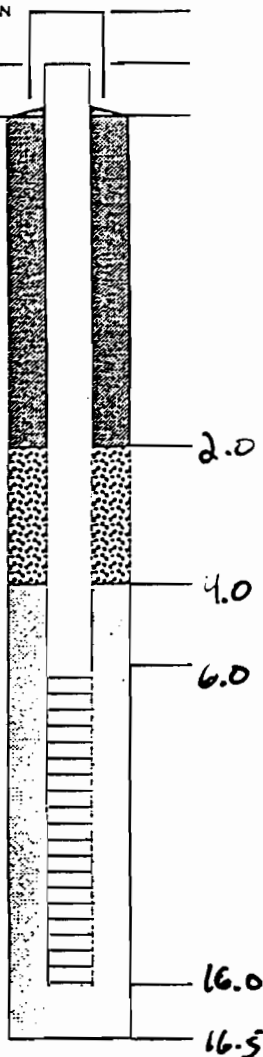
DEVELOPING METHOD:

Grubbs Pump

PROTECTIVE CASING ELEVATION

CASING ELEVATION

GRADE ELEVATION



NOT TO SCALE

INSPECTOR:

John Monberg

DRILLING CONTRACTOR:

Delta Well

TYPE OF WELL:

Monitoring

STATIC WATER LEVEL:

11.87

DATE:

7-27-99

MEASURING POINT:

TOC

TOTAL DEPTH OF WELL:

16.0'

TOTAL DEPTH OF BORING:

16.5'

DRILLING METHOD

TYPE:

4 1/4" HSA

DIAMETER:

3"

CASING:

N/A

SAMPLING METHOD

TYPE:

SPT

DIAMETER:

2 in.

WEIGHT:

140

FALL:

24 in.

INTERVAL:

5-ft

RISER PIPE LEFT IN PLACE

MATERIAL:

PVC

DIAMETER:

2-in

LENGTH:

6.0

JOINT TYPE:

Flush.

SCREEN

MATERIAL:

PVC

INTERVAL:

6-16.0'

DIAMETER:

2-in.

STRATIGRAPHIC UNITS SCREENED:

SLOT SIZE:

0.010

FILTER PACK

GRADE:

SAND:

#1

GRAVEL:

NATURAL:

AMOUNT:

500#

INTERVAL:

4.0-16.0'

SEAL(s)

NOTES:

Refusal at 16.0'

CHECK APPLICABLE

Portland Cement

INTERVAL:

AMOUNT:

Bentonite Slurry

INTERVAL:

AMOUNT:

Bentonite Pellets

INTERVAL:

2-4'

AMOUNT:

5 gals.

Other:

INTERVAL:

AMOUNT:

LOCKING CASING:

☐ NO

☒ YES

KEY NO:

LMS

LAWLER, MATUSKY & SKELLY ENGINEERS I



# MONITORING WELL COMPLETION LOG

PROJECT NUMBER

650-642

PROJECT NAME:

Empire Electric

WELL No.:

EMW-6

CLIENT:

NYS DEC

LOCATION:

Lot west of Empire

DATE DRILLED:

7-15-99

DATE DEVELOPED:

7-19-99

WELL CONSTRUCTION COMPLETED:

7-15-99

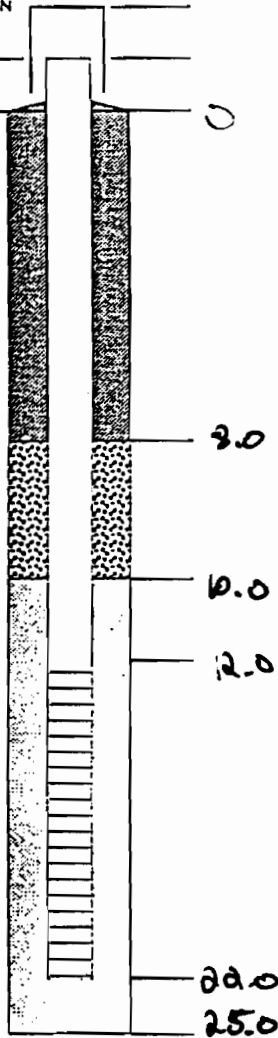
DEVELOPING METHOD:

Gravel Pump

PROTECTIVE CASING ELEVATION

CASING ELEVATION

GRADE ELEVATION



NOT TO SCALE

INSPECTOR:

John Thorburg

DRILLING CONTRACTOR:

Delta Well

TYPE OF WELL:

Monitoring

STATIC WATER LEVEL:

14.67

DATE:

7-27-99

MEASURING POINT:

TOC

TOTAL DEPTH OF WELL:

TOTAL DEPTH OF BORING:

DRILLING METHOD

TYPE:

4 1/2" HSA

DIAMETER:

3"

CASING:

N/A

SAMPLING METHOD

TYPE:

SPT

DIAMETER:

2 in.

WEIGHT:

140

FALL:

24 in.

INTERVAL:

5-ft

RISER PIPE LEFT IN PLACE

MATERIAL:

PVC

DIAMETER:

2-in

LENGTH:

12.0

JOINT TYPE:

Flush

SCREEN

MATERIAL:

PVC

INTERVAL:

12.0-22.0

DIAMETER:

2-in.

STRATIGRAPHIC UNITS SCREENED:

SLOT SIZE:

0.010

FILTER PACK

GRADE:

SAND:

#1

GRAVEL:

NATURAL:

AMOUNT:

~ 300 #

INTERVAL:

12.0-22.0

SEAL(s)

NOTES:

CHECK APPLICABLE

Portland Cement

INTERVAL:

AMOUNT:

Bentonite Slurry

INTERVAL:

AMOUNT:

Bentonite Pellets

✓

INTERVAL:

3.0-10.0

AMOUNT:

5351

Other:

bentonite

INTERVAL:

✓

2.0-3.0

AMOUNT:

LOCKING CASING:

☐ NO

☒ YES

KEY NO:

LWS

LAWLER, MATUSKY & SKELLY ENGINEERS

[illegible]

Depth of Well: Start: \_\_\_\_\_ End: \_\_\_\_\_

[illegible]

End: \_\_\_\_\_

[illegible]

Depth of Well: Start: \_\_\_\_\_ End: \_\_\_\_\_

[illegible]

End:\_\_\_\_\_

**APPENDIX G**  
**WELL SAMPLING LOGS**



# Well Sampling Log

Date: \_\_\_\_\_  
Crew: JET  
Job No: 650-645  
Project: Empire Electric Company  
Project Site: Brooklyn

## METERS USED

Temp.: TLC  
pH: \_\_\_\_\_  
Cond.: TLC  
Turb.: \_\_\_\_\_

Well ID No.: MW-1  
Well Condition: new  
Well Depth/Diameter: 28.0'1/2"  
Well Casing Type: PVC  
Screened Interval: 18-28'  
Casing Ht./Lock No.: \_\_\_\_\_  
Reference Pt.: TOC  
Depth to Water (DTW) 21.49  
Water Column Ht./Vol.: 6.51/5.8  
Purge Est.: 17.5  
Purge Method(s): grundfos pump  
Purge Date/Time(s): 7-26-99 1038-1058

Depth(s): All  
Rates (gpm): 1 gpm  
Purged Volume: 20 gal  
DTW After Purging: 23.61  
Yield Rate: L - M - L  
Purge Observations: \_\_\_\_\_

DTW Before Sampling: 21.54  
Sample Date/Time: 7-26-99 1515  
Sampling Method: bailer  
Sampling Depth(s): top or column  
DTW After Sampling: 21.55  
Chain-of-Custody No.(s): \_\_\_\_\_  
Analytical Lab(s): \_\_\_\_\_  
Sampling Observations: \_\_\_\_\_

## SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	219	7.3	140	95
End	18	7.1	154	200+

## SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOC		<4	no
PCB		<4	no

## PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	21.9	7.4	28	200+
5	18.4	6.9	75	80
10	18.2	6.9	85	15
15	17.9	6.9	92	9
20	18.2	6.9	104	75

Comments: \_\_\_\_\_  
Air Temp: 90  
Weather Conditions: sunny

Crew Chief Signature  Date: 10-1-99

Date: \_\_\_\_\_  
 Crew: JET  
 Job No: 650-645  
 Project: Empire Electric Company  
 Project Site: Brooklyn

### METERS USED

Temp.: TLC  
 pH: \_\_\_\_\_  
 Cond.: TLC  
 Turb.: \_\_\_\_\_

Well ID No.: MW-2  
 Well Condition: new  
 Well Depth/Diameter: 28.0'2"  
 Well Casing Type: PVC  
 Screened Interval: 18-28'  
 Casing Ht./Lock No.: \_\_\_\_\_  
 Reference Pt.: TOC  
 Depth to Water (DTW) 20.81  
 Water Column Ht./Vol.: 7.19/6.5  
 Purge Est.: 19.4  
 Purge Method(s): grundfos pump  
 Purge Date/Time(s): 7-26-99 1134-1148

Depth(s): All  
 Rates (gpm): 1.5 gpm  
 Purged Volume: 25 gal  
 DTW After Purging: NR  
 Yield Rate: L - M - L  
 Purge Observations: \_\_\_\_\_

DTW Before Sampling: 20.93  
 Sample Date/Time: 7-26-99/1540  
 Sampling Method: bailer  
 Sampling Depth(s): top or column  
 DTW After Sampling: 20.95  
 Chain-of-Custody No.(s): \_\_\_\_\_  
 Analytical Lab(s): \_\_\_\_\_  
 Sampling Observations: \_\_\_\_\_

### SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	19.9	6.9	188	75
End	18.4	6.9	176	200+

### SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOC		<4	no
PCB		<4	no

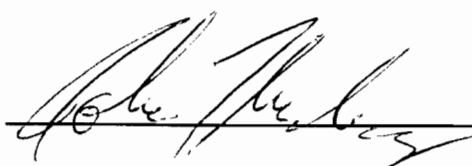
### PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	21.2	7.1	113	200+
5	20.8	7.1	121	200+
15	17.7	7	139	200+
20	17.5	7	138	200+
25	17.7	6.9	140	60

Comments: \_\_\_\_\_

Air Temp: 90  
 Weather Conditions: sunny

Crew Chief Signature



Date: 10-1-99



Date: \_\_\_\_\_  
 Crew: JET  
 Job No: 650-645  
 Project: Empire Electric Company  
 Project Site: Brooklyn

### METERS USED

Temp.: TLC  
 pH: \_\_\_\_\_  
 Cond.: TLC  
 Turb.: \_\_\_\_\_

Well ID No.: MW-3  
 Well Condition: new  
 Well Depth/Diameter: 27.3'1/2"  
 Well Casing Type: PVC  
 Screened Interval: 17.3-27.3'  
 Casing Ht./Lock No.: \_\_\_\_\_  
 Reference Pt.: TOC  
 Depth to Water (DTW) 17.71  
 Water Column Ht./Vol.: 9.59/8.6  
 Purge Est.: 25.8  
 Purge Method(s): grundfos pump  
 Purge Date/Time(s): 7-26-99 1355

Depth(s): All  
 Rates (gpm): 1 gpm  
 Purged Volume: 20  
 DTW After Purging: 17.7  
 Yield Rate: L - M - L  
 Purge Observations: \_\_\_\_\_

DTW Before Sampling: 17.68  
 Sample Date/Time: 7-26-99/1600  
 Sampling Method: bailer  
 Sampling Depth(s): top or column  
 DTW After Sampling: 17.68  
 Chain-of-Custody No.(s): \_\_\_\_\_  
 Analytical Lab(s): \_\_\_\_\_  
 Sampling Observations: \_\_\_\_\_

### SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	17.3	7.7	164	200+
End	15.2	7.6	160	200+

### SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOC		<4	no
PCB		<4	no

### PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	16.5	7.5	161	200+
10	14.7	7.4	166	200+
20	14.7	7.4	163	80

Comments: \_\_\_\_\_

Air Temp: 90  
 Weather Conditions: sunny

Crew Chief Signature \_\_\_\_\_

Date: 10-1-99

Date: \_\_\_\_\_  
 Crew: JET  
 Job No: 650-645  
 Project: Empire Electric Company  
 Project Site: Brooklyn

### METERS USED

Temp.: TLC  
 pH: \_\_\_\_\_  
 Cond.: TLC  
 Turb.: \_\_\_\_\_

Well ID No.: MW-4  
 Well Condition: new  
 Well Depth/Diameter: 22.6  
 Well Casing Type: PVC  
 Screened Interval: 12.6-22.6'  
 Casing Ht./Lock No.: \_\_\_\_\_  
 Reference Pt.: TOC  
 Depth to Water (DTW) 15.17  
 Water Column Ht./Vol.: 7.43/6.7  
 Purge Est.: 20  
 Purge Method(s): grundfos pump  
 Purge Date/Time(s): 7/26/99

Depth(s): All  
 Rates (gpm): 1 gpm  
 Purged Volume: 25 gal  
 DTW After Purging: 15.2  
 Yield Rate: L - M - L  
 Purge Observations: \_\_\_\_\_

DTW Before Sampling: 15.56  
 Sample Date/Time: 7-26-99/1625  
 Sampling Method: bailer  
 Sampling Depth(s): top or column  
 DTW After Sampling: 15.64  
 Chain-of-Custody No.(s): \_\_\_\_\_  
 Analytical Lab(s): \_\_\_\_\_  
 Sampling Observations: \_\_\_\_\_

### SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	18.4	7.4	176	150
End	16.7	7.4	176	200+

### SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOC		<4	no
PCB		<4	no

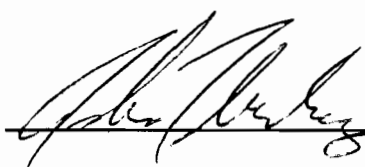
### PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	19.8	7.6	187	200+
5	16.0	7.5	176	200+
10	15.4	7.5	175	125
15	15.3	7.4	175	45
20	15.3	7.4	172	25
25	15.3	7.4	171	10

Comments: \_\_\_\_\_

Air Temp: 90  
 Weather Conditions: sunny

Crew Chief Signature



Date: 10-7-99

Date: \_\_\_\_\_  
 Crew: JET, NG  
 Job No: 650-645  
 Project: Empire Electric Company  
 Project Site: Brooklyn

### METERS USED

Temp.: TLC  
 pH: \_\_\_\_\_  
 Cond.: TLC  
 Turb.: \_\_\_\_\_

Well ID No.: MW-5  
 Well Condition: new  
 Well Depth/Diameter: 15.8/2"  
 Well Casing Type: PVC  
 Screened Interval: 5.8-15.8'  
 Casing Ht./Lock No.: \_\_\_\_\_  
 Reference Pt.: TOC  
 Depth to Water (DTW) 11.87  
 Water Column Ht./Vol.: 3.93/3.5  
 Purge Est.: 10.6  
 Purge Method(s): bailer  
 Purge Date/Time(s): 7-27-99/0850-0911

DTW Before Sampling: 11.9  
 Sample Date/Time: 7-27-99/1045  
 Sampling Method: bailer  
 Sampling Depth(s): top or column  
 DTW After Sampling: 11.85  
 Chain-of-Custody No.(s): \_\_\_\_\_  
 Analytical Lab(s): \_\_\_\_\_  
 Sampling Observations: \_\_\_\_\_

Depth(s): All  
 Rates (gpm): .25 gpm  
 Purged Volume: 12  
 DTW After Purging: 11.94  
 Yield Rate: L - M - L

### SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	19.9	6.9	193	150
End	18.6	6.8	225	200

### SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
		<4	no

Purge Observations: Water has sheen, dark gray  
unlike MW-1,2,3, and 4 which had reddish brown purge  
water

### PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	18.6	6.8	216	5
3	18.0	6.9	214	200+
6	17.9	6.8	214	200+
9	18.0	6.8	216	200+
12	17.8	6.8	215	200+

Comments: \_\_\_\_\_

Air Temp: 90  
 Weather Conditions: sunny

Crew Chief Signature \_\_\_\_\_



Date: 10-1-99

Date: \_\_\_\_\_  
Crew: JET, NG  
Job No: 650-645  
Project: Empire Electric Company  
Project Site: Brooklyn

**METERS USED**

Temp.: TLC  
pH: \_\_\_\_\_  
Cond.: TLC  
Turb.: \_\_\_\_\_

Well ID No.: MW-6  
Well Condition: new  
Well Depth/Diameter: 22.4'/2"  
Well Casing Type: PVC  
Screened Interval: 12.4-22.4'  
Casing Ht./Lock No.: \_\_\_\_\_  
Reference Pt.: TOC  
Depth to Water (DTW) 14.67  
Water Column Ht./Vol.: 7.73/6.9  
Purge Est.: 20.8  
Purge Method(s): grundfos pump  
Purge Date/Time(s): 7-27-99/0934-0950

Depth(s): All  
Rates (gpm): 1.5 gpm  
Purged Volume: 25  
DTW After Purging: 14.65  
Yield Rate: L - M - L  
Purge Observations: \_\_\_\_\_

DTW Before Sampling: 14.7  
Sample Date/Time: 7-27-99/1115  
Sampling Method: bailer  
Sampling Depth(s): top or column  
DTW After Sampling: 14.7  
Chain-of-Custody No.(s): \_\_\_\_\_  
Analytical Lab(s): \_\_\_\_\_  
Sampling Observations: \_\_\_\_\_

**SAMPLE CHEMISTRIES**

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	20.6	7.4	162	125
End	18.1	7.2	120	200+

**SAMPLE ANALYSES**

Parameters	Inv. No.	Pres. Meth.	Filter
VOC		<4	no
PCB		<4	no

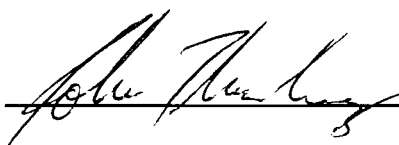
**PURGE CHEMISTRIES**

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	18.1	7.7	154	200
10	18.5	7.3	129	175
15	16.7	7.2	121	95
20	16.3	7.3	116	20
25	16.3	7.2	113	10

Comments: \_\_\_\_\_

Air Temp: 90  
Weather Conditions: sunny

Crew Chief Signature



Date: 10-1-98

Date: \_\_\_\_\_  
 Crew: JET, NG  
 Job No: 650-645  
 Project: Empire Electric Company  
 Project Site: Brooklyn

### METERS USED

Temp.: TLC  
 pH: \_\_\_\_\_  
 Cond.: TLC  
 Turb.: \_\_\_\_\_

Well ID No.: YWM-10  
 Well Condition: new  
 Well Depth/Diameter: 29.3'1/2"  
 Well Casing Type: PVC  
 Screened Interval: ?  
 Casing Ht./Lock No.: \_\_\_\_\_  
 Reference Pt.: TOC  
 Depth to Water (DTW) 19.53  
 Water Column Ht./Vol.: 9.77/8.8  
 Purge Est.: 26.3  
 Purge Method(s): grundfos pump  
 Purge Date/Time(s): 7-27-99 0801-0818

Depth(s): All  
 Rates (gpm): 1.5 gpm  
 Purged Volume: 25  
 DTW After Purging: 19.53  
 Yield Rate: L - M - L  
 Purge Observations: \_\_\_\_\_

DTW Before Sampling: 19.51  
 Sample Date/Time: 7-27-99/1015  
 Sampling Method: bailer  
 Sampling Depth(s): top or column  
 DTW After Sampling: 19.51  
 Chain-of-Custody No.(s): \_\_\_\_\_  
 Analytical Lab(s): \_\_\_\_\_  
 Sampling Observations: \_\_\_\_\_

### SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	18.1	7.1	144	150
End	16.8	7.1	145	200+

### SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOC		<4	no
PCB		<4	no

### PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	18.7	7.1	77	200+
5	16.3	6.9	117	200+
10	15.9	6.9	121	150
15	16.3	6.8	130	85
20	16.2	6.8	136	55
25	16.1	6.8	138	40

Comments: \_\_\_\_\_

Air Temp: 90  
 Weather Conditions: sunny

Crew Chief Signature \_\_\_\_\_

Date: 10-1-99