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VOLUME 1

EPA UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

"TO PROTECT HUMAN HEALTH AND SAFEGUARD THE NATURAL ENVIRONMENT..."

MILWAUKEE SOLVAY COKE AND GAS SITE

MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN

SITE ASSESSMENT REPORT

VERSION 1.0

TDD No.: S05-0110-013
Contract Number: 68-W-00-129

Prepared for
U.S. Environmental Protection Agency
Region 5 Emergency Response Branch
77 West Jackson Boulevard
Chicago, IL 60604

Prepared by:
Tetra Tech EM Inc.

SITE ASSESSMENT REPORT
MILWAUKEE SOLVAY COKE AND GAS SITE
MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN

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Date Prepared:	01 May 02
Contract No.:	68-W-00-129
Technical Direction Document No.:	S05-0110-013
Prepared by:	Tetra Tech EM Inc.
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Appendix

TABLES

FIGURES

1.0 INTRODUCTION

Under Technical Direction Document (TDD) No. S05-0110-013, the U.S. Environmental Protection Agency (U.S. EPA) tasked the Tetra Tech EM Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) to perform a site assessment for the Milwaukee Solvay Coke and Gas (MSCG) site in Milwaukee, Milwaukee County, Wisconsin. Specifically, START was assigned to compile available site information; review historical aerial photographs; develop a site safety plan; develop a site assessment plan; develop an integrated field sampling plan (FSP); perform a site reconnaissance; collect aboveground storage tank (AST), container, sediment, and surface and subsurface soil samples; procure an analytical laboratory; provide site photo documentation; provide a written log documenting all on-site activities; validate sample analytical data; evaluate potential threats to human health and the environment; and prepare this site assessment report.

The site assessment was performed in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and Title 40 of the *Code of Federal Regulations* (CFR), Section 300.415(b)(2), to evaluate on-site conditions and possible threats to human health, welfare, and the environment. Sections 2.0 through 6.0 of this report respectively present available site information; site assessment activities; sample analytical results; potential threats to human health, welfare, and the environment; and a summary of the site assessment. The references cited in the text are listed after Section 6.0. Appendix A provides a site photographic log; Appendix B provides a collection of historical aerial photographs of the site taken between 1937 and 2000; Appendix C provides exploratory pit soil logs; Appendix D provides river sediment core logs; Appendix E provides an inventory of site ASTs; Appendix F provides a table of global positioning system (GPS) survey coordinates for specific areas of investigation, including exploratory pits; Appendix G provides summary tables of sample analytical results; and Appendixes H and I provide the validated analytical data packages.

2.0 SITE INFORMATION

This section describes the MSCG site and provides site background information, including information drawn from a review of historical aerial photographs of the site.

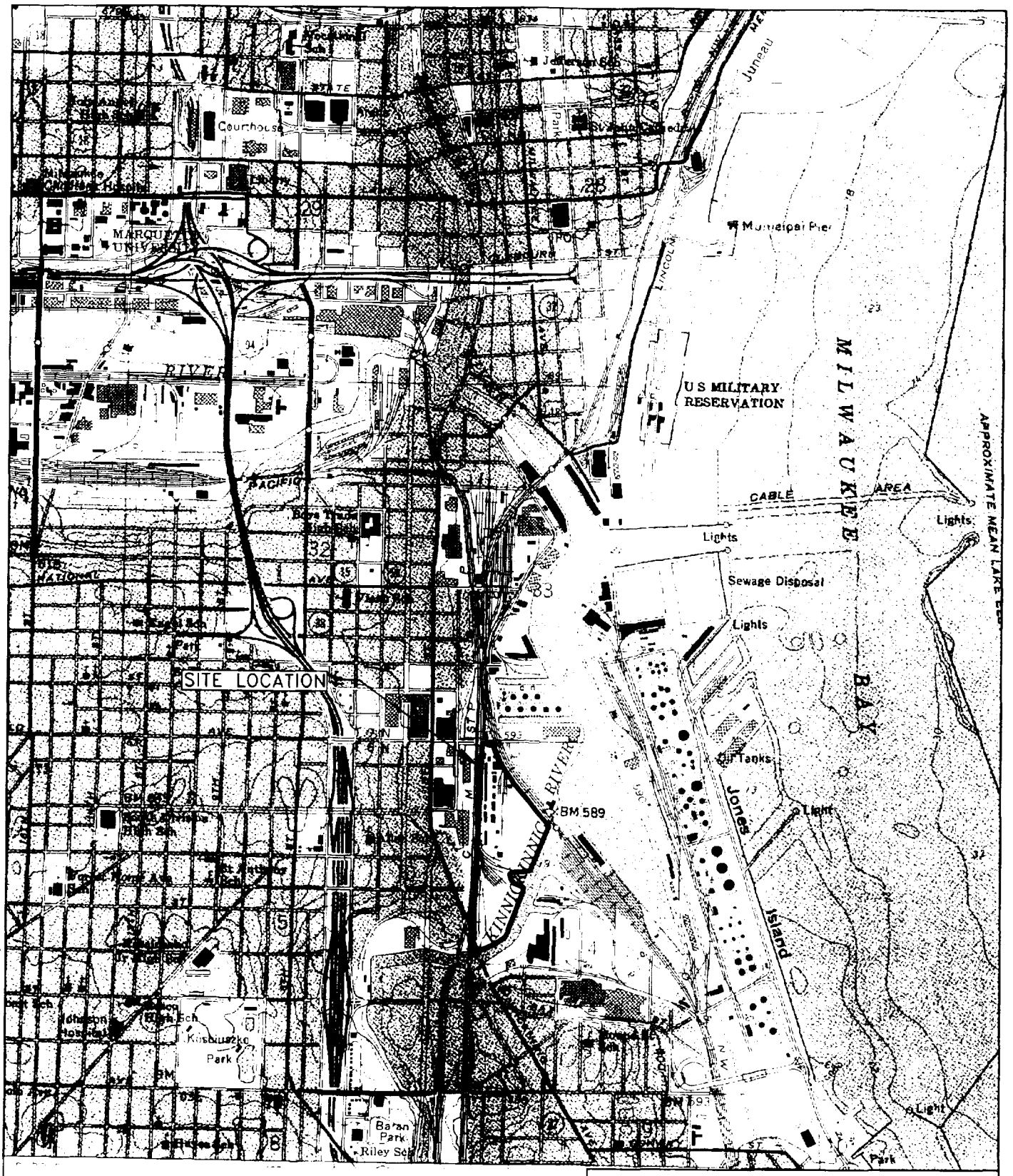
2.1 SITE LOCATION AND DESCRIPTION

The MSCG site is located at 311 East Greenfield Avenue in Milwaukee, Milwaukee County, Wisconsin (see Figure 1). The site is currently occupied and leased by the Wisconsin Wrecking Company and is the former operating location of the Milwaukee Solvay Coke and Gas Company, which manufactured coke and gas. This company ceased its operations at the site in the early 1980s. Most of the major coke and gas manufacturing buildings are still standing but are significantly deteriorated (see Figure 2). The site covers about 46 acres in a primarily industrial and commercial area north of the Kinnickinnic River and west of the Lincoln Memorial Harbor. The site is bordered by East Greenfield Avenue to the north, railroad tracks and a coal storage area to the northeast, the Kinnickinnic River to the east and south, and railroad tracks to the west. Grede Foundries, Inc., is located west of the site across the railroad tracks. Residential areas are located within 0.5 mile of the site along 1st, 2nd, and 3rd Streets.

For the purposes of the site assessment, the site was divided into four areas of interest (AOI) that are described in detail in the integrated FSP (Tetra Tech 2001b). The AOIs were identified during a site reconnaissance conducted on 25 Oct 01 (see Section 3.1) and were delineated based on historical uses of the site property. The AOIs include (1) the former coke and gas production area (Area A in Figure 3); (2) the former coal storage yard (Area B in Figure 3); (3) the southern tip of the site property, which housed two furnace companies (Thomas Furnace Company and Milwaukee Blast Furnace Co.) and two leather tanning companies (Suhm Leather Co. and Fred Rueping Leather Co.) (Area C in Figure 3); and (4) the Kinnickinnic River and riverbank bordering the site property (Area D in Figure 3).

2.2 SITE BACKGROUND

Coke and gas production took place in the northern and western area of the MSCG site from the late 1800s through the early 1980s. The eastern portion of the site was used primarily for coal storage from

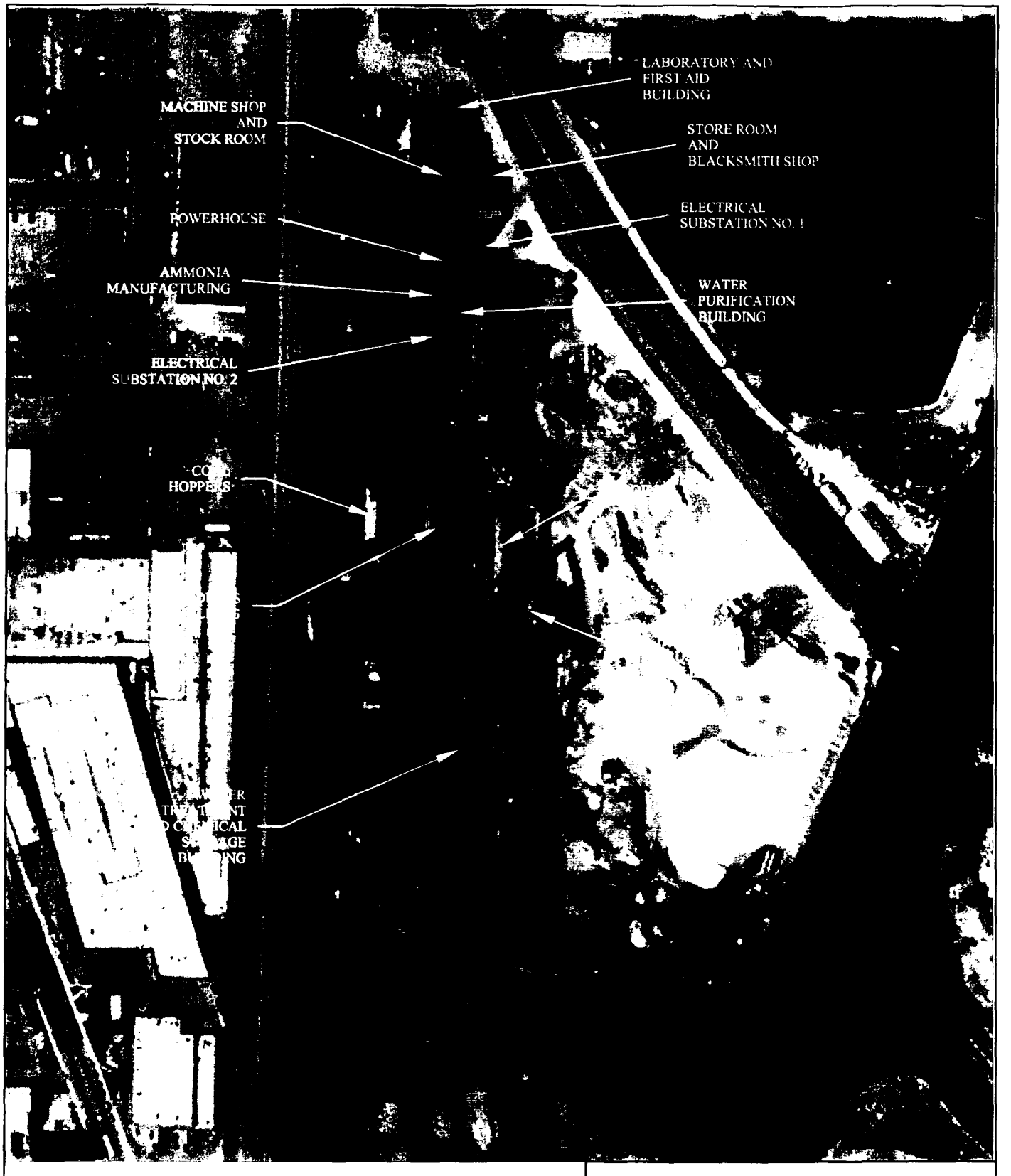


MILWAUKEE SOLVAY COKE AND GAS SITE
MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN
TDD NO. S05-0110-013

FIGURE 1
SITE LOCATION MAP

SOURCE: MODIFIED FROM USGS, MILWAUKEE, WISCONSIN, QUADRANGLE, 1971

G:\GV\9009\L011\ud13-Milwaukee Gas Plant\ site location.dwg 04/30/2002 joel.peters CH



0 250 500

SCALE IN FEET

SOURCE: MODIFIED FROM USGS 2000

MILWAUKEE SOLVAY COKE AND GAS SITE
MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN
TDD NO. S05-0110-013

FIGURE 2
SITE LAYOUT MAP

G:\G\9009\L011... .3-Milwaukee Gas Plant\ FIGURE 2 - SITE FEATURES.dwg 04/30/2002 joel.peters CH

0 500 1000
SCALE IN FEET

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SOURCE: MODIFIED FROM USGS 2000

MILWAUKEE SOLVAY COKE AND GAS SITE
MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN
TDD NO. S05-0110-013

FIGURE 3
AREAS OF INTEREST MAP

G:\G\9009\LO\ ...13-Milwaukee Gas Plant\ FIGURE 2 - SITE FEATURES.dwg 04/30/2002 joel.peters CH

the late 1800s to the early 1980s. The area immediately south of the coke and gas production area was once occupied by the Milwaukee Electric R.R. & Light Company (Sanborn® Fire Insurance [Sanborn] 1910). The Minerva Furnace facility was located south of the Milwaukee Electric R.R. & Light Company. The Minerva Furnace facility was no longer in operation as of 1894 (Sanborn 1894); this facility was later occupied by the Thomas Furnace Company (Sanborn 1910). The Thomas Furnace Company was an iron and steel manufacturing facility that included five hot blast furnaces; a casting shed; a gas collector; a gas washer; a cinder pit; machine, pump, and engine rooms; and six boilers. This facility is also identified in an undated Sanborn map as the Milwaukee Blast Furnace Co. (Sanborn no date) and had the same equipment and layout as the Thomas Furnace Company. The undated Sanborn map indicates that all the buildings of the Milwaukee Blast Furnace Co. were removed.

The southernmost triangular tip of the site property was occupied by the Suhm Leather Co. tannery in or after 1884. This area is bordered by the Kinnickinnic River to the south and east and by railroad tracks to the west. The tannery covered 3 acres; was capable of processing 1,200 hides a week; and employed 60 workmen. The tannery was involved in bark tanning and was equipped with 115 vats (*Milwaukee of Today*, no date; and Sanborn 1894). By 1910, the tannery area was occupied by the Fred Rueping Leather Co., which performed chrome tanning and operated a laboratory (Sanborn 1910). This area is currently occupied by various piles of debris, waste materials, waste asphalt, and other waste-like materials. Figure 4 shows the historical layout of the site buildings.

The Wisconsin Wrecking Company currently occupies the site. Since occupying the site, the Wisconsin Wrecking Company has accumulated and stockpiled recyclable materials such as concrete, bricks, refractory bricks, asphalt, and steel.

U.S. EPA obtained five aerial photographs of the MSCG site taken between 04 Aug 37 and 10 Apr 99. Also, START obtained a digital aerial photograph of the MSCG site dated 31 Mar 00 that is geographically referenced to the Universal Transverse Mercator (UTM) system. Site features observed in each of the six photographs are discussed below; the photographs are included in Appendix B.

LEGEND

1894 BUILDINGS AND STRUCTURES

BUILDINGS AND STRUCTURES BEFORE 1910

1910 BUILDINGS AND STRUCTURES

0 500 1000

SCALE IN FEET

SOURCE: MODIFIED FROM SANBORN 1894 AND 1910 AND USGS 2000

MILWAUKEE SOLVAY COKE AND GAS SITE
MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN
TDD NO. S05-0110-013

FIGURE 4
HISTORICAL BUILDINGS MAP

G:\G\9009\L01...013-Milwaukee Gas Plant\ FIGURE 2 - SITE FEATURES.dwg 04/30/2002 joel.peters CH

04 Aug 37 Aerial Photograph: The photograph indicates that the significant site buildings and other structures shown in the 1910 Sanborn map were still present in 1937 except for structures associated with the Thomas Furnace Company; the Milwaukee Electric R.R. & Light Company facility; and the Fred Rueping Leather Co. chrome tanning facility and office and laboratory building. According to a sidenote on the 1910 Sanborn map, the "chrome system" was to be vacated on or around 01 Aug 10. New buildings observed at the site in the 1937 photograph include a multiple-floor, brick structure referred to in this report as the Boiler House, which was located east of the By-products Building, and a structure located at the southern end of the Milwaukee Solvay Coke and Gas Company facility adjacent to the Oil Light House (Sanborn 1910). In 1937, the region surrounding the site consisted of mixed residential and industrial areas. The areas to the north and northeast and on the opposite side of the Kinnickinnic River to the south and southeast were primarily industrial. Stockpiles of coal were present opposite the railroad tracks on the northeastern side of the site as well as on the northern side of East Greenfield Avenue. Residential areas were present west of the railroad tracks on the west side of the site near 1st Street.

25 Oct 41 Aerial Photograph: Based on review of the aerial photographs, no significant changes were made to buildings or other structures at the MSCG site between 04 Aug 37 and 25 Oct 41. One regional development was the addition of a tank farm on the eastern banks of the Kinnickinnic River northeast of the site. The area directly north of the ship slip, which was on the northern side of East Greenfield Avenue, no longer contained coal stockpiles.

06 Sep 50 Aerial Photograph: By 1950, the remaining Fred Rueping Leather Co. buildings had been removed from the site. Additionally, the 1950 photograph appears to show debris being stockpiled in Area C. A discolored plume in the Kinnickinnic River adjacent to the site indicates drainage from the site – specifically, from the outfall north of the car ferry slip. Also, significant drainage appears to have been discharged from an outfall located along the shoreline of the coal storage area northeast of the site. By 1950, several new facilities had been built along the Kinnickinnic River southeast of the site.

12 Apr 92 Aerial Photograph: By 1992, operations at the MSCG site had ceased. The coal stockpile had been removed, as had the Condensing House and South Condensing House. The structure adjacent to the Oil Light House had also been removed. The 1992 photograph appears to show debris stockpiled in Area C. A portion of the western shoreline north of the site and approximately 300 feet north of the railroad swing bridge had been filled in and stabilized with a retaining wall. One regional development

was the installation of a tank farm north of East Greenfield Avenue on the northern side of the ship slip. This area was formerly used to stockpile coal (see the 04 Aug 37 photograph in Appendix B).

10 Apr 99 Aerial Photograph: Minimal changes appear to have occurred at the MSCG site between 1992 and 1999. The 1999 photograph shows signs of vegetative growth in Area C along the Kinnickinnic River shoreline and evidence of continued debris stockpiling in Area C. No significant regional changes are apparent in the 1999 photograph.

31 Mar 00 Aerial Photograph: No significant changes at the MSCG site are visible in the 31 Mar 00 aerial photograph.

3.0 SITE ASSESSMENT ACTIVITIES

The overall objective of the site assessment was to investigate and document the environmental impacts associated with former operations at the MSCG site. Site assessment activities included a site reconnaissance and multiple field activities. Each activity is discussed below.

3.1 SITE RECONNAISSANCE

On 25 Oct 01, representatives of U.S. EPA, the Wisconsin Department of Natural Resources (WDNR), Milwaukee Solvay Coke and Gas Company, Wisconsin Wrecking Company, the City of Milwaukee, and START met at the MSCG site to perform a site reconnaissance. After an introductory meeting conducted by U.S. EPA representatives, the parties involved drove along the eastern perimeter of the site property. The parties observed the areas where the former leather tanning, steel furnace, and coke and gas manufacturing activities took place. All observations were made without entering the site buildings.

After the site reconnaissance, START developed (1) a site assessment plan (Tetra Tech 2001a) by reviewing and compiling available site information, (2) an integrated FSP (Tetra Tech 2001b), and (3) a site safety plan for field sampling activities. All these documents were approved by U.S. EPA and were reviewed by representatives of WDNR and the City of Milwaukee before field activities were initiated.

3.2 FIELD ACTIVITIES

From 10 to 19 Dec 01, a multimedia sampling event was conducted at the MSCG site to screen for possible contamination and identify potential human health and environmental threats in each AOI. Before initiation of field activities, each individual working at the site was required to read the site safety plan and to sign in at the site in accordance with pre-established protocols. Field activities included (1) exploratory pit investigations and sampling, (2) electrical transformer sampling, (3) river sediment sampling, (4) an inventory and sampling of existing ASTs, (5) inspection of the interiors of former coke and gas manufacturing buildings, (6) preliminary screening of suspected asbestos-containing material (ACM), (7) a preliminary inventory of suspected ACM, and (8) a GPS survey of sampling locations and ASTs. A timeline of the major field activities is provided in Table 1, and each of the activities is discussed below.

TABLE 1

SITE ASSESSMENT FIELD ACTIVITIES

Date	Activity
10 Dec 01	Mobilized personnel and equipment to site; set up sample management station
11 Dec 01	Began excavation and sampling of exploratory pits; conducted reconnaissance of Kinnickinnic River; began sediment sampling
12 Dec 01	Continued excavation and sampling of exploratory pits; completed sediment sampling; began logging sediment core stratigraphy and processing sediment samples; demobilized sediment sampling subcontractor, sampling crew, and equipment
13 Dec 01	Completed excavation and sampling of exploratory pits; continued logging sediment core stratigraphy and processing sediment samples; began logging ASTs; demobilized excavation subcontractor
14 Dec 01	Demobilized heavy equipment; finished logging sediment core stratigraphy and processing sediment samples; continued logging ASTs; performed sampling for PCB analysis; conducted GPS survey of sampling points; demobilized personnel
17 Dec 01	Remobilized personnel; began AST characterization and sampling
18 Dec 01	Continued AST characterization and sampling; conducted building interior inspections; performed sampling for PCB analysis
19 Dec 01	Performed preliminary screening of suspected ACM; conducted GPS survey of ASTs

Notes:

ACM = Asbestos-containing material
AST = Aboveground storage tank
GPS = Global positioning system
PCB = Polychlorinated biphenyl

Identification of samples collected during field activities was conducted in accordance with the integrated FSP. Refer to Section 6.3 of the integrated FSP for a detailed explanation of the sample identification scheme used at the MSCG site (Tetra Tech 2001b).

3.2.1 Exploratory Pit Investigations and Sampling

The exploratory pit investigations and sampling event were designed to survey and collect samples from Areas A, B, and C in order to gather analytical data for locations suspected to have been contaminated by former manufacturing activities at the site. The intent was not to determine the extent of contamination but only to identify the presence of contaminants. The target sampling locations were identified based on historical information, including information on former manufacturing processes and storage practices, and were adjusted in the field where necessary. The initial locations of some pit sampling locations were displaced in the coal storage yard and former open hearth furnace and tanning areas because of concrete debris being encountered, which caused the backhoe bucket teeth to break off. Where an obstruction was encountered, the target sampling location was moved 15 to 20 feet as directed by the U.S. EPA on-scene coordinator (U.S. EPA OSC).

Each exploratory pit was advanced to at least the water table using a backhoe. The characteristics of the soil were logged (see Appendix C), and the extent of potential contamination in the pit was assessed by means of visual observation and organic vapor detection using portable photoionization detectors (PID) and flame ionization detectors (FID). Once the depth interval to be sampled was identified, a portion of the sample was collected directly from the backhoe bucket using a dedicated EnCore sampler for volatile organic compound (VOC) analysis. The rest of the sample material was homogenized to form a composite, and the appropriate sample jars were filled. After each use, all sampling equipment was decontaminated using a high-pressure steam cleaner and Liquinox solution followed by a distilled water rinse. However, the backhoe bucket was cleaned by a high-pressure steam cleaner only.

In an effort to conduct an initial assessment of shallow aquifer groundwater contamination, groundwater samples were collected from selected exploratory pits as directed by the U.S. EPA OSC. Investigations of the areal and vertical extent of groundwater contamination were not part of the scope of the site assessment. In accordance with the integrated FSP, approximately 10 minutes after excavation of an exploratory pit had ceased, a groundwater sample was collected by lowering a jar tied to a string into the pit and using the jar to fill each of the required pre-preserved sample jars. As an oversight, water quality

parameters were not measured prior to sample collection as described in the integrated FSP. The groundwater sample jars were filled in the following order for these analytes: (1) VOCs; (2) cyanide; (3) semivolatile organic compounds (SVOC), including 1,2,3-trimethyl 4-propenyl-naphthalene; (4) total phenols; (5) pesticides; (6) metals; and (7) other parameters, as directed by the U.S. EPA OSC.

All samples were logged and packaged in accordance with the integrated FSP. Some of the soil and groundwater samples were sent to a START-procured commercial analytical laboratory for analysis for phenolics and sulfides. The rest of the samples were sent to a U.S. EPA Contract Laboratory Program (CLP) laboratory to be analyzed for target analyte list (TAL) metals, target compound list (TCL) VOCs and SVOCs, pesticides, and polychlorinated biphenyls (PCB), as directed by the U.S. EPA OSC. Sample analytical results are discussed in detail in Section 4.0. Area-specific exploratory pit investigation and sampling activities are summarized below. Figure 5 shows exploratory pit locations.

Area A: Former Coke and Gas Production Area

A total of 18 exploratory pits were excavated in the former coke and gas production area. Table 2 summarizes Area A exploratory pit information; comments are provided to identify the rationale for excavating each location and to present any significant field observations.

In addition to the soil and groundwater samples collected from exploratory pits, three surface soil samples were collected in Area A. Two of the surface soil samples were collected west of the coke ovens: sample MC-SS-A-37-0001 was collected adjacent to the north set of coke ovens, and sample MC-SS-A-38-0001 was collected adjacent to the south set of coke ovens. No exploratory pits were excavated at these locations. The third surface soil sample, MC-SB-A-05-0001, was a composite sample collected from six points south and east of the Electrical Substation No. 1 building. All the surface soil samples were collected from 0 to 8 inches below ground surface (bgs) using dedicated, stainless-steel spoons. A water sample, MC-PIT-PH, was also collected from a sump in the southeastern corner of the Boiler House. The water sample was collected by lowering a dedicated, glass jar tied to a string into the sump and using the jar to fill the appropriate pre-preserved sampling jars.

LEGEND

- EXPLORATORY PIT LOCATION
- EXPLORATORY PIT AND SOIL SAMPLE LOCATION
- EXPLORATORY PIT AND GROUNDWATER SAMPLE LOCATION
- EXPLORATORY PIT, SOIL SAMPLE AND GROUNDWATER SAMPLE LOCATION
- SURFACE SOIL SAMPLE LOCATION ONLY
- SOIL AND WATER SAMPLE LOCATION
- WATER SAMPLE LOCATION

SOURCE: MODIFIED FROM USGS 2000

N W E S

300 0 300 Feet

MILWAUKEE SOLVAY COKE AND GAS SITE
MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN
TDD NO. S05-0110-013

FIGURE 5
EXPLORATORY PIT , SOIL, AND GROUNDWATER SAMPLING LOCATIONS

TETRA TECH EM INC

TABLE 2

AREA A EXPLORATORY PIT SUMMARY

Exploratory Pit ID	Sample ID	Sample Matrix	Comments
MC-SB-A-01	MC-SB-A-01-0708	Soil	Area coverage near machine shop; odor detected during excavation; oil sheen observed on recharging groundwater
MC-SB-A-02	MC-GW-A-02-0005	Groundwater	Former rail line coverage
MC-SB-A-03	NS	NA	Additional rail line coverage; not sampled because characteristics were similar to those in MC-SB-A02; observed coal tar and layers of fill material during excavation
MC-SB-A-04	MC-SB-A-04-0607	Soil	Tar tank area
MC-SB-A-05	MC-SB-A-05-0001	Soil	No pit excavated; composite surface soil samples collected near electrical substation
MC-SB-A-12	MC-SB-A-12-0405	Soil	Located near ASTs T010 and T011; stained soil observed during excavation
MC-SB-A-13	MC-SB-A-13-0608	Soil	Located near AST T013; recorded elevated PID and FID readings at 2.0 ppm and 20 ppm, respectively
MC-SB-A-14	MC-SB-A-14-0405	Soil	Located near coal conveyor; odor detected; recorded elevated FID readings at 10 to 38 ppm
MC-SB-A-15	MC-SB-A-15-0405	Soil	Former South Condensing House coverage; odor detected; recorded elevated FID readings at 5 to 35 ppm
MC-SB-A-16	MC-SB-A-16-0607	Soil	Geographic coverage near AST T020
MC-SB-A-17	MC-SB-A-17-0607	Soil	Geographic coverage; odor detected; recorded FID readings above background level at 75 ppm
MC-SB-A-18	NS	NA	Original location changed because of concrete obstructions; new location in low area near ASTs T030, 031, and 032 not sampled
MC-SB-A-19	NS	NA	Former South Condensing House coverage; recorded elevated FID readings of 10 to 20 ppm; not sampled
MC-SB-A-20	MC-GW-A-20-09	Groundwater	North bank brick coke oven coverage

TABLE 2 (Continued)

AREA A EXPLORATORY PIT SUMMARY

Exploratory Pit ID	Sample ID	Sample Matrix	Comments
MC-SB-A-21	MC-SB-A-21-0708	Soil	Former Condensing House coverage; recorded elevated PID reading of 50 ppm
MC-SB-A-22	MC-SB-A-22-0607	Soil	Weak ammonia tank coverage
MC-SB-A-23	NS	NA	Former Condensing House coverage; observed solidified tar 4 to 5 feet below ground surface; not sampled at request of on-scene coordinator
MC-SB-A-24	MC-GW-A-24-04	Groundwater	Crushing building coverage; located near ASTs T033 and T034; recorded elevated PID readings of 5 to 15 ppm; sheen observed on standing groundwater
MC-SB-A-25	MC-SB-A-25-0708	Soil	Former coke pile area; light oil observed and odor detected during excavation
MC-SS-A-37	MC-SS-A-37-0001	Soil	Sample collected at west boundary of property adjacent to coke ovens. Sample collected from 0 to 8 inches; sample contained mainly coal fines mixed with silty soil
MC-SS-A-38	MC-SS-A-38-0001	Soil	Surface sample collected between the two south coke batteries from 0 to 8 inches; sample contained dark brown/black silty soil

Notes:

AST = Aboveground storage tank
FID = Flame ionization detector
NA = Not applicable
NS = Not sampled
PID = Photoionization detector
ppm = Part per million

Area B: Former Coal Storage Yard

Six exploratory pits were excavated in the former coal storage yard. Table 3 summarizes Area B exploratory pit information. The initial locations of some pit sampling locations were displaced in the coal storage yard and former open hearth furnace and tanning areas because of concrete debris being encountered, which caused the backhoe bucket teeth to break off.

Area C: Former Open Hearth Furnace and Tanning Area

Seven exploratory pits were excavated and one surface soil sample was collected in the former open hearth furnace and tanning area at the southern tip of the site property. Table 4 summarizes Area C exploratory pit information.

3.2.2 Electrical Transformer Sampling

Two electrical substations with multiple transformers were located at the MSCG site (see Figure 2). Electrical Substation No. 1 housed two General Electric, 65-gallon-capacity electrical transformers; two General Electric, 24-gallon-capacity electrical transformers; and two Allis Chalmers, 21-gallon-capacity circuit breakers. In addition, one General Electric, 65-gallon-capacity transformer was located outside the substation building. Dielectric transformer oil sample MC-OIL-01 was collected from one of the 65-gallon-capacity transformers located inside Electrical Substation No. 1 to be analyzed for PCBs. Electrical Substation No. 2 housed three 65-gallon-capacity electrical transformers. Dielectric transformer oil sample MC-PCB-02 was collected from one of these transformers to be analyzed for PCBs. The walls of the Electrical Substation No. 2 building were made of transite material, a corrugated building material that contains asbestos.

The transformer oil samples were logged and packaged in accordance with the integrated FSP. Sample analytical results are discussed in detail in Section 4.0.

TABLE 3

AREA B EXPLORATORY PIT SUMMARY

Exploratory Pit ID	Sample ID	Sample Matrix	Comments
MC-SB-B06	MC-SB-B-06-0204	Soil	Tar tank area coverage; recorded PID reading at 2.2 ppm; odor detected
MC-SB-B09	MC-SB-B-09-0708	Soil	Geographic coverage; fill, pieces of brick and concrete, and coal fines were encountered
MC-SB-B10	MC-SB-B-10-0405	Soil	Geographic coverage; fill and pieces of brick and concrete mixed with coal fines were encountered
MC-SB-B26	NS	NA	Geographic coverage; concrete obstructions encountered after repeated location changes; not sampled
MC-SB-B32	NS	NA	Geographic coverage; sand and fill material encountered; not sampled
MC-SB-B37	MC-SB-B-37-0910 MC-GW-B-37-08	Soil Groundwater	Recorded elevated PID readings up to 100 ppm; sheen observed on standing groundwater

Notes:

FID = Flame ionization detector
NA = Not applicable
NS = Not sampled
PID = Photoionization detector

TABLE 4

AREA C EXPLORATORY PIT SUMMARY

Exploratory Pit ID	Sample ID	Sample Matrix	Comments
MC-SB-C27	NS	NA	Former Thomas Furnace Company area coverage; soil similar to that in MC-SB-C29; no soil log created
MC-SB-C28	MC-SB-C-28-0405	Soil	Former Thomas Furnace Company area coverage; sample collected at approximate former location of casting shed
MC-SB-C29	MC-SB-C-29-03045	Soil	Former Thomas Furnace Company area coverage
MC-SB-C30	MC-SB-C-30-0708	Soil	Fred Rueping Leather Co. area coverage; encountered fill material in upper 3 feet and then native sand, loose soil, and clay to 10 feet below ground surface; sample collected and used as background sample
MC-SB-C31	MC-SB-C-31-00005	Soil	Geographic coverage; surface soil sample collected
MC-SB-C33	MC-GW-C-33-07	Groundwater	Former Milwaukee Electric R.R. & Light Company coverage
MC-SB-C34	MC-SB-C-34-00005	Soil	Former Milwaukee Electric R.R. & Light Company coverage; black soil with blue crystals encountered at 0 to 6 inches below ground surface; surface soil sample collected
MC-SB-C35	MC-SB-C-35-0507	Soil	Former Milwaukee Electric R.R. & Light Company coverage; sample collected and used as background sample
MC-SB-C36	MC-SB-C-36-0102	Soil	Former Thomas Furnace Company area coverage; location changed several times because of concrete obstructions; encountered debris, including wood and concrete

3.2.3 Kinnickinnic River (Area D) Sediment Sampling

The objective of the river sediment sampling conducted at the MSCG site was to (1) determine whether contaminated storm water, groundwater, or both are discharging to surface water in the Kinnickinnic River from existing site outfalls and (2) determine whether the sediment near these outfalls is contaminated with chemicals associated with former manufacturing activities at the site.

Based on the overall depth of the sediment that was of interest during the site assessment, Vibrocorer sampling technology was chosen as the sediment sampling method for the MSCG site. At the U.S. EPA OSC's request, a ponar grab sampler was not used to collect surface sediment samples as originally specified in the integrated FSP. Descriptions of the sediment sample collection and preparation procedures used at the site are provided below.

Sediment Sample Collection

START contracted Aqua Survey, Inc. (ASI), to collect sediment cores using an electric Vibrocorer sediment sampler capable of collecting a 4-inch-diameter sample to a maximum depth of 12 feet below sediment surface (bss). ASI's Vibrocorer was mounted on a 26-foot-long boat equipped with a Raytheon Raystar 10 digital GPS (DGPS) module that is accurate to within at least 10 feet. The DGPS module was used to survey each sediment sampling location.

On 11 Dec 01, U.S. EPA, WDNR, START, and ASI representatives conducted a boat reconnaissance of the MSCG site shoreline to identify specific sediment sampling locations. During the boat reconnaissance, four site outfalls were identified. Sampling locations were then chosen within each of the following areas:

- Outfall areas. Sediment cores 001, 002, 003, 004, and 005 were collected in proximity to the four site outfalls identified at the MSCG site. The site outfalls are located on the shoreline adjacent to the former coal storage yard.
- Former car ferry slip area. Sediment cores 006, 007, and 008 were collected in this slip, which is an inlet of the Kinnickinnic River. The area is directly south of Area B.
- Direct soil contact. During the boat reconnaissance, a portion of the shoreline south of the former car ferry slip area was observed to be in direct contact with the river; there is no retaining wall in place. Sediment cores 009 and 010 were collected in this shoreline area.

- Background samples. Sediment cores 011 and 012 were collected upstream as possible representative shallow and deep background samples.

River sediment sampling activities were initiated on 11 Dec and were completed on 12 Dec 01. Prior to sediment sample collection at a given location, the depth of the water above the sediment surface was measured using a measured length of rope with a weight attached; for the purposes of the site assessment, the sediment surface was considered to be the point at which the weight came to rest. This method excluded the highly unconsolidated material found at the sediment-water interface. The Vibrocorer unit was then deployed to the sediment surface and activated. A 4-inch-diameter, plastic sleeve was continuously fed into the Vibrocorer, and the unit was operated until refusal occurred. Prior to removal of the unit, the total depth of sampler deployment was measured. The length of the sediment core removed was then measured to calculate percent recovery. After excess water was drained, the sediment core was capped and transferred to the sediment sample preparation station. Table 5 summarizes sediment core information and Figure 6 shows the sediment core locations.

Overall, sediment core recoveries ranged from about 24 to 100 percent, with a mean recovery rate of 71 percent. Recoveries of less than 100 percent may be attributable to one or more of the following factors: difficulty assessing the sediment surface, sediment characteristics, core compression, and sample loss through the end of the core tube during sampler retrieval.

Sediment Sample Preparation

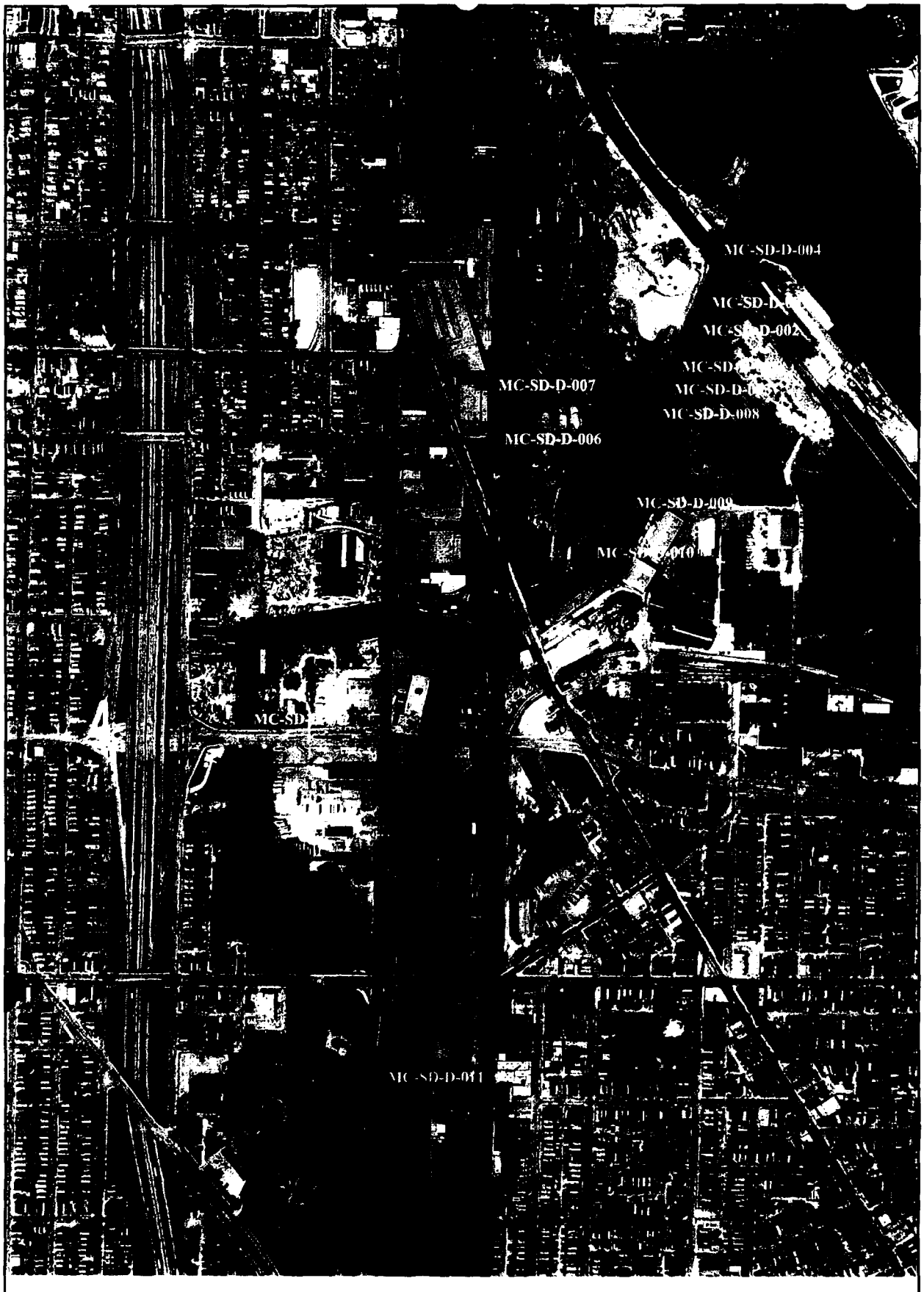
Sediment samples were prepared in accordance with the integrated FSP. A total of 30 samples, including 3 duplicate samples, were collected for laboratory analysis. The sample preparation procedure is described below.

Upon receiving a sediment core, START first measured its overall length. The core was then cut open lengthwise using a power rotary saw equipped with a 0.125-inch cutting bit set to a cutting depth of approximately 0.25 inch. Once cut, the core was split in half lengthwise using 12-inch trowels, allowing clear observation of the core's characteristics. The characteristics of the core were logged in terms of the degree of consolidation and soil type (see Appendix D). Certain characteristics such as staining, odor, and color were also noted.

TABLE 5

SEDIMENT CORE SUMMARY

Sediment Core ID	Core Collection Date	Depth of Water Above Sediment (feet)	Depth of Sampler Deployment (feet)	Sediment Core Recovery (%)	Comments
MC-SD-D-001	11 Dec 01	16.35	10	84	None
MC-SD-D-002	11 Dec 01	15.3	8.5	62.4	None
MC-SD-D-003	11 Dec 01	14.3	4	100	Oil sheen present
MC-SD-D-004	12 Dec 01	15.3	7.5	57.3	None
MC-SD-D-005	12 Dec 01	14.7	6.5	76.9	Oil sheen present
MC-SD-D-006	12 Dec 01	14.3	8	78.8	None
MC-SD-D-007	12 Dec 01	16.4	9.5	77.9	None
MC-SD-D-008	12 Dec 01	10.1	12	67.5	Oil sheen present
MC-SD-D-009	12 Dec 01	16.1	12	66.6	Oil sheen present
MC-SD-D-010	12 Dec 01	8.6	9	91.1	None
MC-SD-D-011	12 Dec 01	4.2	8.3	24.1	Oil sheen present; shallow background core collected
MC-SD-D-012	12 Dec 01	4	12	65.8	Deep background core collected



LEGEND

● SEDIMENT SAMPLING LOCATION

N
W E
S

500 0 500 Feet

SOURCE: MODIFIED FROM USGS 2000

MILWAUKEE SOLVAY COKE AND GAS SITE
MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN
TDD NO. S05-0110-013

FIGURE 6
SEDIMENT SAMPLING LOCATION MAP

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Sample intervals were chosen based on sediment characteristics such as soil type, color, odor, and staining. The sediment core logs in Appendix D show the specific sediment sample intervals. Using an EnCore sampler, three 5-gram samples were collected for VOC analysis. In addition, a sample was collected in a 4-ounce, wide-mouth jar for moisture content. The sediment within the sample interval was then placed in a stainless-steel bowl and homogenized using a stainless-steel spoon. Once the sediment was homogenized, the appropriate sample jars were labeled, filled, and taken to the sample management station. Any unused portion of the sediment core was placed in a 55-gallon drum and retained as investigation-derived waste (IDW). All sample preparation equipment was then decontaminated in accordance with the procedure outlined in the integrated FSP.

All sediment samples were logged and packaged in accordance with the integrated FSP. Sediment samples were sent to a START-procured analytical laboratory to be analyzed for phenolics and sulfides. Samples were also sent to a U.S. EPA CLP laboratory to be analyzed for TAL metals; TCL VOCs and SVOCs, including 1,2,3-trimethyl 4-propenyl-naphthalene; and PCBs. Sample analytical results are discussed in detail in Section 4.0.

3.2.4 Inventory and Sampling of Existing ASTs

During the site reconnaissance, U.S. EPA and START identified and numbered 35 existing ASTs located throughout Areas A and B (see Figure 7). During the sampling event, field personnel examined, measured, and in some cases sampled the tanks.

Donning the appropriate level of personal protective equipment (PPE), a field team member performed air monitoring in and around the opening of each AST using a handheld PID or FID and a combustible gas indicator (CGI) and noted whether any readings exceeded background levels. The volume of any waste present was then measured by lowering a tape measure to the surface of the material and subtracting its height from the total height of the tank.

START collected five samples from specific ASTs at the request of the U.S. EPA OSC. To collect a liquid sample from a tank, a dedicated 4-foot by 2-inch, plastic bailer was lowered into the tank. The liquid was then decanted from the bailer into the appropriate sample jars. To collect a semi-aqueous solid, tar, or sludge sample, a dedicated sampling device was lowered into the tank, and a portion of the material was placed in the appropriate sample jars.

LEGEND

☐ ABOVEGROUND STORAGE TANK

N
W E
S

150 0 150 Feet

SOURCE: MODIFIED FROM USGS 2000

MILWAUKEE SOLVAY COKE AND GAS SITE
MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN
TDD NO. S05-0110-013

FIGURE 7
LOCATIONS OF ABOVE GROUND STORAGE TANKS

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Table 6 summarizes the 35 ASTs inventoried at the MSCG site. Appendix E provides a complete inventory, including photographs, of the ASTs observed at the site.

3.2.5 Inspection of Interiors of Former Coke and Gas Manufacturing Buildings

The interiors of the former coke and gas manufacturing buildings were inspected to determine the presence of waste materials such as ACM and process waste. Field personnel entered the buildings wearing Level C PPE, and START performed air monitoring using a combined PID/FID and a CGI. START did not observe any instrument readings above background levels in any of the buildings entered. Waste material observed in the buildings was limited to suspected ACM, and samples were collected to be analyzed for asbestos. Table 7 presents thermal system insulation locations where suspected ACM was sampled. Figure 8 presents the approximate locations where suspected ACM was sampled. START's observations during the building inspection are summarized below.

Boiler House

The Boiler House, which is not shown on the 1937 Sanborn map, is a multifloor, brick and steel building with a basement. U.S. EPA and START observed suspected ACM throughout the building; U.S. EPA OSC collected sample MC-ACM-05 from material that was lying on the floor in the basement. The boiler units were aligned in pairs in a north-south direction. The fuel for these boilers appeared to have been coal. Most of the steel piping associated with the boilers was still in place but appeared to be structurally unstable. Structural steel and platforms were in place. Several items of debris, including a couple of 55-gallon drums, were present in the building. Boiler water treatment equipment was located on the western side of the basement.

By-Products Building

The By-products Building is a multifloor, brick and steel building that houses a gas compression system. START did not record any readings with the PID/FID or the CGI that were above background levels. Suspected ACM was observed, and U.S. EPA OSC collected sample MC-ACM-06 from piping insulation in the southwestern corner of the first floor. Most of the major equipment in the building was still standing. Several large motors and steam engines were observed. Six gas compressors were located on

TABLE 6

SUMMARY OF EXISTING ABOVEGROUND STORAGE TANKS

Tank ID	Waste Volume	Total Capacity (gallons)	Comments
MC-AT-A-001	Abandoned	12,100	Filled with sand
MC-AT-A-002	279 ft^3	14,600	Dry material
MC-AT-A-003	1,735 gallons of tar; 6,940 gallons of water	13,800	Biphase: tar and water
MC-AT-A-004	Empty	6,600	None
MC-AT-A-005	150 gallons	6,600	Residual oil and sludge
MC-AT-A-006	25 ft^3	6,000	Residual dry material
MC-AT-A-007	1,436 gallons	8,600	Coal tar
MC-AT-A-010	25 ft^3	6,100	Residual dry material
MC-AT-A-011	Empty	4,600	None
MC-AT-A-012	561 gallons of tar; 3,366 gallons of water	33,600	Water with residual tar
MC-AT-A-013	97,228 gallons of water	340,000	Sample MC-AT-A-013 collected
MC-AT-A-014	5,924 gallons of tar	17,800	Sample MC-AT-A-014 collected; biphase tar and heavy oil
MC-AT-A-015	Empty	Approximately 250	Tank dimensions not available
MC-AT-A-016	1,795 gallons of tar; 7,181 gallons of water	17,952	Biphase: oily sludge and water; flame ionization detector reading of 300 parts per million recorded
MC-AT-A-017	299 gallons of tar; 1,795 gallons of water	17,900	Mostly water with residual tar and sludge
MC-AT-A-018	Empty	9,200	None
MC-AT-A-019	Empty	9,200	None
MC-AT-A-020	Empty	29,100	None
MC-AT-A-021	Empty	6,000	None
MC-AT-A-022	1,945 gallons	15,400	Sample MC-AT-A-022 collected; tar

TABLE 6 (Continued)

SUMMARY OF EXISTING ABOVEGROUND STORAGE TANKS

Tank ID	Waste Volume	Total Capacity (gallons)	Comments
MC-AT-A-023	3,590 gallons	35,900	Coal tar residue
MC-AT-A-024	7,181 gallons of water; 3,590 gallons of sludge	14,300	Biphase: sludge and water
MC-AT-A-025	19,307 gallons of tar; 4,454 gallons of water	59,500	Biphase: sludge and water; Sample MC-AT-A-025 collected; strong coal tar odor
MC-AT-A-026	Empty	78,000	Currently used as storage shed
MC-AT-A-027	Empty	78,000	Currently used as storage shed
MC-AT-A-028	700 gallons	8,192	Unknown liquid
MC-AT-A-029	770 gallons of tar; 770 gallons of water	4,500	Biphase: tar and water
MC-AT-A-030	4.7 ft^3	840	Residual solid
MC-AT-A-031	52 gallons	840	Residual tar
MC-AT-A-032	Unknown	840	Sample MC-AT-A-032
MC-AT-A-033	5,386 gallons of coal tar; 1,795 gallons of water	14,361	Biphase: tar and water
MC-AT-A-034	7,955 gallons	19,400	Mostly water
MC-AT-A-035	2,132 gallons of tar	35,500	Tar
MC-AT-A-036	2,132 gallons of tar	35,500	Tar
MC-AT-A-037	Empty	2,600	Stainless steel tank
Estimated total gallons of coal tar			**47,064 gallons**
Estimated total gallons of aqueous materials			**138,665 gallons**

Note:

Solid waste volume expressed in cubic feet; tar and liquid waste volume expressed in gallons.

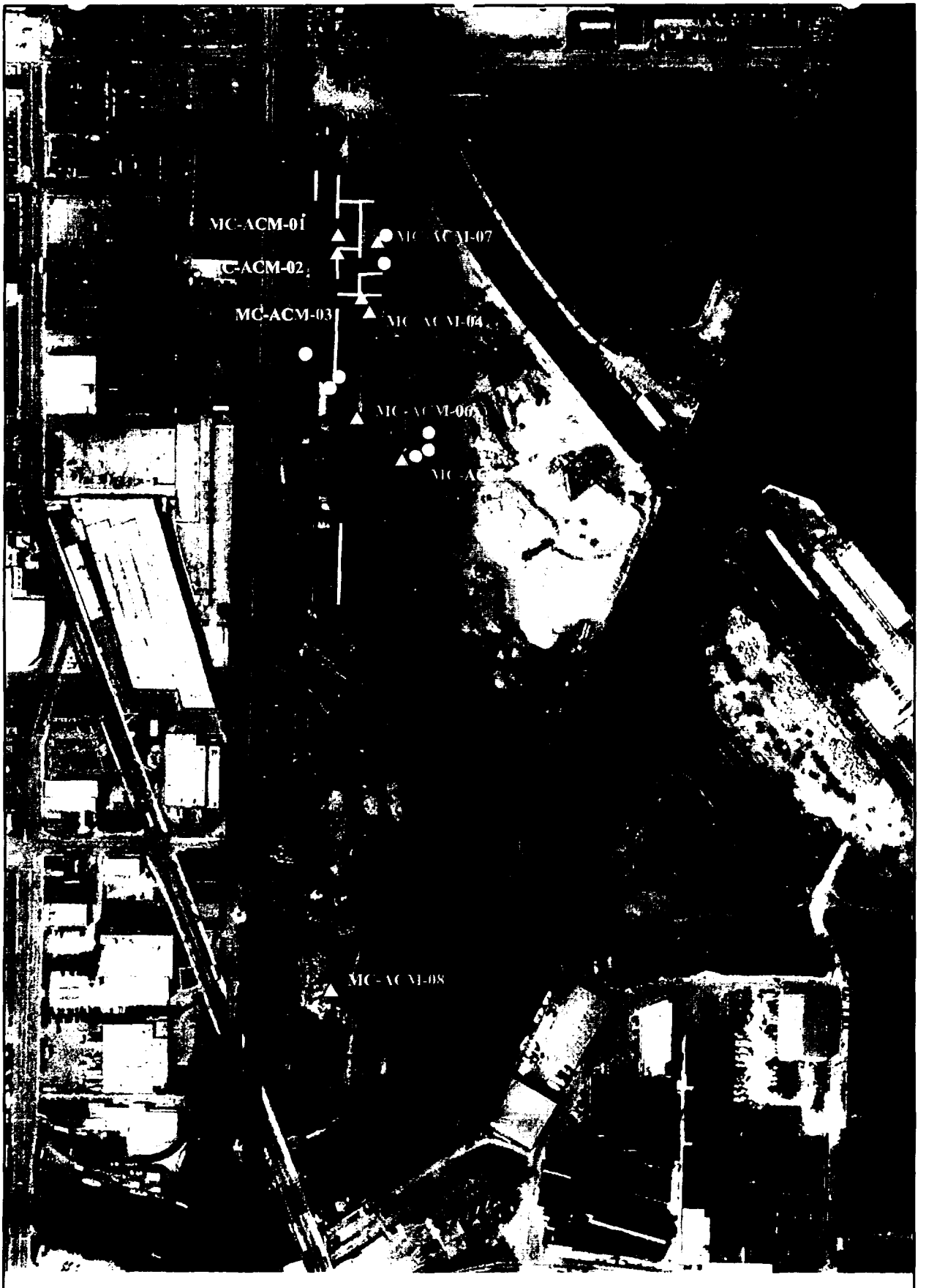
TABLE 7

SUSPECT ACM SAMPLING AT THE MSCG SITE

Suspected ACM Location	Sample ID	Comments
North coke ovens battery	MC-ACM-01	U.S. EPA OSC collected suspected ACM sample from piping above north coke ovens battery; sample collected on 18 Dec 01 at 0900
	MC-ACM-02	U.S. EPA OSC collected suspected ACM sample from piping above north coke oven battery on the eastern side and at a lower elevation than the gas collector line; sample collected on 18 Dec 01 at 0915
Piping west of north condensing house	MC-ACM-03	U.S. EPA OSC collected suspected ACM sample from piping racks near north condensing house west of tanks T036 and T037; sample collected on 18 Dec 01 at 0950
Tar precipitator area piping	MC-ACM-04	U.S. EPA OSC collected suspected ACM sample from piping on the ground; piping appeared to have fallen from tar precipitators; sample collected on 18 Dec 01 at 1015
Boilerhouse basement	MC-ACM-05	U.S. EPA OSC collected suspected ACM sample from pipe insulation on the ground in the southeastern area of the building basement; sample collected on 18 Dec 01 at 1330
By-products building, ground level	MC-ACM-06	U.S. EPA OSC collected suspected ACM suspect sample from piping insulation located at ground level from southwest area at the By-products Building; sample collected on 18 Dec 01 at 1400
Ammonia Manufacturing Building	MC-ACM-07	U.S. EPA OSC collected suspected ACM sample from piping insulation located at ground level on east-west catwalk leading from east doorway in water purification area; sample collected on 18 Dec 01 at 1445
Stockpiled bricks in area south of former coke and gas manufacturing area	MC-ACM-08	U.S. EPA OSC collected suspected ACM sample from bricks believed to have been used in former brick ovens; various brick pieces and mortar were collected, pulverized with a hammer, and composited into a single sample; sample collected on 18 Dec 01 at 1600

Notes:

ACM = Asbestos-containing material
U.S. EPA OSC = U.S. EPA on-scene coordinator



LEGEND

△ SUSPECTED ASBESTOS-CONTAINING MATERIAL SAMPLE

SUSPECTED ASBESTOS-CONTAINING MATERIAL

N
W E
S

300 0 300 Feet

SOURCE: MODIFIED FROM USGS 2000

MILWAUKEE SOLVAY COKE AND GAS SITE
MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN
TDD NO. S05-0110-013

FIGURE 8
SUSPECTED ASBESTOS-CONTAINING MATERIAL INVENTORY AND SAMPLING LOCATION MAP

TETRA TECH EM INC

the second floor. Oil from motors and engines was observed to be leaking onto the floor. Shower rooms were located in the lower level on the western side of the building. Various items of debris were observed throughout the building, including 55-gallon drums whose contents were not inventoried.

Powerhouse, Ammonia Manufacturing, Water Purification Buildings

U.S. EPA and START were able to access only the ammonia manufacturing and water purification buildings but not the Powerhouse. The ammonia manufacturing building basement contained structural steel, catwalks, and various horizontal tanks. The general structural integrity of this level was poor. The original ammonia stills appeared to have been removed, but some manufacturing equipment remained. Suspected ACM was observed throughout the portions of the building. U.S. EPA OSC collected sample MC-ACM-07 from piping insulation on the east-west catwalk leading from the north doorway on the ground level of the ammonia manufacturing building. The water purification building still contained tanks and equipment.

Coal Hopper Between Brick Coke Ovens

The coal hopper area between the brick coke ovens contained structural steel that was in poor condition and various equipment. At the ground level, a series of wooden pallets held 5-gallon buckets containing mortar mix, apparently for the brick ovens. These 5-gallon buckets may have held ACM.

Coal Hopper and Crusher Building

The coal hopper and crusher building is located southeast of the Powerhouse. The structural condition of this building was poor. START entered the building and observed stockpiled coal and miscellaneous debris. However, START did not observe any suspected ACM.

Storeroom and Blacksmith Shop

The storeroom and blacksmith shop contained no waste materials. The building was in good condition and appeared to have been recently used for storage or maintenance by the Wisconsin Wrecking Company.

Machine Shop and Stock Room

The machine shop and stock room contained numerous parts and materials associated with machinery that could have been used for coke and gas manufacture. Spare parts and some tools were observed. A railroad service pit was located in the building. Oil staining was observed at several locations within the building. The building was in good condition and appeared to have been recently used for storage or maintenance by the Wisconsin Wrecking Company.

Water Treatment and Chemical Storage Building

A storage building contained water treatment chemicals kept in plastic drums. Some of these drums were full, and given the nature of the containers, they appeared to contain sulfuric acid. START also observed that the chemicals were exposed to the environment.

3.2.6 Outdoor Preliminary Screening of Suspect ACM

U.S. EPA and START identified outdoor piping insulation and other suspected ACM at the MSCG site. As discussed in Section 3.2.5, sampling of suspected ACM was performed during the inspection of the interiors of former coke and gas manufacturing buildings. An outdoor screening inspection of suspected ACM was also performed. This visual inspection included an inventory of the approximate linear footage of thermal system insulation to determine the approximate quantity of suspected ACM present. The inspection did not include examination of miscellaneous materials such as floor tiles, linoleum, cove base molding, or ceiling tiles. This sampling was directed by the U.S. EPA OSC and was performed in accordance with appropriate ACM sampling procedures (U.S. EPA 1985).

Information on outdoor insulation suspected to be ACM was recorded and is summarized Table 8. The inventory included only outdoor insulation materials and miscellaneous items found during the reconnaissance. This inventory did not include any floor tiles, roofing materials, or other materials associated with ACM. Figure 8 presents the approximate locations of suspected ACM found during the inventory.

TABLE 8

INVENTORY OF OUTDOOR INSULATION SUSPECTED TO BE ACM

Location	Description	Estimated Quantity of Suspected ACM
Women's and men's restrooms northwest of brick ovens	Piping insulation in heating supply	50 feet
Brick coke ovens	Insulated line and overhead lines	275 feet, mostly at joints and valves
Light oil manufacturing building	Insulated piping	100 feet, mostly insulation at joints and valves
Power plant north of ammonia manufacturing building	Insulated piping	60 feet, mostly piping insulation
Water purification building	Various large-diameter, insulated pipes from roof down to the floor level	780 feet, mostly piping insulation
Gas absorber tanks	Piping associated with vertical tanks and from gas transfer pipe	390 feet, mostly piping insulation and valve insulation
Coal hopper area	Piping insulation	140 feet
Pipe rack northeast of gas tank	Piping lines on structural steel	600 feet
Hopper and crusher area	Piping for steam lines	350 feet
Total Quantity of Outdoor Insulation Suspected to be ACM[a]:		**Approximate 2,745 feet**

Notes:

ACM = Asbestos-containing material

[a] = The total quantity of outdoor insulation suspected to be ACM is a gross estimate and is not based on a detailed ACM survey.

During sampling of suspected ACM, the sampling crew wore Level C PPE. It was wet outdoors and humid indoors during the sampling. Given the PPE used and the ambient conditions, air monitoring during suspected ACM sampling was not considered to be necessary. A spray bottle filled with water was used during the sampling process to suppress any asbestos fibers. Disposable sampling tools were used to avoid cross-contamination of samples. Samples of suspected ACM were immediately placed in plastic bags that were then sealed and placed in glass containers. The samples were labeled with unique identification numbers and were sent to a START-procured laboratory for analysis for asbestos type and composition.

3.2.7 GPS Survey

START used a Trimble ProXR backpack GPS unit with submeter accuracy to log the geographic coordinates of all exploratory pits, surface soil sampling locations, and existing ASTs at the MSCG site. A Raytheon Raystar 10 digital GPS (DGPS) module, accurate to within 10 feet, was used to log each of the sediment sampling locations. All data points were downloaded to a computer and converted to the North American Datum 1927 (NAD 27) projection in order to be properly aligned with the aerial photograph used to prepare Figures 5 through 8. Appendix F provides the geographic coordinates of all sampling points and exploratory pits at the MSCG site.

During field activities at the MSCG site, START sampled specific areas identified in the integrated FSP as locations that may pose a human health or environmental threat. Samples were collected in accordance with protocols outlined in the site assessment plan and integrated FSP (Tetra Tech 2001a, 2001b), as directed by the U.S. EPA OSC.

Appendix G presents summary tables of analytical results for the samples collected at the MSCG site. For purposes of this report, the analytical tables are organized by AOIs (Areas A, B, C, and D) and ASTs sampled, sample matrices (soil, groundwater, sediment, electrical transformer oil, water samples from pit and former AST location, and AST contents), and parameters analyzed for. The designation of each table in Appendix G is keyed either to the AOI sampled or to the ASTs sampled by means of an abbreviation: Area A (A), Area B (B), Area C (C), Area D (D), and aboveground storage tanks (AST). Another abbreviation for the sample matrix follows: soil (S), groundwater (GW), sediment (SD), oil (O), and water (W). If an AST was sampled for waste material inventory purposes, the word "Waste" is included in the relevant table designation. Analytical results for equipment rinsate (ER) and trip blank (TB) samples are also summarized in tables in Appendix G. The last table designation descriptor refers to the sample analytical parameter as follows:

- Inorganics
- Total phenols and total sulfide (Phenols/Sulfide)
- Volatile organic compounds (VOCs)
- Semivolatile organic compounds (SVOCs)
- Pesticides and polychlorinated biphenyls (Pesticides/PCBs)
- Polychlorinated biphenyls (PCBs) for oil matrix samples

An example of a table designation for inorganic analytical results for soil samples collected in Area A is "Table AS-Inorganics."

The sample codes in the tables in Appendix G are keyed to the type of sample (for example, soil boring [SB], surface soil [SS], groundwater [GW], or sediment [SD]), the AOI where the sample was collected (A, B, C, or D or AST in the case of a tank sample), and the sampling location designation (for example, 01, 02, or 05). Because not all exploratory pit locations were sampled, the sampling location

designations are not sequential. The last series of numbers in a given sample code refer to the approximate depth at which the sample was collected (for example, "0001" corresponds to a depth interval of 0 to 1 foot bgs). In the case of river sediment samples, the depth interval refers to the depth bss. If a sample was a duplicate sample, the letter "D" is the last character in the sample code. Similarly, if a sample was a background sample, the abbreviation "BC" was used as the last two characters in the sample code.

The screening levels used for parameters in soil are derived from the U.S. EPA Region 9 preliminary remediation goals (PRG) for residential and industrial soil (U.S. EPA 2000), U.S. EPA emergency removal guidelines (ERG) for the soil pathway for residential and industrial screening (U.S. EPA 1997), and the Superfund Chemical Data Matrix soil pathway reference dose screening concentrations (U.S. EPA 1996). No screening level for total sulfide is presented in any of these sources. These screening levels, as appropriate, are contained in the tables in Appendix G.

The screening levels used for inorganics, VOCs, SVOCs, and pesticides and PCBs in groundwater and water were derived from the U.S. EPA Superfund Chemical Data Matrix groundwater pathway maximum contaminant levels (MCL) (U.S. EPA 1996) and 40 CFR Part 141, Subpart B (for thallium). No screening levels for total phenols and total sulfide are present in any of these sources. These screening levels as appropriate are contained in the tables in Appendix G.

The screening levels used for river sediment are guidelines for protection and management of aquatic sediment quality in Ontario developed by the Ontario Ministry of the Environment (OME 1993).

Significant analytical results associated with the exploratory pit investigation, including surface soil, electrical transformer oil, groundwater, and water sampling, and with Kinnickinnic River sediment sampling, AST sampling, and suspected ACM sampling are discussed below.

4.1 EXPLORATORY PIT INVESTIGATION

This section discusses the analytical results for samples collected during the exploratory pit investigation in Areas A, B, and C.

4.1.1 Area A: Former Coke and Gas Production Area

Fifteen soil samples (14 environmental samples and one duplicate sample), two oil matrix samples, three groundwater samples, and one water sample were collected in Area A. The sampling locations in Area A are shown in Figure 5 for all these matrices except one. The soil, groundwater, and water samples were analyzed for inorganics, total phenols and total sulfide, VOCs, SVOCs, and pesticides and PCBs. Only one groundwater sample was collected and analyzed for total phenols and total sulfide. The two oil matrix samples were collected from electrical transformers and were analyzed for PCBs only. The tabulated results of these analyses are presented in Appendix G. Shaded cells in the summary tables in Appendix G contain actual or estimated concentrations of specific analytes that were equal to or greater than one or more screening levels. Table 9 summarizes the screening level exceedance frequencies for Area A; specifically, the table presents the number of samples in which a given analyte concentration was equal to or greater than a given screening level. If a screening levels was exceeded in duplicate samples, the exceedance was counted only once because of the nature of the duplicate samples; otherwise, the exceedance would be inappropriately double-counted. However, if an exceedance was observed in only one of the duplicates, this occurrence is noted in the text.

Table 9 shows that arsenic, lead, benzene, and benzo(a)pyrene concentrations exceeded one or more screening levels in both soil and groundwater. Benzo(a)pyrene is the only analyte whose concentrations in three Area A samples exceeded the industrial soil ERG. Concentrations of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene were equal to or greater than the residential soil ERGs in at least two samples each. Of the inorganics in soil samples, arsenic, chromium, iron, and lead concentrations exceeded both the residential and industrial PRGs in at least one sample each, and arsenic concentrations exceeded the PRGs in all 14 samples. The residential soil PRGs for copper and cyanide were exceeded in at least one sample each. Benzene is the only VOC whose concentration exceeded both residential and industrial soil PRGs. In addition to benzo(a)pyrene exceedances of the industrial ERG, four SVOCs (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, and dibenzo[a,h]anthracene) were detected in soil at concentrations equal to or greater than the residential soil ERGs. These four SVOCs, benzo(k)fluoranthene, chrysene, indeno[1,2,3-cd]pyrene, and naphthalene were detected at concentrations exceeding the residential and industrial soil PRGs in at least one sample each. Concentrations of carbazole, dibenzofuran, and fluoranthene exceeded the residential soil PRGs in at least one sample each. Heptachlor epoxide is the only pesticide that was detected in soil at an estimated concentration that exceeded the residential PRG.

TABLE 9

SUMMARY OF SCREENING LEVEL EXCEEDANCE FREQUENCIES FOR AREA A

Parameter	Exceedance Frequency[a]				
	Preliminary Remediation Goals		Emergency Removal Guidelines		Superfund Chemical Data Matrix
	Residential	Industrial	Residential	Industrial	
Soil Inorganics					
Arsenic	14/14 (one)	14/14 (one)	0/14	0/14	0/14
Chromium	3/14	1/14	0/14	0/14	0/14
Copper	1/14 (one)	0/14	0/14	0/14	NA
Cyanide	5/14 (five)	0/14	NA	NA	0/14
Iron	14/14	1/14	0/14	0/14	NA
Lead	5/14	4/14	NA	NA	NA
Soil Volatile Organic Compounds					
Benzene	4/14(two)	2/14 (one)	0/14	0/14	NA
Soil Semivolatile Organic Compounds					
Benzo(a)anthracene	12/14 (five)	9/14 (three)	4/14 (one)	0/14	NA
Benzo(a)pyrene	11/14 (six)	11/14 (six)	5/14 (three)	3/14 (two)	NA
Benzo(b)fluoranthene	11/14 (six)	8/14 (four)	2/14 (one)	0/14	NA
Benzo(k)fluoranthene	6/14 (four)	4/14 (three)	0/14	0/14	NA
Carbazole	2/14 (one)	0/14	0/14	0/14	NA
Chrysene	4/14 (one)	1/14 (one)	0/14	0/14	NA
Dibenzo(a,h)anthracene	8/14 (six)	7/14 (five)	2/14 (one)	0/14	NA
Dibenzofuran	1/14 (one)	0/14	0/14	0/14	NA
Fluoranthene	4/14	0/14	0/14	0/14	0/14
Indeno(1,2,3-cd)pyrene	9/14 (four)	6/14 (one)	0/14	0/14	NA
Naphthalene	7/14	4/14	0/14	0/14	0/14
Soil Pesticides					
Heptachlor epoxide	1/14 (one)	0/14	0/14	0/14	0/14

TABLE 9 (Continued)

SUMMARY OF SCREENING LEVEL EXCEEDANCE FREQUENCIES FOR AREA A

Parameter	Exceedance Frequency[a]				
	Preliminary Remediation Goals		Emergency Removal Guidelines		Superfund Chemical Data Matrix
	Residential	Industrial	Residential	Industrial	
Groundwater Inorganics					
Antimony	NA	NA	NA	NA	1/3
Arsenic	NA	NA	NA	NA	1/3
Lead	NA	NA	NA	NA	3/3
Groundwater Volatile Organic Compounds					
Benzene	NA	NA	NA	NA	1/3
Groundwater Semivolatile Organic Compounds					
Benzo(a)pyrene	NA	NA	NA	NA	1/3 (one)
Bis(2-ethylhexyl)phthalate	NA	NA	NA	NA	1/3 (one)
Water Volatile Organic Compounds					
Benzene	NA	NA	NA	NA	1/1 (one)

Notes:

[a] When the concentration of a given analyte in a sample is equal to or greater than the analyte screening level, the source documents define this as an exceedance of the screening level. Each number presented in parentheses is the number of estimated results ("J"-flagged values) that exceeded a given screening level.

NA = Not applicable because no screening level has been established for this analyte

In the groundwater samples, antimony (one sample), arsenic (one sample), and lead (all three samples) were detected at concentrations exceeding the applicable screening levels. Benzene was the only VOC detected in groundwater and water samples at concentrations greater than the screening level. Two SVOCs (benzo[a]pyrene and bis[2-ethylhexyl]phthalate) were detected in groundwater at concentrations exceeding the screening levels in one sample each.

The Area A soil sample analytical results for total phenols and PCBs showed no exceedances of screening levels. No screening levels have been established for total sulfide in soil. PCBs were not detected in the two oil matrix samples collected from electrical transformers. The Area A groundwater sample analytical results for pesticides and PCBs showed no exceedances of screening levels. The Area A water sample analytical results for inorganics, SVOCs, and pesticides and PCBs showed no exceedances of screening levels. No screening levels have been established for total phenols and total sulfide in groundwater and water.

Table 10 summarizes the analytes whose concentrations exceeded one or more screening levels in Area A by medium (soil, groundwater, and water) and by parameter (inorganics, VOCs, SVOCs, and pesticides). The numerical values of the screening levels exceeded are also included in Table 10 for comparison purposes.

Sampling locations MC-SB-A-05 and MC-SB-A-16 had concentrations of five of the six inorganic analyte whose concentrations exceeded one or more screening levels. Sampling location MC-SB-A-04 had a concentration of benzene that exceeded the industrial PRG. Sampling location MC-SB-A-04 also had the highest concentrations of 8 of the 11 SVOCs whose concentrations exceeded screening levels.

The groundwater samples collected in Area A were from exploratory pits from which soil samples were not collected. Groundwater sampling location MC-GW-A-24 had concentrations of four of the six analytes (three metals, one VOC, and two SVOCs) whose concentrations exceeded screening levels.

The compound 1,2,3-trimethyl-4-propenyl-naphthalene is an SVOC associated with manufactured gas plants (MGP), and it is commonly reported as a tentatively identified compound (TIC) in SVOC analytical results for soil and sediment samples collected from former MGP sites. The laboratories that performed the SVOC analyses for the site assessment did not procure a standard solution for this

TABLE 10

SUMMARY OF RESULTS FOR ANALYTES THAT EXCEEDED SCREENING LEVELS IN AREA A

Parameter	Concentration or Range of Concentrations	Screening Level Exceeded[a]
Soil Inorganics		
Arsenic	3.6 to 22.5 mg/kg	Residential PRG (0.39 mg/kg) Industrial PRG (2.7 mg/kg)
Chromium	3.4 to 80.2 mg/kg	Residential PRG (30 mg/kg) Industrial PRG (64 mg/kg)
Copper	27.0J to 18,000J mg/kg	Residential PRG (2,900 mg/kg)
Cyanide	1.2J to 24.4J mg/kg	Residential PRG (11 mg/kg)
Iron	7,730 to 126,000 mg/kg	Residential PRG (2,300 mg/kg) Industrial PRG (100,000 mg/kg)
Lead	26.0 to 2,750 mg/kg	Residential PRG (400 mg/kg) Industrial PRG (750 mg/kg)
Soil Volatile Organic Compounds		
Benzene	5J to 16,000J µg/kg	Residential PRG (650 µg/kg) Industrial PRG (1,500 µg/kg)
Soil Semivolatile Organic Compounds		
Benzo(a)anthracene	750 to 640,000J µg/kg	Residential PRG (620 µg/kg) Industrial PRG (2,900 µg/kg) Residential ERG (88,000 µg/kg)
Benzo(a)pyrene	650 to 470,000J µg/kg	Residential PRG (62 µg/kg) Industrial PRG (290 µg/kg) Residential ERG (8,800 µg/kg) Industrial ERG (78,000 µg/kg)
Benzo(b)fluoranthene	820J to 330,000J µg/kg	Residential PRG (620 µg/kg) Industrial PRG (2,900 µg/kg) Residential ERG (88,000 µg/kg)
Benzo(k)fluoranthene	650 to 410,000J µg/kg	Residential PRG (6,200 µg/kg) Industrial PRG (29,000 µg/kg)
Carbazole	110J to 100,000J µg/kg	Residential PRG (24,000 µg/kg)
Chrysene	1,000 to 600,000J µg/kg	Residential PRG (62,000 µg/kg) Industrial PRG (290,000 µg/kg)
Dibenzo(a,h)anthracene	150J to 26,000 µg/kg	Residential PRG (62 µg/kg) Industrial PRG (290 µg/kg)
Dibenzofuran	150J to 490,000J µg/kg	Residential PRG (290,000 µg/kg)
Fluoranthene	1,200 to 1,600,000 µg/kg	Residential PRG (56,000 µg/kg)
Indeno(1,2,3-cd)pyrene	220J to 52,000 µg/kg	Residential PRG (620 µg/kg) Industrial PRG (2,900 µg/kg)

TABLE 10 (Continued)

SUMMARY OF RESULTS FOR ANALYTES THAT EXCEEDED SCREENING LEVELS IN AREA A

Parameter	Concentration or Range of Concentrations	Screening Level Exceeded[a]
Soil Semivolatile Organic Compounds (Continued)		
Naphthalene	400J to 3,300,000 µg/kg	Residential PRG (56,000 µg/kg) Industrial PRG (190,000 µg/kg)
Soil Pesticides		
Heptachlor epoxide	2.7U to 59J µg/kg	Residential PRG (53 µg/kg)
Groundwater Inorganics		
Antimony	3.7U to 7.4 µg/L	MCL[b] (6 µg/L)
Arsenic	9.5 to 54.3 µg/L	MCL[b] (50 µg/L)
Lead	207 to 485 µg/L	MCL[b] (15 µg/L)
Groundwater Volatile Organic Compounds		
Benzene	10U to 100 µg/L	MCL[b] (5 µg/L)
Groundwater Semivolatile Organic Compounds		
Benzo(a)pyrene	10UJ to 5J µg/L	MCL[b] (0.2 µg/L)
Bis(2-ethylhexyl)phthalate	20UJ to 77J µg/L	MCL[b] (6 µg/L)
Water Volatile Organic Compounds		
Benzene	8J µg/L	MCL[b] (5 µg/L)

Notes:

[a] When the concentration of a given analyte in a sample is equal to or greater than the analyte screening level, the source documents define this as an exceedance of the screening level.

[b] U.S. Environmental Protection Agency Superfund Chemical Data Matrix groundwater pathway MCLs (EPA 1996)

µg/kg = Microgram per kilogram
µg/L = Microgram per liter
ERG = Emergency response guideline
J = Value reported is the approximate concentration of the analyte
MCL = Maximum contaminant level
mg/kg = Milligram per kilogram
PRG = Preliminary remediation goal
U = Analyte was not present at a concentration greater than or equal to the reporting limit; value shown is the reporting limit
UJ = Analyte was not present at a concentration greater than or equal to the reporting limit; value shown is an estimate of the reporting limit

compound. The number of target TICs was expanded from 30 to 50 compounds in an effort to identify and quantify this compound. This TIC was detected in only one Area A soil sample, which was collected at sampling location MC-SB-A-12, at an estimated concentration of 1,800 µg/kg.

In some cases, the actual or estimated reporting limits achieved by the laboratory for some analytes were greater than particular screening levels. In other cases, the analytical results were qualified as unusable. In such cases, no conclusions could be drawn regarding whether the analytes were present at concentrations exceeding the particular screening levels; consequently, the associated analytical results were not considered during the development of the summaries presented in Tables 9 and 10. These occurrences are summarized below by analytical parameter for soil, groundwater, and water samples.

- **Inorganics in Soil** - All 14 soil sample analytical results for thallium were qualified as unusable.

- **VOCs in Soil** - Three analytical results for 1,2-dibromo-3-chloropropane and two results for chloroethane (screening level not established) were qualified as unusable. In addition, the reporting limits for 1,2-dibromoethane in three samples were greater than the residential soil ERG as well as residential and industrial PRGs. The reporting limits for the following VOCs were greater than the residential and industrial PRGs: 1,1,2,2-tetrachloroethane (three samples); 1,1-dichloroethene (three samples); carbon tetrachloride (three samples); chloroform (three samples); cis-1,3-dichloropropene (three samples); 1,1,2-trichloroethane (one sample); 1,2-dichloroethane (three samples); 1,2-dichloropropane (three samples); bromodichloromethane (one sample); trans-1,3-dichloropropene (three samples, residential PRG not established); and vinyl chloride (three samples). Lastly, the reporting limits for 1,1,2-trichloroethane (two samples), bromodichloromethane (two samples), chloromethane (three samples), and dibromochloromethane (three samples) were higher than the residential PRGs.

- **SVOCs in Soil** - In general, the reporting limits for SVOCs in soil were inadequate to identify screening level exceedances; every sample had one or more SVOCs whose reporting limits were greater than one or more screening levels, including the industrial soil ERGs and Superfund Chemical Data Matrix screening levels.

- **Pesticides and PCBs in Soil** - The reporting limits for 4,4-DDT; dieldrin; endrin; and heptachlor (one sample each) were qualified as unusable. The reporting limits for toxaphene were greater than the (1) residential and industrial soil PRGs in seven samples, and (2) residential PRGs for five additional samples. Two of the reporting limits for Aroclor 1221 were equal to or greater than the residential and industrial PRG. In addition, the reporting limits for the following parameters were greater than the residential soil PRGs: dieldrin (11 samples), Aroclor 1221 (10 samples), and Aroclors 1232, 1242, 1248, 1254, and 1260 (12 samples each).

- **Inorganics in Groundwater** - Thallium was reported at an estimated reporting limit that exceeded the MCL in all three samples.

- **VOCs in Groundwater** - Three analytical results for 1,2-dibromo-3-chloropropane and chloroethane (screening level not established) were qualified as unusable. In addition, the reporting limits for the following VOCs in all three groundwater samples were higher than the screening levels: 1,1,2-trichloroethane; 1,1-dichloroethene; 1,2-dibromoethane; 1,2-dichloroethane; 1,2-dichloropropane; carbon tetrachloride; methylene chloride; tetrachloroethene; trichloroethene; and vinyl chloride. The reporting limits for benzene in two of the samples were also higher than the screening level.

- **SVOCs in Groundwater** - Except for the estimated values reported for 2,4-dimethyphenol and phenol, the SVOC analytical results for sample MC-GW-A-02 were qualified as unusable. The reporting limits for atrazine (two samples), benzo(a)pyrene (one sample), bis(2-ethylhexyl)phthalate (one sample), hexachlorobenzene (two samples), and pentachlorophenol (two samples) were greater than the screening levels.

- **Pesticides and PCBs in Groundwater** - The analytical results for sample MC-GW-A-2009 were qualified as unusable. The reporting limits for the following pesticide and PCBs in two samples were higher than the screening levels: toxaphene and Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260.

- **Inorganics in Water** - Thallium was reported at an estimated reporting limit that exceeded the MCL.

- **VOCs in Water** - The reporting limits for the following VOCs were higher than the screening levels: 1,1,2-trichloroethane; 1,1-dichloroethene; 1,2-dibromo-3-chloropropane; 1,2-dibromoethane; 1,2-dichloroethane; 1,2-dichloropropane; carbon tetrachloride; methylene chloride; tetrachloroethene; trichloroethene; and vinyl chloride.

- **SVOCs in Water** - The reporting limits for atrazine, benzo(a)pyrene, bis(2-ethylhexyl)phthalate, hexachlorobenzene, and pentachlorophenol were greater than the screening levels.

- **Pesticides and PCBs in Water** - The analytical result for heptachlor was qualified as unusable. The estimated reporting limits for the following pesticide and PCBs were higher than the screening levels: toxaphene and Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260.

4.1.2 Area B: Former Coal Storage Yard

Four soil samples and one groundwater sample were collected in Area B. The soil sampling locations in Area B are shown in Figure 5. The groundwater sampling location (MC-GW-B-37) is described in Section 3 and is not specifically shown in Figure 5 as a groundwater sampling location because the sample was collected from the exploratory pit location MC-SB-B-37. The soil and groundwater samples were analyzed for inorganics, total phenols and total sulfide, VOCs, SVOCs, and pesticides and PCBs.

The tabulated results of these analyses are presented in Appendix G. Shaded cells in the summary tables in Appendix G contain actual or estimated concentrations of specific analytes that were equal to or greater than one or more screening levels. Table 11 summarizes the screening level exceedance frequencies for Area B; specifically, the table presents the number of samples in which a given analyte concentration exceeded a given screening level.

Table 11 shows that benzo(a)pyrene was the only analyte whose concentrations exceeded one or more screening levels in both soil and groundwater. In addition, benzo(a)pyrene was the only analyte whose concentration (in one sample) exceeded the residential soil ERG. Of the inorganics in soil samples, arsenic was the only analyte whose concentrations exceeded both the residential and industrial PRGs in all four samples. The residential soil PRGs for chromium and cyanide were exceeded in one sample each, and the residential soil PRG for iron was exceeded in all four samples. Five SVOCs (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene) were detected at concentrations equal to or greater than the residential and industrial soil PRGs. The concentration of benzo(k)fluoranthene in one sample exceeded the residential soil PRG. In the groundwater sample, antimony, cadmium, lead, and mercury were detected at concentrations equal to or greater than the applicable screening levels.

The Area B soil sample analytical results for total phenols, VOCs, and pesticides and PCBs showed no exceedances of screening levels. No screening levels have been established for total sulfide in soil. The Area B groundwater sample analytical results for VOCs, and pesticides and PCBs showed no exceedances of screening levels. No screening levels have been established for total phenols and total sulfide in groundwater.

Table 12 summarizes the analytes whose concentrations exceeded one or more screening levels in Area B by medium (soil and groundwater) and by parameter (inorganics and SVOCs). The numerical values of the screening levels exceeded are also included in Table 12 for comparison purposes.

Sampling location MC-SB-B-10 had concentrations of all six SVOCs whose concentrations exceeded one or more screening levels, including a benzo(a)pyrene concentration (15,000 µg/kg) that exceeded the residential ERG. Sampling location MC-SB-B-37 had the highest concentrations of the four inorganic analytes whose concentrations exceeded the residential soil PRGs, the highest concentration of total

TABLE 11

SUMMARY OF SCREENING LEVEL EXCEEDANCE FREQUENCIES FOR AREA B

Parameter	Exceedance Frequency[a]				
	Preliminary Remediation Goals		Emergency Removal Guidelines		Superfund Chemical Data Matrix
	Residential	Industrial	Residential	Industrial	
Soil Inorganics					
Arsenic	4 of 4	4 of 4	0 of 4	0 of 4	0 of 4
Chromium	1 of 4	0 of 4	0 of 4	0 of 4	0 of 4
Cyanide	1 of 4	0 of 4	NA	NA	0 of 4
Iron	4 of 4	0 of 4	0 of 4	0 of 4	NA
Soil Semivolatile Organic Compounds					
Benzo(a)anthracene	4 of 4 (two)	2 of 4	0 of 4	0 of 4	NA
Benzo(a)pyrene	4 of 4 (two)	4 of 4 (two)	1 of 4	0 of 4	NA
Benzo(b)fluoranthene	4 of 4 (three)	1 of 4	0 of 4	0 of 4	NA
Benzo(k)fluoranthene	1 of 4	0 of 4	0 of 4	0 of 4	NA
Dibenzo(a,h)anthracene	2 of 4 (two)	2 of 4 (two)	0 of 4	0 of 4	NA
Indeno(1,2,3-cd)pyrene	3 of 4 (two)	1 of 4	0 of 4	0 of 4	NA
Groundwater Inorganics					
Antimony	NA	NA	NA	NA	1 of 1
Cadmium	NA	NA	NA	NA	1 of 1
Lead	NA	NA	NA	NA	1 of 1
Mercury	NA	NA	NA	NA	1 of 1
Groundwater Semivolatile Organic Compounds					
Benzo(a)pyrene	NA	NA	NA	NA	1 of 1

Notes:

[a] When the concentration of a given analyte in a sample is equal to or greater than the analyte screening level, the source documents define this as an exceedance of the screening level. Each number presented in parentheses is the number of estimated results ("J"-flagged values) that exceeded a given screening level.

NA = Not applicable because no screening level has been established for this analyte

TABLE 12

SUMMARY OF RESULTS FOR ANALYTES THAT EXCEEDED SCREENING LEVELS IN AREA B

Parameter	Concentration or Range of Concentrations	Screening Level Exceeded[a]
Soil Inorganics		
Arsenic	2.7 to 16.4 mg/kg	Residential PRG (0.39 mg/kg) Industrial PRG (2.7 mg/kg)
Chromium	2.2 to 42.5 mg/kg	Residential PRG (30 mg/kg)
Cyanide	0.50J to 18.5 mg/kg	Residential PRG (11 mg/kg)
Iron	2,850 to 25,500 mg/kg	Residential PRG (2,300 mg/kg)
Soil Semivolatile Organic Compounds		
Benzo(a)anthracene	1,400J to 12,000 µg/kg	Residential PRG (620 µg/kg) Industrial PRG (2,900 µg/kg)
Benzo(a)pyrene	1,100J to 15,000 µg/kg	Residential PRG (62 µg/kg) Industrial PRG (290 µg/kg) Residential ERG (8,800 µg/kg)
Benzo(b)fluoranthene	1,200J to 15,000 µg/kg	Residential PRG (620 µg/kg) Industrial PRG (2,900 µg/kg)
Benzo(k)fluoranthene	900J to 12,000 µg/kg	Residential PRG (6,200 µg/kg)
Dibenzo(a,h)anthracene	520J to 3,800J µg/kg	Residential PRG (62 µg/kg) Industrial PRG (290 µg/kg)
Indeno(1,2,3-cd)pyrene	540J to 12,000 µg/kg	Residential PRG (620 µg/kg) Industrial PRG (2,900 µg/kg)
Groundwater Inorganics		
Antimony	7.4 µg/L	MCL[b] (6 µg/L)
Cadmium	5.0 µg/L	MCL[b] (5 µg/L)
Lead	633 µg/L	MCL[b] (15 µg/L)
Mercury	8.0 µg/L	MCL[b] (2 µg/L)
Groundwater Semivolatile Organic Compounds		
Benzo(a)pyrene	58 µg/L	MCL[b] (0.2 µg/L)

TABLE 12 (Continued)

SUMMARY OF RESULTS FOR ANALYTES THAT EXCEEDED SCREENING LEVELS IN AREA B

Notes:

[a] When the concentration of a given analyte in a sample is equal to or greater than the analyte screening level, the source documents define this as an exceedance of the screening level.

[b] U.S. Environmental Protection Agency Superfund Chemical Data Matrix groundwater pathway MCLs (EPA 1996)

µg/kg = Microgram per kilogram
µg/L = Microgram per liter
ERG = Emergency response guideline
J = Value reported is the approximate concentration of the analyte
MCL = Maximum contaminant level
mg/kg = Milligram per kilogram
PRG = Preliminary remediation goal

phenols, and the greatest number of detected VOCs and the highest VOC concentrations. Four of the six SVOCs detected at concentrations greater than the screening levels were also found at this sampling location. The groundwater sample collected in Area B was also from sampling location MC-SB-B-37.

The compound 1,2,3-trimethyl-4-propenyl-naphthalene was not identified as one of the TICs in the soil and groundwater samples collected in Area B.

In some cases, the actual or estimated reporting limits achieved by the laboratory for some analytes were greater than particular screening levels. In other cases, the analytical results were qualified as unusable. In such cases, no conclusions could be drawn regarding whether the analytes were present at concentrations exceeding the particular screening levels; consequently, the associated analytical results were not considered during the development of the summaries presented in Tables 11 and 12. These occurrences are summarized below by analytical parameter for soil and groundwater.

- **Inorganics in Soil** - All four sample analytical results for thallium and one result for mercury were qualified as unusable.
- **VOCs in Soil** - The reporting limit for 1,2-dibromomethane was greater than the residential soil PRG.
- **SVOCs in Soil** - The reporting limits for the following SVOCs were greater than the residential and industrial soil PRGs: acetophenone (all four samples), bis-(2-chloroethyl)ether (all four samples), dibenzo(a,h)anthracene (two samples), hexachlorobenzene (all four samples), and n-nitroso-di-n-propylamine (all four samples). The reporting limits for the following SVOCs were greater than the residential soil PRGs: 2-nitroaniline (all four samples); 3,3'-dichlorobenzidine (all four samples); atrazine (two samples); and pentachlorophenol (four samples).
- **Pesticides and PCBs in Soil** - One reporting limit for toxaphene was greater than the residential and industrial soil PRGs. The following parameters' reporting limits were greater than the residential soil PRGs: toxaphene (two samples); dieldrin (three samples); and Aroclors 1221, 1232, 1242, 1248, 1254, and 1260 (three samples each).
- **Inorganics in Groundwater** - Thallium was reported at an estimated reporting limit that exceeded the MCL.
- **VOCs in Groundwater** - Two VOC analytical results (for 1,2-dibromo-3-chloropropane and chloroethane [screening level not established]) were qualified as unusable. In addition, the reporting limits for the following VOCs were higher than the screening levels: 1,1,2-trichloroethane; 1,1-dichloroethene; 1,2-dibromoethane; 1,2-dichloroethane; 1,2-dichloropropane; benzene; carbon tetrachloride; methylene chloride; tetrachloroethene; trichloroethene; and vinyl chloride.

- **SVOCs in Groundwater** - The reporting limits for atrazine, bis(2-ethylhexyl)phthalate, hexachlorobenzene, hexachlorocyclopentadiene, and pentachlorophenol were greater than the screening levels.

- **Pesticides and PCBs in Groundwater** - The reporting limits for the following pesticide and PCBs were higher than the screening levels: toxaphene and Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260.

4.1.3 Area C: Former Open Hearth Furnace and Tanning Area

Seven soil samples (six environmental samples and one background sample) and one groundwater sample were collected in Area C. The soil sampling locations in Area C are shown in Figure 5. The groundwater sampling location (MC-GW-C-33) is described in Section 3 and is not specifically shown in Figure 5 as a groundwater sampling location because the sample was collected from the exploratory pit location MC-SB-C-33. The soil and groundwater samples were analyzed for inorganics, total phenols and total sulfide, VOCs, SVOCs, and pesticides and PCBs. The tabulated results of these analyses are presented in Appendix G. Shaded cells in the summary tables in Appendix G contain actual or estimated concentrations of specific analytes that were equal to or greater than one or more screening levels. Table 13 summarizes the screening level exceedance frequencies for Area C; specifically, the table presents the number of samples in which a given analyte concentration was equal to or greater than a given screening level.

Table 13 shows that of the inorganic analytes for the soil samples collected in Area C, arsenic was the only analyte whose concentrations exceeded both the residential and industrial PRGs in all seven samples. Two of the arsenic analytical results were greater than the Superfund Chemical Data Matrix screening level. The arsenic concentration in the background sample was the lowest found in the soil samples. The chromium concentration in one sample exceeded the residential and industrial soil PRGs. The cyanide concentration in another sample exceeded the residential and industrial soil PRGs. The residential soil PRG for iron was exceeded in all seven samples. Two SVOCs (benzo[a]pyrene and dibenzo[a,h]anthracene) were detected at concentrations greater than the residential and industrial soil PRGs. Five SVOCs (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene) were detected at concentrations equal to or greater than the residential soil PRGs. Lead was detected in the groundwater sample at a concentration exceeding the applicable screening level.

TABLE 13

SUMMARY OF SCREENING LEVEL EXCEEDANCE FREQUENCIES FOR AREA C

Parameter	Exceedance Frequency[a]				
	Preliminary Remediation Goals		Emergency Removal Guidelines		Superfund Chemical Data Matrix
	Residential	Industrial	Residential	Industrial	
Soil Inorganics					
Arsenic	7 of 7 (five)	7 of 7 (five)	0 of 7	0 of 7	2 of 7
Chromium	1 of 7 (one)	1 of 7 (one)	0 of 7	0 of 7	0 of 7
Cyanide	1 of 7	1 of 7	NA	NA	0 of 7
Iron	7 of 7	0 of 7	0 of 7	0 of 7	NA
Soil Semivolatile Organic Compounds					
Benzo(a)anthracene	3 of 7 (two)	0 of 7	0 of 7	0 of 7	NA
Benzo(a)pyrene	6 of 7 (six)	3 of 7 (three)	0 of 7	0 of 7	NA
Benzo(b)fluoranthene	3 of 7 (two)	0 of 7	0 of 7	0 of 7	NA
Dibenzo(a,h)anthracene	2 of 7 (two)	1 of 7 (one)	0 of 7	0 of 7	NA
Indeno(1,2,3-cd)pyrene	1 of 7 (one)	0 of 7	0 of 7	0 of 7	NA
Groundwater Inorganics					
Lead	NA	NA	NA	NA	1 of 1

Notes:

[a] When the concentration of a given analyte in a sample is equal to or greater than the analyte screening level, the source documents define this as an exceedance of the screening level. Each number presented in parentheses is the number of estimated results ("J"-flagged values) that exceeded a given screening level.

NA = Not applicable because no screening level has been established for this analyte

The Area C soil sample analytical results for total phenols, VOCs, and pesticides and PCBs showed no exceedances of screening levels. No screening levels have been established for total sulfide in soil. The Area C groundwater sample analytical results for VOCs, SVOCs, and pesticides and PCBs showed no exceedances of screening levels. No screening levels have been established for total phenols and total sulfide in groundwater.

Table 14 summarizes the analytes whose concentrations exceeded one or more screening levels in Area C by medium (soil and groundwater) and by parameter (inorganics and SVOCs). The numerical values of the screening levels exceeded are also included in Table 14 for comparison purposes.

Sampling location MC-SB-C-31 had the highest concentrations of arsenic and cyanide. Sampling location MC-SB-C-34 had the highest concentrations of chromium and iron. Sampling locations MC-SB-C-28 and MC-SB-C-34 had concentrations of four SVOCs that exceeded one or more screening levels. The groundwater sample from Area C was not collected at the same location as any of the soil samples.

The compound 1,2,3-trimethyl-4-propenyl-naphthalene was not identified as one of the TICs in the soil and groundwater samples collected in Area C.

In some cases, the actual or estimated reporting limits achieved by the laboratory for some analytes were greater than particular screening levels. In other cases, the analytical results were qualified as unusable. In such cases, no conclusions could be drawn regarding whether the analytes were present at concentrations greater than the particular screening levels; consequently, the associated analytical results were not considered during the development of the summaries presented in Tables 13 and 14. These occurrences are summarized below by analytical parameter for soil and groundwater.

- **Inorganics in Soil** - Two of the seven sample analytical results for thallium were qualified as unusable.

- **VOCs in Soil** - The reporting limit for 1,2-dibromoethane was greater than the residential soil PRG in all seven soil samples.

TABLE 14

SUMMARY OF RESULTS FOR ANALYTES THAT EXCEEDED SCREENING LEVELS IN AREA C

Parameter	Concentration or Range of Concentrations	Screening Level Exceeded[a]
Soil Inorganics		
Arsenic	2.9 to 103 mg/kg	Residential PRG (0.39 mg/kg) Industrial PRG (2.7 mg/kg) Superfund Chemical Data Matrix (23 mg/kg)
Chromium	7.6J to 192J mg/kg	Residential PRG (30 mg/kg) Industrial PRG (64 mg/kg)
Cyanide	0.030U to 190 mg/kg	Residential PRG (11 mg/kg) Industrial PRG (35 mg/kg)
Iron	5,350 to 77,400 mg/kg	Residential PRG (2,300 mg/kg)
Soil Semivolatile Organic Compounds		
Benzo(a)anthracene	120J to 1,600J µg/kg	Residential PRG (620 µg/kg)
Benzo(a)pyrene	230J to 1,200 µg/kg	Residential PRG (62 µg/kg) Industrial PRG (290 µg/kg)
Benzo(b)fluoranthene	230J to 1,400J µg/kg	Residential PRG (620 µg/kg)
Dibenzo(a,h)anthracene	89J to 310J µg/kg	Residential PRG (62 µg/kg) Industrial PRG (290 µg/kg)
Indeno(1,2,3-cd)pyrene	170J to 750J µg/kg	Residential PRG (620 µg/kg)
Groundwater Inorganics		
Lead	364 µg/L	MCL[b] (15 µg/L)

Notes:

[a] When the concentration of a given analyte in a sample is equal to or greater than the analyte screening level, the source documents define this as an exceedance of the screening level.

[b] U.S. Environmental Protection Agency Superfund Chemical Data Matrix groundwater pathway MCLs (EPA 1996)

µg/kg = Microgram per kilogram
µg/L = Microgram per liter
J = Value reported is the approximate concentration of the analyte
MCL = Maximum contaminant level
mg/kg = Milligram per kilogram
PRG = Preliminary remediation goal
U = Analyte not present at a concentration greater than or equal to the reporting limit; value shown is the reporting limit

- **SVOCs in Soil** - The reporting limits for the following SVOCs were greater than the residential and industrial soil PRGs: acetophenone (two samples), benzo(a)pyrene (one sample), bis-(2-chloroethyl)ether (two samples), dibenzo(a,h)anthracene (five samples), hexachlorobenzene (two samples), and n-nitroso-di-n-propylamine (all seven samples). The reporting limits for the following SVOCs were greater than the residential soil PRGs: 2-nitroaniline (two samples), 3,3'-dichlorobenzidine (two samples); bis-(2-chloroethyl)ether (five samples); hexachlorobenzene (five samples); indeno(1,2,3-cd)pyrene (one sample); and pentachlorophenol (two samples).

- **Pesticides and PCBs in Soil** - The reporting limits for toxaphene; dieldrin; and Aroclors 1221, 1232, 1242, 1248, 1254, and 1260 in four samples each were greater than the residential soil PRGs. Also, pesticide and PCB analytical results for the sample collected at location MC-SB-C-31 were qualified as unusable.

- **Inorganics in Groundwater** - Thallium was reported as not present at an estimated reporting limit that exceeded the MCL.

- **VOCs in Groundwater** - Two VOC analytical results (for 1,2-dibromo-3-chloropropane and chloroethane were qualified as unusable. In addition, the reporting limits for the following VOCs were higher than the applicable screening levels: 1,1,2-trichloroethane; 1,1-dichloroethene; 1,2-dibromoethane; 1,2-dichloroethane; 1,2-dichloropropane; benzene; carbon tetrachloride; methylene chloride; tetrachloroethene; trichloroethene; and vinyl chloride.

- **SVOCs in Groundwater** - The reporting limits for atrazine, benzo(a)pyrene, bis(2-ethylhexyl)phthalate, hexachlorobenzene, and pentachlorophenol were greater than the applicable screening levels.

- **Pesticides and PCBs in Groundwater** - The reporting limits for the following pesticides and PCBs were higher than the applicable screening levels: gamma-BHC; heptachlor; heptachlor epoxide; toxaphene; and Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260.

4.2 KINNICKINNIC RIVER SEDIMENT SAMPLING

Twelve sediment cores were collected using a Vibrocorer during the field activities. Ten of these cores were collected in Area D, and two were collected upstream from the site, as shown in Figure 6. The two upstream sampling locations (MC-SD-D-011 and MC-SD-D-012) were intended to be used as background river sediment locations. The analytical results for all 12 river sediment cores collected are discussed below.

A total of 33 sediment samples (30 samples and three duplicate samples) were collected from the 12 sediment cores. The sediment core recoveries were not consistent. In some instances, 8-foot-long cores were recovered; in other instances, less than 8-foot-long cores were recovered. The top of each sediment

core recovered was assumed to represent the sediment surface. Up to four sediment samples were collected from a given sediment core. Under the direction of the U.S. EPA OSC, selection of sediment sampling intervals was based on visual observations; PID and FID readings; and sediment characteristics, including the presence of specific materials such as hair, blackish coloration, specific odors, and other sediment sample characteristics.

All sediment samples were analyzed for inorganics, total phenols and total sulfide, VOCs, SVOCs, and pesticides and PCBs. The tabulated results of these analyses are presented in Appendix G. Shaded cells in the summary tables in Appendix G contain actual or estimated concentrations of specific analytes that exceeded the screening levels. Table 15 summarizes the screening level exceedance frequencies for Area D. Specifically, the table presents a concentration range for each of the analytes whose concentrations exceeded the screening level, the screening level itself, and the exceedance frequency expressed as the number of samples in which the analyte's concentration was equal to or greater than the screening level.

Table 15 shows that of the inorganics for the river sediment samples collected in Area D, arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel, and zinc were detected at concentrations equal to or exceeding the screening levels. Except for manganese, the concentrations of these analytes were greater than the screening levels in at least 26 of 30 samples; the manganese concentrations in sediment samples exceeded the screening level in 13 of 30 samples. The highest concentrations of cadmium and zinc were found in sediment core MC-SD-D-011. The highest chromium concentration was found in sediment core MC-SD-D-009 at a depth interval of 7 to 8 feet bss. The highest lead concentration was found in sediment core MC-SD-D-006 at a depth of 2 to 3 feet bss. The upstream sediment samples collected from cores MC-SD-D-011 and MC-SD-D-012, which were intended to serve as background, contained arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc at concentrations greater than the screening levels indicating that these two locations may not represent "true" background.

Twelve SVOCs were detected in sediment samples at concentrations exceeding screening levels. Except for benzo(g,h,i)perylene and dibenzo(a,h)anthracene, the concentrations of the SVOCs listed in Table 15 (anthracene, benzo[a]anthracene, benzo[a]pyrene, benzo[k]fluoranthene, chrysene, fluoranthene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene, and pyrene) were greater than the screening levels in at

TABLE 15

SUMMARY OF SCREENING LEVEL EXCEEDANCE FREQUENCIES FOR AREA D

Parameter	Concentration Range	Screening Level[a]	Exceedance Frequency[b]
Inorganics			
Arsenic	0.68U to 20.1 mg/kg	6 mg/kg	26 of 30 (fourteen)
Cadmium	0.090U to 21.1 mg/kg	0.6 mg/kg	27 of 30
Chromium	4.3 to 2,010 mg/kg	26 mg/kg	27 of 30 (fourteen)
Copper	4.5 to 156 mg/kg	16 mg/kg	28 of 30 (five)
Lead	3.3 to 1,030 mg/kg	31 mg/kg	28 of 30
Manganese	190 to 613J mg/kg	460 mg/kg	13 of 30 (ten)
Mercury	0.050U to 2.5 mg/kg	0.2 mg/kg	26 of 30 (seventeen)
Nickel	4.8 to 36.8 mg/kg	16 mg/kg	27 of 30
Zinc	20.3 to 1,090J mg/kg	120 mg/kg	27 of 30 (fifteen)
Semivolatile Organic Compounds			
Anthracene	260J to 20,000 µg/kg	220 µg/kg	27 of 30 (eighteen)
Benzo(a)anthracene	430U to 24,000 µg/kg	320 µg/kg	28 of 30 (nine)
Benzo(a)pyrene	430U to 17,000 µg/kg	370 µg/kg	27 of 30 (thirteen)
Benzo(g,h,i)perylene	280J to 9,800 µg/kg	170 µg/kg	19 of 30 (eleven)
Benzo(k)fluoranthene	430U to 13,000 µg/kg	240 µg/kg	27 of 30 (thirteen)
Chrysene	430U to 25,000 µg/kg	340 µg/kg	28 of 30 (six)
Dibenzo(a,h)anthracene	170J to 4,400J µg/kg	60 µg/kg	20 of 30 (seventeen)
Fluoranthene	430U to 43,000 µg/kg	750 µg/kg	28 of 30 (one)
Fluorene	220J to 17,000 µg/kg	190 µg/kg	25 of 30 (eighteen)
Indeno(1,2,3-cd)pyrene	320J to 10,000 µg/kg	200 µg/kg	25 of 30 (fourteen)
Phenanthrene	430U to 49,000 µg/kg	560 µg/kg	28 of 30 (two)
Pyrene	430U to 38,000J µg/kg	490 µg/kg	28 of 30 (six)
Pesticides and Polychlorinated Biphenyls			
4,4'-DDD	3.7J to 1,600 µg/kg	8 µg/kg	24 of 30 (twenty-one)
4,4'-DDE	1.3J to 210J µg/kg	5 µg/kg	19 of 30 (seventeen)
4,4'-DDT	1.7J to 93J µg/kg	8 µg/kg	15 of 30 (thirteen)

TABLE 15 (Continued)

SUMMARY OF SCREENING LEVEL EXCEEDANCE FREQUENCIES FOR AREA D

Parameter	Concentration Range	Screening Level[a]	Exceedance Frequency[b]
Pesticides and Polychlorinated Biphenyls (Continued)			
Aldrin	1.9J to 2.2J µg/kg	2 µg/kg	1 of 30 (one)
alpha-Chlordane	1.4J to 21J µg/kg	7 µg/kg	1 of 30 (one)
Aroclor 1016	42U to 15,000 µg/kg	7 µg/kg	19 of 30 (fifteen)
Aroclor 1242	40UJ to 7,400J µg/kg	70 µg/kg	1 of 30 (one)
Aroclor 1254	42U to 8,100 µg/kg	60 µg/kg	19 of 30 (fifteen)
beta-BHC	1.8J to 68J µg/kg	5 µg/kg	2 of 30 (two)
Dieldrin	1.9J to 38J µg/kg	2 µg/kg	7 of 30 (six)
Endrin	4.0UJ to 24J µg/kg	3 µg/kg	2 of 30 (two)
gamma-BHC (Lindane)	2.1UJ to 14J µg/kg	3 µg/kg	2 of 30 (two)
gamma-Chlordane	0.86J to 16J µg/kg	7 µg/kg	2 of 30 (two)
Heptachlor epoxide	2.1UJ to 40J µg/kg	5 µg/kg	1 of 30 (one)

Notes:

[a] Ontario Ministry of the Environment. 1993. "Guidelines for Protection and Management of Aquatic Sediment Quality in Ontario." Aug.

[b] When the concentration of a given analyte in a sample is equal to or greater than the analyte screening level, the source documents define this as an exceedance of the screening level. Each number presented in parentheses is the number of estimated results ("J"-flagged values) that exceeded the screening level.

µg/kg = Microgram per kilogram
J = Value reported is the approximate concentration of the analyte
mg/kg = Milligram per kilogram
U = Analyte was not present at a concentration greater than or equal to the reporting limit; value shown is the reporting limit
UJ = Analyte was not present at a concentration greater than or equal to the reporting limit; value shown is an estimate of the reporting limit

least 25 of 30 samples; the concentrations of benzo(g,h,i)perylene and dibenzo(a,h)anthracene exceeded the screening levels in no more than 20 of 30 samples. The highest concentrations of most SVOCs listed in Table 15 were found in sediment core MC-SD-D-003 at a depth interval of 1.5 to 4 feet bss. As the sediment depth increased, the SVOC concentrations also increased at sampling locations MC-SD-D-001, MC-SD-D-002, MC-SD-D-003, MC-SD-D-007, and MC-SD-D-012. The trends were less apparent at sampling locations MC-SD-D-004, MC-SD-D-005, MC-SD-D-006, and MC-SD-D-008. However, the SVOC concentrations generally decreased with increasing depth at sampling locations MC-SD-D-009 and MC-SD-D-010.

As discussed in Section 4.1.1, the SVOC 1,2,3-trimethyl-4-propenyl-naphthalene is associated with MGP sites and is commonly reported as a TIC in the SVOC analytical results for soil and sediment samples collected from former MGP sites. The laboratories that performed the SVOC analyses for the site assessment did not procure a standard solution for this compound. The number of target TICs was expanded from 30 to 50 compounds in an effort to identify and quantify this compound. This TIC was detected in 12 of the 30 sediment samples analyzed. The range of detected concentrations for this TIC in the sediment samples was from 890J to 120,000J µg/kg. The sampling locations where this TIC was detected include MC-SD-D-001, 002, 003, 004, 005, and 009. The highest concentration of this TIC was detected at sampling location MC-SD-D-009.

Eleven pesticides and three PCBs were detected in sediment samples at concentrations greater than the screening level. All of these pesticides and PCBs, except Aroclor 1016, were found at concentrations greater than the screening level at sampling location MC-SD-D-009. The pesticide 4,4'-DDD was detected at concentrations exceeding the screening level at all the sampling locations. The pesticides 4,4'-DDE and 4,4'-DDT were detected at concentrations above the screening levels at all sampling locations except MC-SD-D-010 and MC-SD-D-011. Aroclors 1016 and 1254 were detected at all sampling locations except MC-SD-D-003 for Aroclor 1254, MC-SD-D-009 for Aroclor 1016, and MC-SD-D-010 for both Aroclors.

Regarding the Area D sediment sample analytical results for VOCs, total phenols, and total sulfide, no screening levels have been established for these compounds in sediment. VOCs were detected at eight of the 12 sediment sampling locations. VOCs detected in the sediment samples included the following: 1,4-Dichlorobenzene; 2-butanone; acetone; benzene; carbon disulfide; isopropyl benzene; methylcyclohexane; methylene chloride; toluene; xylenes. The highest VOC concentrations were found

at sediment sampling location MC-SD-D-005, which exhibited increasing concentrations of most VOCs as the depth increased.

In some cases, the actual or estimated reporting limits achieved by the laboratory for some analytes were greater than particular screening levels. In other cases, the analytical results were qualified as unusable. In such cases, no conclusions could be drawn regarding whether the analytes were present at concentrations greater than the particular screening levels; consequently, the associated analytical results were not considered during the development of the summaries presented in Table 15. These occurrences are summarized below by analytical parameter.

- **SVOCs** - The reporting limits for the following SVOCs were greater than the screening levels: anthracene (three samples), benzo(a)anthracene (two samples), benzo(a)pyrene (three samples), benzo(g,h,i)perylene (eleven samples), benzo(k)fluoranthene (three samples), chrysene (two samples), dibenzo(a,h)anthracene (ten samples), fluoranthene (two samples), fluorene (five samples), indeno(1,2,3-cd)pyrene (five samples), and pyrene (one sample).

- **Pesticides and PCBs** - In 50 percent or more samples analyzed, the reporting limits for the following analytes exceeded the screening levels: aldrin; Aroclors 1221, 1248, and 1260; dieldrin; endrin; and gamma-BHC. Of the remaining pesticides and PCBs, the following had reporting limits greater than the screening levels in at least 10 percent of the samples analyzed: 4,4'-DDD; 4,4'-DDE; 4,4'-DDT; alpha-BHC; alpha-chlordane; Aroclors 1016, 1232, 1242, and 1254; gamma-chlordane; and heptachlor epoxide.

4.3 AST SAMPLING

As part of the field activities at the MSCG site, START conducted an inventory of ASTs and sampled the contents of specific ASTs as directed by the U.S. EPA OSC. One sampling location was inside a pit southwest of MC-AT-A-025. This pit is at a former AST location. The objective in sampling the ASTs was to characterize the contents of the ASTs. The objective of sampling the former AST pit area was to establish a potential threat to human health and the environment. Appendix G includes summary tables of the analytical results used to characterize the wastes in the ASTs and the pit sampled. The summary tables for the ASTs and the pit are organized by analytical parameters but not by medium (water and solid).

Table 16 summarizes the ASTs and pit that were sampled, including the sample medium (water and solid) and parameters (inorganics, total phenols and total sulfide, VOCs, SVOCs, and pesticides and PCBs, as appropriate) that were analyzed for. The contents of one of the ASTs sampled included both aqueous and organic, tar-like, semisolid phases. Two other ASTs contained an organic, tar-like, semisolid, single phase. Given the physical appearance and similarity of the contents of half of the ASTs inventoried and presented in Section 3.2.4, the solid waste samples collected are considered representative of the contents of these ASTs.

Three solid waste samples were collected from ASTs and analyzed for SVOCs to characterize the contents of the ASTs. Twenty-two SVOCs were detected in all three samples. An additional four SVOCs were detected in one or more samples. The following ten SVOCs were detected in one or more samples at concentrations of 1 percent or greater; the maximum concentration detected is in parentheses:

- 2-methylnaphthalene (29,000,000 µg/kg)
- acenaphthylene (10,000,000 µg/kg)
- anthracene (8,400,000 µg/kg)
- benzo(a)anthracene (10,000,000 µg/kg)
- chrysene (10,000,000 µg/kg)
- fluoranthene (21,000,000J µg/kg)
- dibenzofuran (10,000,000 µg/kg)
- naphthalene (100,000,000 µg/kg)
- phenanthrene (38,000,000 µg/kg)
- pyrene (16,000,000J µg/kg)

Three water samples were collected from ASTs and analyzed for the parameters listed in Table 16. Two of the water samples were collected from ASTs that had no semisolid or solid phase. The third water sample was collected from an AST that contained a tar-like substance. Fourteen inorganics were detected in the one AST water sample analyzed. Five VOCs (acetone, benzene, ethylbenzene, toluene, and xylenes) were detected in two of the samples analyzed. Additionally, styrene was also detected in one sample. VOC data was not reported for one sample. An inquiry was made to the U.S. EPA Region 5 CLP coordinator; however, at the time of this report, no resolution has been made. Fourteen SVOCs were detected in the two AST water samples analyzed. An additional seven SVOCs were detected in only one sample and acenaphthene was detected in the other sample. Seven pesticides were detected in

TABLE 16

SUMMARY OF SAMPLING AND ANALYSIS PROGRAM FOR ASTs AND FORMER AST PIT AREA

AST Sampling Location	Sample Identification	Sample Matrix	Parameter [a]
MC-AT-A-013	MC-AT-A-013	Water	Inorganics, total phenols and total sulfide, VOCs, and SVOCs
MC-AT-A-014	MC-AT-A-014	Water	VOCs
		Solid	SVOCs
MC-AT-A-022	MC-AT-A-022	Solid	SVOCs
MC-AT-A-025	MC-AT-A-025	Solid	SVOCs
MC-AT-A-032	MC-AT-A-032	Water	VOCs, SVOCs, pesticides and PCBs
Former AST Pit	MC-ATW-A-01	Water	Inorganics, total phenols and total sulfide, VOCs, SVOCs, and pesticides and PCBs
	MC-AT-A-SLO1	Solid	VOCs, SVOCs, and pesticides and PCBs

Notes:

[a] START sampled ASTs and the former AST pit area as directed by the U.S. EPA OSC.

AST = Aboveground storage tank
PCB = Polychlorinated biphenyl
SVOC = Semivolatile organic compound
VOC = Volatile organic compound

the one AST water sample analyzed. PCBs were not detected in any of the ASTs or former AST pit area samples.

In addition to characterizing the water found inside the ASTs, the analytical results for the AST water samples were compared to the Milwaukee Metropolitan Sewerage District (MMSD) general pretreatment standards. The analytical results indicate that pretreatment will be necessary to meet the MMSD general pretreatment standards in order to obtain a permit to discharge the water in the ASTs to the MMSD sewer system. Additional water parameters may need to be analyzed for as deemed appropriate by MMSD.

In order to determine if a threat exists in the former AST pit area, the analytical results were compared to soil and water screening levels. The former AST pit area consisted of a depression in the soil which included both aqueous and organic, tar-like, semisolid phases. Table 17 summarizes the analytes whose concentrations exceeded one or more screening levels in the water and solid matrix samples collected in the former AST pit area by medium (soil and water) and by parameter (inorganics, VOCs, SVOCs, and pesticides). The numerical values of the screening levels exceeded are also included in Table 17 for comparison purposes.

Of the 14 SVOCs that exceeded one or more screening levels in the pit solid sample, MC-AT-A-SLO1, only four analytes (benzo[a]anthracene; benzo[a]pyrene; benzo[b]fluoranthene; and indeno[1,2,3-cd]pyrene) exceeded the industrial ERG. An additional five SVOCs exceeded the residential ERG. The sample contained 10 percent naphthalene. Three VOCs (benzene, toluene, and xylenes) exceeded the industrial PRG. One pesticide, dieldrin, exceeded the industrial PRG.

The water sample collected from the pit, MC-ATW-A-01, contained three analytes, benzene, benzo(a)anthracene, and benzo(a)pyrene, which exceeded screening levels. Sample MC-ATW-A-01 contained concentrations of benzene and benzo(a)pyrene that exceeded MCL standards and concentrations of benzo(a)anthracene and phenanthrene that exceeded MMSD pretreatment standards.

The compound 1,2,3-trimethyl-4-propenyl-naphthalene was not identified as one of the TICs in the solid and water samples collected from the pit or from the ASTs.

TABLE 17

SUMMARY OF RESULTS FOR ANALYTES THAT EXCEEDED SCREENING LEVELS IN PIT AREA

Parameter	Concentration	Screening Level Exceeded[a]
Soil Volatile Organic Compounds		
Benzene	1,200,000 µg/kg	Residential PRG (650 µg/kg) Industrial PRG (1,500 µg/kg)
Toluene	1,600,000 µg/kg	Residential PRG (520,000 µg/kg) Industrial PRG (520,000 µg/kg)
Xylenes	2,400,000 µg/kg	Residential PRG (210,000 µg/kg) Industrial PRG (210,000 µg/kg)
Soil Semivolatile Organic Compounds		
1,1'-Biphenyl	3,900,000 µg/kg	Residential PRG (350,000 µg/kg) Industrial PRG (350,000 µg/kg) Superfund Chemical Data Matrix (3,900,000 µg/kg)
2,4-Dimethylphenol	2,100,000J µg/kg	Residential PRG (1,200,000 µg/kg) Superfund Chemical Data Matrix (1,600,000 µg/kg)
4-Methylphenol	2,300,000 µg/kg	Residential PRG (310,000 µg/kg)
Benzo(a)anthracene	8,000,000 µg/kg	Residential PRG (620 µg/kg) Industrial PRG (2,900 µg/kg) Residential ERG (88,000 µg/kg) Industrial ERG (780,000 µg/kg)
Benzo(a)pyrene	5,200,000 µg/kg	Residential PRG (62 µg/kg) Industrial PRG (290 µg/kg) Residential ERG (8,800 µg/kg) Industrial ERG (78,000 µg/kg)
Benzo(b)fluoranthene	4,400,000 µg/kg	Residential PRG (620 µg/kg) Industrial PRG (2,900 µg/kg) Residential ERG (88,000 µg/kg) Industrial ERG (780,000 µg/kg)
Benzo(k)fluoranthene	1,100,000J µg/kg	Residential PRG (6,200 µg/kg) Industrial PRG (29,000 µg/kg) Residential ERG (870,000 µg/kg)
Carbazole	4,800,000 µg/kg	Residential PRG (24,000 µg/kg) Industrial PRG (120,000 µg/kg) Residential ERG (3,200,000 µg/kg)
Chrysene	8,800,000 µg/kg	Residential PRG (62,000 µg/kg) Industrial PRG (290,0000 µg/kg) Residential ERG (8,700,000 µg/kg)

TABLE 17 (Continued)

SUMMARY OF RESULTS FOR ANALYTES THAT EXCEEDED SCREENING LEVELS IN PIT AREA

Parameter	Concentration	Screening Level Exceeded[a]
Soil Semivolatile Organic Compounds (continued)		
Dibenzofuran	10,000,000 µg/kg	Residential PRG (290,000 µg/kg) Industrial PRG (5,100,000 µg/kg) Residential ERG (3,100,000 µg/kg)
Fluoranthene	2,200,000J µg/kg	Residential PRG (56,000 µg/kg)
Indeno(1,2,3-cd)pyrene	1,800,000J µg/kg	Residential PRG (620 µg/kg) Industrial PRG (2,900 µg/kg) Residential ERG (88,000 µg/kg) Industrial ERG (780,000 µg/kg)
Naphthalene	100,000,000 µg/kg	Residential PRG (56,000 µg/kg) Industrial PRG (190,000 µg/kg) Residential ERG (31,000,000 µg/kg) Superfund Chemical Data Matrix (31,000,000 µg/kg)
Pyrene	13,000,000 µg/kg	Residential PRG (2,300,000 µg/kg) Superfund Chemical Data Matrix (2,300,000 µg/kg)
Soil Pesticides		
Dieldrin	2,000J µg/kg	Residential PRG (30 µg/kg) Industrial PRG (150 µg/kg)
gamma-Chlordane	2,700 µg/kg	Residential PRG (1,600 µg/kg)
Heptachlor	430J µg/kg	Residential PRG (110 µg/kg)
Water Volatile Organic Compounds		
Benzene	370J µg/L	MCL[b] (5 µg/L)
Water Semivolatile Organic Compounds		
Benzo(a)anthracene	110J µg/L	MMSD[c] (62 µg/L)
Benzo(a)pyrene	80J µg/L	MCL[b] (0.2 µg/L)
Phenanthrene	290 µg/L	MMSD[c] (51 µg/L)

Notes:

[a] When the concentration of a given analyte in a sample is equal to or greater than the analyte screening level, the source documents define this as an exceedance of the screening level.

[b] U.S. Environmental Protection Agency Superfund Chemical Data Matrix MCLs (June 1996)

TABLE 17 (Continued)

SUMMARY OF RESULTS FOR ANALYTES THAT EXCEEDED SCREENING LEVELS IN PIT AREA

c Milwaukee Metropolitan Sewerage District Pretreatment Standards for Specific Pollutants (December 1996)

µg/kg	=	Microgram per kilogram
µg/L	=	Microgram per liter
ERG	=	Emergency response guideline
J	=	Value reported is the approximate concentration of the analyte
MCL	=	Maximum contaminant level
MMSD	=	Milwaukee Metropolitan Sewerage District
PRG	=	Preliminary remediation goal

Table 18 shows the twenty-three SVOCs which were found to be common constituents in all solid samples of both the ASTs and the former AST pit area. The AST solid samples had similar concentrations as the former AST pit area solid sample. The solid phase of the ASTs and the former AST pit area had similar physical and chemical characteristics.

4.4 ACM SAMPLING RESULTS

Table 7 in Section 3 describes the suspected ACM samples collected for the site assessment. Figure 8 shows the suspected ACM sampling locations. The analytical results for suspected ACM samples are presented in Table 19. Based on the detections of chrysolite and amosite, these results indicate that seven samples contained ACM; the results also indicate that the composite pulverized brick and mortar sample (MC-ACM-08) did not contain ACM. All the samples were analyzed using the polarized light microscopy technique (U.S. EPA 1993).

A comprehensive ACM survey will need to be performed in order to compile a complete inventory of ACM at the MSCG site. The comprehensive survey should address both indoor and outdoor areas at the site.

TABLE 18

SUMMARY OF RESULTS FOR SVOC ANALYTES IN AST AND PIT SOLID SAMPLES

Analyte	Sample Identification			
	MC-AT-A-014	MC-AT-A-022	MC-AT-A-025	MC-AT-A-SLO1
1,1'-Biphenyl	1,800,000	4,000,000	1,500,000	3,900,000
2,4-Dimethylphenol	1,500,000	1,700,000J	960,000J	2,100,000J
2-Methylnaphthalene	11,000,000	29,000,000	11,000,000	27,000,000
2-Methylphenol	1,000,000	840,000J	550,000J	1,200,000J
4-Methylphenol	2,000,000	850,000J	1,100,000J	2,300,000J
Acenaphthene	750,000J	1,300,000J	470,000J	1,100,000J
Acenaphthylene	5,100,000	10,000,000	5,800,000	9,500,000
Anthracene	4,500,000	8,400,000	3,800,000	11,000,000
Benzo(a)anthracene	4,400,000	10,000,000	3,200,000	8,000,000
Benzo(a)pyrene	2,800,000	6,700,000	1,900,000	5,200,000
Benzo(b)fluoranthene	2,500,000	6,900,000	1,700,000	4,400,000
Benzo(g,h,i)perylene	520,000J	1,400,000J	540,000J	1,400,000J
Benzo(k)fluoranthene	1,400,000	3,200,000	1,700,000	1,100,000J
Carbazole	2,900,000	5,700,000	2,100,000	4,800,000
Chrysene	4,300,000	10,000,000	3,100,000	8,800,000
Dibenzofuran	5,000,000	10,000,000	3,800,000	10,000,000
Fluoranthene	9,600,000J	21,000,000J	1,200,000J	2,200,000J
Fluorene	880,000J	1,100,000J	670,000J	1,100,000J
Indeno(1,2,3-cd)pyrene	700,000J	1,800,000J	680,000J	1,800,000J
Naphthalene	33,000,000	100,000,000	46,000,000	100,000,000
Phenanthrene	20,000,000	38,000,000	13,000,000	31,000,000
Phenol	810,000J	2,700,000U	580,000J	1,100,000J
Pyrene	6,800,000	16,000,000J	4,900,000J	13,000,000

Notes:

All sample concentrations are presented in micrograms per kilogram.

J = The value reported is an approximate concentration of the analyte

U = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit.

TABLE 19

ANALYTICAL RESULTS FOR SUSPECTED ASBESTOS-CONTAINING MATERIAL SAMPLES

Suspected Asbestos-Containing Material Location	Sample ID	Polarized Light Microscopy Technique				
		Chrysolite (percent)	Amosite (percent)	Cellulose (percent)	Glass (percent)	Filler/ Binder (percent)
North coke ovens battery	MC-ACM-01	ND	54 to 60	3 to 5	3 to 5	30 to 40
	MC-ACM-02	ND	80 to 90	ND	ND	10 to 20
Piping west of north condensing house	MC-ACM-03	25 to 35	ND	< 1	ND	65 to 75
Tar precipitator area piping	MC-ACM-04	40 to 45	ND	3 to 5	ND	45 to 54, Synthetic 3 to 5
Power House basement	MC-ACM-05	30 to 40	ND	< 1	ND	60 to 70
Byproducts building, ground level	MC-ACM-06	62 to 70	ND	3 to 5	ND	25 to 35
Purification Building	MC-ACM-07	25 to 30	5-10	3 to 5	3 to 5	50 to 64, Synthetic < 1
Stockpiled bricks in area south of former coke and gas production area	MC-ACM-08	ND	ND	2 to 3	ND	95 to 97, Synthetic 1 to 2

Note:

ND = Not detected

Based on the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Section 300.415, U.S. EPA may take removal action to abate, prevent, minimize, stabilize, mitigate, or eliminate a release or potential release that poses a threat to the public health or welfare of the United States or the environment. 40 CFR Section 300.415(b)(2) of the NCP lists factors to be considered when determining the appropriateness of a removal action. The NCP factors that are applicable to the MSCG site are discussed below.

Actual or potential exposure of nearby human populations, animals, or the food chain to hazardous substances or pollutants or contaminants. The MSCG site is not entirely secured. Humans and wild animals can gain access to the site and can be exposed to hazardous substances. During the 25 Oct 01 site reconnaissance, two deer were observed in Area A at the site. Deer may be feeding in areas that are contaminated with hazardous substances or contaminants. At several site locations, corrosive and hazardous substances that are capable of causing harm to exposed individuals were identified. Humans and animals may be exposed to inorganics (antimony, arsenic, cadmium, chromium, copper, cyanide, lead, iron, manganese, mercury, nickel and zinc), ACM, benzene, carbazole, and polynuclear aromatic hydrocarbons (PAH) such as benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k) fluoranthene, chrysene, fluoranthene, indeno(1,2,3-c,d)pyrene, phenanthrene, pyrene, and other organics (dibenzofuran and naphthalene).

Antimony is released to the environment from natural and industrial sources. According to the Agency for Toxic Substances and Disease Registry (ATSDR), exposure to antimony at high levels can result in a variety of adverse health effects. Breathing high levels of antimony for a long period can irritate the eyes and lungs and can cause additional problems with the lungs, heart, and stomach. Antimony concentrations exceeded the MCL in Area A and B groundwater.

Arsenic is a naturally occurring element that can be toxic at high concentrations. According to ATSDR, inhalation of arsenic is the most common exposure route. Exposure to arsenic at high levels can result in death. At lower levels, arsenic can cause nausea, vomiting, decreased production of red and white blood cells, abnormal heart rhythm, and damage to blood vessels. Arsenic is a known carcinogen. Arsenic concentrations exceeded the PRGs in Area A, B, and C soil and MCL in Area A groundwater. In addition, the OME level for arsenic was exceeded in Area D river sediment.

Cadmium is a naturally occurring element that can be toxic. According to ATSDR, the main exposure route for cadmium is inhalation. The health effects of inhalation of high levels of cadmium include severe damage and possibly death. Long-term exposure to lower cadmium levels results in kidney disease, lung damage, and fragile bones. Cadmium concentrations in groundwater exceeded the MCL in Area B. In addition, the OME level for cadmium was exceeded in Area D river sediment.

Chromium is a naturally occurring element. However, hexavalent chromium is generally produced for industrial processes such as chrome plating and finishing. The health effects of exposure to trivalent and hexavalent chromium have been researched and are well documented. Hexavalent and trivalent chromium can both be toxic at high levels; however, hexavalent chromium is more toxic. Available information about chromium, especially hexavalent chromium, is mainly related to worker exposure. Plating industry workers and workers in other industries using chromium are most often exposed to toxic levels. Chromium concentrations exceeded the PRGs in Area A, B, and C soil. In addition, the OME level for chromium was exceeded in Area D river sediment.

Copper is a reddish metal that occurs naturally in the environment. Copper is extensively mined and processed in the United States. The health effects of exposure to copper have been researched and are well documented. Copper can be toxic at high levels. Available information about copper is mainly related to worker exposure. Plating industry workers and workers in other industries using copper are most often exposed to toxic levels. Copper concentrations exceeded the residential PRG in Area A. Copper concentrations exceeded the OME level in Area D river sediment.

Cyanide is a very poisonous chemical. It enters the environment both from natural processes and from industrial activities. High concentrations of cyanide are toxic to soil microorganisms and can pass through soil into groundwater. According to ATSDR, cyanide exposure routes include inhaling air, drinking water, touching soil, and eating food containing cyanide. In addition, smoking cigarettes and breathing smoke-filled air during fires are major sources of cyanide exposure. In large amounts, cyanide is very harmful to humans, and exposure for a short time damages the brain and heart and may cause coma and death. Symptoms of cyanide exposure may include deep breathing, shortness of breath, convulsions, and loss of consciousness. Cyanide concentrations exceeded the PRGs in Area A, B, and C soil.

Lead is a naturally occurring element that can be toxic. According to ATSDR, lead dust can be inhaled or swallowed. The health effects of lead are the same regardless of the exposure route. Lead can affect

almost every organ and system in the body. At high levels, it can cause weakness in the extremities, affect memory, cause anemia, and damage the male reproductive system. Low-level effects are uncertain. Lead concentrations exceeded the PRGs in Area A soil and in Area A, B, and C groundwater. In addition, the OME level for lead was exceeded in Area D for river sediment.

Elemental mercury is a hazardous metal that can cause serious health problems. Elemental mercury vapors can affect many different areas of the brain, the nervous system, and their associated functions. Children and fetuses are most vulnerable to the serious health effects of mercury. Elemental mercury is a shiny, silver-white, odorless liquid that is used in thermometers, other medical and industrial instruments, electrical switches, batteries, and dental fillings. It is also used industrially to produce chlorine gas and caustic soda. Adverse human health effects can result from acute or chronic exposure to mercury. Exposure occurs primarily through inhalation and to a lesser extent through skin absorption and ingestion. Acute exposure to high levels of elemental mercury vapor can affect the brain and central nervous system. Exposure to high levels of mercury vapor can also cause irritation of the linings of the mouth, lungs, and airways; increased blood pressure and heart rate; nausea; vomiting; diarrhea; skin rashes; eye irritation; and a condition known as acrodynia, which is characterized by red, peeling skin, especially on the hands, feet, and nose. Mercury exposure may cause weakness, fretfulness, sleeplessness, excessive salivation or sweating, itching, swelling, fever, memory loss, and elevated blood pressure. Symptoms of chronic exposure to elemental mercury include personality changes (irritability, shyness, or nervousness), tremors, vision changes, deafness, lack of muscle coordination, loss of sensation, and memory difficulties (ATSDR, 2001). Mercury concentrations exceeded the MCL in Area B groundwater. In addition, the OME level for mercury was exceeded in Area D river sediment.

Nickel is an abundant element that is normally found in natural environments as nickel oxide or nickel sulfide. Nickel has no characteristic odor or taste. Nickel concentrations exceeded the OME level in Area D for river sediment.

Zinc is one of the most common elements in the earth's crust. Zinc has many commercial uses in coatings to prevent rusting. Zinc is a component of dry-cell batteries and is commonly mixed with other metals to make specialty alloys like brass and bronze. Zinc concentrations exceeded the OME level in Area D river sediment.

Asbestos is a name used for a group of six different fibrous minerals (amosite, chrysolite, crocidolite, and the fibrous varieties of tremolite, actinolite, and anthophyllite) that occur naturally in the environment. Asbestos fibers can enter air or water as a result of the breakdown of natural deposits or manufactured asbestos products such as building materials. Furthermore, asbestos fibers may be released to air by disturbance of ACM during product use; demolition work; building maintenance, repair, and remodeling. Asbestos mainly affects the lungs and the membrane that surrounds the lungs. Inhaling high levels of asbestos fibers may cause formation of scar-like tissue in the lungs and in the pleural membrane that surrounds the lungs, a condition known as asbestosis. Asbestosis is a serious disease that can eventually lead to disability and death. Inhaling asbestos can also increase the risk of cancer in humans. Two types of cancer are caused by asbestos exposure: lung cancer and mesothelioma, which is a cancer of the thin lining surrounding the lungs and abdominal cavity. ACM was identified in several areas of the MSCG site.

Benzene is a widely used chemical formed by both natural processes and human activities. Breathing benzene vapor can cause drowsiness, dizziness, and unconsciousness. Long-term benzene exposure has adverse effects on the bone marrow and can cause anemia and leukemia. Benzene concentrations exceeded the PRG in Area A soil and MCL in Area A groundwater. In addition, the OME level for benzene was exceeded in Area D river sediment. Benzene was also detected in AST solid samples and former AST pit solid and water samples.

Carbazole is a compound that occurs in the products of incomplete combustion of nitrogen-containing organic matter. The compound is used to make photographic plates that are sensitive to ultraviolet light. According to the National Toxicology Program, carbazole is also used in the manufacture of reagents, explosives, insecticides, lubricants, and rubber antioxidants. Carbazole exposure routes include ingestion, inhalation, and skin absorption. Symptoms of exposure to this compound may include skin irritation and allergic reactions. It can also cause dermatitis, bronchitis, coughing, dyspnea, and respiratory distress. Carbazole concentrations exceeded the PRGs in Area A soil, and PRGs and residential ERG in former AST pit area.

PAHs were detected at the site at concentrations exceeding screening levels. The PAHs appear to be associated with materials and by-products generated at the site during past production of manufactured gas. According to animal studies, PAHs can have harmful effects on skin, on body fluids, and on the ability to fight disease. Some people exposed to PAHs for long periods of time have developed cancer. PAH

concentrations exceeded soil screening levels at Areas A, B, C, and OME levels in Area D river sediment and were detected at higher concentrations in ASTs and former AST pit.

Naphthalene found at the site appears to be associated with coal tar generated during past production of manufactured gas. Naphthalene can irritate the skin, eyes, nose, and throat and can cause skin allergies. Naphthalene may damage the kidneys, the liver, and red blood cells. Naphthalene was detected at concentrations exceeding PRGs, and in the AST waste samples and former AST pit at a concentration over the Superfund Chemical Data Matrix screening level.

The dibenzofuran found at the site appears to be associated with coal tar generated during past production of manufactured gas. Dibenzofuran can irritate the skin, eyes, nose, and throat. Repeated exposure may result in skin growths, rashes, and changes in skin color (NJDHSS, 1998). No occupational exposure limits have been established for dibenzofuran, but this does not mean that this chemical is not harmful. Dibenzofuran was detected at concentrations exceeding the PRGs for soil in Area A, in the AST waste samples, and former AST pit at a concentration that exceeded the ERG.

Actual or potential contamination of drinking water supplies or sensitive ecosystems. The river sediment sample analytical results indicate that the river bottom has been negatively affected by past operations of the manufactured gas plant and possibly by other past manufacturing operations at the MSCG site. The detection of specific inorganic parameters and PAHs found at the MSCG site and in the river sediment samples strongly suggests that past site operations had a direct impact on the river bottom sediment. The presence of inorganics, PAHs and PCBs in the river sediment at concentrations exceeding screening levels may have a detrimental effect on sediment-associated biota, benthic species, plants and other living organisms.

Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release. Many of the ASTs at the MSCG site have deteriorated to the point that they are no longer structurally sound. This deterioration is indicated by staining of concrete and by evidence of leaking materials, including coal tar, in soil near some of the ASTs sampled. Over 30 ASTs were inventoried, and many of them contained water and a semisolid, viscous material consisting of coal tar. During the inventory, approximately 47,064 gallons of coal tar and 138,665 gallons of water were found in the ASTs. Individual ASTs pose an imminent threat of release or have in fact released coal tar-containing waste to the environment, as evidenced at various existing ASTs and at the former AST pit.

High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate. Surface runoff from the MSGC site can enter the river at various locations. This runoff could contain contaminated surface soil. Various metals, cyanide, and PAHs were found in surface soils. These soil contaminants could migrate off site.

ASTs that are subjected to freezing temperatures and that are exposed to precipitation could fail and release their contents to nearby areas. Also, many ASTs at the site are open and allow precipitation to accumulate inside. As such ASTs deteriorate from weathering, the mixture of precipitation and waste within them poses a greater threat of release.

Arsenic concentrations exceeded the PRGs in Area A, B, and C soil and MCL in Area A groundwater. ACM was identified in several areas of the MSCG site. Benzene concentrations exceeded the PRGs in Area A soil and MCL in Area A groundwater. Benzene was also detected in AST waste samples and former AST pit. Chromium concentrations exceeded the PRGs in Area A and B soil. Cyanide concentrations exceeded the PRGs in Area C soil. Lead concentrations exceeded the PRGs in Area A soil and in Area A, B, and C groundwater. Mercury concentrations exceeded the MCL in Area B groundwater. Carbazole concentrations exceeded the PRGs in Area A soil and PRGs and ERG in former AST pit area. PAH concentrations exceeded soil screening levels at Areas A, B, C, and were detected at higher concentrations in ASTs and former AST pit.

Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released. The structural integrity of many of the buildings at the MSCG site is questionable. Inspection of the interiors of the major buildings revealed numerous structurally unreliable walkways, stairways, and walls. The exteriors of some of the buildings and other structures are dilapidated to the extent that structural debris could break loose and fall unexpectedly during windy weather conditions.

In addition, piping insulation, including ACM, has deteriorated significantly and is exposed to the environment. There is no heating in some of the large buildings to prevent freezing of the containers inside. Precipitation entering through the roof could also cause machinery and containers inside buildings to rust and release their contents onto the floor. For example, the By-products Building contains machinery that is leaking machine oil onto the floor. This oil may be carried from the inside of the building to the sewer system during rainfall events, and the sewer may be connected to storm water lines that discharge to the river. The oil could also migrate to subsurface soil if the structural integrity of the sewer is poor. The

presence of contaminated soil at the site has been confirmed by sample analytical results as well as by visual observation of subsurface soils during excavation of exploratory pits. Therefore, precipitation and infiltration to groundwater could cause soil contaminants to migrate off site.

ASTs that are subjected to freezing temperatures and that are exposed to precipitation could fail and release their contents to nearby areas. Also, many ASTs at the site are open and allow precipitation to accumulate inside. As such ASTs deteriorate from weathering, the mixture of precipitation and waste within them poses a greater threat of release.

6.0 SUMMARY

The MSCG site is located at 311 East Greenfield Avenue in Milwaukee, Milwaukee County, Wisconsin. The site lies in an industrial area, and industrial and residential areas are present to the north, west, and southwest. The Kinnickinnic River lies to the south and east of the site. Analytical results for samples collected from exploratory pits, surface soil, and ASTs in Areas A, B, and C and from river bottom sediment in Area D indicate the presence of inorganic and organic chemicals at elevated concentrations that exceed one or more of the PRG, ERG, or OME guidelines. In particular, site soil contamination in certain areas, waste in the ASTs, contamination in the river bottom sediment and exposed ACM pose threats to human health and the environment. Human trespassers and animals can access the MSCG site because it is not completely secured. The above-mentioned contamination along with deteriorating ASTs and dilapidated buildings pose threats of on-site exposure to and off-site releases of hazardous substances. Therefore, the site meets criteria for initiating a removal action outlined in NCP 40 CFR Section 300.415(b)(2).

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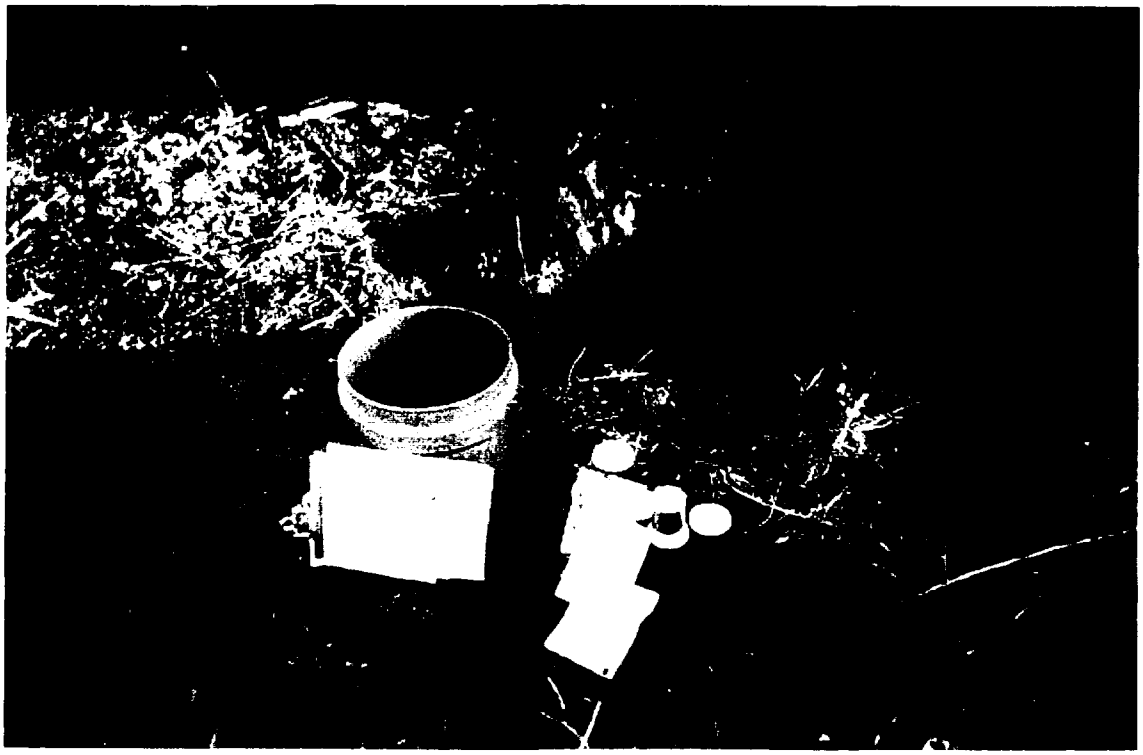
USGS. 2000. Aerial Photograph, Milwaukee Solvay Coke and Gas Site, Milwaukee, Wisconsin. 31 Mar.

APPENDIX A
PHOTOGRAPHIC LOG
(Nine Pages)

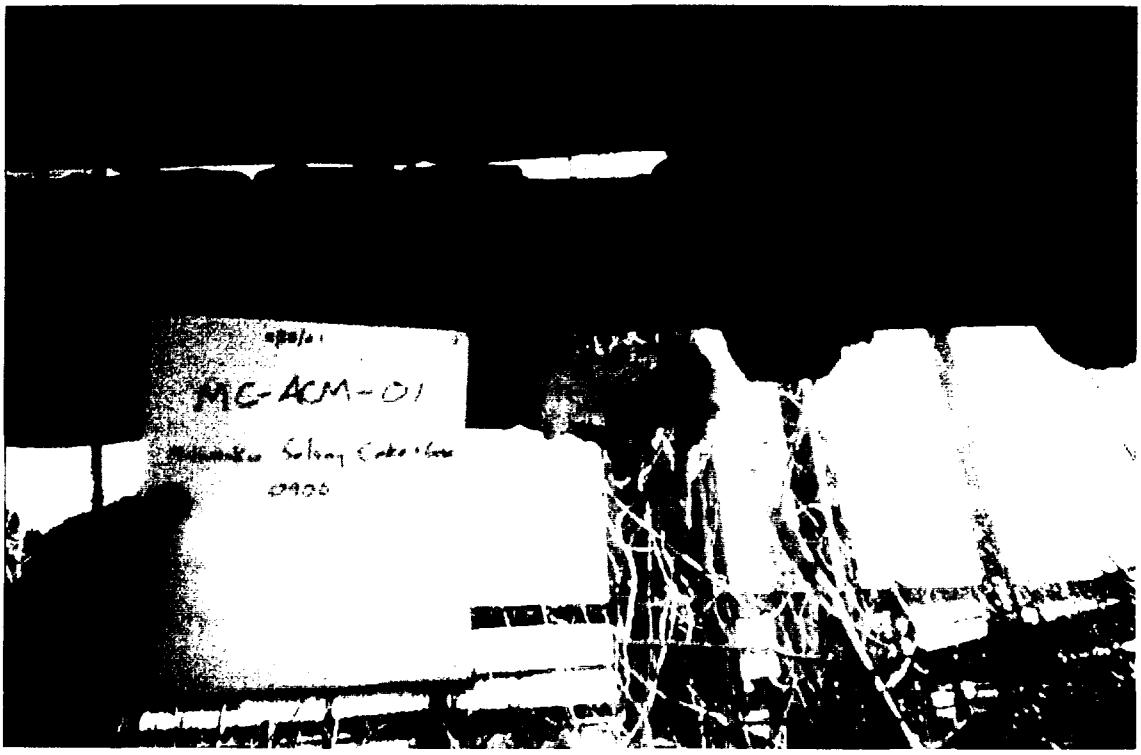
Photograph No.: 1 **Orientation:** Downward
TDD No: S05-0110-013 **Date:** 11 Dec 01
Location: Milwaukee Solvay Coke and Gas (MSCG) site
Subject: Exploratory pit MC-SB-B10 location



Photograph No.: 2 **Orientation:** Downward
TDD No: S05-0110-013 **Date:** 12 Dec 01
Location: MSCG site
Subject: Samples collected from exploratory pit MC-SB-A15

Photograph No.: 3
TDD No: S05-0110-013
Location: MSCG site
Subject: Exploratory pit MC-SB-C33 location

Orientation: Downward
Date: 13 Dec 01

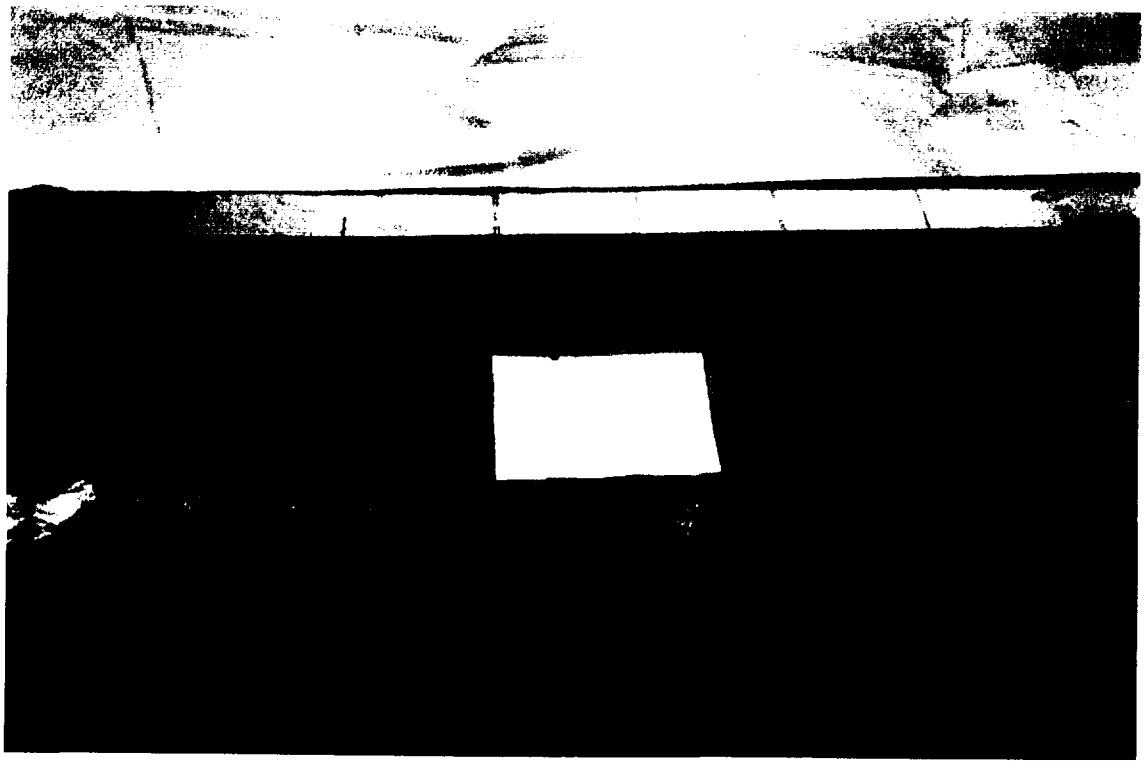


Photograph No.: 4 **Orientation:** East
TDD No: S05-0110-013 **Date:** 18 Dec 01
Location: MSCG site
Subject: Pipe rack along north battery of coke ovens where suspected asbestos-containing material (ACM) sample MC-ACM-01was collected

Photograph No.: 5 **Orientation:** East
TDD No: S05-0110-013 **Date:** 18 Dec 01
Location: MSCG site
Subject: Southeastern corner of Boiler House basement where suspected ACM sample MC-ACM-05 was collected

Photograph No.: 6 **Orientation:** Downward
TDD No: S05-0110-013 **Date:** 12 Dec 01
Location: MSCG site
Subject: Vibracore being pulled out of river sediment at location MC-SD-D09

Photograph No.: 7 **Orientation:** Southwest
TDD No: S05-0110-013 **Date:** 12 Dec 01
Location: MSCG site
Subject: Vibracore being deployed at location MC-SD-D05

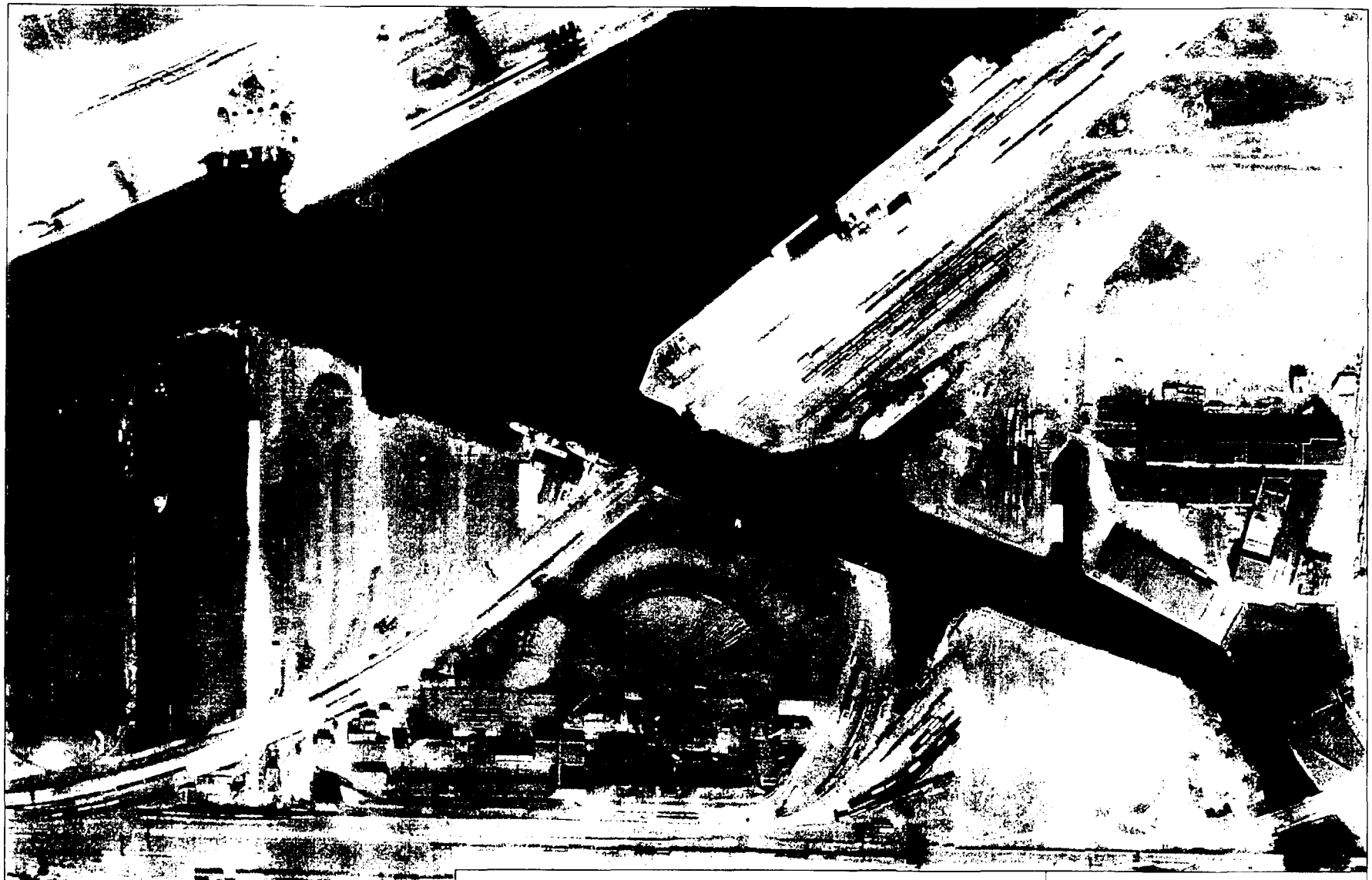


Photograph No.: 8 **Orientation:** Downward
TDD Number: S05-0110-013 **Date:** 13 Dec 01
Location: MSCG site
Subject: Upper 3 feet of sediment core MC-SD-D12 at sample preparation station

Photograph No.: 9
TDD No: S05-0110-013
Location: MSCG site
Subject: Aboveground storage tank MC-AT-A022

Orientation: Northwest
Date: 17 Dec 01

APPENDIX B
HISTORICAL AERIAL PHOTOGRAPHS
(Six Sheets)



ORIGINAL FILM SCALE 1" 20,000

APPROXIMATE PHOTOGRAPH SCALE 1 inch = 295 feet

N

MILWAUKEE SOLVAY COKE AND GAS SITE
MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN

AERIAL PHOTOGRAPH
DATE TAKEN: 04 AUG 37

Tetra Tech EM Inc.

ORIGINAL FILM SCALE: 1 : 20,000

APPROXIMATE PHOTOGRAPH SCALE: 1 inch = 295 feet

MILWAUKEE SOLVAY COKE AND GAS SITE
MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN

AERIAL PHOTOGRAPH
DATE TAKEN: 04 AUG 37

Tetra Tech EM Inc.

ORIGINAL FILM SCALE: 1 : 20,000

APPROXIMATE PHOTOGRAPH SCALE: 1 inch = 300 feet

MILWAUKEE SOLVAY COKE AND GAS SITE
MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN

AERIAL PHOTOGRAPH
DATE TAKEN: 25 OCT 41

Tetra Tech EM Inc.

ORIGINAL FILM SCALE: 1 : 20,000

APPROXIMATE PHOTOGRAPH SCALE: 1 inch = 295 feet

MILWAUKEE SOLVAY COKE AND GAS SITE
MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN

AERIAL PHOTOGRAPH
DATE TAKEN: 06 SEP 50

Tetra Tech EM Inc.

ORIGINAL FILM SCALE: 1 : 40,000

APPROXIMATE PHOTOGRAPH SCALE: 1 inch = 285 feet

MILWAUKEE SOLVAY COKE AND GAS SITE
MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN

AERIAL PHOTOGRAPH
DATE TAKEN:12 APR 92

Tetra Tech EM Inc.

ORIGINAL FILM SCALE: 1 : 40,000

APPROXIMATE PHOTOGRAPH SCALE: 1 inch = 285 feet

MILWAUKEE SOLVAY COKE AND GAS SITE
MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN

AERIAL PHOTOGRAPH
DATE FLOWN: 10 APR 99

Tetra Tech EM Inc.

MILWAUKEE SOLVAY COKE AND GAS SITE
MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN

ORIGINAL FILM SCALE: 1 : 110,000

APPROXIMATE PHOTOGRAPH SCALE: 1 inch = 250 feet

AERIAL PHOTOGRAPH
DATE TAKEN: 31 MAR 00

Tetra Tech EM Inc.

APPENDIX C
EXPLORATORY PIT SOIL LOGS
(33 Sheets)

ACRONYMS AND ABBREVIATIONS

bgs	Below ground surface
FID	Flame ionization detector
MSCG	Milwaukee Solvay Coke and Gas
PCB	Polychlorinated biphenyl
PID	Photoionization detector
ppm	Parts per million
SVOC	Semivolatile organic compound
VOC	Volatile organic compound

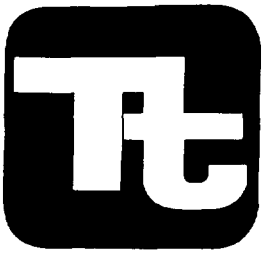
Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/11/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-A-01



SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0	Ground Surface	0			
1	***Fill*** Sandy, black with railroad ties				
2		-2			
3	***Fill*** Brown with wood fragments				
4					
5		-5			
6	***Clay*** Light brown				Saturated at 6 feet bgs Coal tar odors and oil sheen present
7			SB-A-01-0708	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
8		-8			
9	End of Excavation				
10					
11					
12					
13					
14					
15					

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/11/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-A-02

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
0		***Fill*** Sandy, black				
5				GW-A-02-0005	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	Saturated at 5 feet bgs
7		End of Excavation	~7			

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/11/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-A-03

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
		Gravelly Sand Black	-0.5			
1		***Fill*** Black with apparent solidified coal tar				
2						
3						
4						
5						
6			-6			Saturated at 6 feet bgs
		Silty Clay Light brown	-7			
7		End of Excavation				
8						
9						
10						
11						
12						
13						
14						
15						

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/11/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-A-04

SUBSURFACE PROFILE | SAMPLE

Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
0–7		***Fill*** Sand and gravel mixed with construction debris				PID = 10.8 ppm PID = 2.2 ppm
				SB-A-04-0607	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	PID = 4.6 ppm FID = 25.5 ppm
7		End of Excavation	~7			

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/11/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-A-12

SUBSURFACE PROFILE			SAMPLE		
Depth (feet bgs)	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0	Ground Surface	0			
0–4	***Fill*** Brick and gravel mixed with construction debris				
		-4			
4–5	***Fill*** Sandy, stained	-5	SB-A-12-0405	Metals, Cyanide, SVOCs, VOCs and Pesticides/PCBs	
5	End of Excavation				

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/11/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-A-13

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
1		***Fill*** Gravel				
2						
3						
4			-4			PID = 2.0 ppm
5		***Fill*** Sand				
6						
7				SB-A-13-0608	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
8		End of Excavation	-8			Saturated at 8 feet bgs
9						
10						
11						
12						
13						
14						
15						

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

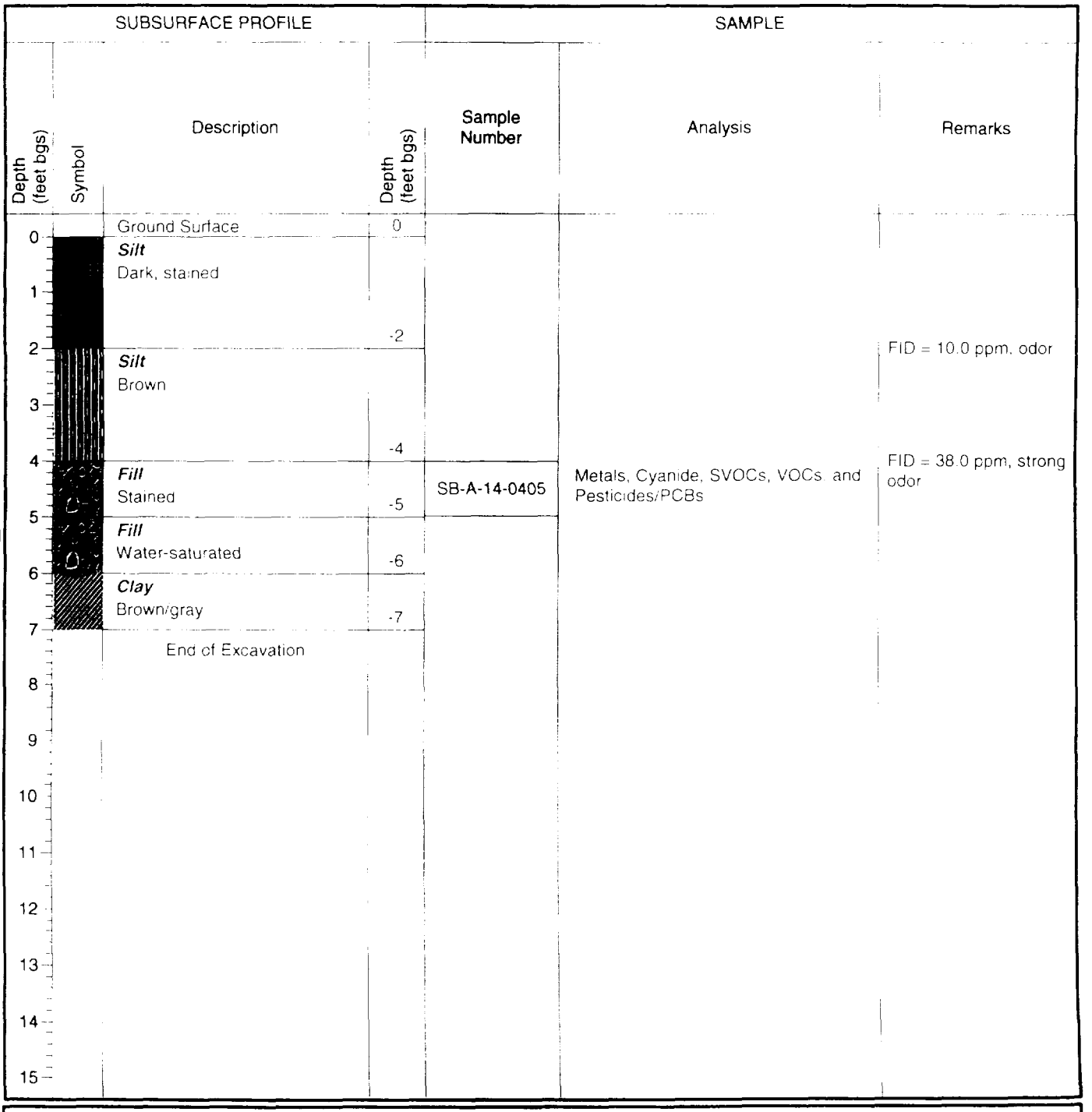
Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-A-14



Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-A-15

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
		Sandy Gravel				
2			-2			
		Silt Brown				FID = 5.0 ppm
4			-4			Strong odor
		Fill Stained		SB-A-15-0405	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	FID = 35.0 ppm
6			-6			
		End of Excavation				

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

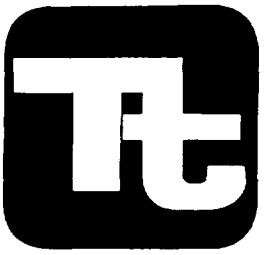
Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/11/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-A-16



SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
0–4		***Fill*** Gravel				
			-4			
4–7		***Fill*** Mixed with concrete				
			-7	SB-A-16-0607	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
		End of Excavation				

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-A-17

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
0–2		***Gravel***	-2			
2–4		***Fill*** Sandy, stained, mixed with debris	-4			
4–5		***Silt*** Brown	-5			
5–8		***Fill*** Black, water-saturated	-8	SB-A-17-0607	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	FID = 75.0 ppm, strong odor
8		End of Excavation				

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

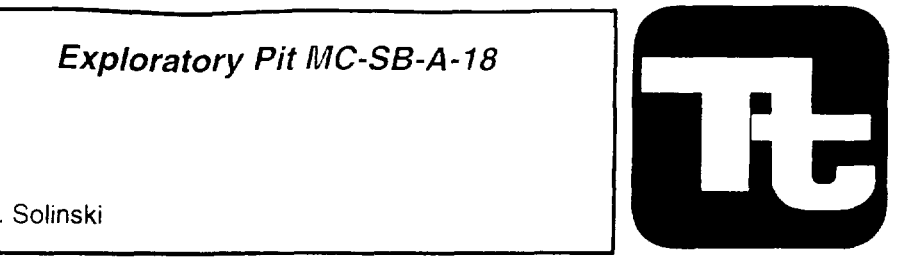
Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-A-18



SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0	Ground Surface	0			
	Wetland				
1					
		-2			FID = 0.5 ppm
2	***Silt*** Black				
3					
		-4			Saturated at 4 feet bgs
4	***Sand***				
		-5			FID = 3.0 ppm
5	***Clay*** Brown/gray				
		-6			
6	End of Excavation				
7					
8					
9					
10					
11					
12					
13					
14					
15					

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG

Location: Milwaukee

Date: 12/12/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-A-19

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
1		***Silty sand*** Brown				
2			-2			FID = 10.0 ppm
3		***Silt*** Stained				
4						
5						FID = 12.0 ppm
6			-6			
7		***Clay*** Brown				
8			-8			Saturated at 8 ft.
		End of Excavation				
9						
10						
11						
12						
13						
14						
15						

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-A-20

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
0–2		***Silt*** Loose, with coal	-2			
2–5		***Sandy Clay*** Black	-5			
5–10		***Clayey Sand***	-10	GW-A-2009	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	Saturated at 9 feet bgs
10–15		***Clay*** Soft	-15			

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-A-21

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
		Fill				
2			-2			
		Apparent Coal Tar Black	-2.5			
3		***Fill*** Sandy, with asphalt-like material				
4						PID > 50 ppm
5			-5			
		Fill Loose, black, sandy				
7			-7			
		Fill Asphalt-like, with sandy clay	-8	SB-A-21-0708	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
8		End of Excavation				

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

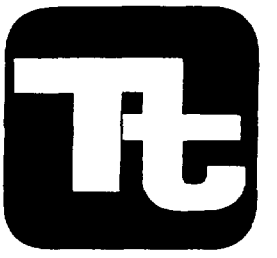
Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-A-22



SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
0		*Fill* Mixed with bricks				
1						
2						
3						
4						
5						PID = 3.0 ppm
6			-6			
6		*Silt*		SB-A-22-0607	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
7						
8			-8			
8		End of Excavation				
9						
10						
11						
12						
13						
14						
15						

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-A-23

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
0–4		***Fill***	-4			
4		***Apparent Solidified Tar***	-5			
5–8		***Sandy Silt*** Brown, loose	-8			
8		End of Excavation				

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/13/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-A-24

SUBSURFACE PROFILE			SAMPLE		
Depth (feet bgs) / Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0	Ground Surface	0			
0–4	***Fill*** Gravelly, mixed with brown silt				PID = 5.0 ppm
4	***Apparent Solidified Tar***	-4			
5	***Sandy Silt*** Brown, loose	-5	GW-A-2404	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	PID = 15.0 ppm Saturated at 5 feet bgs sheen visible
8	End of Excavation	-8			

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-A-25

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
0–2		***Fill*** Gravelly, mixed with bricks and stone	-2			
2–4		***Silt*** Brown	-4			
4–5		***Silt*** Black	-5			
5–8		***Sludge*** Oily	-8	SB-A-25-0708	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	Strong, sweet oil odor Saturated at 8 feet bgs, sheen visible
8		End of Excavation				

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 4'x8'

Tetra Tech EM Inc.

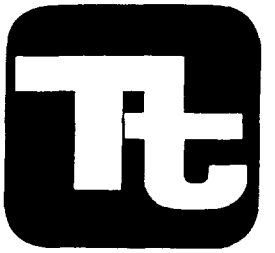
Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/10/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-B-06



SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
1		***Fill*** Gravel				
			-2			
2		***Sand*** Black, with free oily material				PID = 2.2 ppm Pungent, aromatic odor
3				SB-B-06-0204	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
4						
			-5			
5		***Sand***				
			-6			
6		End of Excavation				
7						
8						
9						
10						
11						
12						
13						
14						
15						

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/11/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-B-09

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
		Fill Gravel with concrete				
4			-4			
		Fill Coal fines and debris				
7				SB-B-09-0708	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
8			-8			
		Clay Gray/brown	-8.5			Saturated at 8.5 feet bgs
9		End of Excavation				

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/11/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-B-10

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
		Fill Gravel with concrete				
1						
			-2			
2		*Fill* Mixed with coal fines				
3						
4				SB-B-10-0405	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
5						
			-6			Saturated at 6 feet bgs
6		End of Excavation				
7						
8						
9						
10						
11						
12						
13						
14						
15						

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/13/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-B26

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
		Fill Gravel				
1						
			-2			
2		***Fill*** Black-stained, with concrete and gravel				
3						
			-4			
4		End of Excavation				
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

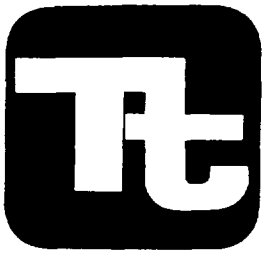
Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/13/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-B-32



SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
1		***Fill*** Gravel				
2			-2			
3		***Silty Sand*** Brown				
4			-4			
5		***Silt*** Dark-stained				
6						
7						Saturated at 7.5 feet bgs
8			-8			
9		End of Excavation				
10						
11						
12						
13						
14						
15						

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

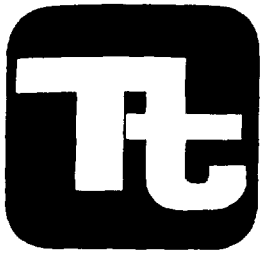
Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/13/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-B-37



SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
		Fill Gravel				
2			-2			
		Fill Dark-stained				
4						PID = 5.0 ppm
7						PID up to 100 ppm
8			-8			
		Silt Brown, mixed with dark soil		GW-B-3708	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	Saturated at 8 feet bgs, sheen visible
9				SB-B-37-0910	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
10			-10			
		Peat				
12			-12			
		End of Excavation				
13						
14						
15						

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

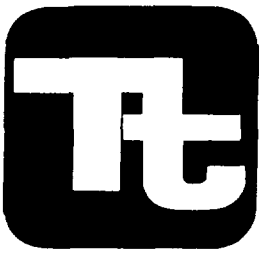
Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/13/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-C-28



SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
0		***Fill*** Brown				
1						
2			-2			
2		***Fill*** Gravelly, dark, mixed with construction debris				
3						
4				SB-C-28-0405	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
5						
6			-6			
6		***Sandy Silt*** Brown				
7						
8						
9			-9			
9		***Sand*** Brown				
10			-10			
10		End of Excavation				
11						
12						
13						
14						
15						

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/13/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-C-29

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
1		***Fill*** Dark				
			-2			
2		***Silty Sand*** Reddish				
3				SB-C-29-03045	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
4						
5						
			-6			
6		***Silt*** Brown				
7						
			-8			
8		***Clay*** Gray				
9						
			-10			
10		End of Excavation				
11						
12						
13						
14						
15						

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/13/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-C-30

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
1		***Fill*** Mixed with gravel				
			-2			
2		***Fill*** Brown				
3						PID = 2.0 ppm
			-4			
4		***Sandy Silt***				
5						
6						PID = 5.0 ppm
7				SB-C-30-0708	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
			-8			
8		***Clay*** Brown/gray				
9						
			-10			
10		End of Excavation				
11						
12						
13						
14						
15						

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/13/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-C-31

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
0–5		***Fill*** 0.5-inch, white sand seam at 5.5 feet bgs		SB-C-31-00005	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
6			-6			
6–9		***Fill*** Porous, dry				
9			-9			
9–10		***Clay***				
10			-10			
10		End of Excavation				

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/13/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-C-33

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
1		*Fill* Loose, black				
2			-2			
3		*Sandy Silt* Loose				
4						
5						
6						
7				GW-C-3307	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	Saturated at 7 feet bgs
8			-8			
9		End of Excavation				
10						
11						
12						
13						
14						
15						

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

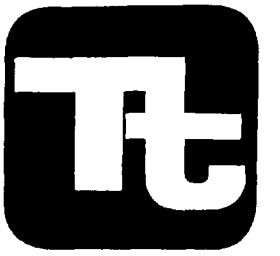
Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/13/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-C-34



SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
0		*Fill* Black with blue crystals within first 0.5 feet bgs		SB-C-34-00005	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
1						
2			-2			
2		*Fill*				
3						
4						
5						
6						
7						
8			-8			
8		End of Excavation				
9						
10						
11						
12						
13						
14						
15						

Driller: Dakota Environmental

Drill Method: Hand shovel

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/13/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-C-35

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
0–2		***Fill***				
			-2			
2–8		***Silty Clay*** Light brown				
5–7				SB-C-35-0507	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
			-8			
8		End of Excavation				

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/13/01

Field Personnel: E. Gasca, S. Wenning, J. Solinski

Exploratory Pit MC-SB-C-36

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bgs)	Symbol	Description	Depth (feet bgs)	Sample Number	Analysis	Remarks
0		Ground Surface	0			
1		***Fill*** Sandy, loose, black				
				SB-C-36-0102	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
2			-2			
3		***Fill*** Reddish layer at 4 feet bgs, with rust stains and construction debris				
4						PID = 52 ppm
5			-5			
6		***Clay***				
7						
8			-8			
		End of Excavation				
9						
10						
11						
12						
13						
14						
15						

Driller: Dakota Environmental

Drill Method: Backhoe

Hole Size: 2'x8'

Tetra Tech EM Inc.

APPENDIX D
RIVER SEDIMENT CORE LOGS
(13 Sheets)

ACRONYMS AND ABBREVIATIONS

ASI	Aqua Survey, Inc.
bss	Below sediment surface
MS/MSD	Matrix spike/matrix spike duplicate
MSCG	Milwaukee Solvay Coke and Gas
PCB	Polychlorinated biphenyl
SVOC	Semivolatile organic compound
VOC	Volatile organic compound

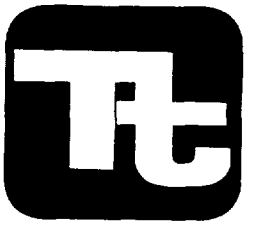
Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/11/01

Field Personnel: Brad White

Core MC-SD-D-001



SUBSURFACE PROFILE			SAMPLE		
Depth (feet bss)	Symbol	Description	Sample Number	Analyses	Remarks
0		Sediment Surface			
		Sediment Fine, unconsolidated			
2			SD-D-01-0203	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
5		***Coal Fines***	SD-D-01-0506	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
6		***Silt*** Black, with coal fines mixed throughout		Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
7			SD-D-01-0608	Duplicate sample SD-D-01-0608D collected	
8		End of Core			

Driller: ASI

Drill Method: Vibracore

Hole Size: 4"

Tetra Tech EM Inc.

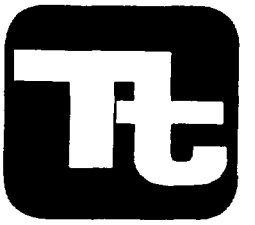
Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: Brad White

Core MC-SD-D-002



SUBSURFACE PROFILE			SAMPLE			
Depth (feet bss)	Symbol	Description	Depth (feet bss)	Sample Number	Analyses	Remarks
0		Sediment Surface	0			
		Sediment Fine, unconsolidated, gray/brown	1	SD-D-02-0102	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
2		***Fine, consolidated*** Dark gray	2			
			3	SD-D-02-025035	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
4		***Silty Clay*** 2-inch layer of coal fines at 4.5 feet bss	4	SD-D-02-0405	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
5			5			
		End of Core				
6			6			
7			7			
8			8			
9			9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			

Driller: ASI

Drill Method: Vibracore

Hole Size: 4"

Tetra Tech EM Inc.

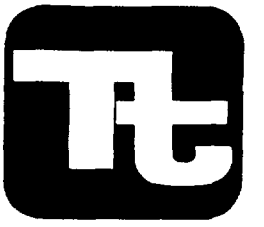
Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/11/01

Field Personnel: Brad White

Core MC-SD-D-003



SUBSURFACE PROFILE			SAMPLE			
Depth (feet bss)	Symbol	Description	Depth (feet bss)	Sample Number	Analyses	Remarks
0		Sediment Surface	0			
0		***Sediment*** Fine, unconsolidated	0			
1			1	SD-D-03-00015	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
2		***Sediment*** Unconsolidated, mixed with coal fines	2			
2			2		Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
3		***Silty Clay*** Mixed with coal fines	3	SD-D-03-01504		
4		End of Core	4			
5			5			
6			6			
7			7			
8			8			
9			9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			

Driller: ASI

Drill Method: Vibracore

Hole Size: 4"

Tetra Tech EM Inc.

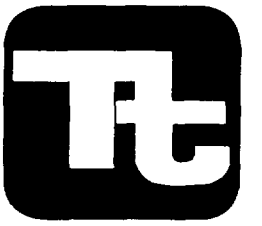
Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: Brad White

Core MC-SD-D-004



SUBSURFACE PROFILE			SAMPLE			
Depth (feet bss)	Symbol	Description	Depth (feet bss)	Sample Number	Analyses	Remarks
0		Sediment Surface	0			
0–2		***Sediment*** Fine, unconsolidated, gray/brown	1	SD-D-04-0102	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
2–4		***Sediment*** Fine, more consolidated, gray/black	3	SD-D-04-025035	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
4		End of Core				

Driller: ASI

Drill Method: Vibracore

Hole Size: 4"

Tetra Tech EM Inc.

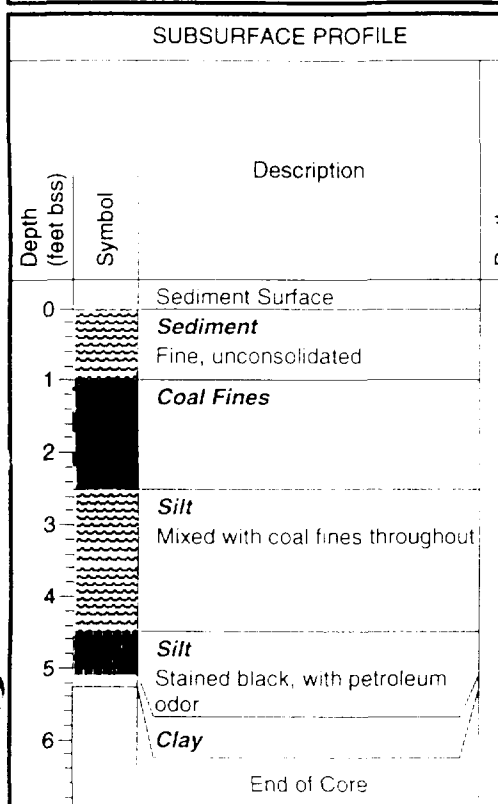
Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: Brad White

Core MC-SD-D-005



SUBSURFACE PROFILE		SAMPLE		
Depth (feet bss)	Sample Number	Analyses	Remarks
1	SD-D-05-0102	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
3	SD-D-05-0304	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
4	SD-D-05-0405	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	

Driller: ASI

Drill Method: Vibracore

Hole Size: 4"

Tetra Tech EM Inc.

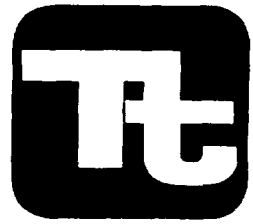
Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: Brad White

Core MC-SD-D-006



SUBSURFACE PROFILE			SAMPLE			
Depth (feet bss)	Symbol	Description	Depth (feet bss)	Sample Number	Analyses	Remarks
0		Sediment Surface	0			
0		***Sediment*** Fine, unconsolidated	1			
1		***Sediment*** More consolidated, brown/black	2			
2			2	SD-D-06-0203	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
3			3			
4			4			
5			5			
5			5	SD-D-06-0506	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
6			6			
6		End of Core	7			
7			8			
8			9			
9			10			
10			11			
11			12			
12			13			
13			14			
14			15			
15						

Driller: ASI

Drill Method: Vibracore

Hole Size: 4"

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: Brad White

Core MC-SD-D-007

SUBSURFACE PROFILE				SAMPLE		
Depth (feet bss)	Symbol	Description	Depth (feet bss)	Sample Number	Analyses	Remarks
0		Sediment Surface	0			
		Sediment Fine, unconsolidated				
1		***Silt*** More consolidated	1			
2			2	SD-D-07-0203	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
3			3			
4			4	SD-D-07-0405	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
5		***Silty Clay*** 1-inch layer of coal fines at 5 feet bss	5			
6			6			
7		End of Core	7			
8			8			
9			9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			

Driller: ASI

Drill Method: Vibracore

Hole Size: 4"

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: Brad White

Core MC-SD-D-008

SUBSURFACE PROFILE			SAMPLE			
Depth (feet bss)	Symbol	Description	Depth (feet bss)	Sample Number	Analyses	Remarks
0		Sediment Surface	0			
		Sediment Fine, unconsolidated, gray/brown				
1			1		Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
2			2	SD-D-08-0103	Duplicate sample SD-D-08-0103D collected	
3			3			
4			4			
5			5			
6		***Silty Clay***	6	SD-D-08-0607	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
7			7			
8		End of Core	8			
9			9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			

Driller: ASI

Drill Method: Vibracore

Hole Size: 4"

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: Brad White

Core MC-SD-D-009

SUBSURFACE PROFILE			SAMPLE			
Depth (feet bss)	Symbol	Description	Depth (feet bss)	Sample Number	Analyses	Remarks
0		Sediment Surface	0			
0		***Sediment*** Fine, unconsolidated, gray/brown, saturated	0		Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs MS/MSD samples collected	
1			1	SD-D-09-0003		
2			2			
3		***Silty Clay*** Hair fibers dispersed throughout	3			
4			4			
5			5	SD-D-09-0506	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
6		***Silty Clay*** Brown/black, coal fines mixed throughout	6			
7			7	SD-D-09-0708	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
8			8			
9		End of Core	9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			

Driller: ASI

Drill Method: Vibracore

Hole Size: 4"

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: Brad White

Core MC-SD-D-010

SUBSURFACE PROFILE			SAMPLE			
Depth (feet bss)	Symbol	Description	Depth (feet bss)	Sample Number	Analyses	Remarks
0		Sediment Surface	0			
0		***Silty Sand*** Mixed with fine gravel	0		Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
1		***Sand*** Fine-grained	1	SD-D-10-0002	Duplicate sample SD-D-10-0002D collected	
2			2			
3			3		Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
4			4	SD-D-10-0305		
5			5			
6		***Clayey Sand*** Well sorted	6		Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
7			7	SD-D-10-0608		
8			8			
9		End of Core	9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			

Driller: ASI

Drill Method: Vibracore

Hole Size: 4"

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: Brad White

Core MC-SD-D-011

SUBSURFACE PROFILE				SAMPLE			
Depth (feet bss)	Symbol	Description	Depth (feet bss)	Sample Number	Analyses	Remarks
0		Sediment Surface	0			
		Gravel Coarse, mixed with rock				
1		***Sediment*** Fine, saturated, consolidated	1			
2			2	SD-D11-015025	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
3		End of Core	3			
4			4			
5			5			
6			6			
7			7			
8			8			
9			9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			

Driller: ASI

Drill Method: Vibracore

Hole Size: 4"

Tetra Tech EM Inc.

Project: MSCG Site Assessment

Location: Milwaukee, Wisconsin

Date: 12/12/01

Field Personnel: Brad White

Core MC-SD-D-012

SUBSURFACE PROFILE			SAMPLE			
Depth (feet bss)	Symbol	Description	Depth (feet bss)	Sample Number	Analyses	Remarks
0		Sediment Surface	0			
0		***Silty Clay*** Gray/brown, with some organic matter	1	SD-D-12-0102	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
2			2			
3		***Silty Clay*** Gray/brown, clay content increases with depth	3	SD-D-12-0304	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
4			4			
5			5	SD-D-12-0506	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
6			6			
7		***Clay*** Brown	7	SD-D-12-0708	Metals, Cyanide, SVOCs, VOCs, and Pesticides/PCBs	
8			8			
9		End of Core	9			
10			10			
11			11			
12			12			
13			13			
14			14			
15			15			

Driller: ASI

Drill Method: Vibracore

Hole Size: 4"

Tetra Tech EM Inc.

APPENDIX E
ABOVEGROUND STORAGE TANK INVENTORY
(36 Pages)

ACRONYMS AND ABBREVIATIONS

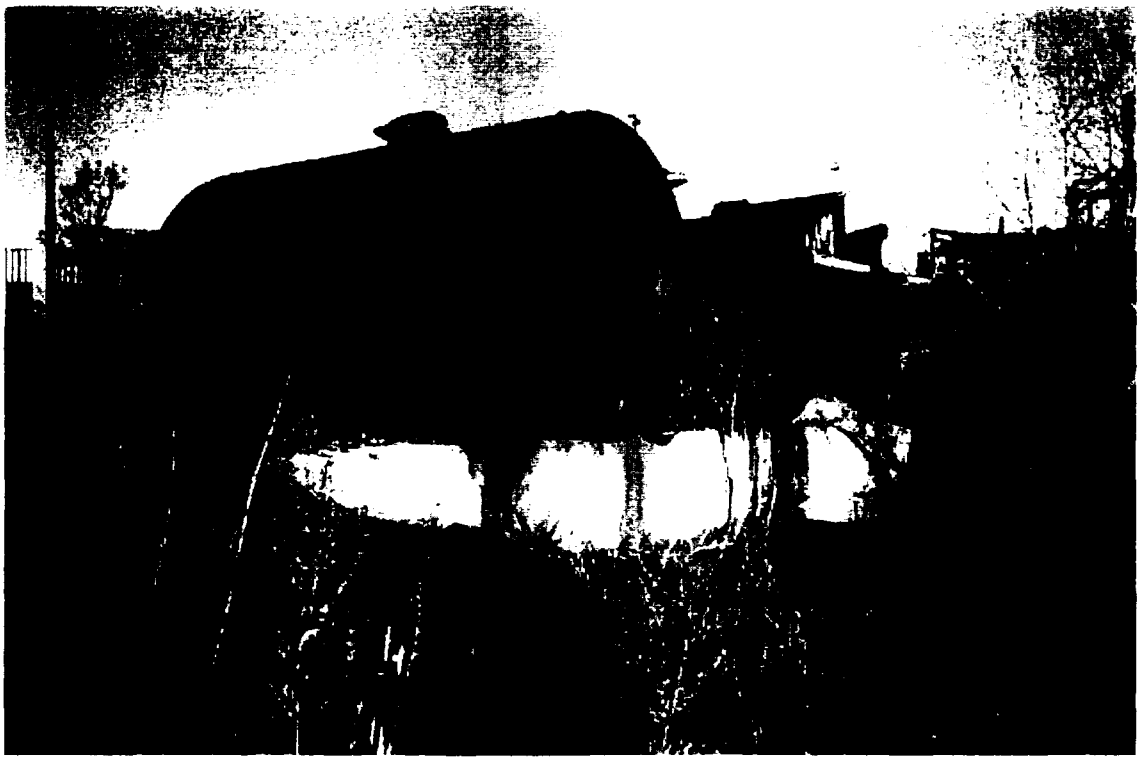
D	Diameter
E	East
GPS	Global positioning system
H	Height
L	Length
N	North
W	Width

Tank Identification No.	MC-AT-A-001
Dimensions (Feet)	H = 26, D = 9
Waste Present	None; abandoned and filled with sand
Capacity (Gallons)	12,100
GPS Coordinates (Meters)	4762838.104 N 425998.580 E
Date Photograph Taken	18 Dec 01
Orientation	South

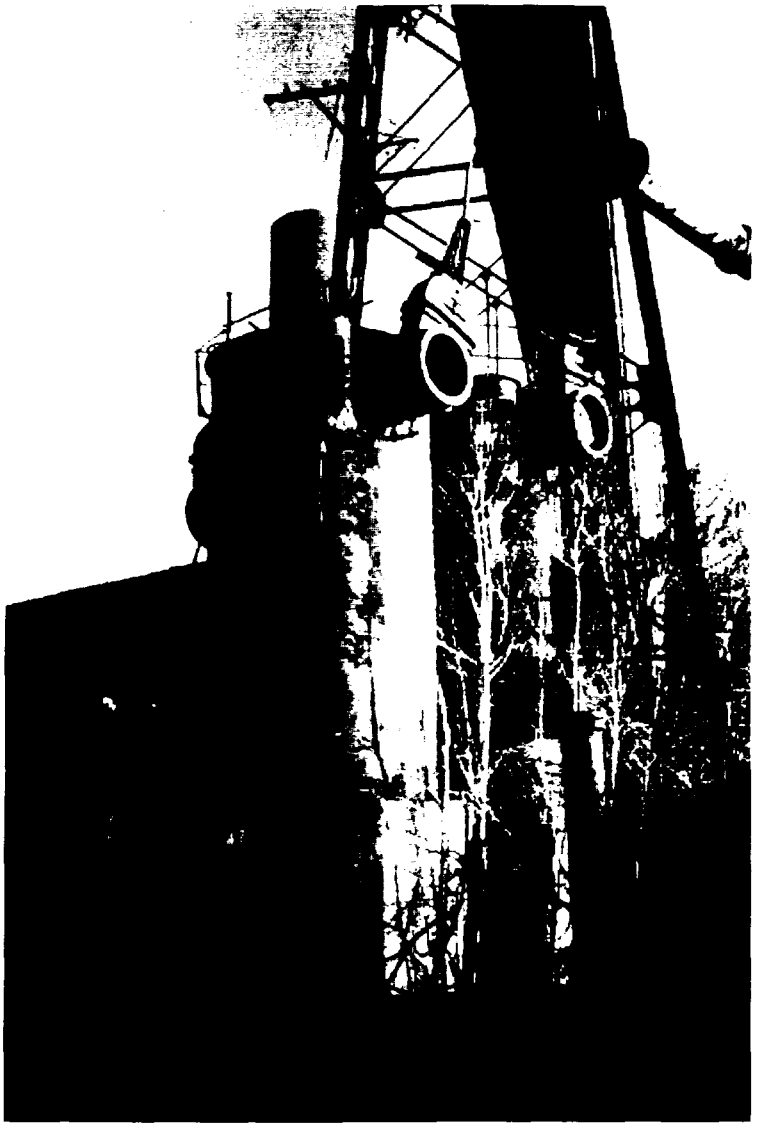
Tank Identification No.	MC-AT-A-002
Dimensions (Feet)	L = 25, D = 10
Waste Present	279 cubic feet of dry material
Capacity (Gallons)	14,600
GPS Coordinates (Meters)	4762576.108 N 425999.694 E
Date Photograph Taken	18 Dec 01
Orientation	North

Tank Identification No.	MC-AT-A-003
Dimensions (Feet)	L = 29, H = 8, W = 8
Waste Present	6,940 gallons of water and 1,735 cubic gallons of tar
Capacity (Gallons)	13,800
GPS Coordinates (Meters)	4762541.770 N 425994.788 E
Date Photograph Taken	18 Dec 01
Orientation	West

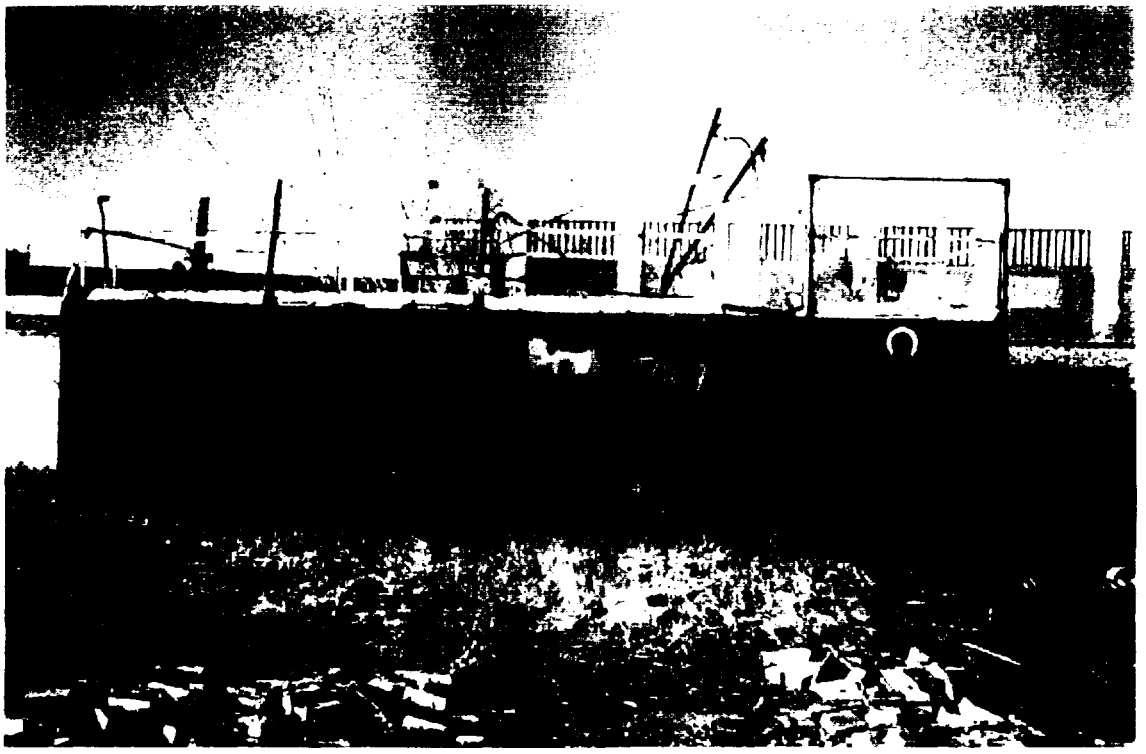
Tank Identification No.	MC-AT-A-004 (on the right)
Dimensions (Feet)	D = 7, L = 23
Waste Present	None
Capacity (Gallons)	6,600
GPS Coordinates (Meters)	4762536.062 N 425996.176 E
Date Photograph Taken	18 Dec 01
Orientation	West



Tank Identification No.	MC-AT-A-005 (on the left)
Dimensions (Feet)	L = 14, D = 9
Waste Present	150 gallons of residual oil and sludge
Capacity (Gallons)	6,600
GPS Coordinates (Meters)	4762529.375 N 426002.682 E
Date Photograph Taken	18 Dec 01
Orientation	West



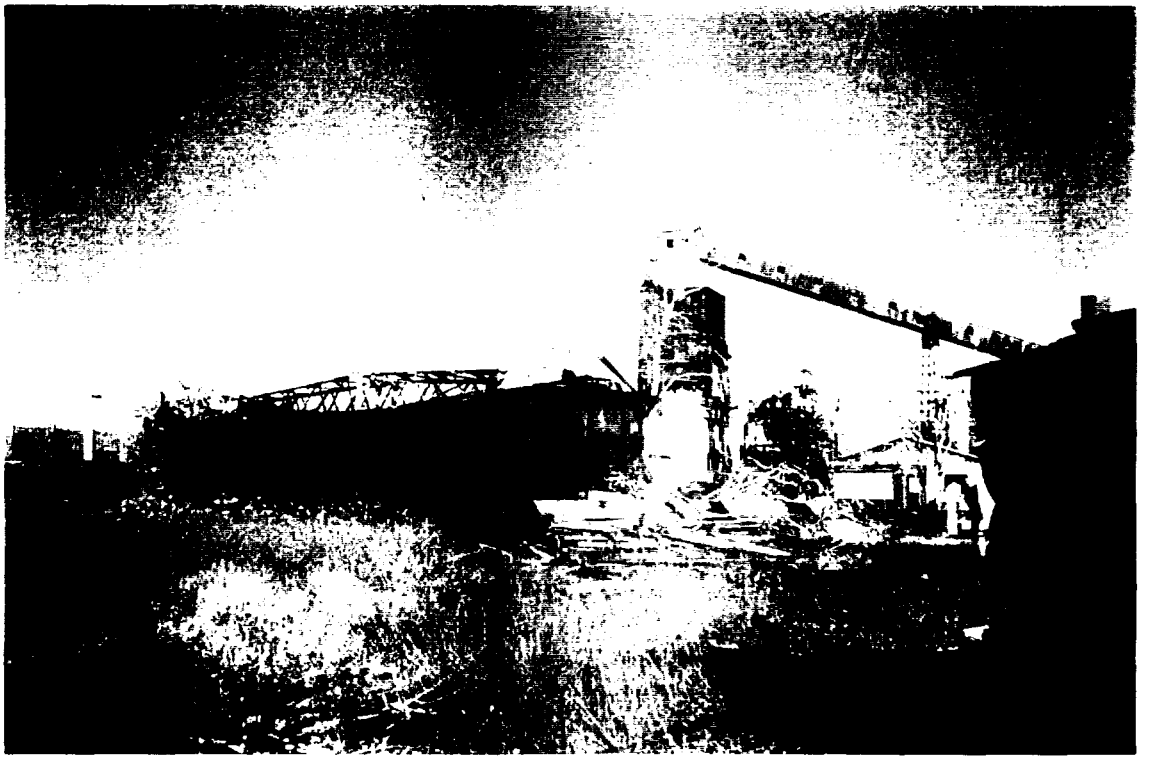
Tank Identification No.	MC-AT-A-006 (on the left)
Dimensions (Feet)	H = 16, D = 8
Waste Present	25 cubic feet of residual dry material
Capacity (Gallons)	6,000
GPS Coordinates (Meters)	4762527.935 N 426013.805 E
Date Photograph Taken	18 Dec 01
Orientation	East



Tank Identification No.	MC-AT-A-007
Dimensions (Feet)	L = 24, H = 6, W = 8
Waste Present	1,436 gallons of coal tar
Capacity (Gallons)	8,600
GPS Coordinates (Meters)	4762453.988 N 425988.489 E
Date Photograph Taken	18 Dec 01
Orientation	West

Tank Identification No.	MC-AT-A-010 (on the right)
Dimensions (Feet)	L = 19, D = 7
Waste Present	25 cubic feet of residual dry material
Capacity (Gallons)	6,100
GPS Coordinates (Meters)	4762403.792 N 426004.986 E
Date Photograph Taken	18 Dec 01
Orientation	West

Tank Identification No.	MC-AT-A-011 (on the left)
Dimensions (Feet)	L = 16, D = 7
Waste Present	None
Capacity (Gallons)	4,600
GPS Coordinates (Meters)	4762403.792 N 426004.986 E
Date Photograph Taken	18 Dec 01
Orientation	West



Tank Identification No.	MC-AT-A-012
Dimensions (Feet)	L = 50, H = 10, W = 9
Waste Present	3,366 gallons of water and 561 gallons of tar
Capacity (Gallons)	33,600
GPS Coordinates (Meters)	4762356.502 N 426020.058 E
Date Photograph Taken	17 Dec 01
Orientation	East

Tank Identification No.	MC-AT-A-013
Dimensions (Feet)	H = 21, D = 52.5
Waste Present	97,228 gallons of water
Capacity (Gallons)	340,000
GPS Coordinates (Meters)	4762446.797 N 426048.283 E
Date Photograph Taken	17 Dec 01
Orientation	North

Tank Identification No.	MC-AT-A-014
Dimensions (Feet)	L = 27, D = 10
Waste Present	5,924 gallons of tar or heavy oil
Capacity (Gallons)	17,800
GPS Coordinates (Meters)	4762408.691 N 426062.084 E
Date Photograph Taken	17 Dec 01
Orientation	East

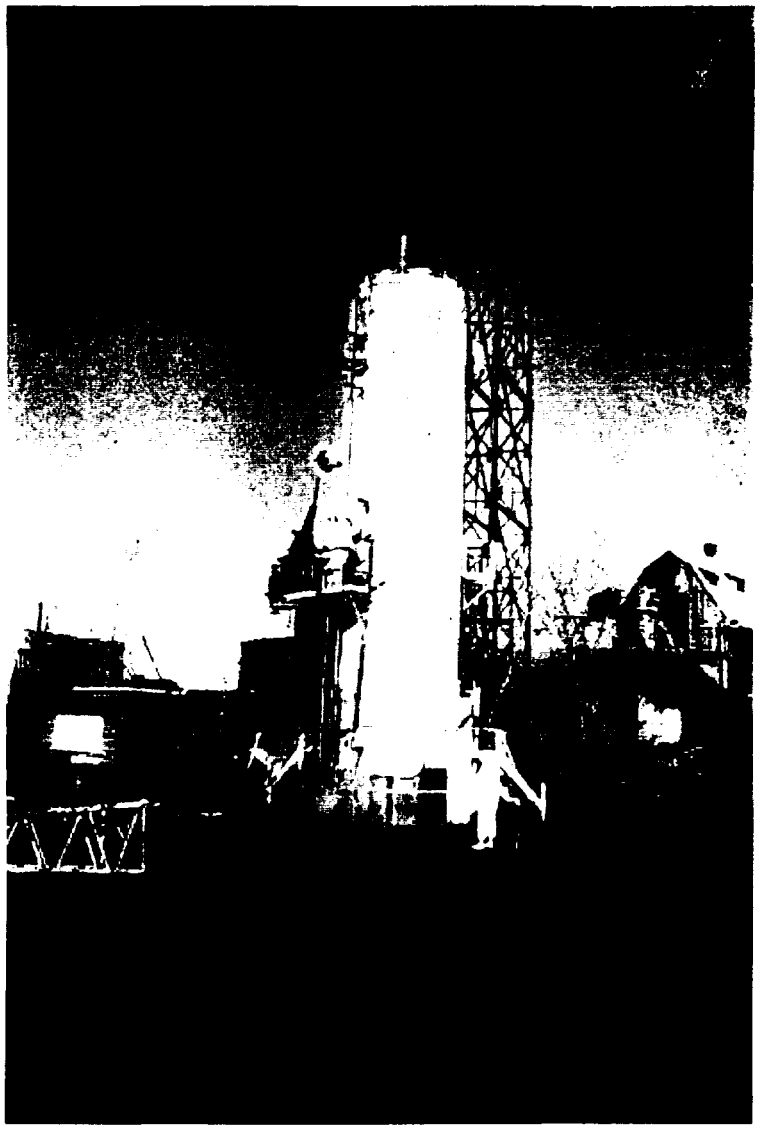
Tank Identification No.	MC-AT-A-015
Dimensions (Feet)	Unknown
Waste Present	None
Capacity (Gallons)	Approximately 250
GPS Coordinates (Meters)	4762465.986 N 426051.694 E
Date Photograph Taken	17 Dec 01
Orientation	North

Tank Identification No.	MC-AT-A-016 (on the left)
Dimensions (Feet)	L = 30, H = 10, W = 8
Waste Present	7,181 gallons of water and 1,795 gallons of coal tar
Capacity (Gallons)	17,952
GPS Coordinates (Meters)	4762483.979 N 426062.533 E
Date Photograph Taken	18 Dec 01
Orientation	Northeast

Tank Identification No.	MC-AT-A-017 (on the right)
Dimensions (Feet)	L = 30, H = 10, W = 8
Waste Present	1,795 gallons of water and 299 gallons of residual tar
Capacity (Gallons)	17,900
GPS Coordinates (Meters)	4762478.756 N 426067.161 E
Date Photograph Taken	18 Dec 01
Orientation	Northeast

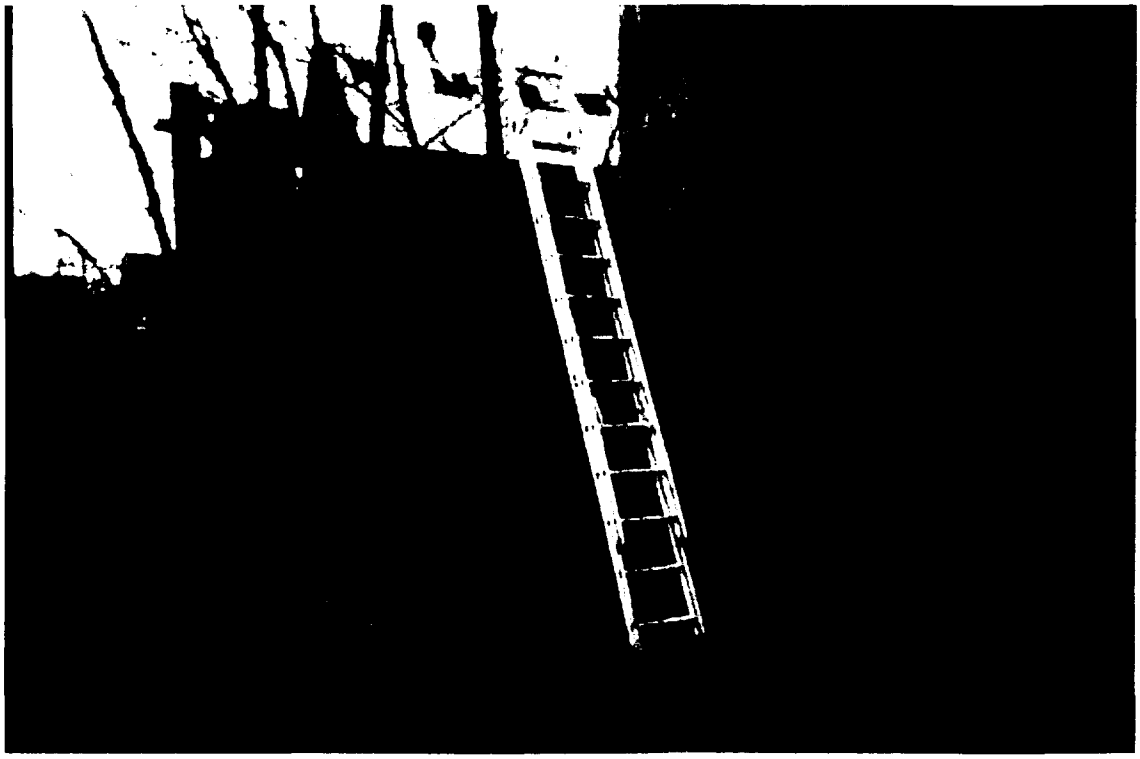
Tank Identification No.	MC-AT-A-018 (in front)
Dimensions (Feet)	L = 32, D= 7
Waste Present	None
Capacity (Gallons)	9,200
GPS Coordinates (Meters)	4762519.634 N 426056.165 E
Date Photograph Taken	18 Dec 01
Orientation	Northeast

Tank Identification No.	MC-AT-A-019 (in back)
Dimensions (Feet)	L = 32, D= 7
Waste Present	None
Capacity (Gallons)	9,200
GPS Coordinates (Meters)	4762517.630 N 426059.728 E
Date Photograph Taken	18 Dec 01
Orientation	Northeast

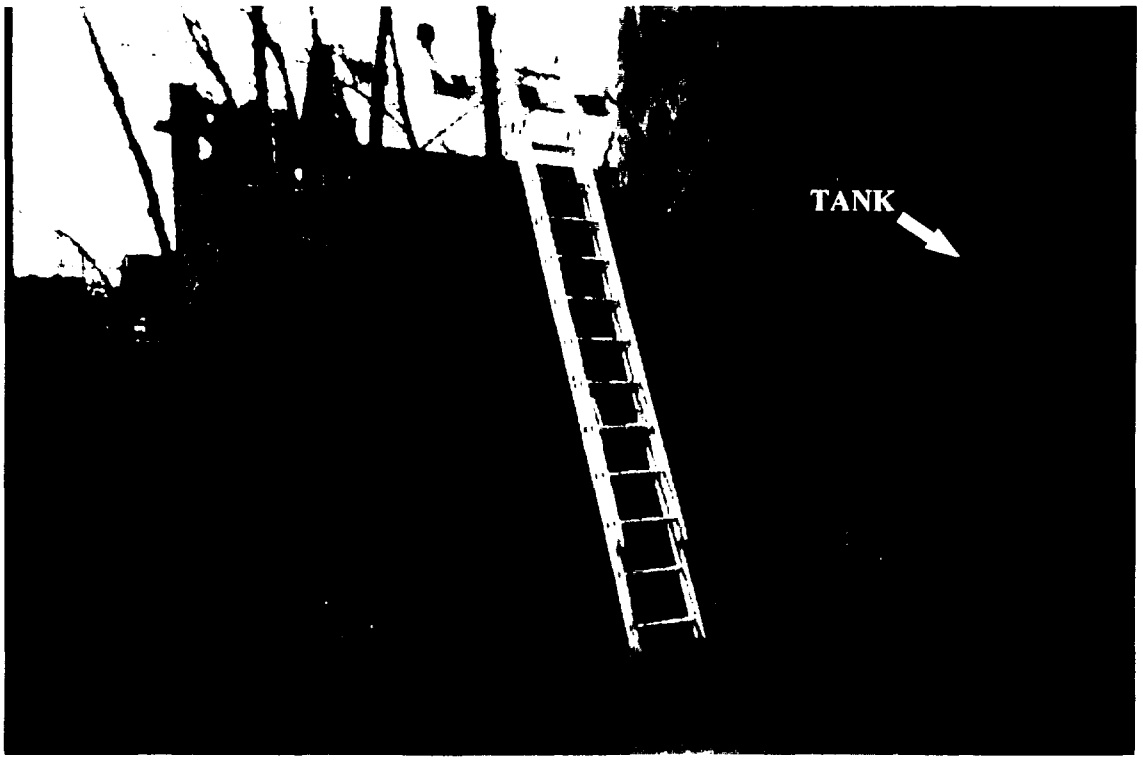


Tank Identification No.	MC-AT-A-020
Dimensions (Feet)	H = 45, D = 10.5
Waste Present	None
Capacity (Gallons)	29,100
GPS Coordinates (Meters)	4762518.400 N 426042.812 E
Date Photograph Taken	18 Dec 01
Orientation	Northwest

Tank Identification No.	MC-AT-A-021 (on the right)
Dimensions (Feet)	H = 16, D = 8
Waste Present	None
Capacity (Gallons)	6,000
GPS Coordinates (Meters)	4762528.925 N 426012.585 E
Date Photograph Taken	18 Dec 01
Orientation	East



Tank Identification No.	MC-AT-A-022 (on the left)
Dimensions (Feet)	L = 23, D = 10
Waste Present	1,945 gallons of coal tar
Capacity (Gallons)	15,400
GPS Coordinates (Meters)	4762570.712 N 426037.672 E
Date Photograph Taken	17 Dec 01
Orientation	Northwest



Tank Identification No.	MC-AT-A-023 (on the right)
Dimensions (Feet)	L = 48, W= 10, H = 10
Waste Present	3,590 gallons of coal tar
Capacity (Gallons)	35,900
GPS Coordinates (Meters)	4762576.278 N 426037.506 E
Date Photograph Taken	17 Dec 01
Orientation	Northwest

[PHOTOGRAPH NOT AVAILABLE; TANK IS SIMILAR TO MC-AT-A-003]

Tank Identification No.	MC-AT-A-024
Dimensions (Feet)	L = 30, H = 8, W = 8
Waste Present	7,181 gallons of water and 3,590 gallons of coal tar
Capacity (Gallons)	14,300
GPS Coordinates (Meters)	4762647.910 N 426071.340 E
Date Photograph Taken	Not applicable
Orientation	Not applicable

Tank Identification No.	MC-AT-A-025 (tank contents shown)
Dimensions (Feet)	H = 10, D = 32
Waste Present	4,454 gallons of water and 19,307 gallons of coal tar
Capacity (Gallons)	59,500
GPS Coordinates (Meters)	4762692.855 N 426035.787 E
Date Photograph Taken	17 Dec 01
Orientation	Downward and west

[PHOTOGRAPH NOT AVAILABLE; TANK IS VERTICAL AND MADE OF STEEL]

Tank Identification No.	MC-AT-A-026
Dimensions (Feet)	H = 21, D = 25
Waste Present	None; used as walk-in space for storage of supplies
Capacity (Gallons)	78,000
GPS Coordinates (Meters)	4762736.780 N 426097.592 E
Date Photograph Taken	Not applicable
Orientation	Not applicable

[PHOTOGRAPH NOT AVAILABLE; TANK IS VERTICAL AND MADE OF STEEL]

Tank Identification No.	MC-AT-A-027
Dimensions (Feet)	H = 21, D = 25
Waste Present	None; used as walk-in space for storage of supplies
Capacity (Gallons)	78,000
GPS Coordinates (Meters)	4762718.709 N 426100.823 E
Date Photograph Taken	Not applicable
Orientation	Not applicable

Tank Identification No.	MC-AT-A-028
Dimensions (Feet)	L = 27, D = 8
Waste Present	700 gallons of an unknown liquid
Capacity (Gallons)	8,192 (posted on tank)
GPS Coordinates (Meters)	4762692.169 N 426088.299 E
Date Photograph Taken	18 Dec 01
Orientation	Southwest

[PHOTOGRAPH NOT AVAILABLE; TANK IS SIMILAR TO MC-AT-A-005]

Tank Identification No.	MC-AT-A-029
Dimensions (Feet)	L = 12, D = 5
Waste Present	770 gallons of water and 770 gallons of coal tar
Capacity (Gallons)	4,500
GPS Coordinates (Meters)	4762704.712 N 426103.440 E
Date Photograph Taken	Not applicable
Orientation	Not applicable

Tank Identification No.	MC-AT-A-030 (in the middle)
Dimensions (Feet)	L = 7, H = 4, W = 4
Waste Present	4.7 ft^3 of solid waste
Capacity (Gallons)	840
GPS Coordinates (Meters)	4762609.245 N 426089.765 E (10 feet east of tank)
Date Photograph Taken	18 Dec 01
Orientation	Northeast

Tank Identification No.	MC-AT-A-031 (in front)
Dimensions (Feet)	L = 7, H = 4, W = 4
Waste Present	52 gallons of tar
Capacity (Gallons)	840
GPS Coordinates (Meters)	4762617.671 N 426082.182 E
Date Photograph Taken	18 Dec 01
Orientation	Northeast

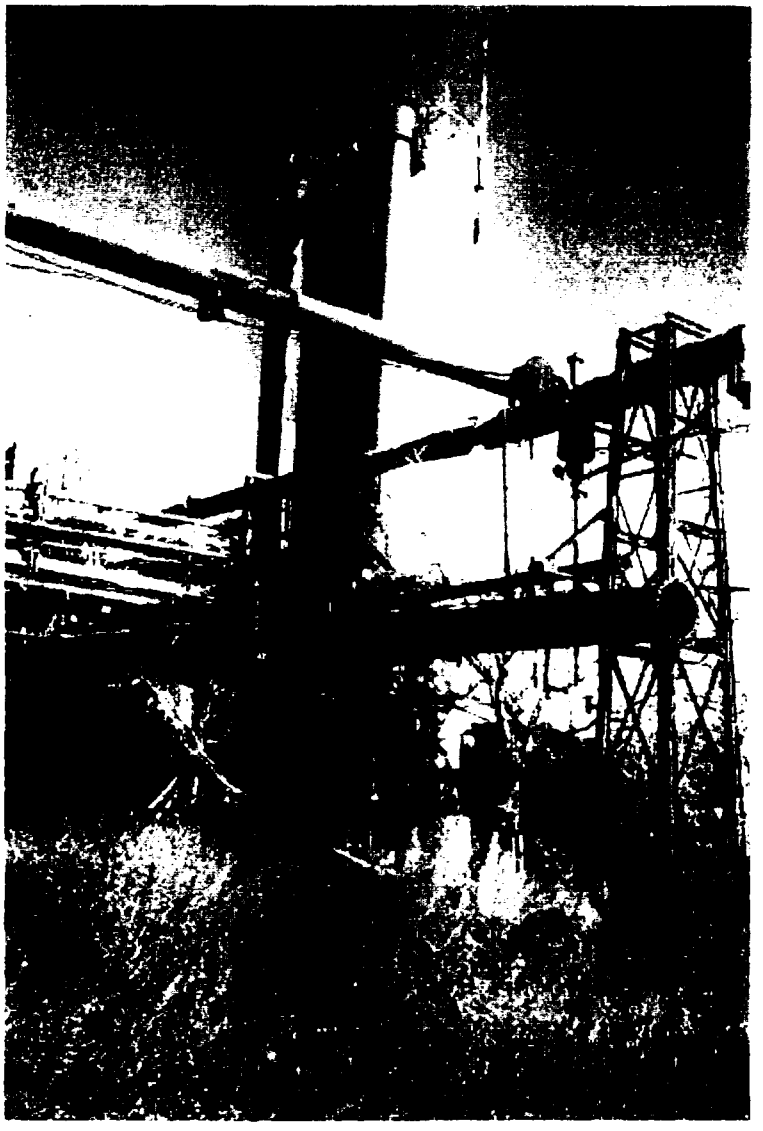
Tank Identification No.	MC-AT-A-032 (in back)
Dimensions (Feet)	L = 7, H = 4, W = 4
Waste Present	Unknown liquid and volume
Capacity (Gallons)	840
GPS Coordinates (Meters)	4762615.493 N 426087.432 E (30 feet east of tank)
Date Photograph Taken	18 Dec 01
Orientation	Northeast

[PHOTOGRAPH NOT AVAILABLE; TANK IS SIMILAR TO MC-AT-A-003]

Tank Identification No.	MC-AT-A-033
Dimensions (Feet)	L = 30, H = 8 (approximate), W = 8
Waste Present	1,795 gallons of water and 5,386 gallons of coal tar
Capacity (Gallons)	14,361
GPS Coordinates (Meters)	4762589.204 N 426072.433 E
Date Photograph Taken	Not applicable
Orientation	Not applicable

[PHOTOGRAPH NOT AVAILABLE; TANK IS SIMILAR TO MC-AT-A-014]

Tank Identification No.	MC-AT-A-034
Dimensions (Feet)	L = 30, D = 10.5
Waste Present	7,955 gallons of liquid, mostly water
Capacity (Gallons)	19,400
GPS Coordinates (Meters)	4762585.670 N 426079.774 E
Date Photograph Taken	Not applicable
Orientation	Not applicable



Tank Identification No.	MC-AT-A-035 (in back)
Dimensions (Feet)	H = 50, D = 11
Waste Present	2,132 gallons of tar
Capacity (Gallons)	35,500
GPS Coordinates (Meters)	4762694.522 N 426037.554 E
Date Photograph Taken	17 Dec 01
Orientation	North

Tank Identification No.	MC-AT-A-036 (in front)
Dimensions (Feet)	H = 50, D = 11
Waste Present	2,132 gallons of tar
Capacity (Gallons)	35,500
GPS Coordinates (Meters)	4762677.603 N 426026.581 E
Date Photograph Taken	17 Dec 01
Orientation	North

[PHOTOGRAPH NOT AVAILABLE; TANK IS MADE OF STAINLESS STEEL AND IS SEMITRAILER TYPE]

Tank Identification No.	MC-AT-A-037
Dimensions (Feet)	Unknown
Waste Present	None
Capacity (Gallons)	2,600
GPS Coordinates (Meters)	4762506.900 N 426070.454 E
Date Photograph Taken	Not applicable
Orientation	Not applicable

APPENDIX F
GLOBAL POSITIONING SYSTEM SURVEY COORDINATES
(Three Pages)

GLOBAL POSITIONING SYSTEM SURVEY COORDINATES

Point ID No.	UTM Coordinates[a]		Date Recorded
Exploratory Pits			
MC-SB-A-01	4762763.538 N	426074.265 E	14 Dec 01
MC-SB-A-02	4762718.035 N	426074.087 E	14 Dec 01
MC-SB-A-03	4762701.038 N	426089.936 E	14 Dec 01
MC-SB-A-04	4762710.591 N	426104.323 E	14 Dec 01
MC-SB-A-05	4762733.530 N	426054.591 E	14 Dec 01
MC-SB-A-12	4762396.971 N	426035.290 E	14 Dec 01
MC-SB-A-13	4762430.525 N	426067.063 E	14 Dec 01
MC-SB-A-14	4762605.770 N	426066.879 E	14 Dec 01
MC-SB-A-15	4762510.644 N	426038.114 E	14 Dec 01
MC-SB-A-16	4762456.860 N	426055.129 E	14 Dec 01
MC-SB-A-17	4762526.059 N	426064.602 E	14 Dec 01
MC-SB-A-18	4762618.383 N	426092.188 E	14 Dec 01
MC-SB-A-19	4762578.998 N	426019.243 E	14 Dec 01
MC-SB-A-20	4762729.028 N	426016.413 E	14 Dec 01
MC-SB-A-21	4762660.174 N	426035.293 E	14 Dec 01
MC-SB-A-22	4732681.597 N	426043.500 E	14 Dec 01
MC-SB-A-23	4762677.819 N	426026.980 E	14 Dec 01
MC-SB-A-24	4762579.198 N	426088.511 E	14 Dec 01
MC-SB-A-25	4762333.977 N	426075.474 E	14 Dec 01
MC-SB-B-06	4762656.014 N	426128.468 E	14 Dec 01
MC-SB-B-07[b]	4762569.845 N	426215.833 E	14 Dec 01
MC-SB-B-08[b]	4762464.063 N	426232.798 E	14 Dec 01
MC-SB-B-09	4762364.098 N	426197.259 E	14 Dec 01
MC-SB-B-10	4762341.679 N	426126.666 E	14 Dec 01
MC-SB-B-26	4762493.217 N	426258.455 E	14 Dec 01
MC-SB-B-32	4762312.751 N	426164.650 E	14 Dec 01
MC-SB-B-37	4762306.442 N	426099.957 E	14 Dec 01
MC-SB-C-27	4762077.523 N	425959.096 E	14 Dec 01
MC-SB-C-28	4762056.187 N	426001.621 E	14 Dec 01
MC-SB-C-29	4762118.469 N	425994.985 E	14 Dec 01
MC-SB-C-30	4762005.726 N	426026.729 E	14 Dec 01
MC-SB-C-31	4762295.192 N	425991.549 E	14 Dec 01
MC-SB-C-33	4762202.043 N	426131.764 E	14 Dec 01
MC-SB-C-34	4762188.898 N	426028.650 E	14 Dec 01
MC-SB-C-35	4762169.428 N	426003.367 E	14 Dec 01

GLOBAL POSITIONING SYSTEM SURVEY COORDINATES (Continued)

Point ID No.	UTM Coordinates[a]		Date Recorded
MC-SB-C-36	4762138.743 N	426073.456 E	14 Dec 01
Surface Soil Sampling Locations			
MC-SS-A-37	4762696.265 N (7.62 meters west of actual sampling location)	425976.916 E	19 Dec 01
MC-SS-A-38	4762503.535 N	425974.186 E	19 Dec 01
Aboveground Storage Tanks			
MC-AT-A-001	4762838.104 N	425998.580 E	19 Dec 01
MC-AT-A-002	4762576.108 N	425999.694 E	19 Dec 01
MC-AT-A-003	4762541.770 N	425994.788 E	19 Dec 01
MC-AT-A-004	4762536.062 N	425996.176 E	19 Dec 01
MC-AT-A-005	4762529.375 N	426002.682 E	19 Dec 01
MC-AT-A-006	4762527.935 N (6.096 meters west of AST location)	426013.805 E	19 Dec 01
MC-AT-A-007	4762453.988 N	425988.489 E	19 Dec 01
MC-AT-A-010	4762403.792 N	426004.986 E	19 Dec 01
MC-AT-A-011	4762403.792 N	426004.986 E	19 Dec 01
MC-AT-A-012	4762356.502 N	426020.058 E	19 Dec 01
MC-AT-A-013	4762446.797 N	426048.283 E	19 Dec 01
MC-AT-A-014	4762408.691 N	426062.084 E	19 Dec 01
MC-AT-A-015	4762465.986 N	426051.694 E	19 Dec 01
MC-AT-A-016	4762483.979 N	426062.533 E	19 Dec 01
MC-AT-A-017	4762478.756 N	426067.161 E	19 Dec 01
MC-AT-A-018	4762519.634 N	426056.165 E	19 Dec 01
MC-AT-A-019	4762517.630 N	426059.728 E	19 Dec 01
MC-AT-A-020	4762518.400 N	426042.812 E	19 Dec 01
MC-AT-A-021	4762528.925 N (9.144 meters west of AST location)	426012.585 E	19 Dec 01
MC-AT-A-022	4762570.712 N	426037.672 E	19 Dec 01
MC-AT-A-023	4762576.278 N	426037.506 E	19 Dec 01
MC-AT-A-024	4762647.910 N	426071.340 E	19 Dec 01
MC-AT-A-025	4762692.855 N	426035.787 E	19 Dec 01
MC-AT-A-026	4762736.780 N	426097.592 E	19 Dec 01
MC-AT-A-027	4762718.709 N	426100.823 E	19 Dec 01
MC-AT-A-028	4762692.169 N	426088.299 E	19 Dec 01
MC-AT-A-029	4762704.712 N	426103.440 E	19 Dec 01

GLOBAL POSITIONING SYSTEM SURVEY COORDINATES (Continued)

Point ID No.	UTM Coordinates[a]		Date Recorded
MC-AT-A-030	4762609.245 N (3 meters west of actual tank location)	426089.765 E	19 Dec 01
MC-AT-A-031	4762617.671 N	426082.182 E	19 Dec 01
MC-AT-A-032	4762615.493 N (9 meters east of actual tank location)	426087.432 E	19 Dec 01
MC-AT-A-033	4762589.204 N	426072.433 E	19 Dec 01
MC-AT-A-034	4762585.670 N	426079.774 E	19 Dec 01
MC-AT-A-035	4762694.522 N (12.192 meters east of AST location)	426037.554 E	19 Dec 01
MC-AT-A-036	4762677.603 N (location is on south side of AST)	426026.581 E	19 Dec 01
MC-AT-A-037	4762506.900 N	426070.454 E	19 Dec 01
Sediment Sampling Locations			
MC-SD-D-001	4762466.650 N	426264.773 E	11 Dec 01
MC-SD-D-002	4762420.585 N	426245.259 E	11 Dec 01
MC-SD-D-003	4762341.337 N	426213.162 E	11 Dec 01
MC-SD-D-004	4762525.613 N	426289.859 E	12 Dec 01
MC-SD-D-005	4762326.648 N	426202.136 E	12 Dec 01
MC-SD-D-006	4762268.301 N	426120.001 E	12 Dec 01
MC-SD-D-007	4762294.257 N	426116.206 E	12 Dec 01
MC-SD-D-008	4762282.434 N	426182.641 E	12 Dec 01
MC-SD-D-009	4762120.061 N	426134.703 E	12 Dec 01
MC-SD-D-010	4762013.228 N	426086.003 E	12 Dec 01
MC-SD-D-011	4761130.340 N	425739.523 E	12 Dec 01
MC-SD-D-012	4761775.254 N	425499.266 E	12 Dec 01
Additional Location			
MC-ATW-A-01 (open pit)	4762679.585 N	426032.851 E	19 Dec 01

Notes:

E = East
N = North
UTM = Universal Transverse Mercator

[a] UTM coordinates are presented in meters; the reference projection is North American Datum 1927 (NAD 27).

[b] Point ID No. MC-SB-B07 and MC-SB-B08 were locations where exploratory pits were attempted but not developed because of obstructions encountered.

APPENDIX G
SAMPLE ANALYTICAL RESULT SAMPLE SUMMARY TABLES
(119 Pages)


Area A


Soil

Table AS-Inorganics
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Inorganic Results for Area A

	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[a]		Superfund Chemical Data Matrix[c]	MC-SB-A-01-0708	MC-SB-A-04-0607	MC-SB-A-05-0001	MC-SB-A-12-0405	MC-SB-A-12-0405-D
Analyte	Residential	Industrial	Residential	Industrial		12/11/01	12/11/01	12/11/01	12/11/01	12/11/01
Aluminum	76,000	100,000	780,000	1,000,000	NE	4,980	2,610	3,000	6,300	4,280
Antimony	31	820	310	8,200	31	1.1 UJ	0.99 UJ	5.1 J	1.6 J	1.5 J
Arsenic	0.39	2.7	230	6,100	23	6.1	12.9	22.1	12.6	10.2
Barium	5,400	100,000	55,000	1,000,000	5,500	65.6	86.5	192	285	111
Beryllium	150	2,200	15	130	390	0.74 J	0.35 J	0.63 J	0.56 J	0.58 J
Cadmium	37	810	390	10,000	39	0.23	0.18	13.6	0.96	0.58
Calcium	NE	NE	NE	NE	NE	39,200	8,100	14,700	27,900	31,600
Chromium	30	64	3,900	100,000	390	8.1	10.9	40.3	29.6	16.6
Cobalt	4,700	100,000	47,000	1,000,000	NE	2.0	2.3	7.6	3.8	3.2
Copper	2,900	76,000	31,000	820,000	NE	174 J	55.2 J	575 J	114 J	111 J
Cyanide	11	35	NE	NE	1,600	3.0 J	10.6 J	14.7 J	13.4 J	8.8 J
Iron	2,300	100,000	230,000	1,000,000	NE	14,200	18,800	126,000	55,500	36,400
Lead	400	750	NE	NE	NE	98.6	127	2,750	1,610	1,180
Magnesium	NE	NE	NE	NE	NE	16,100	3,570	8,000	11,800	14,800
Manganese	1,800	32,000	18,000	470,000	11,000	501 J	112 J	778 J	505 J	430 J
Mercury	23	610	230	6,100	23	0.19 J	0.47 J	6.0 J	3.7 J	2.6 J
Nickel	1,600	41,000	16,000	410,000	1,600	8.6	7.6	42.5	16.2	13.1
Potassium	NE	NE	NE	NE	NE	725 J	364 J	510 J	1,100 J	763 J
Selenium	390	10,000	3,900	100,000	390	1.4 U	3.7	4.7	3.5	2.7
Silver	390	10,000	3,900	100,000	390	0.29 U	0.27 U	0.41	0.23 U	0.23 U
Sodium	NE	NE	NE	NE	NE	658 J	418 J	5,840 J	1,140 J	719 J
Thallium	5.2	130	NE	NE	NE	1.5 R	1.4 R	1.3 R	1.2 R	1.2 R
Vanadium	550	14,000	5,500	140,000	550	22.6	9.0	11.2	10.9	9.0
Zinc	23,000	100,000	230,000	1,000,000	23,000	207	70.5	4,660	545	176

Table AS-Inorganics
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Inorganic Results for Area A

	Screening Levels									
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[a]		Superfund Chemical Data Matrix[c]	MC-SB-A-13-0608	MC-SB-A-14-0405	MC-SB-A-15-0405	MC-SB-A-16-0607	MC-SB-A-17-0607
Analyte	Residential	Industrial	Residential	Industrial		12/11/01	12/12/01	12/12/01	12/11/01	12/12/01
Aluminum	76,000	100,000	780,000	1,000,000	NE	9,270	21,400	3,690	1,610	2,310
Antimony	31	820	310	8,200	31	1.2 UJ	0.96 UJ	0.91 UJ	11.9 J	8.6 J
Arsenic	0.39	2.7	230	6,100	23	5.2	3.6	13.5	14.7	22.5
Barium	5,400	100,000	55,000	1,000,000	5,500	98.9	177	66.6	28.6	327
Beryllium	150	2,200	15	130	390	0.95 J	3.5 J	0.62 J	0.75 J	0.55 J
Cadmium	37	810	390	10,000	39	0.13 U	0.10 U	0.10 U	6.0	15.8
Calcium	NE	NE	NE	NE	NE	25,100	69,700	17,500	4,700	5,400
Chromium	30	64	3,900	100,000	390	7.7	3.4	6.8	4.1	8.5
Cobalt	4,700	100,000	47,000	1,000,000	NE	3.6	1.4	2.1	1.4	10.6
Copper	2,900	76,000	31,000	820,000	NE	27.0 J	59.9 J	31.3 J	18,000 J	210 J
Cyanide	11	35	NE	NE	1,600	2.1 J	24.4 J	1.2 J	11.5 J	1.4 J
Iron	2,300	100,000	230,000	1,000,000	NE	18,200	7,730	17,100	22,100	11,100
Lead	400	750	NE	NE	NE	53.6	26.0	56.0	1,360	418
Magnesium	NE	NE	NE	NE	NE	10,900	31,000	5,180	1,410	1,330
Manganese	1,800	32,000	18,000	470,000	11,000	605 J	628 J	171 J	140 J	168 J
Mercury	23	610	230	6,100	23	0.31 J	0.090 J	8.5 J	0.36 J	0.30 J
Nickel	1,600	41,000	16,000	410,000	1,600	9.0	5.4	7.8	12.0	41.8
Potassium	NE	NE	NE	NE	NE	903 J	2,360 J	566 J	239 J	419 J
Selenium	390	10,000	3,900	100,000	390	2.5	2.7	1.3	3.5	9.8
Silver	390	10,000	3,900	100,000	390	0.33 U	0.26 U	0.25 U	6.5	0.54 U
Sodium	NE	NE	NE	NE	NE	591 J	874 J	80.9 U	6,960 J	824 J
Thallium	5.2	130	NE	NE	NE	1.7 R	1.3 R	1.3 R	1.6 R	2.8 R
Vanadium	550	14,000	5,500	140,000	550	13.7	8.2	13.8	6.0	12.1
Zinc	23,000	100,000	230,000	1,000,000	23,000	63.8	30.7	69.5	4,560	260

Table AS-Inorganics
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Inorganic Results for Area A

	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-A-21-0708	MC-SB-A-22-0607	MC-SB-A-25-0708	MC-SS-A-37-0001	MC-SS-A-38-0001
Analyte	Residential	Industrial	Residential	Industrial		12/12/01	12/12/01	12/12/01	12/18/01	12/18/01
Aluminum	76,000	100,000	780,000	1,000,000	NE	4,040	6,210	2,780	2,390	8,940
Antimony	31	820	310	8,200	31	1.7 J	4.8 J	1.3 UJ	2.2 J	1.5 J
Arsenic	0.39	2.7	230	6,100	23	11.2	10.2	9.2 J	17.8	8.9
Barium	5,400	100,000	55,000	1,000,000	5,500	54.6	105	39.2	61.1	260
Beryllium	150	2,200	15	130	390	0.39 J	0.60 J	0.38 J	0.60 J	1.5
Cadmium	37	810	390	10,000	39	1.8	0.31	0.17	1.0	2.0
Calcium	NE	NE	NE	NE	NE	32,600	76,700	5,860	3,330	44,800
Chromium	30	64	3,900	100,000	390	6.7	15.0	5.7 J	80.2	42.0
Cobalt	4,700	100,000	47,000	1,000,000	NE	2.8	7.0	1.6	3.8	3.7
Copper	2,900	76,000	31,000	820,000	NE	768 J	76.7 J	34.7	77.6	124
Cyanide	11	35	NE	NE	1,600	3.7 J	15.5 J	1.9	2.6	4.9
Iron	2,300	100,000	230,000	1,000,000	NE	11,200	34,500	10,800	35,300	32,200
Lead	400	750	NE	NE	NE	106	2,150	77.0	42.1	326
Magnesium	NE	NE	NE	NE	NE	14,300	27,200	2,890	1,040	22,800
Manganese	1,800	32,000	18,000	470,000	11,000	281 J	533 J	57.7 J	213	695
Mercury	23	610	230	6,100	23	0.20 J	0.24 J	9.5 J	0.090	0.18
Nickel	1,600	41,000	16,000	410,000	1,600	9.2	18.6	7.6	31.8	36.7
Potassium	NE	NE	NE	NE	NE	722 J	1,050 J	492 J	376 J	1,030 J
Selenium	390	10,000	3,900	100,000	390	18.4	7.4	1.8 J	3.6	2.6
Silver	390	10,000	3,900	100,000	390	0.35	0.30 U	0.34 U	0.29 U	0.29 U
Sodium	NE	NE	NE	NE	NE	1,780 J	606 J	284 J	670 J	879 J
Thallium	5.2	130	NE	NE	NE	1.3 R	1.6 R	1.8 UJ	1.5 R	1.5 R
Vanadium	550	14,000	5,500	140,000	550	7.7	29.0	7.7	10.3	9.7
Zinc	23,000	100,000	230,000	1,000,000	23,000	1,170	147	122 J	404 J	378 J

Table AS-Inorganics
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Inorganic Results for Area A

Notes:
All screening levels and sample concentrations are presented in milligrams per kilogram.

D	=	Duplicate sample
J	=	Value reported is an approximate concentration of the analyte
NE	=	Not established
R	=	Data are unusable; analyte may or may not be present
U	=	Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ	=	Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
Shading	=	Result exceeds one or more screening levels

[a] U.S. Environmental Protection Agency Region 9 Preliminary Remediation Goals for Residential and Industrial Soil (November 2000)
[b] U.S. Environmental Protection Agency Hazard Evaluation Handbook (October 1997)
[c] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Soil Pathway Reference Dose Screening Concentrations (June 1996)

Table AS-Phenols/Sulfide
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Total Phenols and Total Sulfide Results for Area A

	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-A-01-0708	MC-SB-A-04-0607	MC-SB-A-05-0001	MC-SB-A-12-0405	MC-SB-A-12-0405-D
Analyte	Residential	Industrial	Residential	Industrial		12/11/01	12/11/01	12/11/01	12/11/01	12/11/01
Total Phenols	37,000	100,000	470,000	1,000,000	47,000	2.75J	30.1J	2.60J	1.10J	1.45J
Total Sulfide	NE	NE	NE	NE	NE	15.7	42.2	4.07U	4.76	3.68U

	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-A-13-0608	MC-SB-A-14-0405	MC-SB-A-15-0405	MC-SB-A-16-0607	MC-SB-A-17-0607
Analyte	Residential	Industrial	Residential	Industrial		12/11/01	12/12/01	12/12/01	12/11/01	12/12/01
Total Phenols	37,000	100,000	470,000	1,000,000	47,000	5.94J	15.2J	3.07J	1.43J	10.2J
Total Sulfide	NE	NE	NE	NE	NE	36.5	4.23U	15.9	5.35U	162

	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-A-21-0708	MC-SB-A-22-0607	MC-SB-A-25-0708	MC-SS-A-37-0001	MC-SS-A-38-0001
Analyte	Residential	Industrial	Residential	Industrial		12/12/01	12/12/01	12/12/01	12/18/01	12/18/01
Total Phenols	37,000	100,000	470,000	1,000,000	47,000	39.4J	5.41J	8.84J	2.05	3.54
Total Sulfide	NE	NE	NE	NE	NE	36.2	56.6	5.49U	4.52U	3.78U

Notes:
All screening levels and sample concentrations are presented in milligrams per kilogram.

D = Duplicate sample
J = Value reported is an approximate concentration of the analyte
NE = Not established
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit

[a] U.S. Environmental Protection Agency Region 9 Preliminary Remediation Goals for Residential and Industrial Soil (November 2000)
[b] U.S. Environmental Protection Agency Hazard Evaluation Handbook (October 1997)
[c] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Soil Pathway Reference Dose Screening Concentrations (June 1996)

Table AS-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Volatile Organic Compound Results for Area A

Analyte	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-A-01-0708	MC-SB-A-04-0607	MC-SB-A-05-0001	MC-SB-A-12-0405	MC-SB-A-12-0405-D
	Residential	Industrial	Residential	Industrial		12/11/01	12/11/01	12/11/01	12/11/01	12/11/01
1,1,1-Trichloroethane	630,000	1,400,000	27,000,000	720,000,000	NE	13 U	1,700 U	20 U	16 U	17 U
1,1,2,2-Tetrachloroethane	380	900	320,000	2,900,000	NE	13 U	1,700 U	20 UJ	16 UJ	17 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5,600,000	5,600,000	1,000,000,000	1,000,000,000	***2,300,000,000***	13 U	1,700 U	20 U	16 U	17 U
1,1,2-Trichloroethane	840	1,900	1,100,000	10,000,000	310,000	13 U	1,700 U	20 U	16 U	17 U
1,1-Dichloroethane	590,000	2,100,000	78,000,000	1,000,000,000	7,800,000	13 U	1,700 U	20 U	16 U	17 U
1,1-Dichloroethene	54	120	110,000	950,000	700,000	13 U	1,700 U	20 U	16 U	17 U
1,2,4-Trichlorobenzene	650,000	3,000,000	7,800,000	200,000,000	780,000	13 U	1,700 U	20 UJ	16 UJ	17 U
1,2-Dibromo-3-chloropropane	450	4,000	46,000	410,000	NE	13 U	1,700 R	20 UJ	16 UJ	17 U
1,2-Dibromoethane	7	48	750	6,700	NE	13 U	1,700 U	20 UJ	16 UJ	17 U
1,2-Dichlorobenzene	370,000	370,000	70,000,000	1,000,000,000	7,000,000	13 U	1,700 U	20 UJ	16 UJ	17 U
1,2-Dichloroethane	350	760	700,000	6,300,000	NE	13 U	1,700 U	20 U	16 U	17 U
1,2-Dichloropropane	350	770	940,000	8,400,000	NE	13 U	1,700 U	20 U	16 U	17 U
1,3-Dichlorobenzene	13,000	52,000	70,000,000	1,000,000,000	NE	13 U	1,700 U	20 UJ	16 UJ	17 U
1,4-Dichlorobenzene	3,400	8,100	NE	NE	NE	13 U	1,700 U	20 UJ	16 UJ	17 U
2-Butanone	NE	NE	NE	NE	NE	12 J	1,700 U	37	8 J	7 J
2-Hexanone	NE	NE	NE	NE	NE	13 U	1,700 U	20 UJ	16 UJ	17 U
4-Methyl-2-pentanone	NE	NE	NE	NE	NE	13 U	1,700 U	20 UJ	16 UJ	17 U
Acetone	1,600,000	6,200,000	78,000,000	***2,000,000,000***	7,800,000	54 U	1,700 U	290	59 U	48 U
Benzene	650	1,500	2,200,000	20,000,000	NE	9 J	15,000	13 J	61	56
Bromodichloromethane	1,000	2,400	1,000,000	8,200,000	1,600,000	13 U	1,700 U	20 U	16 U	17 U
Bromoform	62,000	310,000	8,100,000	72,000,000	NE	13 U	1,700 U	20 U	16 U	17 U
Bromomethane	3,900	13,000	1,100,000	29,000,000	110,000	13 U	1,700 U	20 U	2 J	17 U
Carbon Disulfide	360,000	720,000	78,000,000	1,000,000,000	7,800,000	6 J	1,700 U	4 J	3 J	4 J
Carbon Tetrachloride	240	530	490,000	4,400,000	55,000	13 U	1,700 U	20 U	16 U	17 U
Chlorobenzene	150,000	540,000	16,000 000	410,000,000	1,600,000	13 U	1,700 U	20 UJ	16 UJ	17 U
Chloroethane	3,000	6,500	310,000,000	1,000,000,000	NE	13 UJ	1,700 UJ	20 UJ	16 UJ	17 UJ
Chloroform	240	520	7,800,000	94,000,000	780,000	13 U	1,700 U	20 U	16 U	17 U
Chloromethane	1,200	2,700	4,900,000	44,000,000	NE	13 U	1,700 U	20 U	16 U	17 U
cis-1,2-Dichloroethene	43,000	150,000	7,800,000	200,000,000	780,000	13 U	1,700 U	20 U	16 U	17 U
cis-1,3-Dichloropropene	700	1,600	230,000	3,300,000	NE	13 U	1,700 U	20 U	16 U	17 U
Cyclohexane	140,000	140,000	NE	NE	NE	4 J	1,700 U	5 J	3 J	4 J
Dibromochloromethane	1,100	2,700	NE	NE	1,600,000	13 U	1,700 U	20 U	16 U	17 U
Dichlorodifluoromethane	94,000	310,000	160,000,000	1,000,000,000	16,000,000	13 U	1,700 U	20 U	16 U	17 U
Ethylbenzene	230,000	230,000	78,000,000	1,000,000,000	7,800,000	9 J	43,000	20 UJ	16 UJ	17 U
Isopropylbenzene	NE	NE	NE	NE	NE	10 J	1,400 J	20 UJ	16 UJ	17 U
Methyl tert-Butyl Ether	17,000	NE	3,900,000	100,000,000	NE	13 U	1,700 U	20 U	16 U	17 U
Methyl Acetate	22,000,000	96,000,000	780,000,000	1,000,000,000	NE	13 U	1,700 U	20 U	16 U	17 U
Methylcyclohexane	2,600,000	8,800,000	NE	NE	NE	8 J	1,700 U	5 J	3 J	7 J
Methylene Chloride	8,900	21,000	8,500,000	76,000,000	4,700,000	13 U	1,700 U	20 U	16 U	17 U
Styrene	1,700,000	1,700,000	160,000,000	1,000,000,000	16,000,000	13 U	1,700 U	20 UJ	16 UJ	17 U
Tetrachloroethene	NE	19,000	1,200,000	11,000,000	780,000	13 U	1,700 U	2 J	16 UJ	17 U
Toluene	520,000	520,000	160,000,000	1,000,000,000	16,000,000	4 J	8,700	9 J	13 J	11 J
trans-1,2-Dichloroethene	63,000	210,000	16,000,000	410,000,000	1,600,000	13 U	1,700 U	20 U	16 U	17 U
trans-1,3-Dichloropropene	NE	1,600	NE	3,300,000	NE	13 U	1,700 U	20 U	16 U	17 U

Table AS-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Volatile Organic Compound Results for Area A

Analyte	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-A-01-0708	MC-SB-A-04-0607	MC-SB-A-05-0001	MC-SB-A-12-0405	MC-SB-A-12-0405-D
	Residential	Industrial	Residential	Industrial		12/11/01	12/11/01	12/11/01	12/11/01	12/11/01
Trichloroethene	2,800	6,100	4,700,000	52,000,000	NE	13 U	1,700 U	20 U	16 U	17 U
Trichlorofluoromethane	390,000	2,000,000	230,000,000	1,000,000,000	23,000,000	13 U	1,700 U	20 U	16 U	17 U
Vinyl Chloride	150	830	NE	NE	NE	13 U	1,700 U	20 U	16 U	17 U
Xylenes (total)	210,000	210,000	1,000,000,000	1,000,000,000	160,000,000	20	140,000	20 UJ	3 J	12 J

Table AS-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Volatile Organic Compound Results for Area A

	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-A-13-0608	MC-SB-A-14-0405	MC-SB-A-15-0405	MC-SB-A-16-0607	MC-SB-A-17-0607
Analyte	Residential	Industrial	Residential	Industrial		12/11/01	12/12/01	12/12/01	12/11/01	12/12/01
1,1,1-Trichloroethane	630,000	1,400,000	27,000,000	720,000,000	NE	17 U	18 U	19 U	20 U	2,600 UJ
1,1,2,2-Tetrachloroethane	380	900	320,000	2,900,000	NE	17 U	18 U	19 U	20 U	2,600 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	5,600,000	5,600,000	1,000,000,000	1,000,000,000	***2,300,000,000***	17 U	18 U	19 U	20 U	2,600 UJ
1,1,2-Trichloroethane	840	1,900	1,100,000	10,000,000	310,000	17 U	18 U	19 U	20 U	2,600 UJ
1,1-Dichloroethane	590,000	2,100,000	78,000,000	1,000,000,000	7,800,000	17 U	18 U	19 U	20 U	2,600 UJ
1,1-Dichloroethene	54	120	110,000	950,000	700,000	17 U	18 U	19 U	20 U	2,600 UJ
1,2,4-Trichlorobenzene	650,000	3,000,000	7,800,000	200,000,000	780,000	17 U	18 U	19 U	20 U	2,600 UJ
1,2-Dibromo-3-chloropropane	450	4,000	46,000	410,000	NE	17 U	18 U	19 U	20 U	2,600 R
1,2-Dibromoethane	7	48	750	6,700	NE	17 U	18 U	19 U	20 U	2,600 UJ
1,2-Dichlorobenzene	370,000	370,000	70,000,000	1,000,000,000	7,000,000	17 U	18 U	19 U	20 U	2,600 UJ
1,2-Dichloroethane	350	760	700,000	6,300,000	NE	17 U	18 U	19 U	20 U	2,600 UJ
1,2-Dichloropropane	350	770	940,000	8,400,000	NE	17 U	18 U	19 U	20 U	2,600 UJ
1,3-Dichlorobenzene	13,000	52,000	70,000,000	1,000,000,000	NE	17 U	18 U	19 U	20 U	2,600 UJ
1,4-Dichlorobenzene	3,400	8,100	NE	NE	NE	17 U	18 U	19 U	20 U	2,600 UJ
2-Butanone	NE	NE	NE	NE	NE	12 J	24	11 J	20 U	2,600 UJ
2-Hexanone	NE	NE	NE	NE	NE	17 U	18 U	19 U	20 U	2,600 UJ
4-Methyl-2-pentanone	NE	NE	NE	NE	NE	17 U	18 U	19 U	20 U	2,600 UJ
Acetone	1,600,000	6,200,000	78,000,000	***2,000,000,000***	7,800,000	63 U	100 U	76 U	43 U	2,600 UJ
Benzene	650	1,500	2,200,000	20,000,000	NE	140	180 J	93	300	16,000 J
Bromodichloromethane	1,000	2,400	1,000,000	8,200,000	1,600,000	17 U	18 U	19 U	20 U	2,600 UJ
Bromoform	62,000	310,000	8,100,000	72,000,000	NE	17 U	18 U	19 U	20 U	2,600 UJ
Bromomethane	3,900	13,000	1,100,000	29,000,000	110,000	17 U	18 UJ	19 UJ	20 U	2,600 UJ
Carbon Disulfide	360,000	720,000	78,000,000	1,000,000,000	7,800,000	10 J	19	3 J	7 J	2,600 UJ
Carbon Tetrachloride	240	530	490,000	4,400,000	55,000	17 U	18 U	19 U	20 U	2,600 UJ
Chlorobenzene	150,000	540,000	16,000 000	410,000,000	1,600,000	17 U	18 U	19 U	20 U	2,600 UJ
Chloroethane	3,000	6,500	310,000,000	1,000,000,000	NE	17 UJ	18 UJ	19 UJ	20 UJ	2,600 R
Chloroform	240	520	7,800,000	94,000,000	780,000	17 U	18 U	19 U	20 U	2,600 UJ
Chloromethane	1,200	2,700	4,900,000	44,000,000	NE	17 U	18 U	19 U	20 U	2,600 UJ
cis-1,2-Dichloroethene	43,000	150,000	7,800,000	200,000,000	780,000	17 U	18 U	19 U	20 U	2,600 UJ
cis-1,3-Dichloropropene	700	1,600	230,000	3,300,000	NE	17 U	18 U	19 U	20 U	2,600 UJ
Cyclohexane	140,000	140,000	NE	NE	NE	7 J	18 U	3 J	5 J	400 J
Dibromochloromethane	1,100	2,700	NE	NE	1,600,000	17 U	18 U	19 U	20 U	2,600 UJ
Dichlorodifluoromethane	94,000	310,000	160,000,000	1,000,000,000	16,000,000	17 U	18 U	19 U	20 U	2,600 UJ
Ethylbenzene	230,000	230,000	78,000,000	1,000,000,000	7,800,000	49	2,200	15 J	20 U	60,000 J
Isopropylbenzene	NE	NE	NE	NE	NE	53	310	13 J	20 U	24,000 J
Methyl tert-Butyl Ether	17,000	NE	3,900,000	100,000,000	NE	17 U	18 U	19 U	20 U	2,600 UJ
Methyl Acetate	22,000,000	96,000,000	780,000,000	1,000,000,000	NE	17 U	18 U	19 U	20 U	2,600 UJ
Methylcyclohexane	2,600,000	8,800,000	NE	NE	NE	14 J	7 J	5 J	2 J	2400 J
Methylene Chloride	8,900	21,000	8,500,000	76,000,000	4,700,000	17 U	18 U	19 U	20 U	2,600 UJ
Styrene	1,700,000	1,700,000	160,000,000	1,000,000,000	16,000,000	17 U	18 U	19 U	20 U	2,600 UJ
Tetrachloroethene	NE	19,000	1,200,000	11,000,000	780,000	17 U	18 U	19 U	20 U	2,600 UJ
Toluene	520,000	520,000	160,000,000	1,000,000,000	16,000,000	4 J	79 J	25	6 J	5,200 J
trans-1,2-Dichloroethene	63,000	210,000	16,000,000	410,000,000	1,600,000	17 U	18 U	19 U	20 U	2,600 UJ
trans-1,3-Dichloropropene	NE	1,600	NE	3,300,000	NE	17 U	18 U	19 U	20 U	2,600 UJ

Table AS-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Volatile Organic Compound Results for Area A

	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-A-13-0608	MC-SB-A-14-0405	MC-SB-A-15-0405	MC-SB-A-16-0607	MC-SB-A-17-0607
Analyte	Residential	Industrial	Residential	Industrial		12/11/01	12/12/01	12/12/01	12/11/01	12/12/01
Trichloroethene	2,800	6,100	4,700,000	52,000,000	NE	17 U	18 U	19 U	20 U	2,600 UJ
Trichlorofluoromethane	390,000	2,000,000	230,000,000	1,000,000,000	23,000,000	17 U	18 U	19 U	20 U	2,600 UJ
Vinyl Chloride	150	830	NE	NE	NE	17 U	18 U	19 U	20 U	2,600 UJ
Xylenes (total)	210,000	210,000	1,000,000,000	1,000,000,000	160,000,000	17	520	41	20 U	30,000 J

Table AS-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Volatile Organic Compound Results for Area A

Analyte	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-A-21-0708	MC-SB-A-22-0607	MC-SB-A-25-0708	MC-SS-A-37-0001	MC-SS-A-38-0001
	Residential	Industrial	Residential	Industrial		12/12/01	12/12/01	12/12/01	12/18/01	12/18/01
1,1,1-Trichloroethane	630,000	1,400,000	27,000,000	720,000,000	NE	11 U	1,700 U	16 U	21 UJ	14 UJ
1,1,2,2-Tetrachloroethane	380	900	320,000	2,900,000	NE	11 U	1,700 U	16 U	21 UJ	14 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	5,600,000	5,600,000	1,000,000,000	1,000,000,000	***2,300,000,000***	11 U	1,700 U	16 U	21 UJ	14 UJ
1,1,2-Trichloroethane	840	1,900	1,100,000	10,000,000	310,000	11 U	1,700 U	29 J	21 UJ	14 UJ
1,1-Dichloroethane	590,000	2,100,000	78,000,000	1,000,000,000	7,800,000	11 U	1,700 U	16 U	21 UJ	14 UJ
1,1-Dichloroethene	54	120	110,000	950,000	700,000	11 U	1,700 U	16 U	21 UJ	14 UJ
1,2,4-Trichlorobenzene	650,000	3,000,000	7,800,000	200,000,000	780,000	11 U	1,700 U	16 U	21 UJ	14 UJ
1,2-Dibromo-3-chloropropane	450	4,000	46,000	410,000	NE	11 U	1,700 R	16 U	21 UJ	14 UJ
1,2-Dibromoethane	7	48	750	6,700	NE	11 U	1,700 U	16 U	21 UJ	14 UJ
1,2-Dichlorobenzene	370,000	370,000	70,000,000	1,000,000,000	7,000,000	11 U	1,700 U	16 U	21 UJ	14 UJ
1,2-Dichloroethane	350	760	700,000	6,300,000	NE	11 U	1,700 U	1 J	21 UJ	14 UJ
1,2-Dichloropropane	350	770	940,000	8,400,000	NE	11 U	1,700 U	16 U	21 UJ	14 UJ
1,3-Dichlorobenzene	13,000	52,000	70,000,000	1,000,000,000	NE	11 U	1,700 U	16 U	21 UJ	14 UJ
1,4-Dichlorobenzene	3,400	8,100	NE	NE	NE	11 U	1,700 U	16 U	21 UJ	14 UJ
2-Butanone	NE	NE	NE	NE	NE	18	1,700 U	19 J	21 UJ	14 UJ
2-Hexanone	NE	NE	NE	NE	NE	11 U	1,700 U	16 U	21 UJ	14 UJ
4-Methyl-2-pentanone	NE	NE	NE	NE	NE	11 U	1,700 U	2 J	21 UJ	14 UJ
Acetone	1,600,000	6,200,000	78,000,000	***2,000,000,000***	7,800,000	69 U	1,700 U	3,100 J	27 J	18 J
Benzene	650	1,500	2,200,000	20,000,000	NE	1,400	1,000 J	35 J	5 J	14 UJ
Bromodichloromethane	1,000	2,400	1,000,000	8,200,000	1,600,000	11 U	1,700 U	16 U	21 UJ	14 UJ
Bromoform	62,000	310,000	8,100,000	72,000,000	NE	11 U	1,700 U	16 U	21 UJ	14 UJ
Bromomethane	3,900	13,000	1,100,000	29,000,000	110,000	11 UJ	1,700 U	16 U	21 UJ	14 UJ
Carbon Disulfide	360,000	720,000	78,000,000	1,000,000,000	7,800,000	54	1,700 U	5 J	21 UJ	2 J
Carbon Tetrachloride	240	530	490,000	4,400,000	55,000	11 U	1,700 U	16 U	21 UJ	14 UJ
Chlorobenzene	150,000	540,000	16,000 000	410,000,000	1,600,000	2 J	1,700 U	16 U	21 UJ	14 UJ
Chloroethane	3,000	6,500	310,000,000	1,000,000,000	NE	11 UJ	1,700 R	16 U	21 UJ	14 UJ
Chloroform	240	520	7,800,000	94,000,000	780,000	11 U	1,700 U	16 U	21 UJ	14 UJ
Chloromethane	1,200	2,700	4,900,000	44,000,000	NE	11 U	1,700 U	16 U	21 UJ	14 UJ
cis-1,2-Dichloroethene	43,000	150,000	7,800,000	200,000,000	780,000	11 U	1,700 U	16 U	21 UJ	14 UJ
cis-1,3-Dichloropropene	700	1,600	230,000	3,300,000	NE	11 U	1,700 U	16 U	21 UJ	14 UJ
Cyclohexane	140,000	140,000	NE	NE	NE	7 J	1,700 U	4 J	21 UJ	14 UJ
Dibromochloromethane	1,100	2,700	NE	NE	1,600,000	11 U	1,700 U	16 U	21 UJ	14 UJ
Dichlorodifluoromethane	94,000	310,000	160,000,000	1,000,000,000	16,000,000	11 U	1,700 U	16 U	21 UJ	14 UJ
Ethylbenzene	230,000	230,000	78,000,000	1,000,000,000	7,800,000	660	310 J	4 J	21 UJ	14 UJ
Isopropylbenzene	NE	NE	NE	NE	NE	28	720 J	28 J	21 UJ	14 UJ
Methyl tert-Butyl Ether	17,000	NE	3,900,000	100,000,000	NE	11 U	1,700 U	16 U	21 UJ	14 UJ
Methyl Acetate	22,000,000	96,000,000	780,000,000	1,000,000,000	NE	11 U	930 J	16 U	21 UJ	14 UJ
Methylcyclohexane	2,600,000	8,800,000	NE	NE	NE	17	1,700 U	4 J	3 J	2 J
Methylene Chloride	8,900	21,000	8,500,000	76,000,000	4,700,000	11 U	1,700 U	270 J	21 UJ	14 UJ
Styrene	1,700,000	1,700,000	160,000,000	1,000,000,000	16,000,000	850	1,700 U	16 U	21 UJ	14 UJ
Tetrachloroethene	NE	19,000	1,200,000	11,000,000	780,000	11 U	1,700 U	16 U	21 UJ	14 UJ
Toluene	520,000	520,000	160,000,000	1,000,000,000	16,000,000	2,000	190 J	460 J	3 J	14 UJ
trans-1,2-Dichloroethene	63,000	210,000	16,000,000	410,000,000	1,600,000	11 U	1,700 U	16 U	21 UJ	14 UJ
trans-1,3-Dichloropropene	NE	1,600	NE	3,300,000	NE	11 U	1,700 U	16 U	21 UJ	14 UJ

Table AS-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Volatile Organic Compound Results for Area A

	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data	MC-SB-A-21-0708	MC-SB-A-22-0607	MC-SB-A-25-0708	MC-SS-A-37-0001	MC-SS-A-38-0001
Analyte	Residential	Industrial	Residential	Industrial	Matrix[c]	12/12/01	12/12/01	12/12/01	12/18/01	12/18/01
Trichloroethene	2,800	6,100	4,700,000	52,000,000	NE	11 U	1,700 U	16 U	21 UJ	14 UJ
Trichlorofluoromethane	390,000	2,000,000	230,000,000	1,000,000,000	23,000,000	11 U	1,700 U	16 U	21 UJ	14 UJ
Vinyl Chloride	150	830	NE	NE	NE	11 U	1,700 U	16 U	21 UJ	14 UJ
Xylenes (total)	210,000	210,000	1,000,000,000	1,000,000,000	160,000,000	6,300	5,700	13 J	21 UJ	14 UJ

Table AS-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Volatile Organic Compound Results for Area A

Notes:
All screening levels and sample concentrations are presented in micrograms per kilogram.

D = Duplicate sample
J = Value reported is an approximate concentration of the analyte
NE = Not established
R = Data are unusable; analyte may or may not be present
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
Shading = Result exceeds one or more screening levels
Italics = Value in ***Italics*** is greater than the concentration of pure material itself (100 percent). According to Reference "b", "When the numerical values were generated from the model, no attempt was made to stop a calculation greater than the total concentration. This means, for example, that if a compound has a worker soil ingestion value over 1 million mg/kg (1 million parts per million), then from an emergency perspective the compound does not pose a toxic threat to workers via soil ingestion. Values over the total concentration are useful in comparing the relative toxicity of several compounds, so they were kept in place."

[a] U.S. Environmental Protection Agency Region 9 Preliminary Remediation Goals for Residential and Industrial Soil (November 2000)
[b] U.S. Environmental Protection Agency Hazard Evaluation Handbook (October 1997)
[c] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Soil Pathway Reference Dose Screening Concentrations (June 1996)

Table AS-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Semivolatile Organic Compound Results for Area A

Analyte	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-A-01-0708	MC-SB-A-04-0607	MC-SB-A-05-0001	MC-SB-A-12-0405	MC-SB-A-12-0405-D
	Residential	Industrial	Residential	Industrial		12/11/01	12/11/01	12/11/01	12/11/01	12/11/01
1,1'-Biphenyl	350,000	350,000	39,000,000	1,000,000,000	3,900,000	180 J	1,400,000 U	2,200 U	1,900 U	3,800 U
2,2'-oxybis(1-Chloropropane)	NE	NE	NE	NE	NE	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
2,4,5-Trichlorophenol	6,100,000	88,000,000	78,000,000	1,000,000,000	7,800,000	1,100 UJ	3,500,000 U	5,500 U	4,800 U	9,700 U
2,4,6-Trichlorophenol	44,000	220,000	5,800,000	52,000,000	NE	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
2,4-Dichlorophenol	1,800,000	2,600,000	2,300,000	61,000,000	230,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 UJ
2,4-Dimethylphenol	1,200,000	18,000,000	16,000,000	410,000,000	1,600,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
2,4-Dinitrophenol	120,000	1,800,000	1,600,000	41,000,000	160,000	1,100 UJ	3,500,000 U	5,500 U	4,800 U	9,700 UJ
2,4-Dinitrotoluene	120,000	1,800,000	1,600,000	41,000,000	160,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
2,6-Dinitrotoluene	61,000	880,000	780,000	20,000,000	78,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
2-Chloronaphthalene	NE	NE	NE	NE	6,300,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
2-Chlorophenol	63,000	240,000	3,900,000	100,000,000	390,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
2-Methylnaphthalene	NE	NE	NE	NE	NE	830 J	390,000 J	1,600 J	1,300 J	3,800 U
2-Methylphenol	3,100,000	44,000,000	39,000,000	1,000,000,000	NE	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
2-Nitroaniline	3,500	50,000	47,000	1,200,000	NE	1,100 UJ	3,500,000 U	5,500 U	4,800 U	9,700 U
2-Nitrophenol	490,000	NE	NE	NE	NE	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
3,3'-Dichlorobenzidine	1,100	5,500	6,900	1,300,000	NE	430 UJ	1,400,000 UJ	2,200 UJ	1,900 UJ	3,800 UJ
3-Nitroaniline	NE	NE	2,300,000	61,000,000	NE	1,100 UJ	3,500,000 U	5,500 U	4,800 U	9,700 U
4,6-Dinitro-2-methylphenol	120,000	NE	NE	NE	NE	1,100 UJ	3,500,000 U	5,500 U	4,800 U	9,700 U
4-Bromophenyl-phenylether	NE	NE	45,000,000	1,000,000,000	NE	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
4-Chloro-3-methylphenol	NE	NE	NE	NE	160,000,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
4-Chloroaniline	240,000	3,500,000	3,100,000	82,000,000	310,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
4-Chlorophenyl-phenylether	NE	NE	NE	NE	NE	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
4-Methylphenol	310,000	4,400,000	3,900,000	100,000,000	NE	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
4-Nitroaniline	NE	NE	2,300,000	61,000,000	NE	1,100 UJ	3,500,000 U	5,500 U	4,800 U	9,700 U
4-Nitrophenol	NE	7,000,000	48,000,000	1,000,000,000	NE	1,100 UJ	3,500,000 U	5,500 U	4,800 U	9,700 U
Acenaphthene	3,700,000	38,000,000	47,000,000	1,000,000,000	4,700,000	1,200 J	610,000 J	2,200 U	1,900 U	3,800 U
Acenaphthylene	NE	NE	NE	NE	NE	430 UJ	1,400,000 U	520 J	400 J	3,800 U
Acetophenone	490	1,600	78,000,000	1,000,000,000	7,800,000	430 UJ	1,400,000 U	2,200 U	390 J	3,800 U
Anthracene	22,000,000	100,000,000	230,000,000	1,000,000,000	23,000,000	1,400 J	570,000 J	1,100 J	710 J	3,800 U
Atrazine	2,200	11,000	NE	2,600,000	2,700,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
Benzaldehyde	6,100,000	880,000,000	78,000,000	1,000,000,000	NE	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
Benzo(a)anthracene	620	2,900	88,000	780,000	NE	2,300 J	**640,000 J**	4,000	3,200	3,200 J
Benzo(a)pyrene	62	290	8,800	78,000	NE	1,900 J	**470,000 J**	4,000	3,100	3,800
Benzo(b)fluoranthene	620	2,900	88,000	780,000	NE	1,300 J	**330,000 J**	5,100	3,700	3,400 J
Benzo(g,h,i)perylene	NE	NE	NE	NE	NE	1,300 J	1,400,000 U	3,800	3,500	3,300 J
Benzo(k)fluoranthene	6,200	29,000	870,000	7,800,000	NE	1,400 J	410,000 J	3,400	2,700	2,700 J
bis(2-Chloroethoxy)methane	NE	NE	NE	NE	NE	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
bis-(2-Chloroethyl)ether	210	620	58,000	520,000	NE	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
bis(2-Ethylhexyl)phthalate	35,000	180,000	4,600,000	41,000,000	1,600,000	390 J	1,400,000 U	650 J	1,900 U	3,800 UJ
Butylbenzylphthalate	12,000,000	100,000,000	160,000,000	1,000,000,000	16,000,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
Caprolactam	31,000,000	100,000,000	390,000,000	1,000,000,000	NE	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
Carbazole	24,000	120,000	3,200,000	29,000,000	NE	400 J	1,400,000 U	550 J	1,900 U	3,800 U
Chrysene	62,000	290,000	8,700,000	78,000,000	NE	2,100 J	600,000 J	5,400	4,300	3,900
Dibenzo(a,h)anthracene	62	290	8,800	78,000	NE	500 J	1,400,000 U	1,600 J	1,900 U	920 J

Table AS-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Semivolatile Organic Compound Results for Area A

Analyte	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-A-01-0708	MC-SB-A-04-0607	MC-SB-A-05-0001	MC-SB-A-12-0405	MC-SB-A-12-0405-D
	Residential	Industrial	Residential	Industrial		12/11/01	12/11/01	12/11/01	12/11/01	12/11/01
Dibenzofuran	290,000	5,100,000	3,100,000	82,000,000	NE	700 J	490,000 J	1,100 J	660 J	3,800 U
Diethylphthalate	49,000,000	100,000,000	630,000,000	1,000,000,000	63,000,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
Dimethylphthalate	100,000,000	100,000,000	1,000,000,000	1,000,000,000	NE	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
Di-n-butylphthalate	NE	NE	NE	NE	7,800,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
Di-n-octylphthalate	1,200,000	10,000,000	16,000,000	410,000,000	1,600,000	430 UJ	1,400,000 UJ	2,200 UJ	1,900 UJ	3,800 UJ
Fluoranthene	56,000	30,000,000	31,000,000	820,000,000	3,100,000	3,100 J	1,600,000	6,400	4,700	4,800
Fluorene	2,600,000	33,000,000	31,000,000	820,000,000	3,100,000	1,100 J	760,000 J	470 J	1,900 U	3,800 U
Hexachlorobenzene	300	1,500	40,000	360,000	63,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
Hexachlorobutadiene	6,200	32,000	820,000	7,300,000	16,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
Hexachlorocyclopentadiene	420,000	5,900,000	5,500,000	140,000,000	550,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
Hexachloroethane	35,000	180,000	4,600,000	410,000,000	78,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
Indeno(1,2,3-cd)pyrene	620	2,900	88,000	780,000	NE	1,100 J	1,400,000 U	3,500	3,100	2,700 J
Isophorone	510,000	2,600,000	67,000,000	600,000,000	160,000,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
Naphthalene	56,000	190,000	31,000,000	820,000,000	31,000,000	3,000 J	3,300,000	3,400	3,200	2,200 J
Nitrobenzene	20,000	110,000	NE	NE	39,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
N-Nitroso-di-n-propylamine	69	350	9,100	82,000	NE	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
N-Nitrosodiphenylamine	99,000	500,000	13,000,000	120,000,000	NE	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
Pentachlorophenol	3,000	11,000	NE	1,000,000	2,300,000	1,100 UJ	3,500,000 U	5,500 U	4,800 U	9,700 U
Phenanthrene	NE	NE	NE	NE	NE	4,000 J	2,300,000	5,700	4,900	4,300
Phenol	37,000,000	100,000,000	470,000,000	1,000,000,000	47,000,000	430 UJ	1,400,000 U	2,200 U	1,900 U	3,800 U
Pyrene	2,300,000	54,000,000	23,000,000	610,000,000	2,300,000	4,000 J	1,400,000	6,300	4,700	4,400
1,2,3-Trimethyl-4-propenyl naphthalene	NE	NE	NE	NE	NE	ND[d]	ND[d]	ND[d]	1,800 NJ	1,100

Table AS-SVOCs
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Analyte	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-A-13-0608	MC-SB-A-14-0405	MC-SB-A-15-0405	MC-SB-A-16-0607	MC-SB-A-17-0607
	Residential	Industrial	Residential	Industrial		12/11/01	12/12/01	12/12/01	12/11/01	12/12/01
1,1'-Biphenyl	350,000	350,000	39,000,000	1,000,000,000	3,900,000	15,000 U	8,100 J	4,200 U	510 UJ	41,000
2,2'-oxybis(1-Chloropropane)	NE	NE	NE	NE	NE	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
2,4,5-Trichlorophenol	6,100,000	88,000,000	78,000,000	1,000,000,000	7,800,000	37,000 U	31,000 U	11,000 U	1,300 UJ	48,000 U
2,4,6-Trichlorophenol	44,000	220,000	5,800,000	52,000,000	NE	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
2,4-Dichlorophenol	1,800,000	2,600,000	2,300,000	61,000,000	230,000	15,000 U	13,000 U	4,200 UJ	510 UJ	19,000 U
2,4-Dimethylphenol	1,200,000	18,000,000	16,000,000	410,000,000	1,600,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
2,4-Dinitrophenol	120,000	1,800,000	1,600,000	41,000,000	160,000	37,000 U	31,000 U	11,000 UJ	1,300 UJ	48,000 U
2,4-Dinitrotoluene	120,000	1,800,000	1,600,000	41,000,000	160,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
2,6-Dinitrotoluene	61,000	880,000	780,000	20,000,000	78,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
2-Chloronaphthalene	NE	NE	NE	NE	6,300,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
2-Chlorophenol	63,000	240,000	3,900,000	100,000,000	390,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
2-Methylnaphthalene	NE	NE	NE	NE	NE	3,600 J	61,000	4,700	210 J	380,000
2-Methylphenol	3,100,000	44,000,000	39,000,000	1,000,000,000	NE	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
2-Nitroaniline	3,500	50,000	47,000	1,200,000	NE	37,000 U	31,000 U	11,000 U	1,300 UJ	48,000 U
2-Nitrophenol	490,000	NE	NE	NE	NE	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
3,3'-Dichlorobenzidine	1,100	5,500	6,900	1,300,000	NE	15,000 UJ	13,000 UJ	4,200 UJ	510 UJ	19,000 UJ
3-Nitroaniline	NE	NE	2,300,000	61,000,000	NE	37,000 U	31,000 U	11,000 U	1,300 UJ	48,000 U
4,6-Dinitro-2-methylphenol	120,000	NE	NE	NE	NE	37,000 U	31,000 U	11,000 U	1,300 UJ	48,000 U
4-Bromophenyl-phenylether	NE	NE	45,000,000	1,000,000,000	NE	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
4-Chloro-3-methylphenol	NE	NE	NE	NE	160,000,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
4-Chloroaniline	240,000	3,500,000	3,100,000	82,000,000	310,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
4-Chlorophenyl-phenylether	NE	NE	NE	NE	NE	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
4-Methylphenol	310,000	4,400,000	3,900,000	100,000,000	NE	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
4-Nitroaniline	NE	NE	2,300,000	61,000,000	NE	37,000 U	31,000 U	11,000 U	1,300 UJ	48,000 U
4-Nitrophenol	NE	7,000,000	48,000,000	1,000,000,000	NE	37,000 U	31,000 U	11,000 U	1,300 UJ	48,000 U
Acenaphthene	3,700,000	38,000,000	47,000,000	1,000,000,000	4,700,000	3,900 J	9,300 J	4,200 U	510 UJ	57,000
Acenaphthylene	NE	NE	NE	NE	NE	15,000 U	4,800 J	1,900 J	510 UJ	4,600 J
Acetophenone	490	1,600	78,000,000	1,000,000,000	7,800,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
Anthracene	22,000,000	100,000,000	230,000,000	1,000,000,000	23,000,000	15,000 U	5,500 J	1,900 J	360 J	19,000 U
Atrazine	2,200	11,000	NE	2,600,000	2,700,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
Benzaldehyde	6,100,000	880,000,000	78,000,000	1,000,000,000	NE	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
Benzo(a)anthracene	620	2,900	88,000	780,000	NE	15,000 U	3,300 J	19,000	1,200 J	19,000 U
Benzo(a)pyrene	62	290	8,800	78,000	NE	15,000 U	13,000 U	21,000	1,200 J	19,000 U
Benzo(b)fluoranthene	620	2,900	88,000	780,000	NE	15,000 U	13,000 U	18,000	820 J	19,000 U
Benzo(g,h,i)perylene	NE	NE	NE	NE	NE	15,000 U	13,000 U	13,000	1,300 J	19,000 U
Benzo(k)fluoranthene	6,200	29,000	870,000	7,800,000	NE	15,000 U	13,000 U	17,000	780 J	19,000 U
bis(2-Chloroethoxy)methane	NE	NE	NE	NE	NE	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
bis-(2-Chloroethyl)ether	210	620	58,000	520,000	NE	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
bis(2-Ethylhexyl)phthalate	35,000	180,000	4,600,000	41,000,000	1,600,000	15,000 U	13,000 U	4,200 UJ	510 UJ	19,000 U
Butylbenzylphthalate	12,000,000	100,000,000	160,000,000	1,000,000,000	16,000,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
Caprolactam	31,000,000	100,000,000	390,000,000	1,000,000,000	NE	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
Carbazole	24,000	120,000	3,200,000	29,000,000	NE	15,000 U	13,000 U	4,200 U	510 UJ	7,800 J
Chrysene	62,000	290,000	8,700,000	78,000,000	NE	15,000 U	3,700 J	20,000	1,300 J	19,000 U
Dibenzo(a,h)anthracene	62	290	8,800	78,000	NE	15,000 U	13,000 U	6,700	480 J	19,000 U

Table AS-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Semivolatile Organic Compound Results for Area A

Analyte	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-A-13-0608	MC-SB-A-14-0405	MC-SB-A-15-0405	MC-SB-A-16-0607	MC-SB-A-17-0607
	Residential	Industrial	Residential	Industrial		12/11/01	12/12/01	12/12/01	12/11/01	12/12/01
Dibenzofuran	290,000	5,100,000	3,100,000	82,000,000	NE	15,000 U	11,000 J	900 J	150 J	27,000
Diethylphthalate	49,000,000	100,000,000	630,000,000	1,000,000,000	63,000,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
Dimethylphthalate	100,000,000	100,000,000	1,000,000,000	1,000,000,000	NE	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
Di-n-butylphthalate	NE	NE	NE	NE	7,800,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
Di-n-octylphthalate	1,200,000	10,000,000	16,000,000	410,000,000	1,600,000	15,000 UJ	13,000 UJ	4,200 UJ	510 UJ	19,000 UJ
Fluoranthene	56,000	30,000,000	31,000,000	820,000,000	3,100,000	15,000 U	12,000 J	23,000	1,200 J	7,600 J
Fluorene	2,600,000	33,000,000	31,000,000	820,000,000	3,100,000	15,000 U	13,000	4,200 U	140 J	31,000
Hexachlorobenzene	300	1,500	40,000	360,000	63,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
Hexachlorobutadiene	6,200	32,000	820,000	7,300,000	16,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
Hexachlorocyclopentadiene	420,000	5,900,000	5,500,000	140,000,000	550,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
Hexachloroethane	35,000	180,000	4,600,000	410,000,000	78,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
Indeno(1,2,3-cd)pyrene	620	2,900	88,000	780,000	NE	15,000 U	13,000 U	17,000	900 J	19,000 U
Isophorone	510,000	2,600,000	67,000,000	600,000,000	160,000,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
Naphthalene	56,000	190,000	31,000,000	820,000,000	31,000,000	87,000	180,000	17,000	400 J	1,000,000
Nitrobenzene	20,000	110,000	NE	NE	39,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
N-Nitroso-di-n-propylamine	69	350	9,100	82,000	NE	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
N-Nitrosodiphenylamine	99,000	500,000	13,000,000	120,000,000	NE	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
Pentachlorophenol	3,000	11,000	NE	1,000,000	2,300,000	37,000 U	31,000 U	11,000 U	1,300 UJ	48,000 U
Phenanthrene	NE	NE	NE	NE	NE	15,000 U	28,000	4,800	1,600 J	64,000
Phenol	37,000,000	100,000,000	470,000,000	1,000,000,000	47,000,000	15,000 U	13,000 U	4,200 U	510 UJ	19,000 U
Pyrene	2,300,000	54,000,000	23,000,000	610,000,000	2,300,000	15,000 U	9,000 J	22,000	2,100 J	11,000 J
1,2,3-Trimethyl-4-propenyl naphthalene	NE	NE	NE	NE	NE	ND[d]	ND[d]	ND[d]	ND[d]	ND[d]

Table AS-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Semivolatile Organic Compound Results for Area A

Analyte	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-A-21-0708	MC-SB-A-22-0607	MC-SB-A-25-0708	MC-SS-A-37-0001	MC-SS-A-38-0001
	Residential	Industrial	Residential	Industrial		12/12/01	12/12/01	12/12/01	12/18/01	12/18/01
1,1'-Biphenyl	350,000	350,000	39,000,000	1,000,000,000	3,900,000	30,000 J	52,000	73,000 U	150 J	120 J
2,2'-oxybis(1-Chloropropane)	NE	NE	NE	NE	NE	110,000 U	14,000 U	73,000 U	940 U	390 U
2,4,5-Trichlorophenol	6,100,000	88,000,000	78,000,000	1,000,000,000	7,800,000	280,000 U	36,000 U	180,000 U	2,400 U	980 U
2,4,6-Trichlorophenol	44,000	220,000	5,800,000	52,000,000	NE	110,000 U	14,000 U	73,000 U	940 U	390 U
2,4-Dichlorophenol	1,800,000	2,600,000	2,300,000	61,000,000	230,000	110,000 U	14,000 U	73,000 U	940 U	390 U
2,4-Dimethylphenol	1,200,000	18,000,000	16,000,000	410,000,000	1,600,000	110,000 U	14,000 U	73,000 U	940 U	390 U
2,4-Dinitrophenol	120,000	1,800,000	1,600,000	41,000,000	160,000	280,000 U	36,000 U	180,000 U	2,400 U	980 U
2,4-Dinitrotoluene	120,000	1,800,000	1,600,000	41,000,000	160,000	110,000 U	14,000 U	73,000 U	940 U	390 U
2,6-Dinitrotoluene	61,000	880,000	780,000	20,000,000	78,000	110,000 U	14,000 U	73,000 U	940 U	390 U
2-Chloronaphthalene	NE	NE	NE	NE	6,300,000	110,000 U	14,000 U	73,000 U	940 U	390 U
2-Chlorophenol	63,000	240,000	3,900,000	100,000,000	390,000	110,000 U	14,000 U	73,000 U	940 U	390 U
2-Methylnaphthalene	NE	NE	NE	NE	NE	150,000	46,000	73,000 U	670 J	790
2-Methylphenol	3,100,000	44,000,000	39,000,000	1,000,000,000	NE	110,000 U	14,000 U	73,000 U	940 U	55 J
2-Nitroaniline	3,500	50,000	47,000	1,200,000	NE	280,000 U	36,000 U	180,000 U	2,400 U	980 U
2-Nitrophenol	490,000	NE	NE	NE	NE	110,000 U	14,000 U	73,000 U	940 U	390 U
3,3'-Dichlorobenzidine	1,100	5,500	6,900	1,300,000	NE	110,000 UJ	14,000 UJ	73,000 UJ	940 U	390 U
3-Nitroaniline	NE	NE	2,300,000	61,000,000	NE	280,000 U	36,000 U	180,000 U	2,400 U	980 U
4,6-Dinitro-2-methylphenol	120,000	NE	NE	NE	NE	280,000 U	36,000 U	180,000 U	2,400 U	980 U
4-Bromophenyl-phenylether	NE	NE	45,000,000	1,000,000,000	NE	110,000 U	14,000 U	73,000 U	940 U	390 U
4-Chloro-3-methylphenol	NE	NE	NE	NE	160,000,000	110,000 U	14,000 U	73,000 U	940 U	390 U
4-Chloroaniline	240,000	3,500,000	3,100,000	82,000,000	310,000	110,000 U	14,000 U	73,000 U	940 U	390 U
4-Chlorophenyl-phenylether	NE	NE	NE	NE	NE	110,000 U	14,000 U	73,000 U	940 U	390 U
4-Methylphenol	310,000	4,400,000	3,900,000	100,000,000	NE	110,000 U	14,000 U	73,000 U	940 U	100 J
4-Nitroaniline	NE	NE	2,300,000	61,000,000	NE	280,000 U	36,000 U	180,000 U	2,400 U	980 U
4-Nitrophenol	NE	7,000,000	48,000,000	1,000,000,000	NE	280,000 U	36,000 U	180,000 U	2,400 U	980 U
Acenaphthene	3,700,000	38,000,000	47,000,000	1,000,000,000	4,700,000	110,000 U	120,000	73,000 U	430 J	70 J
Acenaphthylene	NE	NE	NE	NE	NE	120,000	70,000	73,000 U	250 J	390 U
Acetophenone	490	1,600	78,000,000	1,000,000,000	7,800,000	110,000 U	14,000 U	73,000 U	100 J	390 U
Anthracene	22,000,000	100,000,000	230,000,000	1,000,000,000	23,000,000	140,000	150,000	18,000 J	1,100	270 J
Atrazine	2,200	11,000	NE	2,600,000	2,700,000	110,000 U	14,000 U	73,000 U	940 U	390 U
Benzaldehyde	6,100,000	880,000,000	78,000,000	1,000,000,000	NE	110,000 U	14,000 U	73,000 U	940 UJ	390 UJ
Benzo(a)anthracene	620	2,900	88,000	780,000	NE	**120,000**	**190,000**	**110,000**	5,600	750
Benzo(a)pyrene	62	290	8,800	78,000	NE	**86,000 J**	**100,000**	**68,000 J**	5,400 J	650
Benzo(b)fluoranthene	620	2,900	88,000	780,000	NE	60,000 J	68,000	**88,000**	11,000 J	1,200
Benzo(g,h,i)perylene	NE	NE	NE	NE	NE	45,000 J	48,000	73,000 U	590 J	46 J
Benzo(k)fluoranthene	6,200	29,000	870,000	7,800,000	NE	75,000 J	80,000	62,000 J	12,000 J	650
bis(2-Chloroethoxy)methane	NE	NE	NE	NE	NE	110,000 U	14,000 U	73,000 U	940 U	390 U
bis-(2-Chloroethyl)ether	210	620	58,000	520,000	NE	110,000 U	14,000 U	73,000 U	940 U	390 U
bis(2-Ethylhexyl)phthalate	35,000	180,000	4,600,000	41,000,000	1,600,000	110,000 U	14,000 U	73,000 U	940 U	110 J
Butylbenzylphthalate	12,000,000	100,000,000	160,000,000	1,000,000,000	16,000,000	110,000 U	14,000 U	73,000 U	940 U	390 U
Caprolactam	31,000,000	100,000,000	390,000,000	1,000,000,000	NE	110,000 U	14,000 U	73,000 U	940 U	390 U
Carbazole	24,000	120,000	3,200,000	29,000,000	NE	100,000 J	36,000	73,000 U	1,000	110 J
Chrysene	62,000	290,000	8,700,000	78,000,000	NE	120,000	140,000	110,000	8,800	1,000
Dibenzo(a,h)anthracene	62	290	8,800	78,000	NE	110,000 U	**26,000**	**20,000 J**	150 J	390 U

Table AS-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Semivolatile Organic Compound Results for Area A

Analyte	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-A-21-0708	MC-SB-A-22-0607	MC-SB-A-25-0708	MC-SS-A-37-0001	MC-SS-A-38-0001
	Residential	Industrial	Residential	Industrial		12/12/01	12/12/01	12/12/01	12/18/01	12/18/01
Dibenzofuran	290,000	5,100,000	3,100,000	82,000,000	NE	110,000	150,000	73,000 U	460 J	430
Diethylphthalate	49,000,000	100,000,000	630,000,000	1,000,000,000	63,000,000	110,000 U	14,000 U	73,000 U	940 U	390 U
Dimethylphthalate	100,000,000	100,000,000	1,000,000,000	1,000,000,000	NE	110,000 U	14,000 U	73,000 U	940 U	390 U
Di-n-butylphthalate	NE	NE	NE	NE	7,800,000	110,000 U	14,000 U	73,000 U	940 U	390 U
Di-n-octylphthalate	1,200,000	10,000,000	16,000,000	410,000,000	1,600,000	110,000 UJ	14,000 UJ	73,000 UJ	940 UJ	390 U
Fluoranthene	56,000	30,000,000	31,000,000	820,000,000	3,100,000	320,000	290,000	180,000	7,000 J	1,200
Fluorene	2,600,000	33,000,000	31,000,000	820,000,000	3,100,000	160,000	210,000	73,000 U	510 J	390 U
Hexachlorobenzene	300	1,500	40,000	360,000	63,000	110,000 U	14,000 U	73,000 U	940 U	390 U
Hexachlorobutadiene	6,200	32,000	820,000	7,300,000	16,000	110,000 U	14,000 U	73,000 U	940 U	390 U
Hexachlorocyclopentadiene	420,000	5,900,000	5,500,000	140,000,000	550,000	110,000 U	14,000 U	73,000 U	940 U	390 U
Hexachloroethane	35,000	180,000	4,600,000	410,000,000	78,000	110,000 U	14,000 U	73,000 U	940 U	390 U
Indeno(1,2,3-cd)pyrene	620	2,900	88,000	780,000	NE	42,000 J	52,000	46,000	1,900 J	220 J
Isophorone	510,000	2,600,000	67,000,000	600,000,000	160,000,000	110,000 U	14,000 U	73,000 U	940 U	390 U
Naphthalene	56,000	190,000	31,000,000	820,000,000	31,000,000	740,000	250,000	82,000	1,200	660
Nitrobenzene	20,000	110,000	NE	NE	39,000	110,000 U	14,000 U	73,000 U	940 U	390 U
N-Nitroso-di-n-propylamine	69	350	9,100	82,000	NE	110,000 U	14,000 U	73,000 U	940 U	390 U
N-Nitrosodiphenylamine	99,000	500,000	13,000,000	120,000,000	NE	110,000 U	14,000 U	73,000 U	940 U	390 U
Pentachlorophenol	3,000	11,000	NE	1,000,000	2,300,000	280,000 U	36,000 U	180,000 U	2,400 U	980 U
Phenanthrene	NE	NE	NE	NE	NE	490,000	600,000	73,000 U	4,800	1,800
Phenol	37,000,000	100,000,000	470,000,000	1,000,000,000	47,000,000	110,000 U	14,000 U	73,000 U	940 U	390 U
Pyrene	2,300,000	54,000,000	23,000,000	610,000,000	2,300,000	250,000	260,000	150,000	7,000	1,100
1,2,3-Trimethyl-4-propenyl naphthalene	NE	NE	NE	NE	NE	ND[d]	ND[d]	ND[d]	ND[d]	ND[d]

Table AS-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Semivolatile Organic Compound Results for Area A

Notes:
All screening levels and sample concentrations are presented in micrograms per kilogram.

D = Duplicate sample
J = Value reported is an approximate concentration of the analyte
ND = Not detected
NE = Not established
NJ = The analysis indicates the presence of analyte for which there is presumptive evidence to make a tentative identification and the associated numerical value represents its approximate concentration
R = Data are unusable; analyte may or may not be present
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
Shading = Result exceeds one or more screening levels
Bold = Result exceeds one or more Emergency Removal Guidelines

a U.S. Environmental Protection Agency Region 9 Preliminary Remediation Goals for Residential and Industrial Soil (November 2000)
b U.S. Environmental Protection Agency Hazard Evaluation Handbook (October 1997)
c U.S. Environmental Protection Agency Superfund Chemical Data Matrix Soil Pathway Reference Dose Screening Concentrations (June 1996)
d The laboratory was unable to find a standard solution of 1,2,3-trimethyl-4-propenyl naphthalene, a tentatively identified compound (TIC). The laboratory increased the library search from 30 to 50 compounds to find the reference compound. However, this TIC was not found in the sample.

Table AS-Pesticides/PCBs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Pesticide and Polychlorinated Biphenyl Results for Area A

Analyte	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-A-01-0708	MC-SB-A-04-0607	MC-SB-A-05-0001	MC-SB-A-12-0405	MC-SB-A-12-0405-D
	Residential	Industrial	Residential	Industrial		12/11/01	12/11/01	12/11/01	12/11/01	12/11/01
4,4'-DDD	2,400	17,000	2,400,000	2,400,000	230,000	43 U	46 U	44 U	38 U	38 U
4,4'-DDE	1,700	12,000	1,700,000	1,700,000	NE	43 U	46 U	44 U	38 U	38 U
4,4'-DDT	1,700	12,000	1,700,000	1,700,000	NE	43 U	46 U	59 J	38 U	22 J
Aldrin	29	150	34,000	34,000	2,300	22 U	24 U	23 U	20 U	20 U
alpha-BHC	NE	590	91,000	91,000	NE	22 U	24 U	23 U	20 U	20 U
alpha-Chlordane	NE	11,000	440,000	NE	4,700	22 U	24 U	23 U	20 U	20 U
Aroclor 1016	3,900	29,000	1,400,000	1,400,000	1,600	430 U	460 U	440 U	380 U	380 U
Aroclor 1221	220	1,000	286,000	286,000	1,600	880 U	940 U	890 U	780 U	780 U
Aroclor 1232	220	1,000	286,000	286,000	1,600	430 U	460 U	440 U	380 U	380 U
Aroclor 1242	220	1,000	286000	286,000	1,600	430 U	460 U	440 U	380 U	380 U
Aroclor 1248	220	1,000	286,000	286,000	1,600	430 U	460 U	440 U	380 U	380 U
Aroclor 1254	220	1,000	410,000	410,000	1,600	430 U	460 U	440 U	380 U	380 U
Aroclor 1260	220	1,000	286,000	286,000	1,600	430 U	460 U	440 U	380 U	380 U
beta-BHC	NE	2,100	320,000	320,000	NE	22 U	24 U	23 U	20 U	20 U
delta-BHC	NE	NE	NE	NE	NE	22 U	24 U	23 U	20 U	20 U
Dieldrin	30	150	36,000	36,000	3,900	43 U	46 U	44 U	38 U	38 U
Endosulfan I	370,000	5,300,000	120,000,000	120,000,000	4,700,000	22 U	24 U	23 U	20 U	20 U
Endosulfan II	NE	NE	NE	NE	4,700,000	43 U	46 U	44 U	38 U	38 U
Endosulfan Sulfate	NE	NE	NE	NE	NE	43 U	46 U	44 U	38 U	38 U
Endrin	18,000	260,000	6,100,000	6,100,000	23,000	43 U	46 U	44 U	38 U	38 U
Endrin Ketone	NE	NE	NE	NE	NE	43 U	46 U	44 U	38 U	38 U
Endrin Aldehyde	NE	NE	NE	NE	NE	43 U	46 U	44 U	38 U	38 U
gamma-BHC (Lindane)	NE	2,900	49,000	440,000	2,300	22 U	24 U	23 U	20 U	20 U
gamma-Chlordane	1,600	11,000	440,000	NE	4,700	22 U	24 U	23 U	20 U	20 U
Heptachlor	110	550	130,000	130,000	39,000	22 U	24 U	23 U	28	20 U
Heptachlor Epoxide	53	270	7,000	63,000	1,000	22 U	24 U	23 U	59 J	4.5 U
Methoxychlor	31,000	4,400,000	NE	100,000,000	390,000	220 U	240 U	230 U	200 U	200 U
Toxaphene	440	2,200	520,000	520,000	NE	2,200 U	2,400 U	2,300 U	2,000 U	2,000 U

Table AS-Pesticides/PCBs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Pesticide and Polychlorinated Biphenyl Results for Area A

Analyte	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[a]		Superfund Chemical Data Matrix[c]	MC-SB-A-13-0608	MC-SB-A-14-0405	MC-SB-A-15-0405	MC-SB-A-16-0607	MC-SB-A-17-0607
	Residential	Industrial	Residential	Industrial		12/11/01	12/12/01	12/12/01	12/11/01	12/12/01
4,4'-DDD	2,400	17,000	2,400,000	2,400,000	230,000	49 U	41 U	42 U	51 U	70 U
4,4'-DDE	1,700	12,000	1,700,000	1,700,000	NE	49 U	41 U	42 U	51 U	70 U
4,4'-DDT	1,700	12,000	1,700,000	1,700,000	NE	49 U	41 R	42 U	51 U	70 U
Aldrin	29	150	34,000	34,000	2,300	25 U	21 UJ	22 U	26 U	36 U
alpha-BHC	NE	590	91,000	91,000	NE	25 U	21 U	22 U	26 U	36 U
alpha-Chlordane	NE	11,000	440,000	NE	4,700	25 U	21 U	22 U	26 U	36 U
Aroclor 1016	3,900	29,000	1,400,000	1,400,000	1,600	490 U	410 U	420 U	510 U	700 U
Aroclor 1221	220	1,000	286,000	286,000	1,600	1,000 U	830 U	860 U	1,000 U	1,400 U
Aroclor 1232	220	1,000	286,000	286,000	1,600	490 U	410 U	420 U	510 U	700 U
Aroclor 1242	220	1,000	286000	286,000	1,600	490 U	410 U	420 U	510 U	700 U
Aroclor 1248	220	1,000	286,000	286,000	1,600	490 U	410 U	420 U	510 U	700 U
Aroclor 1254	220	1,000	410,000	410,000	1,600	490 U	410 U	420 U	510 U	700 U
Aroclor 1260	220	1,000	286,000	286,000	1,600	490 U	410 U	420 U	510 U	700 U
beta-BHC	NE	2,100	320,000	320,000	NE	25 U	21 U	22 U	26 U	36 U
delta-BHC	NE	NE	NE	NE	NE	25 U	21 U	22 U	26 U	36 U
Dieldrin	30	150	36,000	36,000	3,900	49 U	41 R	42 U	51 U	70 U
Endosulfan I	370,000	5,300,000	120,000,000	120,000,000	4,700,000	25 U	21 U	22 U	26 U	36 U
Endosulfan II	NE	NE	NE	NE	4,700,000	49 U	41 U	42 U	51 U	70 U
Endosulfan Sulfate	NE	NE	NE	NE	NE	49 U	41 U	42 U	51 U	70 U
Endrin	18,000	260,000	6,100,000	6,100,000	23,000	49 U	41 R	42 U	51 U	70 U
Endrin Ketone	NE	NE	NE	NE	NE	49 U	41 U	42 U	14 J	70 U
Endrin Aldehyde	NE	NE	NE	NE	NE	49 U	41 U	42 U	51 U	70 U
gamma-BHC (Lindane)	NE	2,900	49,000	440,000	2,300	25 U	21 UJ	22 U	26 U	36 U
gamma-Chlordane	1,600	11,000	440,000	NE	4,700	25 U	21 U	22 U	26 U	36 U
Heptachlor	110	550	130,000	130,000	39,000	25 U	21 R	22 U	26 U	36 U
Heptachlor Epoxide	53	270	7,000	63,000	1,000	25 U	21 U	22 U	26 U	36 U
Methoxychlor	31,000	4,400,000	NE	100,000,000	390,000	250 U	210 U	220 U	260 U	360 U
Toxaphene	440	2,200	520,000	520,000	NE	2,500 U	2,100 U	2,200 U	2,600 U	3,600 U

Table AS-Pesticides/PCBs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Pesticide and Polychlorinated Biphenyl Results for Area A

Analyte	Screening Levels					Sample Code and Sampling Date				
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[a]		Superfund Chemical Data Matrix[c]	MC-SB-A-21-0708	MC-SB-A-22-0607	MC-SB-A-25-0708	MC-SS-A-37-0001	MC-SS-A-38-0001
	Residential	Industrial	Residential	Industrial		12/12/01	12/12/01	12/12/01	12/18/01	12/18/01
4,4'-DDD	2,400	17,000	2,400,000	2,400,000	230,000	41 U	48 U	53 U	12 J	56 J
4,4'-DDE	1,700	12,000	1,700,000	1,700,000	NE	41 U	48 U	53 U	5.2 J	10 J
4,4'-DDT	1,700	12,000	1,700,000	1,700,000	NE	22 J	48 U	53 U	20 J	45 J
Aldrin	29	150	34,000	34,000	2,300	21 U	25 U	27 U	2.4 U	2.0 U
alpha-BHC	NE	590	91,000	91,000	NE	21 U	25 U	27 U	2.4 U	1.6 J
alpha-Chlordane	NE	11,000	440,000	NE	4,700	21 U	25 U	27 U	4.8 J	9.0 J
Aroclor 1016	3,900	29,000	1,400,000	1,400,000	1,600	410 U	480 U	530 U	47 U	39 U
Aroclor 1221	220	1,000	286,000	286,000	1,600	840 U	970 U	1,100 U	96 U	79 U
Aroclor 1232	220	1,000	286,000	286,000	1,600	410 U	480 U	530 U	47 U	39 U
Aroclor 1242	220	1,000	286000	286,000	1,600	410 U	480 U	530 U	47 U	39 U
Aroclor 1248	220	1,000	286,000	286,000	1,600	410 U	480 U	530 U	47 U	39 U
Aroclor 1254	220	1,000	410,000	410,000	1,600	410 U	480 U	530 U	47 U	39 U
Aroclor 1260	220	1,000	286,000	286,000	1,600	410 U	480 U	530 U	47 U	39 U
beta-BHC	NE	2,100	320,000	320,000	NE	21 U	25 U	27 U	4.2 J	4.3 J
delta-BHC	NE	NE	NE	NE	NE	21 U	25 U	27 U	1.6 J	2.0 U
Dieldrin	30	150	36,000	36,000	3,900	41 U	48 U	53 U	5.3 J	17 J
Endosulfan I	370,000	5,300,000	120,000,000	120,000,000	4,700,000	21 U	25 U	27 U	4.0 J	15 J
Endosulfan II	NE	NE	NE	NE	4,700,000	41 U	48 U	53 U	4.8 J	22 J
Endosulfan Sulfate	NE	NE	NE	NE	NE	59	48 U	53 U	26 J	20 J
Endrin	18,000	260,000	6,100,000	6,100,000	23,000	41 U	48 U	53 U	8.6 J	18 J
Endrin Ketone	NE	NE	NE	NE	NE	41 U	48 U	53 U	22 J	50 J
Endrin Aldehyde	NE	NE	NE	NE	NE	41 U	48 U	53 U	18 J	30 J
gamma-BHC (Lindane)	NE	2,900	49,000	440,000	2,300	21 U	25 U	27 U	2.4 U	2.0 J
gamma-Chlordane	1,600	11,000	440,000	NE	4,700	33 J	63	27 U	2.3 J	15 J
Heptachlor	110	550	130,000	130,000	39,000	21 U	25 U	27 U	2.4 U	1.2 J
Heptachlor Epoxide	53	270	7,000	63,000	1,000	21 U	25 U	27 U	2.7 U	6.1 J
Methoxychlor	31,000	4,400,000	NE	100,000,000	390,000	210 U	250 U	270 U	300 J	30 J
Toxaphene	440	2,200	520,000	520,000	NE	2,100 U	2,500 U	2,700 U	240 U	200 U

Table AS-Pesticides/PCBs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Pesticide and Polychlorinated Biphenyl Results for Area A

Notes:
All screening levels and sample concentrations are presented in micrograms per kilogram.
D = Duplicate sample
J = Value reported is an approximate concentration of the analyte
NE = Not established
R = Data are unusable; analyte may or may not be present
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
Shading = Result exceeds one or more screening levels
[a] U.S. Environmental Protection Agency Region 9 Preliminary Remediation Goals for Residential and Industrial Soil (November 2000)
[b] U.S. Environmental Protection Agency Hazard Evaluation Handbook (October 1997)
[c] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Soil Pathway Reference Dose Screening Concentrations (June 1996)

Oil

Table AO-PCBs
Milwaukee Solvay Coke and Gas Site
Summary of Oil Sample Polychlorinated Biphenyl Results for Area A

	Screening Level	Sample Code and Sampling Date	
		MC-OIL-01	MC-PCB-02
	TSCA Guideline*	12/14/01	12/18/01
Aroclor 1016	50	3.5 U	3.5 U
Aroclor 1221	50	3.5 U	3.5 U
Aroclor 1232	50	3.5 U	3.5 U
Aroclor 1242	50	3.5 U	3.5 U
Aroclor 1248	50	3.5 U	3.5 U
Aroclor 1254	50	3.5 U	3.5 U
Aroclor 1260	50	3.5 U	3.5 U

Notes:
All screening levels and sample concentrations are presented in milligrams per kilogram.
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
* 40 *Code of Federal Regulations* Part 761, Section G


Groundwater

Table AGW-Phenols/Sulfide
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Total Phenols and Total Sulfide Results for Area A

Analyte	Screening Level[a]	Sample Code and Sampling Date
		MC-GW-A-24-04
		12/13/01
Total Phenols	NE	0.0770
Total Sulfide	NE	0.320U

Notes:
All sample concentrations are presented in milligrams per liter.
NE = Not established
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit

[a] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)

Table AGW-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Volatile Organic Compound Results for Area A

Analyte	Screening Level[a]	Sample Code and Sampling Date		
		MC-GW-A-02-0005	MC-GW-A-20-09	MC-GW-A-24-04
		12/11/01	12/12/01	12/13/01
1,1,1-Trichloroethane	200	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	NE	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	NE	10 U	10 U	10 U
1,1,2-Trichloroethane	3	10 U	10 U	10 U
1,1-Dichloroethane	NE	10 U	10 U	10 U
1,1-Dichloroethene	7	10 U	10 U	10 U
1,2,4-Trichlorobenzene	70	10 U	10 U	10 U
1,2-Dibromo-3-chloropropane	0.2	10 R	10 R	10 R
1,2-Dibromoethane	0.05	10 U	10 U	10 U
1,2-Dichlorobenzene	600	10 U	10 U	10 U
1,2-Dichloroethane	5	10 U	10 U	10 U
1,2-Dichloropropane	5	10 U	10 U	10 U
1,3-Dichlorobenzene	600	10 U	10 U	10 U
1,4-Dichlorobenzene	75	10 U	10 U	10 U
2-Butanone	NE	10 U	10 U	10 U
2-Hexanone	NE	10 U	10 U	10 U
4-Methyl-2-pentanone	NE	10 U	10 U	10 U
Acetone	NE	3 J	3 J	10 U
Benzene	5	100	10 U	10 U
Bromodichloromethane	100	10 U	10 U	10 U
Bromoform	NE	10 U	10 U	10 U
Bromomethane	NE	10 U	10 U	10 U
Carbon Disulfide	NE	10 U	10 U	10 U
Carbon Tetrachloride	5	10 U	10 U	10 U
Chlorobenzene	100	10 U	10 U	10 U
Chloroethane	NE	10 R	10 R	10 R
Chloroform	100	10 U	10 U	10 U
Chloromethane	NE	10 U	10 U	10 U
cis-1,2-Dichloroethene	70	10 U	10 U	10 U
cis-1,3-Dichloropropene	NE	10 U	10 U	10 U
Cyclohexane	NE	10 U	10 U	10 U
Dibromochloromethane	60	10 U	10 U	10 U
Dichlorodifluoromethane	NE	10 U	10 U	10 U
Ethylbenzene	700	14	10 U	10 U
Isopropylbenzene	NE	10 U	10 U	10 U
Methyl tert-Butyl Ether	NE	10 U	10 U	10 U
Methyl Acetate	NE	10 U	10 U	10 U
Methylcyclohexane	NE	10 U	10 U	10 U
Methylene Chloride	5	10 U	10 U	10 U
Styrene	100	10 U	10 U	10 U
Tetrachloroethene	5	10 U	10 U	10 U
Toluene	1,000	18	10 U	10 U
trans-1,2-Dichloroethene	100	10 U	10 U	10 U
trans-1,3-Dichloropropene	NE	10 U	10 U	10 U
Trichloroethene	5	10 U	10 U	10 U

Table AGW-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Volatile Organic Compound Results for Area A

Analyte	Screening Level[a]	Sample Code and Sampling Date		
		MC-GW-A-02-0005	MC-GW-A-20-09	MC-GW-A-24-04
		12/11/01	12/12/01	12/13/01
Trichlorofluoromethane	NE	10 U	10 U	10 U
Vinyl Chloride	2	10 U	10 U	10 U
Xylenes (total)	1,000	38	10 U	10 U

Notes:
All screening levels and sample concentrations are presented in micrograms per liter.
J = Value reported is an approximate concentration of the analyte
NE = Not established
R = Data are unusable; analyte may or may not be present
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
Shading = Result exceeds one or more screening levels
[a] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)

Table AGW-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Semivolatile Organic Compound Results for Area A

Analyte	Screening Level[a]	Sample Code and Sampling Date		
		MC-GW-A-02-0005	MC-GW-A-20-09	MC-GW-A-24-04
		12/11/01	12/12/01	12/13/01
1,1'-Biphenyl	NE	10 R	20 UJ	10 UJ
2,2'-oxybis(1-Chloropropane)	NE	10 R	20 UJ	10 UJ
2,4,5-Trichlorophenol	NE	25 R	50 U	25 U
2,4,6-Trichlorophenol	NE	10 R	20 U	10 U
2,4-Dichlorophenol	NE	10 R	20 UJ	10 U
2,4-Dimethylphenol	NE	37 J	20 U	10 U
2,4-Dinitrophenol	NE	25 R	50 UJ	25 U
2,4-Dinitrotoluene	NE	10 R	20 UJ	10 UJ
2,6-Dinitrotoluene	NE	10 R	20 UJ	10 UJ
2-Chloronaphthalene	NE	10 R	20 UJ	10 UJ
2-Chlorophenol	NE	10 R	20 U	10 U
2-Methylnaphthalene	NE	10 R	20 UJ	3 J
2-Methylphenol	NE	10 R	20 U	10 U
2-Nitroaniline	NE	25 R	50 UJ	25 UJ
2-Nitrophenol	NE	10 R	20 U	10 U
3,3'-Dichlorobenzidine	NE	10 R	20 UJ	10 UJ
3-Nitroaniline	NE	25 R	50 UJ	25 UJ
4,6-Dinitro-2-methylphenol	NE	25 R	50 U	25 U
4-Bromophenyl-phenylether	NE	10 R	20 UJ	10 UJ
4-Chloro-3-methylphenol	NE	10 R	20 U	10 U
4-Chloroaniline	NE	10 R	20 UJ	10 UJ
4-Chlorophenyl-phenylether	NE	10 R	20 UJ	10 UJ
4-Methylphenol	NE	10 R	20 U	10 U
4-Nitroaniline	NE	25 R	50 UJ	25 UJ
4-Nitrophenol	NE	25 R	50 U	25 U
Acenaphthene	NE	10 R	20 UJ	10 UJ
Acenaphthylene	NE	10 R	20 UJ	10 UJ
Acetophenone	NE	10 R	20 UJ	10 UJ
Anthracene	NE	10 R	20 UJ	10 UJ
Atrazine	3	10 R	20 UJ	10 UJ
Benzaldehyde	NE	10 R	20 UJ	10 UJ
Benzo(a)anthracene	NE	10 R	20 UJ	10 UJ
Benzo(a)pyrene	0.2	10 R	5 J	10 UJ
Benzo(b)fluoranthene	NE	10 R	5 J	10 UJ
Benzo(g,h,i)perylene	NE	10 R	5 J	10 UJ
Benzo(k)fluoranthene	NE	10 R	4 J	10 UJ
bis(2-Chloroethoxy)methane	NE	10 R	20 UJ	10 UJ
bis-(2-Chloroethyl)ether	NE	10 R	20 UJ	10 UJ
Bis(2-Ethylhexyl)phthalate	6	10 R	20 UJ	77 J
Butylbenzylphthalate	NE	10 R	20 UJ	10 UJ
Caprolactam	NE	10 R	20 UJ	10 UJ
Carbazole	NE	10 R	20 UJ	10 UJ
Chrysene	NE	10 R	20 UJ	2 J
Dibenzo(a,h)anthracene	NE	10 R	20 UJ	10 UJ
Dibenzofuran	NE	10 R	20 UJ	10 UJ

Table AGW-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Semivolatile Organic Compound Results for Area A

Analyte	Screening Level[a]	Sample Code and Sampling Date		
		MC-GW-A-02-0005	MC-GW-A-20-09	MC-GW-A-24-04
		12/11/01	12/12/01	12/13/01
Diethylphthalate	NE	10 R	20 UJ	10 UJ
Dimethylphthalate	NE	10 R	20 UJ	10 UJ
Di-n-butylphthalate	NE	10 R	20 UJ	10 UJ
Di-n-octylphthalate	NE	10 R	20 UJ	10 UJ
Fluoranthene	NE	10 R	20 UJ	4 J
Fluorene	NE	10 R	20 UJ	10 UJ
Hexachlorobenzene	1	10 R	20 UJ	10 UJ
Hexachlorobutadiene	NE	10 R	20 UJ	10 UJ
Hexachlorocyclopentadiene	50	10 R	20 UJ	10 UJ
Hexachloroethane	NE	10 R	20 UJ	10 UJ
Indeno(1,2,3-cd)pyrene	NE	10 R	4 J	10 UJ
Isophorone	NE	10 R	20 UJ	10 UJ
Naphthalene	NE	10 R	20 UJ	16 J
Nitrobenzene	NE	10 R	20 UJ	10 UJ
N-Nitroso-di-n-propylamine	NE	10 R	20 UJ	10 UJ
N-Nitrosodiphenylamine	NE	10 R	20 UJ	10 UJ
Pentachlorophenol	1	25 R	50 UJ	25 U
Phenanthrene	NE	10 R	20 UJ	4 J
Phenol	NE	5 J	20 U	10 U
Pyrene	NE	10 R	20 UJ	3 J
1,2,3-Trimethyl-4-propenyl naphthalene[b]	NE	ND	ND	ND

Notes:
All screening levels and sample concentrations are presented in micrograms per liter.
J = Value reported is an approximate concentration of the analyte
ND = Not detected
NE = Not established
R = Data are unusable; analyte may or may not be present
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
Shading = Result exceeds one or more screening levels

[a] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)

[b] The laboratory was unable to find a standard solution of 1,2,3-trimethyl-4-propenyl naphthalene, a tentatively identified compound (TIC). The laboratory increased the library search from 30 to 50 compounds to find the reference compound. However, this TIC was not found in the sample.

Table AGW-Pesticides/PCBs
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Pesticide and Polychlorinated Biphenyl Results for Area A

Analyte	Screening Level[a]	Sample Code and Sampling Date		
		MC-GW-A-02-0005	MC-GW-A-20-09	MC-GW-A-24-04
		12/11/01	12/12/01	12/13/01
4,4'-DDD	NE	0.10 UJ	0.10 R	0.10 UJ
4,4'-DDE	NE	0.10 UJ	0.10 R	0.10 UJ
4,4'-DDT	NE	0.10 UJ	0.10 R	0.10 UJ
Aldrin	NE	0.050 UJ	0.051 R	0.050 UJ
alpha-BHC	NE	0.050 UJ	0.051 R	0.050 UJ
alpha-Chlordane	NE	0.050 UJ	0.051 R	0.050 UJ
Aroclor 1016	0.5	1.0 UJ	1.0 R	1.0 U
Aroclor 1221	0.5	2.0 UJ	2.0 R	2.0 U
Aroclor 1232	0.5	1.0 UJ	1.0 R	1.0 U
Aroclor 1242	0.5	1.0 UJ	1.0 R	1.0 U
Aroclor 1248	0.5	1.0 UJ	1.0 R	1.0 U
Aroclor 1254	0.5	1.0 UJ	1.0 R	1.0 U
Aroclor 1260	0.5	1.0 UJ	1.0 R	1.0 U
beta-BHC	NE	0.050 UJ	0.051 R	0.050 UJ
delta-BHC	NE	0.050 UJ	0.051 R	0.050 UJ
Dieldrin	NE	0.10 UJ	0.10 R	0.10 UJ
Endosulfan I	NE	0.050 UJ	0.051 R	0.050 UJ
Endosulfan II	NE	0.10 UJ	0.10 R	0.10 UJ
Endosulfan Sulfate	NE	0.10 UJ	0.10 R	0.10 UJ
Endrin	2	0.10 UJ	0.10 R	0.10 UJ
Endrin Ketone	NE	0.10 UJ	0.10 R	0.10 UJ
Endrin Aldehyde	NE	0.10 UJ	0.10 R	0.10 UJ
gamma-BHC (Lindane)	0.2	0.050 UJ	0.051 R	0.050 UJ
gamma-Chlordane	NE	0.050 UJ	0.051 R	0.050 UJ
Heptachlor	0.4	0.050 UJ	0.051 R	0.050 UJ
Heptachlor Epoxide	0.2	0.050 UJ	0.051 R	0.050 UJ
Methoxychlor	40	0.50 UJ	0.51 R	0.50 UJ
Toxaphene	3	5.0 UJ	5.1 R	5.1 U

Notes:
All screening levels and sample concentrations are presented in micrograms per liter.
NE = Not established
R = Data are unusable; analyte may or may not be present
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
[a] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)

Table AW-Inorganics
Milwaukee Solvay Coke and Gas Site
Summary of Water Sample Inorganic Results for Pit at Boiler House

	Screening Levels		Sample Code and Sampling Date
	Superfund Chemical Data Matrix[a]	Milwaukee Metropolitan Sewerage District[b]	MC-PIT-PH 12/19/01
Aluminum	NE	NE	379
Antimony	6	NE	3.7 U
Arsenic	50	NE	3.0 U
Barium	2,000	NE	43.1 J
Beryllium	4	NE	0.40 U
Cadmium	5	1,500	0.51
Calcium	NE	NE	284,000
Chromium	100	NE	0.90 U
Cobalt	NE	NE	1.0 U
Copper	1,300	6,000	6.4
Cyanide	200	5,000	9.5
Iron	NE	NE	50,500
Lead	15	2,000	14.4
Magnesium	NE	NE	434,000
Manganese	NE	NE	2,030
Mercury	2	2.6	0.10 U
Nickel	NE	4,000	4.0
Potassium	NE	NE	225,000
Selenium	50	NE	4.8 U
Silver	NE	5,800	1.0 U
Sodium	NE	NE	232,000
Thallium	2[c]	NE	5.2 UJ
Vanadium	NE	NE	0.90 U
Zinc	NE	8,000	76.0

Notes:
All screening levels and sample concentrations are presented in micrograms per liter.
J = Value reported is an approximate concentration of the analyte
NE = Not established
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
[a] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)
[b] Milwaukee Metropolitan Sewerage District Pretreatment Standards for Specific Pollutants (December 1996)
[c] 40 *Code of Federal Regulations* Part 141, Subpart B

Table AW-Phenols/Sulfide
Milwaukee Solvay Coke and Gas Site
Summary of Water Sample Total Phenols and Total Sulfide Results for Pit at Boiler House

Analyte	Screening Level[a]	Sample Code and Sampling Date
		MC-PIT-PH[b]
		12/19/01
Total Phenols	NE	0.144
Total Sulfide	NE	0.320U

Notes:
All sample concentrations are presented in milligrams per liter.
NE = Not established
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit

[a] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)

[b] Sample sent to non-Contract Laboratory Program laboratory was logged as having a sample id of MC-PIT-PIT

Table AW-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Water Sample Volatile Organic Compound Results for Pit at Boiler House

Analyte	Screening Level[a]	Sample Code and Sampling Date MC-PIT-PH 12/19/01
1,1,1-Trichloroethane	200	10 U
1,1,2,2-Tetrachloroethane	NE	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	NE	10 U
1,1,2-Trichloroethane	3	10 U
1,1-Dichloroethane	NE	10 U
1,1-Dichloroethene	7	10 UJ
1,2,4-Trichlorobenzene	70	10 U
1,2-Dibromo-3-chloropropane	0.2	10 U
1,2-Dibromoethane	0.05	10 U
1,2-Dichlorobenzene	600	10 U
1,2-Dichloroethane	5	10 U
1,2-Dichloropropane	5	10 U
1,3-Dichlorobenzene	600	10 U
1,4-Dichlorobenzene	75	10 U
2-Butanone	NE	10 U
2-Hexanone	NE	10 U
4-Methyl-2-pentanone	NE	10 U
Acetone	NE	10 U
Benzene	5	8 J
Bromodichloromethane	100	10 U
Bromoform	NE	10 U
Bromomethane	NE	10 U
Carbon Disulfide	NE	10 U
Carbon Tetrachloride	5	10 U
Chlorobenzene	100	10 UJ
Chloroethane	NE	10 U
Chloroform	100	10 U
Chloromethane	NE	10 U
cis-1,2-Dichloroethene	70	10 U
cis-1,3-Dichloropropene	NE	10 U
Cyclohexane	NE	10 U
Dibromochloromethane	60	10 U
Dichlorodifluoromethane	NE	10 U
Ethylbenzene	700	10 U
Isopropylbenzene	NE	10 U
Methyl tert-Butyl Ether	NE	10 U
Methyl Acetate	NE	10 U
Methylcyclohexane	NE	10 U
Methylene Chloride	5 (369[b])	10 U
Styrene	100	10 U
Tetrachloroethene	5	10 U
Toluene	1,000	10 UJ
trans-1,2-Dichloroethene	100	10 U
trans-1,3-Dichloropropene	NE	10 U
Trichloroethene	5	10 UJ

Table AW-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Water Sample Volatile Organic Compound Results for Pit at Boiler House

Analyte	Screening Level[a]	Sample Code and Sampling Date
		MC-PIT-PH
		12/19/01
Trichlorofluoromethane	NE	10 U
Vinyl Chloride	2	10 U
Xylenes (total)	1,000	1 J

Notes:
All screening levels and sample concentrations are presented in micrograms per liter.
J = Value reported is an approximate concentration of the analyte
NE = Not established
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
Shading = Result exceeds one or more screening levels
[a] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)
[b] Milwaukee Metropolitan Sewerage District Pretreatment Standards for Specific Pollutants (December 1996)

Table AW-SVOC
Milwaukee Solvay Coke and Gas Site
Summary of Water Sample Semivolatile Organic Compound Results for Pit at Boiler House

Analyte	Screening Level[a]	Sample Code and Sampling Date MC-PIT-PH 12/19/01
1,1'-Biphenyl	NE	10 U
2,2'-oxybis(1-Chloropropane)	NE	10 U
2,4,5-Trichlorophenol	NE	25 U
2,4,6-Trichlorophenol	NE	10 U
2,4-Dichlorophenol	NE	10 U
2,4-Dimethylphenol	NE	10 U
2,4-Dinitrophenol	NE	25 U
2,4-Dinitrotoluene	NE	10 U
2,6-Dinitrotoluene	NE	10 U
2-Chloronaphthalene	NE	10 U
2-Chlorophenol	NE	10 U
2-Methylnaphthalene	NE	10 U
2-Methylphenol	NE	10 U
2-Nitroaniline	NE	25 U
2-Nitrophenol	NE	10 U
3,3'-Dichlorobenzidine	NE	10 U
3-Nitroaniline	NE	25 U
4,6-Dinitro-2-methylphenol	NE	25 U
4-Bromophenyl-phenylether	NE	10 U
4-Chloro-3-methylphenol	NE	10 U
4-Chloroaniline	NE	10 U
4-Chlorophenyl-phenylether	NE	10 U
4-Methylphenol	NE	1 J
4-Nitroaniline	NE	25 U
4-Nitrophenol	NE	25 U
Acenaphthene	NE	10 U
Acenaphthylene	NE	10 U
Acetophenone	NE	10 U
Anthracene	NE	10 U
Atrazine	3	10 U
Benzaldehyde	NE	10 UJ
Benzo(a)anthracene	NE (62[b])	10 U
Benzo(a)pyrene	0.2	10 UJ
Benzo(b)fluoranthene	NE	10 UJ
Benzo(g,h,i)perylene	NE	10 UJ
Benzo(k)fluoranthene	NE	10 UJ
bis(2-Chloroethoxy)methane	NE	10 U
bis-(2-Chloroethyl)ether	NE	10 U
bis(2-Ethylhexyl)phthalate	6	10 U
Butylbenzylphthalate	NE	10 U
Caprolactam	NE	10 U
Carbazole	NE	10 U
Chrysene	NE	10 U
Dibenzo(a,h)anthracene	NE	10 UJ
Dibenzofuran	NE	10 U

Table AW-SVOC
Milwaukee Solvay Coke and Gas Site
Summary of Water Sample Semivolatile Organic Compound Results for Pit at Boiler House

Analyte	Screening Level[a]	Sample Code and Sampling Date MC-PIT-PH 12/19/01
Diethylphthalate	NE	10 U
Dimethylphthalate	NE	10 U
Di-n-butylphthalate	NE	10 U
Di-n-octylphthalate	NE	10 UJ
Fluoranthene	NE	10 UJ
Fluorene	NE	10 U
Hexachlorobenzene	1	10 U
Hexachlorobutadiene	NE	10 U
Hexachlorocyclopentadiene	50	10 U
Hexachloroethane	NE	10 U
Indeno(1,2,3-cd)pyrene	NE	10 UJ
Isophorone	NE	10 U
Naphthalene	NE	29
Nitrobenzene	NE	10 U
N-Nitroso-di-n-propylamine	NE	10 U
N-Nitrosodiphenylamine	NE	10 U
Pentachlorophenol	1	25 U
Phenanthrene	NE (51[b])	10 U
Phenol	NE	10 UJ
Pyrene	NE	10 U

Notes:
All screening levels and sample concentrations are presented in micrograms per liter.
J = Value reported is an approximate concentration of the analyte
NE = Not established
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit

[a] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)

[b] Milwaukee Metropolitan Sewerage District Pretreatment Standards for Specific Pollutants (December 1996)

Table AW-Pesticides/PCBs
Milwaukee Solvay Coke and Gas Site
Summary of Water Sample Pesticide and Polychlorinated Biphenyl Results for Pit at Boiler House

Analyte	Screening Level*	Sample Code and Sampling Date MC-PIT-PH 12/19/01
4,4'-DDD	NE	0.10 UJ
4,4'-DDE	NE	0.036 J
4,4'-DDT	NE	0.10 UJ
Aldrin	NE	0.050 UJ
alpha-BHC	NE	0.050 UJ
alpha-Chlordane	NE	0.050 UJ
Aroclor 1016	0.5	1.0 UJ
Aroclor 1221	0.5	2.0 UJ
Aroclor 1232	0.5	1.0 UJ
Aroclor 1242	0.5	1.0 UJ
Aroclor 1248	0.5	1.0 UJ
Aroclor 1254	0.5	1.0 UJ
Aroclor 1260	0.5	1.0 UJ
beta-BHC	NE	0.050 UJ
delta-BHC	NE	0.050 UJ
Dieldrin	NE	0.10 UJ
Endosulfan I	NE	0.050 UJ
Endosulfan II	NE	0.10 UJ
Endosulfan Sulfate	NE	0.10 UJ
Endrin	2	0.10 UJ
Endrin Ketone	NE	0.10 UJ
Endrin Aldehyde	NE	0.10 UJ
gamma-BHC (Lindane)	0.2	0.042 J
gamma-Chlordane	NE	0.050 UJ
Heptachlor	0.4	0.050 R
Heptachlor Epoxide	0.2	0.030 J
Methoxychlor	40	0.50 UJ
Toxaphene	3	5.0 UJ

Notes:
All screening levels and sample concentrations are presented in micrograms per liter.
J = Value reported is an approximate concentration of the analyte
NE = Not established
R = Data are unusable; analyte may or may not be present
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
* U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)


Area B

Table BS-Inorganics
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Inorganic Results for Area B

	Screening Levels					Sample Code and Sampling Date			
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data	MC-SB-B-06-0204	MC-SB-B-09-0708	MC-SB-B-10-0405	MC-SB-B-37-0910
Analyte	Residential	Industrial	Residential	Industrial	Matrix[c]	12/11/01	12/11/01	12/11/01	12/13/01
Aluminum	76,000	100,000	780,000	1,000,000	NE	751	4,640	3,090	9,290
Antimony	31	820	310	8,200	31	1.1 UJ	0.88 UJ	0.98 UJ	1.5 UJ
Arsenic	0.39	2.7	230	6,100	23	2.7	9.4	7.8	16.4
Barium	5,400	100,000	55,000	1,000,000	5,500	23.8	42.9	77.9	101
Beryllium	150	2,200	15	130	390	0.29 J	3.9 J	0.65 J	0.94
Cadmium	37	810	390	10,000	39	0.12 U	0.53	0.32	0.59
Calcium	NE	NE	NE	NE	NE	1,860	12,500	10,900	70,600
Chromium	30	64	3,900	100,000	390	2.2	5.0	5.9	42.5
Cobalt	4,700	100,000	47,000	1,000,000	NE	2.4	13.2	2.7	5.1
Copper	2,900	76,000	31,000	820,000	NE	12.4 J	73.0 J	43.9 J	66.5
Cyanide	11	35	NE	NE	1,600	0.50 J	1.3 J	3.6 J	18.5
Iron	2,300	100,000	230,000	1,000,000	NE	2,850	7,410	8,020	25,500
Lead	400	750	NE	NE	NE	11.7	24.6	68.1	92.6
Magnesium	NE	NE	NE	NE	NE	687	7,120	3,280	16,900
Manganese	1,800	32,000	18,000	470,000	11,000	20.0 J	115 J	102 J	543
Mercury	23	610	230	6,100	23	0.060 R	0.090 J	9.7 J	0.38
Nickel	1,600	41,000	16,000	410,000	1,600	4.0	30.6	7.2	16.9
Potassium	NE	NE	NE	NE	NE	142 J	170 J	487 J	1,240 J
Selenium	390	10,000	3,900	100,000	390	2.1	3.3	1.3	5.5
Silver	390	10,000	3,900	100,000	390	0.30 U	0.24 U	0.26 U	0.41 U
Sodium	NE	NE	NE	NE	NE	351 J	234 J	547 J	892 J
Thallium	5.2	130	NE	NE	NE	1.5 R	1.2 R	1.4 R	2.2 R
Vanadium	550	14,000	5,500	140,000	550	4.9	6.5	8.1	18.3
Zinc	23,000	100,000	230,000	1,000,000	23,000	12.7	95.9	165	176

Notes:
All screening levels and sample concentrations are presented in milligrams per kilogram.
J = Value reported is an approximate concentration of the analyte
NE = Not established
R = Data are unusable; analyte may or may not be present
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
Shading = Result exceeds one or more screening levels

[a] U.S. Environmental Protection Agency Region 9 Preliminary Remediation Goals for Residential and Industrial Soil (November 2000)
[b] U.S. Environmental Protection Agency Hazard Evaluation Handbook (October 1997)
[c] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Soil Pathway Reference Dose Screening Concentrations (June 1996)

Table BS-Phenols/Sulfide
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Total Phenols and Total Sulfide Results for Area B

	Screening Levels					Sample Code and Sampling Date			
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data	MC-SB-B-06-0204	MC-SB-B-09-0708	MC-SB-B-10-0405	MC-SB-B-37-0910
Analyte	Residential	Industrial	Residential	Industrial	Matrix[c]	12/11/01	12/11/01	12/11/01	12/13/01
Total phenols	37,000	100,000	470,000	1,000,000	47,000	4.28J	4.75J	1.49J	45.3J
Total sulfide	NE	NE	NE	NE	NE	5.16U	3.97U	4.15U	7.34U

Notes:
All screening levels and sample concentrations are presented in milligrams per kilogram.
J = Value reported is an approximate concentration of the analyte
NE = Not established
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
[a] U.S. Environmental Protection Agency Region 9 Preliminary Remediation Goals for Residential and Industrial Soil (November 2000)
[b] U.S. Environmental Protection Agency Hazard Evaluation Handbook (October 1997)
[c] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Soil Pathway Reference Dose Screening Concentrations (June 1996)

Table BS-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Volatile Organic Compound Results for Area B

Analyte	Screening Levels					Sample Code and Sampling Date			
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-B-06-0204	MC-SB-B-09-0708	MC-SB-B-10-0405	MC-SB-B-37-0910
	Residential	Industrial	Residential	Industrial		12/11/01	12/11/01	12/11/01	12/13/01
1,1,1-Trichloroethane	630,000	1,400,000	27,000,000	720,000,000	NE	20 U	21 U	21 U	47 U
1,1,2,2-Tetrachloroethane	380	900	320,000	2,900,000	NE	20 U	21 U	21 UJ	47 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5,600,000	5,600,000	1,000,000,000	1,000,000,000	***2,300,000,000***	20 U	21 U	21 U	47 U
1,1,2-Trichloroethane	840	1,900	1,100,000	10,000,000	310,000	20 U	21 U	21 U	47 U
1,1-Dichloroethane	590,000	2,100,000	78,000,000	1,000,000,000	7,800,000	20 U	21 U	21 U	47 U
1,1-Dichloroethene	54	120	110,000	950,000	700,000	20 U	21 U	21 U	47 U
1,2,4-Trichlorobenzene	650,000	3,000,000	7,800,000	200,000,000	780,000	20 U	21 U	21 UJ	47 U
1,2-Dibromo-3-chloropropane	450	4,000	46,000	410,000	NE	20 U	21 U	21 UJ	47 U
1,2-Dibromoethane	7	48	750	6,700	NE	20 U	21 U	21 UJ	47 U
1,2-Dichlorobenzene	370,000	370,000	70,000,000	1,000,000,000	7,000,000	20 U	21 U	21 UJ	47 U
1,2-Dichloroethane	350	760	700,000	6,300,000	NE	20 U	21 U	21 U	47 U
1,2-Dichloropropane	350	770	940,000	8,400,000	NE	20 U	21 U	21 U	47 U
1,3-Dichlorobenzene	13,000	52,000	70,000,000	1,000,000,000	NE	20 U	21 U	21 UJ	47 U
1,4-Dichlorobenzene	3,400	8,100	NE	NE	NE	20 U	21 U	21 UJ	47 U
2-Butanone	NE	NE	NE	NE	NE	20 U	9 J	21 U	200 J
2-Hexanone	NE	NE	NE	NE	NE	20 U	21 U	21 UJ	47 UJ
4-Methyl-2-pentanone	NE	NE	NE	NE	NE	20 U	21 U	21 UJ	47 U
Acetone	1,600,000	6,200,000	78,000,000	***2,000,000,000***	7,800,000	25 U	66 U	50 U	990
Benzene	650	1,500	2,200,000	20,000,000	NE	20 U	21 U	41	7 J
Bromodichloromethane	1,000	2,400	1,000,000	8,200,000	1,600,000	20 U	21 U	21 U	47 U
Bromoform	62,000	310,000	8,100,000	72,000,000	NE	20 U	21 U	21 U	47 U
Bromomethane	3,900	13,000	1,100,000	29,000,000	110,000	20 U	21 U	21 U	47 U
Carbon Disulfide	360,000	720,000	78,000,000	1,000,000,000	7,800,000	20 U	3 J	5 J	27 J
Carbon Tetrachloride	240	530	490,000	4,400,000	55,000	20 U	21 U	21 U	47 U
Chlorobenzene	150,000	540,000	16,000 000	410,000,000	1,600,000	20 U	21 U	21 UJ	47 U
Chloroethane	3,000	6,500	310,000,000	1,000,000,000	NE	20 UJ	21 UJ	21 UJ	47 U
Chloroform	240	520	7,800,000	94,000,000	780,000	20 U	21 U	21 U	47 U
Chloromethane	1,200	2,700	4,900,000	44,000,000	NE	20 U	21 U	21 U	47 U
cis-1,2-Dichloroethene	43,000	150,000	7,800,000	200,000,000	780,000	20 U	21 U	21 U	47 U
cis-1,3-Dichloropropene	700	1,600	230,000	3,300,000	NE	20 U	21 U	21 U	47 U
Cyclohexane	140,000	140,000	NE	NE	NE	3 J	8 J	2 J	8 J
Dibromochloromethane	1,100	2,700	NE	NE	1,600,000	20 U	21 U	21 U	47 U
Dichlorodifluoromethane	94,000	310,000	160,000,000	1,000,000,000	16,000,000	20 U	21 U	21 U	47 U
Ethylbenzene	230,000	230,000	78,000,000	1,000,000,000	7,800,000	20 U	21 U	21 UJ	9 J
Isopropylbenzene	NE	NE	NE	NE	NE	20 U	21 U	21 UJ	43 J
Methyl tert-Butyl Ether	17,000	NE	3,900,000	100,000,000	NE	20 U	21 U	21 U	47 U
Methyl Acetate	22,000,000	96,000,000	780,000,000	1,000,000,000	NE	20 U	21 U	21 U	47 U
Methylcyclohexane	2,600,000	8,800,000	NE	NE	NE	20 U	11 J	3 J	8 J
Methylene Chloride	8,900	21,000	8,500,000	76,000,000	4,700,000	20 U	21 U	21 U	280
Styrene	1,700,000	1,700,000	160,000,000	1,000,000,000	16,000,000	20 U	21 U	21 UJ	47 U
Tetrachloroethene	NE	19,000	1,200,000	11,000,000	780,000	20 U	21 U	21 UJ	47 U
Toluene	520,000	520,000	160,000,000	1,000,000,000	16,000,000	8 J	6 J	6 J	35 J

Table BS-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Volatile Organic Compound Results for Area B

Analyte	Screening Levels					Sample Code and Sampling Date			
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-B-06-0204	MC-SB-B-09-0708	MC-SB-B-10-0405	MC-SB-B-37-0910
	Residential	Industrial	Residential	Industrial		12/11/01	12/11/01	12/11/01	12/13/01
trans-1,2-Dichloroethene	63,000	210,000	16,000,000	410,000,000	1,600,000	20 U	21 U	21 U	47 U
trans-1,3-Dichloropropene	NE	1,600	NE	3,300,000	NE	20 U	21 U	21 U	47 U
Trichloroethene	2,800	6,100	4,700,000	52,000,000	NE	20 U	21 U	21 U	47 U
Trichlorofluoromethane	390,000	2,000,000	230,000,000	1,000,000,000	23,000,000	20 U	21 U	21 U	47 U
Vinyl Chloride	150	830	NE	NE	NE	20 U	21 U	21 U	47 U
Xylenes (total)	210,000	210,000	1,000,000,000	1,000,000,000	160,000,000	20 U	3 J	21 UJ	30 J

Notes:

All screening levels and sample concentrations are presented in micrograms per kilogram.

J = Value reported is an approximate concentration of the analyte

NE = Not established

U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit

UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit

Italics = Value in ***italics*** is greater than the concentration of pure material itself (100 percent). According to Reference "b", "When the numerical values were generated from the model, no attempt was made to stop a calculation greater than the total concentration. This means, for example, that if a compound has a worker soil ingestion value over 1 million mg/kg (1 million parts per million), then from an emergency perspective the compound does not pose a toxic threat to workers via soil ingestion. Values over the total concentration are useful in comparing the relative toxicity of several compounds, so they were kept in place."

[a] U.S. Environmental Protection Agency Region 9 Preliminary Remediation Goals for Residential and Industrial Soil (November 2000)

[b] U.S. Environmental Protection Agency Hazard Evaluation Handbook (October 1997)

[c] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Soil Pathway Reference Dose Screening Concentrations (June 1996)

Table BS-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Semivolatile Organic Compound Results for Area B

	Screening Levels					Sample Code and Sampling Date			
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data	MC-SB-B-06-0204	MC-SB-B-09-0708	MC-SB-B-10-0405	MC-SB-B-37-0910
Analyte	Residential	Industrial	Residential	Industrial	Matrix[c]	12/11/01	12/11/01	12/11/01	12/13/01
1,1'-Biphenyl	350,000	350,000	39,000,000	1,000,000,000	3,900,000	930 J	2,000 U	4,500 U	3,100 U
2,2'-oxybis(1-Chloropropane)	NE	NE	NE	NE	NE	2,100 U	2,000 U	4,500 U	3,100 U
2,4,5-Trichlorophenol	6,100,000	88,000,000	78,000,000	1,000,000,000	7,800,000	5,400 U	5,000 U	11,000 U	7,800 U
2,4,6-Trichlorophenol	44,000	220,000	5,800,000	52,000,000	NE	2,100 U	2,000 U	4,500 U	3,100 U
2,4-Dichlorophenol	1,800,000	2,600,000	2,300,000	61,000,000	230,000	2,100 U	2,000 U	4,500 UJ	3,100 U
2,4-Dimethylphenol	1,200,000	18,000,000	16,000,000	410,000,000	1,600,000	1,200 J	2,000 U	4,500 U	3,100 U
2,4-Dinitrophenol	120,000	1,800,000	1,600,000	41,000,000	160,000	5,400 U	5,000 U	11,000 UJ	7,800 U
2,4-Dinitrotoluene	120,000	1,800,000	1,600,000	41,000,000	160,000	2,100 U	2,000 U	4,500 U	3,100 U
2,6-Dinitrotoluene	61,000	880,000	780,000	20,000,000	78,000	660 J	2,000 U	4,500 U	3,100 U
2-Chloronaphthalene	NE	NE	NE	NE	6,300,000	2,100 U	2,000 U	4,500 U	3,100 U
2-Chlorophenol	63,000	240,000	3,900,000	100,000,000	390,000	2,100 U	2,000 U	4,500 U	3,100 U
2-Methylnaphthalene	NE	NE	NE	NE	NE	2,700	2,000 U	1,900 J	3,100 U
2-Methylphenol	3,100,000	44,000,000	39,000,000	1,000,000,000	NE	2,100 U	2,000 U	4,500 U	3,100 U
2-Nitroaniline	3,500	50,000	47,000	1,200,000	NE	5,400 U	5,000 U	11,000 U	7,800 U
2-Nitrophenol	490,000	NE	NE	NE	NE	2,100 U	2,000 U	4,500 U	3,100 U
3,3'-Dichlorobenzidine	1,100	5,500	6,900	1,300,000	NE	2,100 UJ	2,000 U	4,500 UJ	3,100 U
3-Nitroaniline	NE	NE	2,300,000	61,000,000	NE	5,400 U	5,000 U	11,000 U	7,800 U
4,6-Dinitro-2-methylphenol	120,000	NE	NE	NE	NE	5,400 U	5,000 U	11,000 U	7,800 U
4-Bromophenyl-phenylether	NE	NE	45,000,000	1,000,000,000	NE	2,100 U	2,000 U	4,500 U	3,100 U
4-Chloro-3-methylphenol	NE	NE	NE	NE	160,000,000	2,100 U	2,000 U	4,500 U	3,100 U
4-Chloroaniline	240,000	3,500,000	3,100,000	82,000,000	310,000	2,100 U	2,000 U	4,500 U	3,100 U
4-Chlorophenyl-phenylether	NE	NE	NE	NE	NE	2,100 U	2,000 U	4,500 U	3,100 U
4-Methylphenol	310,000	4,400,000	3,900,000	100,000,000	NE	2,100 U	2,000 U	4,500 U	3,100 U
4-Nitroaniline	NE	NE	2,300,000	61,000,000	NE	5,400 U	5,000 U	11,000 U	7,800 U
4-Nitrophenol	NE	7,000,000	48,000,000	1,000,000,000	NE	5,400 U	5,000 U	11,000 U	7,800 U
Acenaphthene	3,700,000	38,000,000	47,000,000	1,000,000,000	4,700,000	1,300 J	7,100	4,500 U	1,200 J
Acenaphthylene	NE	NE	NE	NE	NE	1,000 J	1,100 J	1,400 J	3,100 U
Acetophenone	490	1,600	78,000,000	1,000,000,000	7,800,000	2,100 U	2,000 U	4,500 U	3,100 U
Anthracene	22,000,000	100,000,000	230,000,000	1,000,000,000	23,000,000	1,500 J	450 J	1,500 J	1,800 J
Atrazine	2,200	11,000	NE	2,600,000	2,700,000	2,100 U	2,000 U	4,500 U	3,100 U
Benzaldehyde	6,100,000	880,000,000	78,000,000	1,000,000,000	NE	2,100 U	2,000 U	4,500 U	3,100 U
Benzo(a)anthracene	620	2,900	88,000	780,000	NE	2,900	1,400 J	12,000	2,600 J
Benzo(a)pyrene	62	290	8,800	78,000	NE	2,100	1,100 J	15,000	2,200 J
Benzo(b)fluoranthene	620	2,900	88,000	780,000	NE	2,000 J	1,200 J	15,000	1,800 J
Benzo(g,h,i)perylene	NE	NE	NE	NE	NE	1,100 J	570 J	14,000	1,100 J
Benzo(k)fluoranthene	6,200	29,000	870,000	7,800,000	NE	1,700 J	900 J	12,000	1,800 J
bis(2-Chloroethoxy)methane	NE	NE	NE	NE	NE	2,100 U	2,000 U	4,500 U	3,100 U
bis-(2-Chloroethyl)ether	210	620	58,000	520,000	NE	2,100 U	2,000 U	4,500 U	3,100 U
bis(2-Ethylhexyl)phthalate	35,000	180,000	4,600,000	41,000,000	1,600,000	920 J	2,000 U	4,500 UJ	3,100 U
Butylbenzylphthalate	12,000,000	100,000,000	160,000,000	1,000,000,000	16,000,000	2,100 U	2,000 U	4,500 U	3,100 U
Caprolactam	31,000,000	100,000,000	390,000,000	1,000,000,000	NE	2,100 U	2,000 U	4,500 U	3,100 U
Carbazole	24,000	120,000	3,200,000	29,000,000	NE	640 J	3,800	4,500 U	3,100 U

Table BS-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Semivolatile Organic Compound Results for Area B

Analyte	Screening Levels					Sample Code and Sampling Date			
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-B-06-0204	MC-SB-B-09-0708	MC-SB-B-10-0405	MC-SB-B-37-0910
	Residential	Industrial	Residential	Industrial		12/11/01	12/11/01	12/11/01	12/13/01
Chrysene	62,000	290,000	8,700,000	78,000,000	NE	3,500	1,600 J	13,000	2,700 J
Dibenzo(a,h)anthracene	62	290	8,800	78,000	NE	520 J	2,000 U	3,800 J	3,100 U
Dibenzofuran	290,000	5,100,000	3,100,000	82,000,000	NE	1,300 J	1,500 J	1,500 J	850 J
Diethylphthalate	49,000,000	100,000,000	630,000,000	1,000,000,000	63,000,000	2,100 U	2,000 U	4,500 U	3,100 U
Dimethylphthalate	100,000,000	100,000,000	1,000,000,000	1,000,000,000	NE	2,100 U	2,000 U	4,500 U	3,100 U
Di-n-butylphthalate	NE	NE	NE	NE	7,800,000	2,100 U	2,000 U	4,500 U	3,100 U
Di-n-octylphthalate	1,200,000	10,000,000	16,000,000	410,000,000	1,600,000	2,100 UJ	2,000 U	4,500 UJ	3,100 U
Fluoranthene	56,000	30,000,000	31,000,000	820,000,000	3,100,000	5,300	3,000	20,000	8,700
Fluorene	2,600,000	33,000,000	31,000,000	820,000,000	3,100,000	2,400	3,600	4,500 U	1,200 J
Hexachlorobenzene	300	1,500	40,000	360,000	63,000	2,100 U	2,000 U	4,500 U	3,100 U
Hexachlorobutadiene	6,200	32,000	820,000	7,300,000	16,000	2,100 U	2,000 U	4,500 U	3,100 U
Hexachlorocyclopentadiene	420,000	5,900,000	5,500,000	140,000,000	550,000	2,100 U	2,000 U	4,500 U	3,100 U
Hexachloroethane	35,000	180,000	4,600,000	410,000,000	78,000	2,100 U	2,000 U	4,500 U	3,100 U
Indeno(1,2,3-cd)pyrene	620	2,900	88,000	780,000	NE	1,000 J	540 J	12,000	1,000 J
Isophorone	510,000	2,600,000	67,000,000	600,000,000	160,000,000	2,100 U	2,000 U	4,500 U	3,100 U
Naphthalene	56,000	190,000	31,000,000	820,000,000	31,000,000	5,400	2,700	14,000	5,900
Nitrobenzene	20,000	110,000	NE	NE	39,000	2,100 U	2,000 U	4,500 U	3,100 U
N-Nitroso-di-n-propylamine	69	350	9,100	82,000	NE	2,100 U	2,000 U	4,500 U	3,100 U
N-Nitrosodiphenylamine	99,000	500,000	13,000,000	120,000,000	NE	2,100 U	2,000 U	4,500 U	3,100 U
Pentachlorophenol	3,000	11,000	NE	1,000,000	2,300,000	5,400 U	5,000 U	11,000 U	7,800 U
Phenanthrene	NE	NE	NE	NE	NE	5,700	2,800	7,600	1,800 J
Phenol	37,000,000	100,000,000	470,000,000	1,000,000,000	47,000,000	2,100 U	2,000 U	4,500 U	3,100 U
Pyrene	2,300,000	54,000,000	23,000,000	610,000,000	2,300,000	4,000	2,500	20,000	7,200
1,2,3-Trimethyl-4-propenyl naphthalene[d]	NE	NE	NE	NE	NE	ND	ND	ND	ND

Notes:
All screening levels and sample concentrations are presented in micrograms per kilogram.
J = Value reported is an approximate concentration of the analyte
ND = Not detected
NE = Not established
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
Shading = Result exceeds one or more screening levels
Bold = Result exceeds one or more Emergency Removal Guidelines
[a] U.S. Environmental Protection Agency Region 9 Preliminary Remediation Goals for Residential and Industrial Soil (November 2000)
[b] U.S. Environmental Protection Agency Hazard Evaluation Handbook (October 1997)
[c] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Soil Pathway Reference Dose Screening Concentrations (June 1996)
[d] The laboratory was unable to find a standard solution of 1,2,3-trimethyl-4-propenyl naphthalene, a tentatively identified compound (TIC). The laboratory increased the library search from 30 to 50 compounds to find the reference compound. However, this TIC was not found in the sample.

Table BS-Pesticides/PCBs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Pesticide and Polychlorinated Biphenyl Results for Area B

	Screening Levels					Sample Code and Sampling Date			
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data	MC-SB-B-06-0204	MC-SB-B-09-0708	MC-SB-B-10-0405	MC-SB-B-37-0910
Analyte	Residential	Industrial	Residential	Industrial	Matrix[c]	12/11/01	12/11/01	12/11/01	12/13/01
4,4'-DDD	2,400	17,000	2,400,000	2,400,000	230,000	43 U	40 U	45 U	6.2 U
4,4'-DDE	1,700	12,000	1,700,000	1,700,000	NE	43 U	40 U	45 U	6.2 U
4,4'-DDT	1,700	12,000	1,700,000	1,700,000	NE	43 U	40 U	45 U	18 J
Aldrin	29	150	34,000	34,000	2,300	22 U	20 U	23 U	3.2 U
alpha-BHC	NE	590	91,000	91,000	NE	22 U	20 U	23 U	3.2 U
alpha-Chlordane	NE	11,000	440,000	NE	4,700	22 U	20 U	23 U	3.2 U
Aroclor 1016	3,900	29,000	1,400,000	1,400,000	1,600	430 U	400 U	450 U	62 U
Aroclor 1221	220	1,000	286,000	286,000	1,600	870 U	810 U	920 U	130 U
Aroclor 1232	220	1,000	286,000	286,000	1,600	430 U	400 U	450 U	62 U
Aroclor 1242	220	1,000	286000	286,000	1,600	430 U	400 U	450 U	62 U
Aroclor 1248	220	1,000	286,000	286,000	1,600	430 U	400 U	450 U	62 U
Aroclor 1254	220	1,000	410,000	410,000	1,600	430 U	400 U	450 U	62 U
Aroclor 1260	220	1,000	286,000	286,000	1,600	430 U	400 U	450 U	62 U
beta-BHC	NE	2,100	320,000	320,000	NE	22 U	20 U	23 U	3.2 U
delta-BHC	NE	NE	NE	NE	NE	22 U	20 U	23 U	3.2 U
Dieldrin	30	150	36,000	36,000	3,900	43 U	40 U	45 U	6.2 U
Endosulfan I	370,000	5,300,000	120,000,000	120,000,000	4,700,000	22 U	20 U	23 U	3.2 U
Endosulfan II	NE	NE	NE	NE	4,700,000	43 U	40 U	45 U	6.2 U
Endosulfan sulfate	NE	NE	NE	NE	NE	65 J	8.5 J	45 U	6.2 U
Endrin	18,000	260,000	6,100,000	6,100,000	23,000	43 U	40 U	45 U	6.2 U
Endrin ketone	NE	NE	NE	NE	NE	43 U	40 U	45 U	6.2 U
Endrin ldehyde	NE	NE	NE	NE	NE	43 U	40 U	45 U	6.2 U
gamma-BHC (Lindane)	NE	2,900	49,000	440,000	2,300	22 U	20 U	23 U	3.2 U
gamma-Chlordane	1,600	11,000	440,000	NE	4,700	22 U	20 U	23 U	3.2 U
Heptachlor	110	550	130,000	130,000	39,000	22 U	20 U	23 U	3.2 U
Heptachlor epoxide	53	270	7,000	63,000	1,000	22 U	20 U	7.7 J	3.2 U
Methoxychlor	31,000	4,400,000	NE	100,000,000	390,000	220 U	200 U	230 U	32 U
Toxaphene	440	2,200	520,000	520,000	NE	2,200 U	2,000 U	2,300 U	320 U

Notes:

All screening levels and sample concentrations are presented in micrograms per kilogram.

J = Value reported is an approximate concentration of the analyte

NE = Not established

U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit

[a] U.S. Environmental Protection Agency Region 9 Preliminary Remediation Goals for Residential and Industrial Soil (November 2000)

[b] U.S. Environmental Protection Agency Hazard Evaluation Handbook (October 1997)

[c] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Soil Pathway Reference Dose Screening Concentrations (June 1996)


Groundwater

Table BGW-Inorganics
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Inorganic Results for Area B

Analyte	Screening Level[a]	Sample Code and Sampling Date	
		MC-GW-B-37-08	
		12/13/01	
Aluminum	NE	10,500	
Antimony	6	7.4	
Arsenic	50	43.8	
Barium	2,000	232	
Beryllium	4	0.82	
Cadmium	5	5.0	
Calcium	NE	245,000	
Chromium	100	34.8	
Cobalt	NE	9.6	
Copper	1,300	377	
Cyanide	200	116	J
Iron	NE	22,300	
Lead	15	633	
Magnesium	NE	93,500	
Manganese	NE	1,540	
Mercury	2	8.0	
Nickel	NE	174	
Potassium	NE	10,400	J
Selenium	50	5.4	
Silver	NE	1.3	
Sodium	NE	32,700	
Thallium	2[b]	5.2	UJ
Vanadium	NE	14.4	
Zinc	NE	583	

Notes:
All screening levels and sample concentrations are presented in micrograms per liter.
J = Value reported is an approximate concentration of the analyte
NE = Not established
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
Shading = Result exceeds one or more screening levels
[a] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)
[b] 40 *Code of Federal Regulations* Part 141, Supart B

Table BGW-Phenols/Sulfide
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Total Phenols and Total Sulfide Results for Area B

Analyte	Screening Level[a]	Sample Code and Sampling Date MC-GW-B-37-08 12/13/01
Total Phenols	NE	0.109
Total Sulfide	NE	0.800

Notes:
All sample concentrations are presented in milligrams per liter.
NE = Not established
[a] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)

Table BGW-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Volatile Organic Compound Results for Area B

Analyte	Screening Level[a]	Sample Code and Sampling Date MC-GW-B-37-08 12/13/01
1,1,1-Trichloroethane	200	10 U
1,1,2,2-Tetrachloroethane	NE	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	NE	10 U
1,1,2-Trichloroethane	3	10 U
1,1-Dichloroethane	NE	10 U
1,1-Dichloroethene	7	10 U
1,2,4-Trichlorobenzene	70	10 U
1,2-Dibromo-3-chloropropane	0.2	10 R
1,2-Dibromoethane	0.05	10 U
1,2-Dichlorobenzene	600	10 U
1,2-Dichloroethane	5	10 U
1,2-Dichloropropane	5	10 U
1,3-Dichlorobenzene	600	10 U
1,4-Dichlorobenzene	75	10 U
2-Butanone	NE	10 U
2-Hexanone	NE	10 U
4-Methyl-2-pentanone	NE	10 U
Acetone	NE	4 J
Benzene	5	10 U
Bromodichloromethane	100	10 U
Bromoform	NE	10 U
Bromomethane	NE	10 U
Carbon Disulfide	NE	10 U
Carbon Tetrachloride	5	10 U
Chlorobenzene	100	10 U
Chloroethane	NE	10 R
Chloroform	100	10 U
Chloromethane	NE	10 U
cis-1,2-Dichloroethene	70	10 U
cis-1,3-Dichloropropene	NE	10 U
Cyclohexane	NE	10 U
Dibromochloromethane	60	10 U
Dichlorodifluoromethane	NE	10 U
Ethylbenzene	700	10 U
Isopropylbenzene	NE	10 U
Methyl tert-Butyl Ether	NE	10 U
Methyl Acetate	NE	10 U
Methylcyclohexane	NE	10 U
Methylene Chloride	5	10 U
Styrene	100	10 U
Tetrachloroethene	5	10 U
Toluene	1,000	10 U
trans-1,2-Dichloroethene	100	10 U

Table BGW-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Volatile Organic Compound Results for Area B

Analyte	Screening Level*	Sample Code and Sampling Date
		MC-GW-B-37-08
		12/13/01
trans-1,3-Dichloropropene	NE	10 U
Trichloroethene	5	10 U
Trichlorofluoromethane	NE	10 U
Vinyl Chloride	2	10 U
Xylenes (total)	1,000	10 U

Notes:
All screening levels and sample concentrations are presented in micrograms per liter.
J = Value reported is an approximate concentration of the analyte
NE = Not established
R = Data are unusable; analyte may or may not be present
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
* U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)

Table BGW-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Semivolatile Organic Compound Results for Area B

Analyte	Screening Level[a]	Sample Code and Sampling Date MC-GW-B-37-08 12/13/01
1,1'-Biphenyl	NE	51 U
2,2'-oxybis(1-Chloropropane)	NE	51 U
2,4,5-Trichlorophenol	NE	130 U
2,4,6-Trichlorophenol	NE	51 U
2,4-Dichlorophenol	NE	51 U
2,4-Dimethylphenol	NE	51 U
2,4-Dinitrophenol	NE	130 U
2,4-Dinitrotoluene	NE	51 U
2,6-Dinitrotoluene	NE	51 U
2-Chloronaphthalene	NE	51 U
2-Chlorophenol	NE	51 U
2-Methylnaphthalene	NE	51 U
2-Methylphenol	NE	51 U
2-Nitroaniline	NE	130 U
2-Nitrophenol	NE	51 U
3,3'-Dichlorobenzidine	NE	51 UJ
3-Nitroaniline	NE	130 U
4,6-Dinitro-2-methylphenol	NE	130 U
4-Bromophenyl-phenylether	NE	51 U
4-Chloro-3-methylphenol	NE	51 U
4-Chloroaniline	NE	51 U
4-Chlorophenyl-phenylether	NE	51 U
4-Methylphenol	NE	51 U
4-Nitroaniline	NE	130 U
4-Nitrophenol	NE	130 U
Acenaphthene	NE	11 J
Acenaphthylene	NE	51 U
Acetophenone	NE	51 U
Anthracene	NE	25 J
Atrazine	3	51 U
Benzaldehyde	NE	51 U
Benzo(a)anthracene	NE	59
Benzo(a)pyrene	0.2	58
Benzo(b)fluoranthene	NE	45 J
Benzo(g,h,i)perylene	NE	40 J
Benzo(k)fluoranthene	NE	52
bis(2-Chloroethoxy)methane	NE	51 U
bis-(2-Chloroethyl)ether	NE	51 U
bis(2-Ethylhexyl)phthalate	6	51 U
Butylbenzylphthalate	NE	51 U
Caprolactam	NE	51 U
Carbazole	NE	10 J
Chrysene	NE	60
Dibenzo(a,h)anthracene	NE	14 J
Dibenzofuran	NE	12 J

Table BGW-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Semivolatile Organic Compound Results for Area B

Analyte	Screening Level[a]	Sample Code and Sampling Date MC-GW-B-37-08 12/13/01
Diethylphthalate	NE	51 U
Dimethylphthalate	NE	51 U
Di-n-butylphthalate	NE	51 U
Di-n-octylphthalate	NE	51 UJ
Fluoranthene	NE	100
Fluorene	NE	20 J
Hexachlorobenzene	1	51 U
Hexachlorobutadiene	NE	51 U
Hexachlorocyclopentadiene	50	51 U
Hexachloroethane	NE	51 U
Indeno(1,2,3-cd)pyrene	NE	37 J
Isophorone	NE	51 U
Naphthalene	NE	34 J
Nitrobenzene	NE	51 U
N-Nitroso-di-n-propylamine	NE	51 U
N-Nitrosodiphenylamine	NE	51 U
Pentachlorophenol	1	130 U
Phenanthrene	NE	68
Phenol	NE	51 U
Pyrene	NE	77
1,2,3-Trimethyl-4-propenyl naphthalene[b]	NE	ND

Notes:

All screening levels and sample concentrations are presented in micrograms per liter.

J = Value reported is an approximate concentration of the analyte

ND = Not detected

NE = Not established

U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit

UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit

Shading = Result exceeds one or more screening levels

[a] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)

[b] The laboratory was unable to find a standard solution of 1,2,3-trimethyl-4-propenyl naphthalene, a tentatively identified compound (TIC). The laboratory increased the library search from 30 to 50 compounds to find the reference compound. However, this TIC was not found in the sample.

Table BGW-Pesticides/PCBs
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Pesticide and Polychlorinated Biphenyl Results for Area B

Analyte	Screening Level*	Sample Code and Sampling Date MC-GW-B-37-08 12/13/01
4,4'-DDD	NE	0.10 UJ
4,4'-DDE	NE	0.10 UJ
4,4'-DDT	NE	0.10 UJ
Aldrin	NE	0.051 UJ
alpha-BHC	NE	0.051 UJ
alpha-Chlordane	NE	0.051 UJ
Aroclor 1016	0.5	1.0 U
Aroclor 1221	0.5	2.0 U
Aroclor 1232	0.5	1.0 U
Aroclor 1242	0.5	1.0 U
Aroclor 1248	0.5	1.0 U
Aroclor 1254	0.5	1.0 U
Aroclor 1260	0.5	1.0 U
beta-BHC	NE	0.051 UJ
delta-BHC	NE	0.051 UJ
Dieldrin	NE	0.10 UJ
Endosulfan I	NE	0.051 UJ
Endosulfan II	NE	0.10 UJ
Endosulfan Sulfate	NE	0.034 J
Endrin	2	0.10 UJ
Endrin Ketone	NE	0.10 UJ
Endrin Aldehyde	NE	0.10 UJ
gamma-BHC (Lindane)	0.2	0.051 UJ
gamma-Chlordane	NE	0.051 UJ
Heptachlor	0.4	0.051 UJ
Heptachlor Epoxide	0.2	0.051 UJ
Methoxychlor	40	0.51 UJ
Toxaphene	3	5.1 U

Notes:

All screening levels and sample concentrations are presented in micrograms per liter.

J = Value reported is an approximate concentration of the analyte

NE = Not established

U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit

UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit

* U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)

Area C


Soil

Table CS-Inorganics
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Inorganic Results for Area C

	Screening Levels					Sample Code and Sampling Date						
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[a]		Superfund Chemical Data Matrix[c]	MC-SB-C-28-0405	MC-SB-C-29-03045	MC-SB-C-30-0708	MC-SB-C-31-00005	MC-SB-C-34-00005	MC-SB-C-35-0507-BC	MC-SB-C-36-0102
Analyte	Residential	Industrial	Residential	Industrial		12/13/01	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01
Aluminum	76,000	100,000	780,000	1,000,000	NE	6,540	6,900	2,070	410	2,250	6,050	2,000
Antimony	31	820	310	8,200	31	1.6 J	1.6 J	0.93 UJ	3.1 J	2.5 J	0.86 UJ	1.4 J
Arsenic	0.39	2.7	230	6,100	23	11.3 J	10.7 J	63.6 J	103	14.2 J	2.9	4.1 J
Barium	5,400	100,000	55,000	1,000,000	5,500	65.1	319	16.8	41.8	3,710	33.6	74.1
Beryllium	150	2,200	15	130	390	1.0	1.2	0.15	0.10 U	0.26 J	0.26	0.36 J
Cadmium	37	810	390	10,000	39	0.69	2.0	0.10 U	0.16	0.88	0.090 U	0.27
Calcium	NE	NE	NE	NE	NE	47,700	41,500	31,900	3,880	29,400	96,700	13,600
Chromium	30	64	3,900	100,000	390	12.6 J	9.9 J	7.6 J	10.5	192 J	12.5	15.0 J
Cobalt	4,700	100,000	47,000	1,000,000	NE	6.4	4.1	2.3	1.4	475	5.7	1.1
Copper	2,900	76,000	31,000	820,000	NE	71.9	64.6	8.4	37.1	213	16.1	57.8
Cyanide	11	35	NE	NE	1,600	1.8	8.6	0.050	190	0.40	0.030 U	1.2
Iron	2,300	100,000	230,000	1,000,000	NE	27,200	43,600	5,350	70,200	77,400	11,100	7,700
Lead	400	750	NE	NE	NE	106	191	6.6	283	149	7.4	98.1
Magnesium	NE	NE	NE	NE	NE	21,700	14,800	13,400	105	11,400	41,000	5,050
Manganese	1,800	32,000	18,000	470,000	11,000	416 J	1,180 J	167 J	142	833 J	340	117 J
Mercury	23	610	230	6,100	23	0.32 J	3.3 J	0.050 U	9.2	0.090 J	0.060 U	0.060 J
Nickel	1,600	41,000	16,000	410,000	1,600	27.6	17.4	6.2	9.5	61.8	15.6	9.4
Potassium	NE	NE	NE	NE	NE	1,320 J	1,070 J	331 J	299 J	1,190 J	1,430 J	375 J
Selenium	390	10,000	3,900	100,000	390	1.3 J	2.3 J	1.2 U	5.8	2.6 J	1.1 U	1.4 J
Silver	390	10,000	3,900	100,000	390	0.23 U	0.24 U	0.25 U	0.25 U	0.22 U	0.23 U	0.22 U
Sodium	NE	NE	NE	NE	NE	767 J	1,290 J	336 J	264 J	2,520 J	418 J	160 J
Thallium	5.2	130	NE	NE	NE	1.2 UJ	1.2 UJ	1.3 UJ	1.3 R	1.1 UJ	1.2 R	1.2 UJ
Vanadium	550	14,000	5,500	140,000	550	18.9	12.6	16.5	3.2	9.2	15.8	4.6
Zinc	23,000	100,000	230,000	1,000,000	23,000	243 J	631 J	27.6 J	17.5	437 J	46.2	103 J

Notes:
All screening levels and sample concentrations are presented in milligrams per kilogram.
BC = Background sample
J = Value reported is an approximate concentration of the analyte
NE = Not established
R = Data are unusable; analyte may or may not be present
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
Shading = Result exceeds one or more screening levels
[a] U.S. Environmental Protection Agency Region 9 Preliminary Remediation Goals for Residential and Industrial Soil (November 2000)
[b] U.S. Environmental Protection Agency Hazard Evaluation Handbook (October 1997)
[c] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Soil Pathway Reference Dose Screening Concentrations (June 1996)

Table CS-Phenols/Sulfide
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Total Phenols and Total Sulfide Results for Area C

	Screening Levels					Sample Code and Sampling Date						
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical	MC-SB-C-28-0405	MC-SB-C-29-03045	MC-SB-C-30-0708	MC-SB-C-31-00005	MC-SB-C-34-0005	MC-SB-C-35-0507-BC	MC-SB-C-36-0102
Analyte	Residential	Industrial	Residential	Industrial	Data Matrix[c]	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01
Total Phenols	37,000	100,000	470,000	1,000,000	47,000	3.50J	3.38J	1.43J	2.39	2.20	0.73U	2.31
Total Sulfide	NE	NE	NE	NE	NE	3.77U	3.89U	4.02U	4.03U	3.65U	3.71U	4.00U

Notes:
All screening levels and sample concentrations are presented in milligrams per kilogram.
BC = Background sample
J = Value reported is an approximate concentration of the analyte
NE = Not established
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
[a] U.S. Environmental Protection Agency Region 9 Preliminary Remediation Goals for Residential and Industrial Soil (November 2000)
[b] U.S. Environmental Protection Agency Hazard Evaluation Handbook (October 1997)
[c] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Soil Pathway Reference Dose Screening Concentrations (June 1996)

Table CS-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Volatile Organic Compound Results for Area C

	Screening Levels					Sample Code and Sampling Date			
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[a]		Superfund Chemical	MC-SB-C-28-0405	MC-SB-C-29-03045	MC-SB-C-30-0708	MC-SB-C-31-00005
Analyte	Residential	Industrial	Residential	Industrial	Data Matrix[c]	12/13/01	12/13/01	12/13/01	12/13/01
1,1,1-Trichloroethane	630,000	1,400,000	27,000,000	720,000,000	NE	14 U	18 U	27 U	16 U
1,1,2,2-Tetrachloroethane	380	900	320,000	2,900,000	NE	14 U	18 U	27 U	16 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5,600,000	5,600,000	1,000,000,000	1,000,000,000	***2,300,000,000***	14 U	18 U	27 U	16 U
1,1,2-Trichloroethane	840	1,900	1,100,000	10,000,000	310,000	14 U	18 U	27 U	16 U
1,1-Dichloroethane	590,000	2,100,000	78,000,000	1,000,000,000	7,800,000	14 U	18 U	27 U	16 U
1,1-Dichloroethene	54	120	110,000	950,000	700,000	14 U	18 U	27 U	16 U
1,2,4-Trichlorobenzene	650,000	3,000,000	7,800,000	200,000,000	780,000	14 U	18 U	27 U	16 U
1,2-Dibromo-3-chloropropane	450	4,000	46,000	410,000	NE	14 U	18 U	27 U	16 U
1,2-Dibromoethane	7	48	750	6,700	NE	14 U	18 U	27 U	16 U
1,2-Dichlorobenzene	370,000	370,000	70,000,000	1,000,000,000	7,000,000	14 U	18 U	27 U	16 U
1,2-Dichloroethane	350	760	700,000	6,300,000	NE	14 U	18 U	27 U	16 U
1,2-Dichloropropane	350	770	940,000	8,400,000	NE	14 U	18 U	27 U	16 U
1,3-Dichlorobenzene	13,000	52,000	70,000,000	1,000,000,000	NE	14 U	18 U	27 U	16 U
1,4-Dichlorobenzene	3,400	8,100	NE	NE	NE	14 U	18 U	27 U	16 U
2-Butanone	NE	NE	NE	NE	NE	7 J	26	9 J	16 U
2-Hexanone	NE	NE	NE	NE	NE	14 U	18 U	27 U	16 U
4-Methyl-2-pentanone	NE	NE	NE	NE	NE	14 U	18 U	27 U	16 U
Acetone	1,600,000	6,200,000	78,000,000	***2,000,000,000***	7,800,000	56	160 U	71 U	18 U
Benzene	650	1,500	2,200,000	20,000,000	NE	2 J	3 J	9 J	16 U
Bromodichloromethane	1,000	2,400	1,000,000	8,200,000	1,600,000	14 U	18 U	27 U	16 U
Bromoform	62,000	310,000	8,100,000	72,000,000	NE	14 U	18 U	27 U	16 U
Bromomethane	3,900	13,000	1,100,000	28,000,000	110,000	14 U	18 U	27 UJ	16 UJ
Carbon Disulfide	360,000	720,000	78,000,000	1,000,000,000	7,800,000	5 J	25	6 J	29
Carbon Tetrachloride	240	530	490,000	4,400,000	55,000	14 U	18 U	27 U	16 U
Chlorobenzene	150,000	540,000	16,000 000	410,000,000	1,600,000	14 U	18 U	27 U	16 U
Chloroethane	3,000	6,500	310,000,000	1,000,000,000	NE	14 U	18 U	27 U	16 U
Chloroform	240	520	7,800,000	94,000,000	780,000	14 U	18 U	27 U	16 U
Chloromethane	1,200	2,700	4,900,000	44,000,000	NE	14 U	18 U	27 U	16 U
cis-1,2-Dichloroethene	43,000	150,000	7,800,000	200,000,000	780,000	14 U	18 U	27 U	16 U
cis-1,3-Dichloropropene	700	1,600	230,000	3,300,000	NE	14 U	18 U	27 U	16 U
Cyclohexane	140,000	140,000	NE	NE	NE	7 J	7 J	14 J	16 U
Dibromochloromethane	1,100	2,700	NE	NE	1,600,000	14 U	18 U	27 U	16 U
Dichlorodifluoromethane	94,000	310,000	160,000,000	1,000,000,000	16,000,000	14 U	18 U	27 U	16 U
Ethylbenzene	230,000	230,000	78,000,000	1,000,000,000	7,800,000	14 U	18 U	6 J	16 U
Isopropylbenzene	NE	NE	NE	NE	NE	14 U	18 U	27 U	16 U
Methyl tert-Butyl Ether	17,000	NE	3,900,000	100,000,000	NE	14 U	18 U	27 U	16 U
Methyl Acetate	22,000,000	96,000,000	780,000,000	1,000,000,000	NE	14 U	18 U	27 U	16 U
Methylcyclohexane	2,600,000	8,800,000	NE	NE	NE	10 J	9 J	20 J	16 U
Methylene Chloride	8,900	21,000	8,500,000	76,000,000	4,700,000	5 J	18 U	46	16 U
Styrene	1,700,000	1,700,000	160,000,000	1,000,000,000	16,000,000	14 U	18 U	27 U	16 U
Tetrachloroethene	NE	19,000	1,200,000	11,000,000	780,000	14 U	18 U	27 U	16 U
Toluene	520,000	520,000	160,000,000	1,000,000,000	16,000,000	2 J	2 J	2,400	16 U
trans-1,2-Dichloroethene	63,000	210,000	16,000,000	410,000,000	1,600,000	14 U	18 U	27 U	16 U
trans-1,3-Dichloropropene	NE	1,600	NE	3,300,000	NE	14 U	18 U	27 U	16 U

Table CS-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Volatile Organic Compound Results for Area C

	Screening Levels					Sample Code and Sampling Date			
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical	MC-SB-C-28-0405	MC-SB-C-29-03045	MC-SB-C-30-0708	MC-SB-C-31-00005
Analyte	Residential	Industrial	Residential	Industrial	Data Matrix[c]	12/13/01	12/13/01	12/13/01	12/13/01
Trichloroethene	2,800	6,100	4,700,000	52,000,000	NE	14 U	18 U	27 U	16 U
Trichlorofluoromethane	390,000	2,000,000	230,000,000	1,000,000,000	23,000,000	14 U	18 U	27 U	16 U
Vinyl Chloride	150	830	NE	NE	NE	14 U	18 U	27 U	16 U
Xylenes (total)	210,000	210,000	1,000,000,000	1,000,000,000	160,000,000	14 U	18 U	14 J	16 U

Table CS-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Volatile Organic Compound Results for Area C

Analyte	Screening Levels					Sample Code and Sampling Date		
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-C-34-00005	MC-SB-C-35-0507-BC	MC-SB-C-36-0102
	Residential	Industrial	Residential	Industrial		12/13/01	12/13/01	12/13/01
1,1,1-Trichloroethane	630,000	1,400,000	27,000,000	720,000,000	NE	11 U	10 U	16 U
1,1,2,2-Tetrachloroethane	380	900	320,000	2,900,000	NE	11 U	10 U	16 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	5,600,000	5,600,000	1,000,000,000	1,000,000,000	***2,300,000,000***	11 U	10 U	16 U
1,1,2-Trichloroethane	840	1,900	1,100,000	10,000,000	310,000	11 U	10 U	16 U
1,1-Dichloroethane	590,000	2,100,000	78,000,000	1,000,000,000	7,800,000	11 U	10 U	16 U
1,1-Dichloroethene	54	120	110,000	950,000	700,000	11 U	10 U	16 U
1,2,4-Trichlorobenzene	650,000	3,000,000	7,800,000	200,000,000	780,000	11 U	10 U	16 UJ
1,2-Dibromo-3-chloropropane	450	4,000	46,000	410,000	NE	11 U	10 U	16 UJ
1,2-Dibromoethane	7	48	750	6,700	NE	11 U	10 U	16 UJ
1,2-Dichlorobenzene	370,000	370,000	70,000,000	1,000,000,000	7,000,000	11 U	10 U	16 UJ
1,2-Dichloroethane	350	760	700,000	6,300,000	NE	11 U	10 U	16 U
1,2-Dichloropropane	350	770	940,000	8,400,000	NE	11 U	10 U	16 U
1,3-Dichlorobenzene	13,000	52,000	70,000,000	1,000,000,000	NE	11 U	10 U	16 UJ
1,4-Dichlorobenzene	3,400	8,100	NE	NE	NE	11 U	10 U	16 UJ
2-Butanone	NE	NE	NE	NE	NE	7 J	3 J	16 U
2-Hexanone	NE	NE	NE	NE	NE	11 U	10 U	16 UJ
4-Methyl-2-pentanone	NE	NE	NE	NE	NE	11 U	10 U	16 UJ
Acetone	1,600,000	6,200,000	78,000,000	***2,000,000,000***	7,800,000	160	14 U	42 U
Benzene	650	1,500	2,200,000	20,000,000	NE	1 J	3 J	6 J
Bromodichloromethane	1,000	2,400	1,000,000	8,200,000	1,600,000	11 U	10 U	16 U
Bromoform	62,000	310,000	8,100,000	72,000,000	NE	11 U	10 U	16 U
Bromomethane	3,900	13,000	1,100,000	29,000,000	110,000	11 U	10 UJ	16 UJ
Carbon Disulfide	360,000	720,000	78,000,000	1,000,000,000	7,800,000	1 J	10 U	16 U
Carbon Tetrachloride	240	530	490,000	4,400,000	55,000	11 U	10 U	16 U
Chlorobenzene	150,000	540,000	16,000 000	410,000,000	1,600,000	11 U	10 U	16 UJ
Chloroethane	3,000	6,500	310,000,000	1,000,000,000	NE	11 U	10 U	16 U
Chloroform	240	520	7,800,000	94,000,000	780,000	11 U	10 U	16 U
Chloromethane	1,200	2,700	4,900,000	44,000,000	NE	11 U	10 U	16 U
cis-1,2-Dichloroethene	43,000	150,000	7,800,000	200,000,000	780,000	11 U	10 U	16 U
cis-1,3-Dichloropropene	700	1,600	230,000	3,300,000	NE	11 U	10 U	16 U
Cyclohexane	140,000	140,000	NE	NE	NE	7 J	6 J	5 J
Dibromochloromethane	1,100	2,700	NE	NE	1,600,000	11 U	10 U	16 U
Dichlorodifluoromethane	94,000	310,000	160,000,000	1,000,000,000	16,000,000	11 U	10 U	16 U
Ethylbenzene	230,000	230,000	78,000,000	1,000,000,000	7,800,000	11 U	2 J	16 UJ
Isopropylbenzene	NE	NE	NE	NE	NE	11 U	10 U	16 UJ
Methyl tert-Butyl Ether	17,000	NE	3,900,000	100,000,000	NE	11 U	10 U	16 U
Methyl Acetate	22,000,000	96,000,000	780,000,000	1,000,000,000	NE	11 U	10 U	16 U
Methylcyclohexane	2,600,000	8,800,000	NE	NE	NE	7 J	7 J	5 J
Methylene Chloride	8,900	21,000	8,500,000	76,000,000	4,700,000	5 J	10 U	16 U
Styrene	1,700,000	1,700,000	160,000,000	1,000,000,000	16,000,000	11 U	10 U	16 UJ
Tetrachloroethene	NE	19,000	1,200,000	11,000,000	780,000	11 U	10 U	16 UJ
Toluene	520,000	520,000	160,000,000	1,000,000,000	16,000,000	2 J	7 J	7 J
trans-1,2-Dichloroethene	63,000	210,000	16,000,000	410,000,000	1,600,000	11 U	10 U	16 U
trans-1,3-Dichloropropene	NE	1,600	NE	3,300,000	NE	11 U	10 U	16 U

Table CS-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Volatile Organic Compound Results for Area C

Analyte	Screening Levels					Sample Code and Sampling Date		
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-C-34-00005	MC-SB-C-35-0507-BC	MC-SB-C-36-0102
	Residential	Industrial	Residential	Industrial		12/13/01	12/13/01	12/13/01
Trichloroethene	2,800	6,100	4,700,000	52,000,000	NE	1 J	10 U	16 U
Trichlorofluoromethane	390,000	2,000,000	230,000,000	1,000,000,000	23,000,000	11 U	10 U	16 U
Vinyl Chloride	150	830	NE	NE	NE	11 U	10 U	16 U
Xylenes (total)	210,000	210,000	1,000,000,000	1,000,000,000	160,000,000	11 U	3 J	5 J

Table CS-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Volatile Organic Compound Results for Area C

Notes:
All screening levels and sample concentrations are presented in micrograms per kilogram.

J = Value reported is an approximate concentration of the analyte
NE = Not established
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
Italics = Value in ***Italics*** is greater than the concentration of pure material itself (100 percent). According to Reference "b", "When the numerical values were generated from the model, no attempt was made to stop a calculation greater-than the total concentration. This means, for example, that if a compound has a worker soil ingestion value over 1 million mg/kg (1 million parts per million), then from an emergency perspective the compound does not pose a toxic threat to workers via soil ingestion. Values over the total concentration are useful in comparing the relative toxicity of several compounds, so they were kept in place."

[a] U.S. Environmental Protection Agency Region 9 Preliminary Remediation Goals for Residential and Industrial Soil (November 2000)
[b] U.S. Environmental Protection Agency Hazard Evaluation Handbook (October 1997)
[c] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Soil Pathway Reference Dose Screening Concentrations (June 1996)

Table CS-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Semivolatile Organic Compound Results for Area C

	Screening Levels					Sample Code and Sampling Date						
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data	MC-SB-C-28-0405	MC-SB-C-29-03045	MC-SB-C-30-0708	MC-SB-C-31-00005	MC-SB-C-34-00005	MC-SB-C-35-0507-BC	MC-SB-C-36-0102
Analyte	Residential	Industrial	Residential	Industrial	Matrix[c]	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01
1,1'-Biphenyl	350,000	350,000	39,000,000	1,000,000,000	3,900,000	1,900 U	410 U	440 UJ	2,100 U	120 J	380 UJ	410 U
2,2'-oxybis(1-Chloropropane)	NE	NE	NE	NE	NE	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
2,4,5-Trichlorophenol	6,100,000	88,000,000	78,000,000	1,000,000,000	7,800,000	4,800 U	1,000 UJ	1,100 U	5,300 U	940 U	970 U	1,000 U
2,4,6-Trichlorophenol	44,000	220,000	5,800,000	52,000,000	NE	1,900 U	410 UJ	440 U	2,100 U	370 U	380 U	410 U
2,4-Dichlorophenol	1,800,000	2,600,000	2,300,000	61,000,000	230,000	1,900 U	410 UJ	440 U	2,100 U	370 U	380 U	410 U
2,4-Dimethylphenol	1,200,000	18,000,000	16,000,000	410,000,000	1,600,000	1,900 U	410 UJ	440 U	2,100 U	370 U	380 U	410 U
2,4-Dinitrophenol	120,000	1,800,000	1,600,000	41,000,000	160,000	4,800 U	1,000 UJ	1,100 U	5,300 U	940 U	970 U	1,000 U
2,4-Dinitrotoluene	120,000	1,800,000	1,600,000	41,000,000	160,000	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
2,6-Dinitrotoluene	61,000	880,000	780,000	20,000,000	78,000	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
2-Chloronaphthalene	NE	NE	NE	NE	6,300,000	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
2-Chlorophenol	63,000	240,000	3,900,000	100,000,000	390,000	1,900 U	410 UJ	440 U	2,100 U	370 U	380 U	410 U
2-Methylnaphthalene	NE	NE	NE	NE	NE	540 J	110 J	440 UJ	2,100 U	660	380 UJ	410 U
2-Methylphenol	3,100,000	44,000,000	39,000,000	1,000,000,000	NE	1,900 U	410 UJ	440 U	2,100 U	370 U	380 U	410 U
2-Nitroaniline	3,500	50,000	47,000	1,200,000	NE	4,800 U	1,000 U	1,100 UJ	5,300 U	940 U	970 UJ	1,000 U
2-Nitrophenol	490,000	NE	NE	NE	NE	1,900 U	410 UJ	440 U	2,100 U	370 U	380 U	410 U
3,3'-Dichlorobenzidine	1,100	5,500	6,900	1,300,000	NE	1,900 UJ	410 UJ	440 UJ	2,100 U	370 U	380 UJ	410 U
3-Nitroaniline	NE	NE	2,300,000	61,000,000	NE	4,800 U	1,000 U	1,100 UJ	5,300 U	940 U	970 UJ	1,000 U
4,6-Dinitro-2-methylphenol	120,000	NE	NE	NE	NE	4,800 U	1,000 UJ	1,100 U	5,300 U	940 U	970 U	1,000 U
4-Bromophenyl-phenylether	NE	NE	45,000,000	1,000,000,000	NE	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
4-Chloro-3-methylphenol	NE	NE	NE	NE	160,000,000	1,900 U	410 UJ	440 U	2,100 U	370 U	380 U	410 U
4-Chloroaniline	240,000	3,500,000	3,100,000	82,000,000	310,000	1,900 U	410 UJ	440 UJ	2,100 U	370 U	380 UJ	410 U
4-Chlorophenyl-phenylether	NE	NE	NE	NE	NE	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
4-Methylphenol	310,000	4,400,000	3,900,000	100,000,000	NE	1,900 U	410 UJ	440 U	2,100 U	370 U	380 U	410 U
4-Nitroaniline	NE	NE	2,300,000	61,000,000	NE	4,800 U	1,000 U	1,100 UJ	5,300 U	940 U	970 UJ	1,000 U
4-Nitrophenol	NE	7,000,000	48,000,000	1,000,000,000	NE	4,800 U	1,000 UJ	1,100 U	5,300 U	940 U	970 U	1,000 U
Acenaphthene	3,700,000	38,000,000	47,000,000	1,000,000,000	4,700,000	1,900 U	410 U	440 UJ	2,100 U	93 J	380 UJ	410 U
Acenaphthylene	NE	NE	NE	NE	NE	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
Acetophenone	490	1,600	78,000,000	1,000,000,000	7,800,000	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
Anthracene	22,000,000	100,000,000	230,000,000	1,000,000,000	23,000,000	410 J	410 U	440 UJ	2,100 U	210 J	380 UJ	410 U
Atrazine	2,200	11,000	NE	2,600,000	2,700,000	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
Benzaldehyde	6,100,000	880,000,000	78,000,000	1,000,000,000	NE	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
Benzo(a)anthracene	620	2,900	88,000	780,000	NE	1,600 J	280 J	120 J	1,300 J	1,100	380 UJ	380 J
Benzo(a)pyrene	62	290	8,800	78,000	NE	1,200 J	240 J	570 J	520 J	240 J	380 UJ	230 J
Benzo(b)fluoranthene	620	2,900	88,000	780,000	NE	1,400 J	330 J	230 J	910 J	900	380 UJ	290 J
Benzo(g,h,i)perylene	NE	NE	NE	NE	NE	1,900 U	410 U	99 J	2,100 U	370 U	380 UJ	150 J
Benzo(k)fluoranthene	6,200	29,000	870,000	7,800,000	NE	1,400 J	230 J	200 J	910 J	630	380 UJ	270 J
bis(2-Chloroethoxy)methane	NE	NE	NE	NE	NE	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
bis-(2-Chloroethyl)ether	210	620	58,000	520,000	NE	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
bis(2-Ethylhexyl)phthalate	35,000	180,000	4,600,000	41,000,000	1,600,000	1,900 U	110 J	440 UJ	2,100 U	210 J	380 UJ	410 U
Butylbenzylphthalate	12,000,000	100,000,000	160,000,000	1,000,000,000	16,000,000	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
Caprolactam	31,000,000	100,000,000	390,000,000	1,000,000,000	NE	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
Carbazole	24,000	120,000	3,200,000	29,000,000	NE	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
Chrysene	62,000	290,000	8,700,000	78,000,000	NE	1,900	360 J	260 J	1,800 J	990	380 UJ	470
Dibenzo(a,h)anthracene	62	290	8,800	78,000	NE	1,900 U	410 U	440 UJ	2,100 U	310 J	380 UJ	89 J

Table CS-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Semivolatile Organic Compound Results for Area C

	Screening Levels					Sample Code and Sampling Date						
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data Matrix[c]	MC-SB-C-28-0405	MC-SB-C-29-03045	MC-SB-C-30-0708	MC-SB-C-31-00005	MC-SB-C-34-00005	MC-SB-C-35-0507-BC	MC-SB-C-36-0102
Analyte	Residential	Industrial	Residential	Industrial		12/13/01	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01
Dibenzofuran	290,000	5,100,000	3,100,000	82,000,000	NE	1,900 U	410 U	440 UJ	790 J	200 J	380 UJ	410 U
Diethylphthalate	49,000,000	100,000,000	630,000,000	1,000,000,000	63,000,000	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
Dimethylphthalate	100,000,000	100,000,000	1000000000	1,000,000,000	NE	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
Di-n-butylphthalate	NE	NE	NE	NE	7,800,000	1,900 U	410 U	440 UJ	2,100 U	130 J	380 UJ	410 U
Di-n-octylphthalate	1,200,000	10,000,000	16,000,000	410,000,000	1,600,000	1,900 UJ	410 U	440 UJ	2,100 U	370 U	380 UJ	410 UJ
Fluoranthene	56,000	30,000,000	31,000,000	820,000,000	3,100,000	3,300	540	450 J	2,900	1,500	380 UJ	840
Fluorene	2,600,000	33,000,000	31,000,000	820,000,000	3,100,000	1,900 U	410 U	440 UJ	2,100 U	150 J	380 UJ	410 U
Hexachlorobenzene	300	1,500	40,000	360,000	63,000	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
Hexachlorobutadiene	6,200	32,000	820,000	7,300,000	16,000	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
Hexachlorocyclopentadiene	420,000	5,900,000	5,500,000	140,000,000	550,000	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 UJ
Hexachloroethane	35,000	180,000	4,600,000	410,000,000	78,000	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
Indeno(1,2,3-cd)pyrene	620	2,900	88,000	780,000	NE	750 J	170 J	350 J	2,100 U	260 J	380 UJ	170 J
Isophorone	510,000	2,600,000	67,000,000	600,000,000	160,000,000	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
Naphthalene	56,000	190,000	31,000,000	820,000,000	31,000,000	1,900 U	86 J	440 UJ	2,100 U	410	380 UJ	130 J
Nitrobenzene	20,000	110,000	NE	NE	39,000	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
N-Nitroso-di-n-propylamine	69	350	9,100	82,000	NE	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
N-Nitrosodiphenylamine	99,000	500,000	13,000,000	120,000,000	NE	1,900 U	410 U	440 UJ	2,100 U	370 U	380 UJ	410 U
Pentachlorophenol	3,000	11,000	NE	1,000,000	2,300,000	4,800 U	1,000 UJ	1,100 U	5,300 U	940 U	970 U	1,000 U
Phenanthrene	NE	NE	NE	NE	NE	2,500	NA	230 J	3,400	1,300	380 UJ	450
Phenol	37,000,000	100,000,000	470,000,000	1,000,000,000	47,000,000	1,900 U	410 UJ	440 U	2,100 U	370 U	380 U	410 U
Pyrene	2,300,000	54,000,000	23,000,000	610,000,000	2,300,000	3,300	470	1,100 J	2,000 J	690	380 UJ	510
1,2,3-Trimethyl-4-propenyl naphthalene[d]	NE	NE	NE	NE	NE	ND	ND	ND	ND	ND	ND	ND

Notes:
All screening levels and sample concentrations are presented in micrograms per kilogram.
J = Value reported is an approximate concentration of the analyte
NA = Not analyzed
ND = Not detected
NE = Not established
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
Shading = Result exceeds one or more screening levels

[a] U.S. Environmental Protection Agency Region 9 Preliminary Remediation Goals for Residential and Industrial Soil (November 2000)
[b] U.S. Environmental Protection Agency Hazard Evaluation Handbook (October 1997)
[c] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Soil Pathway Reference Dose Screening Concentrations (June 1996)
[d] The laboratory was unable to find a standard solution of 1,2,3-trimethyl-4-propenyl naphthalene, a tentatively identified compound (TIC). The laboratory increased the library search from 30 to 50 compounds to find the reference compound. However, this TIC was not found in the sample.

Table CS-Pesticides/PCBs
Milwaukee Solvay Coke and Gas Site
Summary of Soil Sample Pesticide and Polychlorinated Biphenyl Results for Area C

	Screening Levels					Sample Code and Sampling Date				Sample Code and Sampling Date		
	Preliminary Remediation Goals[a]		Emergency Removal Guidelines[b]		Superfund Chemical Data	MC-SB-C-28-0405	MC-SB-C-29-03045	MC-SB-C-30-0708	MC-SB-C-31-00005	MC-SB-C-34-00005	MC-SB-C-35-0507-BC	MC-SB-C-36-0102
Analyte	Residential	Industrial	Residential	Industrial	Matrix[c]	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01
4,4'-DDD	2,400	17,000	2,400,000	2,400,000	230,000	38 U	41 U	4.4 U	4.2 R	38 U	3.8 U	41 U
4,4'-DDE	1,700	12,000	1,700,000	1,700,000	NE	38 U	41 U	4.4 U	4.2 R	38 U	3.8 U	41 U
4,4'-DDT	1,700	12,000	1,700,000	1,700,000	NE	38 U	41 U	4.4 U	4.2 R	38 U	3.8 UJ	41 U
Aldrin	29	150	34,000	34,000	2,300	20 U	21 U	2.3 U	2.2 R	19 U	2.0 U	21 U
alpha-BHC	NE	590	91,000	91,000	NE	20 U	21 U	2.3 U	2.2 R	19 U	2.0 U	21 U
alpha-Chlordane	NE	11,000	440,000	NE	4,700	20 U	21 U	2.3 U	2.2 R	19 U	2.0 U	21 U
Aroclor 1016	3,900	29,000	1,400,000	1,400,000	1,600	380 U	410 U	44 U	42 R	380 U	38 U	410 U
Aroclor 1221	220	1,000	286,000	286,000	1,600	780 U	820 U	89 U	86 R	760 U	78 U	840 U
Aroclor 1232	220	1,000	286,000	286,000	1,600	380 U	410 U	44 U	42 R	380 U	38 U	410 U
Aroclor 1242	220	1,000	286000	286,000	1,600	380 U	410 U	44 U	42 R	380 U	38 U	410 U
Aroclor 1248	220	1,000	286,000	286,000	1,600	380 U	410 U	44 U	42 R	380 U	38 U	410 U
Aroclor 1254	220	1,000	410,000	410,000	1,600	380 U	410 U	44 U	42 R	380 U	38 U	410 U
Aroclor 1260	220	1,000	286,000	286,000	1,600	380 U	410 U	44 U	42 R	380 U	38 U	410 U
beta-BHC	NE	2,100	320,000	320,000	NE	20 U	21 U	2.3 U	2.2 R	19 U	2.0 U	21 U
delta-BHC	NE	NE	NE	NE	NE	20 U	21 U	2.3 U	2.2 R	19 U	2.0 U	21 U
Dieldrin	30	150	36,000	36,000	3,900	38 U	41 U	4.4 U	4.2 R	38 U	3.8 UJ	41 U
Endosulfan I	370,000	5,300,000	120,000,000	120,000,000	4,700,000	20 U	21 U	2.3 U	2.2 R	19 U	2.0 U	21 U
Endosulfan II	NE	NE	NE	NE	4,700,000	38 U	41 U	4.4 U	4.2 R	38 U	3.8 U	41 U
Endosulfan Sulfate	NE	NE	NE	NE	NE	38 U	41 U	4.4 U	4.2 R	38 U	3.8 U	41 U
Endrin	18,000	260,000	6,100,000	6,100,000	23,000	38 U	41 U	4.4 U	4.2 R	38 U	3.8 UJ	41 U
Endrin Ketone	NE	NE	NE	NE	NE	38 U	41 U	4.4 U	4.2 R	38 U	3.8 U	41 U
Endrin Aldehyde	NE	NE	NE	NE	NE	38 U	41 U	4.4 U	4.2 R	38 U	3.8 U	41 U
gamma-BHC (Lindane)	NE	2,900	49,000	440,000	2,300	20 U	21 U	2.3 U	2.2 R	19 U	2.0 U	21 U
gamma-Chlordane	1,600	11,000	440,000	NE	4,700	20 U	21 U	2.3 U	2.2 R	19 U	2.0 U	21 U
Heptachlor	110	550	130,000	130,000	39,000	20 U	21 U	2.3 U	2.2 R	19 U	2.0 U	21 U
Heptachlor Epoxide	53	270	7,000	63,000	1,000	20 U	21 U	2.3 U	2.2 R	19 U	2.0 U	21 U
Methoxychlor	31,000	4,400,000	NE	100,000,000	390,000	200 U	210 U	23 U	22 R	190 U	20 U	210 U
Toxaphene	440	2,200	520,000	520,000	NE	2,000 U	2,100 U	230 U	220 R	1,900 U	200 U	2,100 U

Notes:
All screening levels and sample concentrations are presented in micrograms per kilogram.

NE = Not established
R = Data are unusable; analyte may or may not be present
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit

[a] U.S. Environmental Protection Agency Region 9 Preliminary Remediation Goals for Residential and Industrial Soil (November 2000)
[b] U.S. Environmental Protection Agency Hazard Evaluation Handbook (October 1997)
[c] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Soil Pathway Reference Dose Screening Concentrations (June 1996)

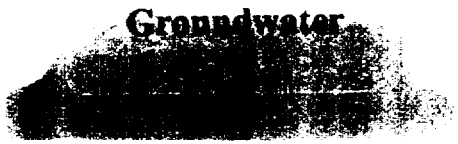
Groundwater

Table CGW-Inorganics
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Inorganic Results for Area C

Analyte	Screening Level[a]	Sample Code and Sampling Date	
		MC-GW-C-33-07	
		12/13/01	
Aluminum	NE	3,700	
Antimony	6	3.7	U
Arsenic	50	18.7	
Barium	2,000	140	
Beryllium	4	0.40	U
Cadmium	5	1.7	
Calcium	NE	149,000	
Chromium	100	6.8	
Cobalt	NE	8.7	
Copper	1,300	86.7	
Cyanide	200	5.0	J
Iron	NE	8,750	
Lead	15	364	
Magnesium	NE	80,300	
Manganese	NE	703	
Mercury	2	0.29	
Nickel	NE	17.0	
Potassium	NE	16,700	J
Selenium	50	4.8	U
Silver	NE	1.0	U
Sodium	NE	19,700	
Thallium	2[b]	5.2	UJ
Vanadium	NE	10.8	
Zinc	NE	171	

Notes:

All screening levels and sample concentrations are presented in micrograms per liter.

J = Value reported is an approximate concentration of the analyte

NE = Not established

U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit

UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit

Shading = Result exceeds one ore more screening levels

[a] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)

[b] 40 *Code of Federal Regulations* Part 141, Supart B

Table CGW-Phenols/Sulfide
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Total Phenols and Total Sulfide Results for Area C

Analyte	Screening Level[a]	Sample Code and Sampling Date MC-GW-C-33-07 12/13/01
Total Phenols	NE	0.0480
Total Sulfide	NE	1.20

Notes:
All sample concentrations are presented in milligrams per liter.
NE = Not established
[a] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)

Table CGW-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Volatile Organic Compound Results for Area C

Analyte	Screening Level[a]	Sample Code and Sampling Date MC-GW-C-33-07 12/13/01
1,1,1-Trichloroethane	200	10 U
1,1,2,2-Tetrachloroethane	NE	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	NE	10 U
1,1,2-Trichloroethane	3	10 U
1,1-Dichloroethane	NE	10 U
1,1-Dichloroethene	7	10 U
1,2,4-Trichlorobenzene	70	10 U
1,2-Dibromo-3-chloropropane	0.2	10 R
1,2-Dibromoethane	0.05	10 U
1,2-Dichlorobenzene	600	10 U
1,2-Dichloroethane	5	10 U
1,2-Dichloropropane	5	10 U
1,3-Dichlorobenzene	600	10 U
1,4-Dichlorobenzene	75	10 U
2-Butanone	NE	10 U
2-Hexanone	NE	10 U
4-Methyl-2-pentanone	NE	10 U
Acetone	NE	3 J
Benzene	5	10 U
Bromodichloromethane	100	10 U
Bromoform	NE	10 U
Bromomethane	NE	10 U
Carbon Disulfide	NE	10 U
Carbon Tetrachloride	5	10 U
Chlorobenzene	100	10 U
Chloroethane	NE	10 R
Chloroform	100	10 U
Chloromethane	NE	10 U
cis-1,2-Dichloroethene	70	10 U
cis-1,3-Dichloropropene	NE	10 U
Cyclohexane	NE	10 U
Dibromochloromethane	60	10 U
Dichlorodifluoromethane	NE	10 U
Ethylbenzene	700	10 U
Isopropylbenzene	NE	10 U
Methyl tert-Butyl Ether	NE	10 U
Methyl Acetate	NE	10 U
Methylcyclohexane	NE	10 U
Methylene Chloride	5	10 U
Styrene	100	10 U
Tetrachloroethene	5	10 U
Toluene	1,000	2 J
trans-1,2-Dichloroethene	100	10 U
trans-1,3-Dichloropropene	NE	10 U
Trichloroethene	5	10 U

Table CGW-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Volatile Organic Compound Results for Area C

Analyte	Screening Level[a]	Sample Code and Sampling Date
		MC-GW-C-33-07
		12/13/01
Trichlorofluoromethane	NE	10 U
Vinyl Chloride	2	10 U
Xylenes (total)	1,000	10 U

Notes:
All screening levels and sample concentrations are presented in micrograms per liter.
J = Value reported is an approximate concentration of the analyte
NE = Not established
R = Data are unusable; analyte may or may not be present
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
[a] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)

Table CGW-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Semivolatile Organic Compound Results for Area C

Analyte	Screening Level[a]	Sample Code and Sampling Date MC-GW-C-33-07 12/13/01
1,1'-Biphenyl	NE	10 U
2,2'-oxybis(1-Chloropropane)	NE	10 U
2,4,5-Trichlorophenol	NE	25 U
2,4,6-Trichlorophenol	NE	10 U
2,4-Dichlorophenol	NE	10 U
2,4-Dimethylphenol	NE	10 U
2,4-Dinitrophenol	NE	25 U
2,4-Dinitrotoluene	NE	10 U
2,6-Dinitrotoluene	NE	10 U
2-Chloronaphthalene	NE	10 U
2-Chlorophenol	NE	10 U
2-Methylnaphthalene	NE	10 U
2-Methylphenol	NE	10 U
2-Nitroaniline	NE	25 U
2-Nitrophenol	NE	10 U
3,3'-Dichlorobenzidine	NE	10 UJ
3-Nitroaniline	NE	25 U
4,6-Dinitro-2-methylphenol	NE	25 U
4-Bromophenyl-phenylether	NE	10 U
4-Chloro-3-methylphenol	NE	10 U
4-Chloroaniline	NE	10 U
4-Chlorophenyl-phenylether	NE	10 U
4-Methylphenol	NE	10 U
4-Nitroaniline	NE	25 U
4-Nitrophenol	NE	25 U
Acenaphthene	NE	10 U
Acenaphthylene	NE	10 U
Acetophenone	NE	10 U
Anthracene	NE	10 U
Atrazine	3	10 U
Benzaldehyde	NE	10 U
Benzo(a)anthracene	NE	10 U
Benzo(a)pyrene	0.2	10 U
Benzo(b)fluoranthene	NE	10 U
Benzo(g,h,i)perylene	NE	10 U
Benzo(k)fluoranthene	NE	10 U
bis(2-Chloroethoxy)methane	NE	10 U
bis-(2-Chloroethyl)ether	NE	10 U
Bis(2-Ethylhexyl)phthalate	6	10 U
Butylbenzylphthalate	NE	10 U
Caprolactam	NE	10 U
Carbazole	NE	10 U
Chrysene	NE	10 U
Dibenzo(a,h)anthracene	NE	10 U
Dibenzofuran	NE	10 U

Table CGW-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Semivolatile Organic Compound Results for Area C

Analyte	Screening Level[a]	Sample Code and Sampling Date MC-GW-C-33-07 12/13/01
Diethylphthalate	NE	10 U
Dimethylphthalate	NE	10 U
Di-n-butylphthalate	NE	10 U
Di-n-octylphthalate	NE	10 UJ
Fluoranthene	NE	10 U
Fluorene	NE	10 U
Hexachlorobenzene	1	10 U
Hexachlorobutadiene	NE	10 U
Hexachlorocyclopentadiene	50	10 U
Hexachloroethane	NE	10 U
Indeno(1,2,3-cd)pyrene	NE	10 U
Isophorone	NE	10 U
Naphthalene	NE	10 U
Nitrobenzene	NE	10 U
N-Nitroso-di-n-propylamine	NE	10 U
N-Nitrosodiphenylamine	NE	10 U
Pentachlorophenol	1	25 U
Phenanthrene	NE	10 U
Phenol	NE	10 U
Pyrene	NE	10 U
1,2,3-Trimethyl-4-propenyl naphthalene[b]	NE	ND

Notes:
All screening levels and sample concentrations are presented in micrograms per liter.
ND = Not detected
NE = Not established
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit

[a] U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)

[b] The laboratory was unable to find a standard solution of 1,2,3-trimethyl-4-propenyl naphthalene, a tentatively identified compound (TIC). The laboratory increased the library search from 30 to 50 compounds to find the reference compound. However, this TIC was not found in the sample.

Table CGW-Pesticides/PCBs
Milwaukee Solvay Coke and Gas Site
Summary of Groundwater Sample Pesticide and Polychlorinated Biphenyl Results for Area C

Analyte	Screening Level*	Sample Code and Sampling Date MC-GW-C-33-07 12/13/01
4,4'-DDD	NE	1.0 U
4,4'-DDE	NE	1.0 U
4,4'-DDT	NE	1.0 U
Aldrin	NE	0.51 U
alpha-BHC	NE	0.51 U
alpha-Chlordane	NE	0.51 U
Aroclor 1016	0.5	10 U
Aroclor 1221	0.5	20 U
Aroclor 1232	0.5	10 U
Aroclor 1242	0.5	10 U
Aroclor 1248	0.5	10 U
Aroclor 1254	0.5	10 U
Aroclor 1260	0.5	10 U
beta-BHC	NE	0.51 U
delta-BHC	NE	0.51 U
Dieldrin	NE	1.0 U
Endosulfan I	NE	0.51 U
Endosulfan II	NE	1.0 U
Endosulfan Sulfate	NE	1.0 U
Endrin	2	1.0 U
Endrin Ketone	NE	1.0 U
Endrin Aldehyde	NE	1.0 U
gamma-BHC (Lindane)	0.2	0.51 U
gamma-Chlordane	NE	0.51 U
Heptachlor	0.4	0.51 U
Heptachlor Epoxide	0.2	0.51 U
Methoxychlor	40	5.1 U
Toxaphene	3	51 U

Notes:
All screening levels and sample concentrations are presented in micrograms per liter.
NE = Not established
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
* U.S. Environmental Protection Agency Superfund Chemical Data Matrix Groundwater Pathway Maximum Contaminant Levels (June 1996)

Area D

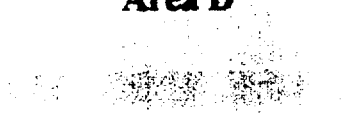

Table DSD-Inorganics
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Inorganic Results for Area D

Analyte	Screening Level[a]	Sample Code and Sampling Date								
		MC-SD-D-001-0203	MC-SD-D-001-0506	MC-SD-D-001-0608	MC-SD-D-001-0608-D	MC-SD-D-002-0102	MC-SD-D-002-025035	MC-SD-D-002-0405	MC-SD-D-003-00015	MC-SD-D-003-01504
		12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01
Aluminum	NE	9,930	6,090	5,650	6,810	10,100	8,410	9,960	7,650	4,950
Antimony	NE	1.4 UJ	1.9 J	2.0 J	1.7 J	1.6 UJ	1.3 UJ	1.4 J	1.3 UJ	1.1 UJ
Arsenic	6	10.8	14.9	19.6	20.1	9.8 J	9.4 J	13.5 J	7.4	8.0
Barium	NE	111	138	170	114	124	97.3	128	89.5	69.9
Beryllium	NE	0.74 J	0.68 J	0.62 J	0.52	0.62 J	0.65 J	0.83	0.61 J	0.56 J
Cadmium	0.6	4.3	4.5	4.6	3.6	3.5	3.9	5.9	2.7	4.2
Calcium	NE	70,700	51,600	54,400	44,700	82,100	67,800	58,000	70,600	27,600
Chromium	26	200	138	247	149	143 J	164 J	185 J	75.6	245
Cobalt	NE	8.0	6.6	4.7	5.7	7.6	6.5	8.0	5.4	4.1
Copper	16	112 J	87.9 J	85.9 J	81.7	126	115	90.7	98.9 J	57.9 J
Cyanide	NE	1.5 J	1.1 J	2.2 J	2.3	1.3	1.3	2.1	1.4 J	1.2 J
Iron	NE	22,900	27,500	19,800	16,300	23,400	20,000	22,200	18,400	13,300
Lead	31	329	244	226	233	255	355	480	270	354
Magnesium	NE	33,800	19,600	19,400	18,000	38,500	32,400	26,900	33,800	12,700
Manganese	460	510 J	338 J	314 J	282	492 J	483 J	520 J	421 J	323 J
Mercury	0.2	0.40 J	0.50 J	1.2 J	1.1	0.45 J	0.54 J	0.49 J	0.44 J	0.21 J
Nickel	16	32.8	24.3	19.7	21.0	32.5	28.9	32.0	26.6	16.9
Potassium	NE	1,810 J	1,060 J	1,030 J	1,210 J	1,820 J	1,530 J	1,760 J	1,420 J	846 J
Selenium	NE	1.8 U	2.3	3.1	4.1	2.0 U	1.6 U	1.5 J	1.7 U	1.4 U
Silver	NE	1.2	1.5	0.73	0.78	1.3	1.1	1.7	0.87	1.2
Sodium	NE	1,240 J	902 J	1,030 J	995 J	1,360 J	1,070 J	1,060 J	996 J	1,010 J
Thallium	NE	2.0 R	1.6 R	1.7 R	1.6 R	2.2 UJ	1.8 UJ	1.5 UJ	1.8 R	1.5 R
Vanadium	NE	25.8	16.9	15.5	17.2	25.4	21.9	23.9	18.8	12.2
Zinc	120	600	381	529	452	638 J	529 J	546 J	487	495

Table DSD-Inorganics
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Inorganic Results for Area D

Analyte	Screening Level[a]	Sample Code and Sampling Date							
		MC-SD-D-004-0102	MC-SD-D-004-025035	MC-SD-D-005-0102	MC-SD-D-005-0304	MC-SD-D-005-0405	MC-SD-D-006-0203	MC-SD-D-006-0506	MC-SD-D-007-0203
		12/12/01	12/12/01	12/13/01	12/13/01	12/13/01	12/12/01	12/12/01	12/13/01
Aluminum	NE	10,300	9,390	3,820	7,060	8,450	12,200	13,000	9,150
Antimony	NE	1.6 UJ	1.5 UJ	1.2 UJ	1.8 J	2.0 J	1.7 J	1.4 UJ	1.2 UJ
Arsenic	6	10.8 J	9.6 J	7.5 J	16.6 J	13.2 J	13.2 J	13.5 J	9.7 J
Barium	NE	123	117	51.4	94.9	128	183	131	109
Beryllium	NE	0.67 J	0.82 J	0.47 J	0.75 J	0.70 J	1.0	0.90 J	0.66 J
Cadmium	0.6	3.7	3.6	1.6	5.6	11.4	7.8	5.2	3.5
Calcium	NE	76,300	67,700	24,100	36,200	43,100	58,900	58,600	80,400
Chromium	26	175 J	208 J	49.9 J	81.7 J	111 J	352 J	140 J	122 J
Cobalt	NE	7.4	7.3	3.5	5.1	8.9	8.6	9.6	7.2
Copper	16	113	104	48.2	73.0	138	126	82.5	113
Cyanide	NE	1.2	0.88	0.87	5.0	2.4	1.9	1.3	1.0
Iron	NE	24,400	22,200	12,300	40,200	25,900	27,700	26,400	22,400
Lead	31	246	268	95.9	265	315	1,030	360	400
Magnesium	NE	35,800	31,300	10,600	16,500	19,400	29,900	28,100	40,200
Manganese	460	574 J	462 J	209 J	367 J	348 J	613 J	451 J	498 J
Mercury	0.2	0.080 U	0.40 J	0.14 J	0.51 J	0.63 J	0.51 J	0.48 J	0.65 J
Nickel	16	32.7	28.6	15.8	25.1	29.4	36.0	36.8	34.3
Potassium	NE	1,900 J	1,730 J	671 J	1,110 J	1,440 J	2,150 J	2,410 J	1,650 J
Selenium	NE	2.1U	2.0 U	1.6 U	2.2 J	3.5 J	2.0 J	1.8 U	1.6 U
Silver	NE	1.1	1.1	0.53	0.85	1.4	2.2	1.4	1.3
Sodium	NE	1,450 J	1,260 J	410 J	1,200 J	1,190 J	1,660 J	1,040 J	1,280 J
Thallium	NE	2.3 UJ	2.2 UJ	1.7 UJ	1.7 UJ	1.9 UJ	2.0 UJ	1.9 UJ	1.7 UJ
Vanadium	NE	25.7	24.4	11.1	16.4	21.7	29.4	29.8	23.6
Zinc	120	574 J	542 J	217 J	625 J	578 J	982 J	463 J	650 J

Table DSD-Inorganics
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Inorganic Results for Area D

Analyte	Screening Level[a]	Sample Code and Sampling Date							
		MC-SD-D-007 0405	MC-SD-D-008-0103	MC-SD-D-008-0103-D	MC-SD-D-008-0607	MC-SD-D-009-0003	MC-SD-D-009-0506	MC-SD-D-009-0708	MC-SD-D-010-0002
		12/13/01	12/13/01	12/13/01	12/13/01	12/14/01	12/14/01	12/14/01	12/14/01
Aluminum	NE	11,500	9,700	9,060	9,830	10,300	9,110	5,310	2,060
Antimony	NE	1.2 UJ	1.6 J	1.3 UJ	1.5 J	1.6 J	3.2 J	3.9 J	0.91 UJ
Arsenic	6	11.4 J	8.9	7.2	12.2 J	9.4	12.7	12.6	1.3
Barium	NE	119	115	107	121	120	213	195	23.7
Beryllium	NE	0.81	0.64	0.54	0.58	0.76 J	0.66	0.50	0.13
Cadmium	0.6	5.8	6.1	4.4	5.3	5.0	6.0	2.5	0.22
Calcium	NE	63,400	65,700	72,400	58,800	67,400	67,800	79,900	67,800
Chromium	26	192 J	323	161	162 J	147	1,790	2,010	17.1
Cobalt	NE	7.6	8.2	7.8	7.2	8.1	7.2	4.8	2.4
Copper	16	119	114	114	86.4	83.8	123	121	18.4
Cyanide	NE	2.1	2.0	2.5	1.3	1.5	1.3	1.5	0.20
Iron	NE	24,900	21,100	20,200	21,300	22,200	30,700	30,900	5,970
Lead	31	527	689	466	488	386	308	245	82.7
Magnesium	NE	32,300	31,100	33,900	26,400	29,000	22,900	20,700	28,000
Manganese	460	519 J	591	501	478 J	499	430	581	223
Mercury	0.2	0.38 J	0.38	0.41	0.47 J	0.41	2.5	2.3	0.47
Nickel	16	35.6	31.8	35.6	31.7	30.5	36.1	25.9	7.8
Potassium	NE	2,070 J	1,700 J	1,640 J	1,810 J	1,790 J	1,450 J	877 J	403 J
Selenium	NE	1.5 U	1.6	1.7 U	1.6 U	1.8	2.3	2.0	1.2 U
Silver	NE	1.5	1.9	1.4	1.8	1.3	0.96	0.98	0.25 U
Sodium	NE	1,470 J	1,490 J	1,310 J	1,090 J	1,090 J	1,710 J	1,340 J	484 J
Thallium	NE	1.7 UJ	1.7 R	1.8 R	1.7 UJ	1.8 R	1.9 R	1.9 R	1.3 R
Vanadium	NE	27.0	24.4	23.4	22.7	24.8	23.7	19.3	9.2
Zinc	120	730 J	819	643	472 J	514 J	995	665	82.7

Table DSD-Inorganics
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Inorganic Results for Area D

Analyte	Screening Level[a]	Sample Code and Sampling Date							
		MC-SD-D-010-0002-D	MC-SD-D-010-0305	MC-SD-D-010-0608	MC-SD-D-011-015025	MC-SD-D-012-0102	MC-SD-D-012-0304	MC-SD-D-012-0506	MC-SD-D-012-0708
		12/14/01	12/14/01	12/14/01	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01
Aluminum	NE	2,560	1,460	2,290	4,830	5,660	7,580	7,730	8,240
Antimony	NE	0.98 UJ	0.84 UJ	1.0 UJ	4.3 J	1.1 UJ	1.2 UJ	1.2 UJ	2.1 J
Arsenic	6	0.97	0.68 U	0.97	10.5 J	3.8	6.0	6.1	7.9
Barium	NE	16.6	12.0	33.8	196	113	120	116	103
Beryllium	NE	0.11 U	0.090 U	0.11 U	0.45 J	0.30	0.41	0.38	0.45
Cadmium	0.6	0.19	0.090 U	0.11 U	21.1	2.0	3.9	3.2	4.1
Calcium	NE	60,000	64,600	99,300	88,500	84,300	72,600	74,200	69,900
Chromium	26	13.4	4.3	6.0	188 J	51.3	72.8	65.3	57.5
Cobalt	NE	3.3	1.9	2.8	6.2	5.7	7.2	7.4	7.6
Copper	16	13.5	4.5	7.5	156	116	141	137	71.8
Cyanide	NE	0.16	0.040	0.14	5.2	1.1	1.2	1.2	1.2
Iron	NE	7,130	4,200	5,290	15,600	14,600	19,500	18,500	17,400
Lead	31	52.3	3.3	4.4	259	270	329	403	418
Magnesium	NE	24,800	26,800	31,200	45,800	36,900	33,700	34,600	32,500
Manganese	460	215	190	285	383 J	374	423	459	448
Mercury	0.2	0.060 U	0.050 U	0.070 U	0.28 J	0.31	1.3	0.41	0.48
Nickel	16	9.2	4.8	6.7	34.4	24.4	33.2	33.4	26.1
Potassium	NE	336 J	325 J	585 J	845 J	1,000 J	1,310 J	1,390 J	1,360 J
Selenium	NE	1.3 U	1.1 U	1.3 U	1.3 U	1.5 U	1.6 U	1.6 U	1.5 U
Silver	NE	0.27 U	0.23 U	0.28 U	0.96	2.4	6.4	2.2	2.4
Sodium	NE	446 J	383 J	567 J	2,280 J	1,240 J	1,480 J	1,500 J	1,080 J
Thallium	NE	1.4 R	1.2 R	1.4 R	1.4 UJ	1.6 R	1.7 R	1.7 R	1.6 R
Vanadium	NE	13.0	8.7	9.3	13.7	16.6	20.5	21.1	22.7
Zinc	120	65.1	20.3	24.8	1,090 J	534	807	764	414

Table DSD-Inorganics
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Inorganic Results for Area D

Notes:
All screening levels and sample concentrations are presented in milligrams per kilogram.

D = Duplicate sample
J = Value reported is an approximate concentration of the analyte
NE = Not established
R = Data are unusable; analyte may or may not be present
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
Shading = Result exceeds one or more screening levels
▪ Lowest Effect Level from Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario (August 1993)

Table DSD-Phenols/Sulfide
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Total Phenols and Total Sulfide Results for Area D

		Sample Code and Sampling Date								
	Screening	MC-SD-D-001 0203	MC-SD-D-001 0506	MC-SD-D-001 0608	MC-SD-D-001 0608-D	MC-SD-D-002 0102	MC-SD-D-002 025035	MC-SD-D-002 0405	MC-SD-D-003 00015	MC-SD-D-003 01504
Analtye	Level[a]	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01
Total Phenols	NE	2.02 J	5.03 J	4.05 J	4.87 J	4.46	7.42	7.99	2.87 J	4.31 J
Total Sulfide	NE	184	5.79	91.4	71.9	499	537	243	60.8	171

		Sample Code and Sampling Date								
	Screening	MC-SD-D-004 0102	MC-SD-D-004 025035	MC-SD-D-005 0102	MC-SD-D-005 0304	MC-SD-D-005 0405	MC-SD-D-006 0203	MC-SD-D-006 0506	MC-SD-D-007 0203	MC-SD-D-007 0405
Analtye	Level[a]	12/12/01	12/12/01	12/13/01	12/13/01	12/13/01	12/12/01	12/12/01	12/13/01	12/13/01
Total Phenols	NE	7.32	6.17	6.81	10.9	10.1	4.09 J	3.30 J	4.29	6.68
Total Sulfide	NE	578	607	32.2	51.8	95.8	45.8	120	47.6	39.0

		Sample Code and Sampling Date								
	Screening	MC-SD-D-008 0103	MC-SD-D-008 0103-D	MC-SD-D-008 0607	MC-SD-D-009 0003	MC-SD-D-009 0506	MC-SD-D-009 0708	MC-SD-D-010 0002	MC-SD-D-010 0002	MC-SD-D-010 0002-D
Analtye	Level[a]	12/13/01	12/13/01	12/13/01	12/14/01	12/14/01	12/14/01	12/14/01	12/14/01	12/14/01
Total Phenols	NE	3.92	5.13	4.64	4.62	6.39	11.0	3.84	3.84	7.37
Total Sulfide	NE	48.0	39.0	110	108	274	99.5	24.5	24.5	39.1

		Sample Code and Sampling Date						
	Screening	MC-SD-D-010 0305	MC-SD-D-010 0608	MC-SD-D-011 015025	MC-SD-D-012 0102	MC-SD-D-012 0304	MC-SD-D-012 0506	MC-SD-D-012 0708
Analtye	Level[a]	12/14/01	12/14/01	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01
Total Phenols	NE	2.24	1.46	9.58	4.74	3.13	2.97	7.01
Total Sulfide	NE	9.65	4.43 U	110	43.0	38.4	47.4	53.4

Notes:
All screening levels and sample concentrations are presented in milligrams per kilogram.
D = Duplicate sample
J = Value reported is an approximate concentration of the analyte
NE = Not established
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
[a] Lowest Effect Level from Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario (August 1993)

Table DSD-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Volatile Organic Compound Results for Area D

Analtye	Screening Level[a]	Sample Code and Sampling Date								
		MC-SD-D-001-0203	MC-SD-D-001-0506	MC-SD-D-001-0608	MC-SD-D-001-0608-D	MC-SD-D-002-0102	MC-SD-D-002-025035	MC-SD-D-002-0405	MC-SD-D-003-00015	MC-SD-D-003-01504
		12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01
1,1,1-Trichloroethane	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
1,1,2,2-Tetrachloroethane	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
1,1,2-Trichloro-1,2,2-trifluoroethane	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
1,1,2-Trichloroethane	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
1,1-Dichloroethane	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
1,1-Dichloroethene	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
1,2,4-Trichlorobenzene	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
1,2-Dibromo-3-chloropropane	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
1,2-Dibromoethane	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
1,2-Dichlorobenzene	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
1,2-Dichloroethane	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
1,2-Dichloropropane	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
1,3-Dichlorobenzene	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
1,4-Dichlorobenzene	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
2-Butanone	NE	110	31	29	40	140	43	45 J	60	16 J
2-Hexanone	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
4-Methyl-2-pentanone	NE	27 U	20 U	20 U	20 U	4 J	22 U	61 U	21 U	19 U
Acetone	NE	460	140	130 U	170	570	170	640	250	89 U
Benzene	NE	5 J	7 J	6 J	8 J	5 J	4 J	8 J	3 J	19
Bromodichloromethane	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
Bromoform	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
Bromomethane	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 UJ
Carbon Disulfide	NE	16 J	4 J	3 J	2 J	55	8 J	7 J	10 J	2 J
Carbon Tetrachloride	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
Chlorobenzene	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
Chloroethane	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 UJ
Chloroform	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
Chloromethane	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
cis-1,2-Dichloroethene	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
cis-1,3-Dichloropropene	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
Cyclohexane	NE	7 J	9 J	8 J	9 J	5 J	5 J	61 U	7 J	22
Dibromochloromethane	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
Dichlorodifluoromethane	NE	3 J	20 U	3 J	3 J	3 J	22 U	61 U	2 J	19 U
Ethylbenzene	NE	3 J	6 J	3 J	4 J	4 J	3 J	61 U	21 U	6 J
Isopropylbenzene	NE	27 U	10 J	3 J	3 J	27 U	22 U	61 U	21 U	18 J
Methyl tert-Butyl Ether	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
Methyl Acetate	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
Methylcyclohexane	NE	8 J	86	88	85	5 J	6 J	7 J	7 J	39
Methylene Chloride	NE	9 J	4 J	20 U	4 J	11 J	8 J	95	21 U	19 U
Styrene	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
Tetrachloroethene	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
Toluene	NE	12 J	16 J	10 J	12 J	13 J	8 J	55 J	5 J	23
trans-1,2-Dichloroethene	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
trans-1,3-Dichloropropene	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U

Table DSD-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Volatile Organic Compound Results for Area D

Analtye	Screening Level[a]	Sample Code and Sampling Date								
		MC-SD-D-001-0203	MC-SD-D-001-0506	MC-SD-D-001-0608	MC-SD-D-001-0608-D	MC-SD-D-002-0102	MC-SD-D-002-025035	MC-SD-D-002-0405	MC-SD-D-003-00015	MC-SD-D-003-01504
		12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01
Trichloroethene	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
Trichlorofluoromethane	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
Vinyl Chloride	NE	27 U	20 U	20 U	20 U	27 U	22 U	61 U	21 U	19 U
Xylenes (total)	NE	11 J	30	17 J	20	15 J	11 J	12 J	4 J	53

Table DSD-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Volatile Organic Compound Results for Area D

Analtye	Screening Level[a]	Sample Code and Sampling Date							
		MC-SD-D-004-0102	MC-SD-D-004-025035	MC-SD-D-005-0102	MC-SD-D-005-0304	MC-SD-D-005-0405	MC-SD-D-006-0203	MC-SD-D-006-0506	MC-SD-D-007-0203
		12/12/01	12/12/01	12/13/01	12/13/01	12/13/01	12/12/01	12/12/01	12/13/01
1,1,1-Trichloroethane	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
1,1,2,2-Tetrachloroethane	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
1,1,2-Trichloro-1,2,2-trifluoroethane	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
1,1,2-Trichloroethane	NE	31 U	29 U	23 U	35 U	280 J	27 U	25 U	23 U
1,1-Dichloroethane	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
1,1-Dichloroethene	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
1,2,4-Trichlorobenzene	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
1,2-Dibromo-3-chloropropane	NE	31 U	29 U	23 U	35 U	2,000 R	27 U	25 U	23 U
1,2-Dibromoethane	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
1,2-Dichlorobenzene	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
1,2-Dichloroethane	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
1,2-Dichloropropane	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
1,3-Dichlorobenzene	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
1,4-Dichlorobenzene	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
2-Butanone	NE	83	74	19 J	170	2,000 U	72	33	98
2-Hexanone	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
4-Methyl-2-pentanone	NE	3 J	29 U	23 U	35 U	2,000 U	27 U	25 U	4 J
Acetone	NE	330	390	93	650	2,000 U	290	130	490
Benzene	NE	5 J	5 J	41	100	92,000	5 J	3 J	6 J
Bromodichloromethane	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
Bromoform	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
Bromomethane	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
Carbon Disulfide	NE	14 J	48	4 J	31 J	2,000 U	10 J	4 J	19 J
Carbon Tetrachloride	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
Chlorobenzene	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
Chloroethane	NE	31 U	29 U	23 U	35 U	2,000 R	27 U	25 U	23 U
Chloroform	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
Chloromethane	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
cis-1,2-Dichloroethene	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
cis-1,3-Dichloropropene	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
Cyclohexane	NE	6 J	5 J	49	250	820 J	7 J	5 J	6 J
Dibromochloromethane	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
Dichlorodifluoromethane	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	3 J	23 U
Ethylbenzene	NE	4 J	29 U	6 J	11 J	10,000	4 J	4 J	4 J
Isopropylbenzene	NE	31 U	29 U	39	100	1,100 J	27 U	25 U	23 U
Methyl tert-Butyl Ether	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
Methyl Acetate	NE	31 U	6 J	23 U	35 U	2,000 U	27 U	25 U	23 U
Methylcyclohexane	NE	7 J	7 J	620	3500	27,000	8 J	9 J	7 J
Methylene Chloride	NE	15 J	21 J	10 J	15 J	2,000 U	5 J	7 J	23 U
Styrene	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
Tetrachloroethene	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
Toluene	NE	12 J	9 J	29	41	90,000	12 J	9 J	17 J
trans-1,2-Dichloroethene	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
trans-1,3-Dichloropropene	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U

Table DSD-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Volatile Organic Compound Results for Area D

Analtye	Screening Level[a]	Sample Code and Sampling Date							
		MC-SD-D-004-0102	MC-SD-D-004-025035	MC-SD-D-005-0102	MC-SD-D-005-0304	MC-SD-D-005-0405	MC-SD-D-006-0203	MC-SD-D-006-0506	MC-SD-D-007-0203
		12/12/01	12/12/01	12/13/01	12/13/01	12/13/01	12/12/01	12/12/01	12/13/01
Trichloroethene	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
Trichlorofluoromethane	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
Vinyl Chloride	NE	31 U	29 U	23 U	35 U	2,000 U	27 U	25 U	23 U
Xylenes (total)	NE	15 J	7 J	47	110	81,000	16 J	16 J	13 J

Table DSD-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Volatile Organic Compound Results for Area D

Analtye	Screening Level[a]	Sample Code and Sampling Date							
		MC-SD-D-007-0405	MC-SD-D-008-0103	MC-SD-D-008-0103-D	MC-SD-D-008-0607	MC-SD-D-009-0003	MC-SD-D-009-0506	MC-SD-D-009-0708	MC-SD-D-010-0002
		12/13/01	12/13/01	12/13/01	12/13/01	12/14/01	12/14/01	12/14/01	12/14/01
1,1,1-Trichloroethane	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
1,1,2,2-Tetrachloroethane	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
1,1,2-Trichloro-1,2,2-trifluoroethane	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
1,1,2-Trichloroethane	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
1,1-Dichloroethane	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
1,1-Dichloroethene	NE	19 U	33 U	26 U	25 U	23 UJ	27 U	22 U	13 U
1,2,4-Trichlorobenzene	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
1,2-Dibromo-3-chloropropane	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
1,2-Dibromoethane	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
1,2-Dichlorobenzene	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
1,2-Dichloroethane	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
1,2-Dichloropropane	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
1,3-Dichlorobenzene	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
1,4-Dichlorobenzene	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
2-Butanone	NE	61	63 J	56 J	39	27 J	170 J	22 UJ	22 J
2-Hexanone	NE	19 U	46 J	26 UJ	25 U	23 U	27 U	22 U	13 U
4-Methyl-2-pentanone	NE	3 J	33 U	26 U	25 U	23 U	27 U	22 U	13 U
Acetone	NE	330	340	280	210	87 J	460 J	270 J	79 J
Benzene	NE	4 J	7 J	8 J	7 J	23 UJ	21 J	29	2 J
Bromodichloromethane	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
Bromoform	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
Bromomethane	NE	19 U	33 U	26 U	25 UJ	23 UJ	27 UJ	22 UJ	13 UJ
Carbon Disulfide	NE	10 J	5 J	7 J	5 J	3 J	12 J	6 J	2 J
Carbon Tetrachloride	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
Chlorobenzene	NE	19 U	33 U	26 U	25 U	23 UJ	27 U	22 U	13 U
Chloroethane	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
Chloroform	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
Chloromethane	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
cis-1,2-Dichloroethene	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
cis-1,3-Dichloropropene	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
Cyclohexane	NE	6 J	11 J	8 J	10 J	23 U	8 J	6 J	3 J
Dibromochloromethane	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
Dichlorodifluoromethane	NE	19 U	33 U	26 U	25 U	23 UJ	27 UJ	22 UJ	13 UJ
Ethylbenzene	NE	3 J	3 J	3 J	5 J	23 U	12 J	3 J	13 U
Isopropylbenzene	NE	19 U	33 U	26 U	3 J	23 U	27 U	22 U	13 U
Methyl tert-Butyl Ether	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
Methyl Acetate	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
Methylcyclohexane	NE	7 J	11 J	7 J	18 J	6 J	26 J	18 J	2 J
Methylene Chloride	NE	19 U	33 U	26 U	25 U	23 UJ	27 UJ	22 UJ	13 UJ
Styrene	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
Tetrachloroethene	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
Toluene	NE	12 J	17 J	16 J	20 J	4 J	12 J	6 J	3 J
trans-1,2-Dichloroethene	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
trans-1,3-Dichloropropene	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U

Table DSD-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Volatile Organic Compound Results for Area D

Analtye	Screening Level[a]	Sample Code and Sampling Date							
		MC-SD-D-007-0405	MC-SD-D-008-0103	MC-SD-D-008-0103-D	MC-SD-D-008-0607	MC-SD-D-009-0003	MC-SD-D-009-0506	MC-SD-D-009-0708	MC-SD-D-010-0002
		12/13/01	12/13/01	12/13/01	12/13/01	12/14/01	12/14/01	12/14/01	12/14/01
Trichloroethene	NE	19 U	33 U	26 U	25 U	23 UJ	27 U	22 U	13 U
Trichlorofluoromethane	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
Vinyl Chloride	NE	19 U	33 U	26 U	25 U	23 U	27 U	22 U	13 U
Xylenes (total)	NE	10 J	13 J	13 J	20 J	6 J	49	23	2 J

Table DSD-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Volatile Organic Compound Results for Area D

Analtye	Screening Level[a]	Sample Code and Sampling Date							
		MC-SD-D-010-0002-D	MC-SD-D-010-0305	MC-SD-D-010-0608	MC-SD-D-011-015025	MC-SD-D-012-0102	MC-SD-D-012-0304	MC-SD-D-012-0506	MC-SD-D-012-0708
		12/14/01	12/14/01	12/14/01	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01
1,1,1-Trichloroethane	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
1,1,2,2-Tetrachloroethane	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
1,1,2-Trichloro-1,2,2-trifluoroethane	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
1,1,2-Trichloroethane	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
1,1-Dichloroethane	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
1,1-Dichloroethene	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
1,2,4-Trichlorobenzene	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	5 J
1,2-Dibromo-3-chloropropane	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
1,2-Dibromoethane	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
1,2-Dichlorobenzene	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	8 J
1,2-Dichloroethane	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
1,2-Dichloropropane	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
1,3-Dichlorobenzene	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	3 J
1,4-Dichlorobenzene	NE	14 U	13 U	17 U	14 U	21 U	4 J	10 J	57
2-Butanone	NE	33 J	18 J	54 J	79	55 J	130	38 J	63
2-Hexanone	NE	14 U	13 U	17 U	14 U	21 UJ	23 U	46 UJ	19 U
4-Methyl-2-pentanone	NE	14 U	13 U	17 U	14 U	5 J	5 J	46 U	19 U
Acetone	NE	88 J	66 J	160 J	350	220	530	180 U	250
Benzene	NE	2 J	3 J	3 J	6 J	8 J	8 J	14 J	10 J
Bromodichloromethane	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
Bromoform	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
Bromomethane	NE	14 UJ	13 UJ	17 UJ	14 U	21 U	23 UJ	46 U	19 UJ
Carbon Disulfide	NE	3 J	13 U	17 U	10 J	13 J	30	16 J	7 J
Carbon Tetrachloride	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
Chlorobenzene	NE	14 U	13 U	17 U	2 J	4 J	6 J	16 J	130
Chloroethane	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
Chloroform	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
Chloromethane	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
cis-1,2-Dichloroethene	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
cis-1,3-Dichloropropene	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
Cyclohexane	NE	3 J	5 J	5 J	5 J	11 J	7 J	13 J	13 J
Dibromochloromethane	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
Dichlorodifluoromethane	NE	14 UJ	13 UJ	17 UJ	14 U	21 U	23 U	46 U	19 U
Ethylbenzene	NE	1 J	13 U	17 U	3 J	4 J	4 J	8 J	14 J
Isopropylbenzene	NE	14 U	13 U	17 U	2 J	21 U	23 U	46 U	38
Methyl tert-Butyl Ether	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
Methyl Acetate	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
Methylcyclohexane	NE	3 J	5 J	5 J	14	11 J	8 J	13 J	35
Methylene Chloride	NE	14 UJ	13 UJ	17 UJ	14 U	21 U	23 U	70 U	19 U
Styrene	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
Tetrachloroethene	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
Toluene	NE	10 J	5 J	4 J	20	25	24	50	24
trans-1,2-Dichloroethene	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
trans-1,3-Dichloropropene	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U

Table DSD-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Volatile Organic Compound Results for Area D

Analtye	Screening Level[a]	Sample Code and Sampling Date							
		MC-SD-D-010-0002-D	MC-SD-D-010-0305	MC-SD-D-010-0608	MC-SD-D-011-015025	MC-SD-D-012-0102	MC-SD-D-012-0304	MC-SD-D-012-0506	MC-SD-D-012-0708
		12/14/01	12/14/01	12/14/01	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01
Trichloroethene	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
Trichlorofluoromethane	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
Vinyl Chloride	NE	14 U	13 U	17 U	14 U	21 U	23 U	46 U	19 U
Xylenes (total)	NE	14 U	13 U	2 J	10 J	14 J	19 J	31 J	180

Table DSD-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Volatile Organic Compound Results for Area D

Notes:
All screening levels and sample concentrations are presented in micrograms per kilogram.
J = Value reported is an approximate concentration of the analyte
NE = Not established
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
* Lowest Effect Level from Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario (August 1993)

Table DSD-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Semivolatile Organic Compound Results for Area D

Analyte	Screening Level[a]	Sample Code and Sampling Date								
		MC-SD-D-001-0203	MC-SD-D-001-0506	MC-SD-D-001-0608	MC-SD-D-001-0608-D	MC-SD-D-002-0102	MC-SD-D-002-025035	MC-SD-D-002-0405	MC-SD-D-003-00015	MC-SD-D-003-01504
		12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01
1,1'-Biphenyl	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	1,200 J
2,2'-oxybis(1-Chloropropane)	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
2,4,5-Trichlorophenol	NE	16,000 U	14,000 U	13,000 U	13,000 U	8,100 U	7,300 U	37,000 U	14,000 U	12,000 U
2,4,6-Trichlorophenol	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
2,4-Dichlorophenol	NE	6,200 UJ	5,400 U	5,300 UJ	5,100 UJ	3,200 U	2,900 U	15,000 U	5,600 UJ	4,900 UJ
2,4-Dimethylphenol	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
2,4-Dinitrophenol	NE	16,000 UJ	14,000 U	13,000 UJ	13,000 UJ	8,100 U	7,300 U	37,000 U	14,000 UJ	12,000 UJ
2,4-Dinitrotoluene	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
2,6-Dinitrotoluene	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
2-Chloronaphthalene	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
2-Chlorophenol	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
2-Methylnaphthalene	NE	6,200 U	5,400 U	2,300 J	1,700 J	3,200 U	990 J	15,000 U	1,200 J	8,700
2-Methylphenol	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
2-Nitroaniline	NE	16,000 U	14,000 U	13,000 U	13,000 U	8,100 U	7,300 U	37,000 U	14,000 U	12,000 U
2-Nitrophenol	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
3,3'-Dichlorobenzidine	NE	6,200 UJ	5,400 U	5,300 UJ	5,100 UJ	3,200 UJ	2,900 UJ	15,000 U	5,600 UJ	4,900 UJ
3-Nitroaniline	NE	16,000 U	14,000 U	13,000 U	13,000 U	8,100 U	7,300 U	37,000 U	14,000 U	12,000 U
4,6-Dinitro-2-methylphenol	NE	16,000 U	14,000 U	13,000 U	13,000 U	8,100 U	7,300 U	37,000 U	14,000 U	12,000 U
4-Bromophenyl-phenylether	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
4-Chloro-3-methylphenol	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
4-Chloroaniline	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
4-Chlorophenyl-phenylether	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
4-Methylphenol	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
4-Nitroaniline	NE	16,000 U	14,000 U	13,000 U	13,000 U	8,100 U	7,300 U	37,000 U	14,000 U	12,000 U
4-Nitrophenol	NE	16,000 U	14,000 U	13,000 U	13,000 U	8,100 U	7,300 U	37,000 U	14,000 U	12,000 U
Acenaphthene	NE	6,200 U	4,200 J	4,000 J	3,000 J	3,200 U	1,400 J	15,000 U	3,800 J	15,000
Acenaphthylene	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	1,400 J
Acetophenone	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
Anthracene	220	1,500 J	4,700 J	5,800	4,300 J	1,100 J	3,700	4,100 J	5,400 J	20,000
Atrazine	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
Benzaldehyde	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
Benzo(a)anthracene	320	5,900 J	7,600	12,000	8,000	5,500	12,000	12,000 J	13,000	24,000
Benzo(a)pyrene	370	6,600	6,900	9,400	7,200	1,500 J	10,000	8,400 J	11,000	17,000
Benzo(b)fluoranthene	NE	6,500	6,700	7,600	6,400	6,000	12,000	13,000 J	9,900	15,000
Benzo(g,h,i)perylene	170	6,200	3,900 J	7,100	5,100	3,200 U	4,500	15,000 U	6,600	9,800
Benzo(k)fluoranthene	240	5,200 J	5,200 J	7,200	5,100	4,700	7,400	11,000 J	8,200	11,000
bis(2-Chloroethoxy)methane	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
bis(2-Chloroethyl)ether	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
bis(2-Ethylhexyl)phthalate	NE	9,400 J	5,400 U	5,300 UJ	5,100 UJ	6,500	5,700	3,800 J	7,500 J	1,500 J
Butylbenzylphthalate	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	630 J	15,000 U	5,600 U	4,900 U
Caprolactam	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
Carbazole	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	800 J	15,000 U	5,600 U	3,400 J

Table DSD-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Semivolatile Organic Compound Results for Area D

Analyte	Screening Level[a]	Sample Code and Sampling Date								
		MC-SD-D-001-0203	MC-SD-D-001-0506	MC-SD-D-001-0608	MC-SD-D-001-0608-D	MC-SD-D-002-0102	MC-SD-D-002-025035	MC-SD-D-002-0405	MC-SD-D-003-00015	MC-SD-D-003-01504
		12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01
Chrysene	340	8,400	9,100	13,000	9,400	6,400	13,000	16,000	14,000	25,000
Dibenzo(a,h)anthracene	60	2,000 J	1,200 J	2,500 J	1,800 J	1,400 J	2,900 U	15,000 U	3,200 J	4,400 J
Dibenzofuran	NE	6,200 U	1,400 J	2,200 J	1,600 J	3,200 U	1,100 J	15,000 U	1,800 J	7,700
Diethylphthalate	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
Dimethylphthalate	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
Di-n-butylphthalate	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
Di-n-octylphthalate	NE	6,200 UJ	5,400 UJ	5,300 UJ	5,100 UJ	3,200 UJ	2,900 UJ	15,000 U	5,600 UJ	4,900 UJ
Fluoranthene	750	16,000	16,000	22,000	18,000	12,000	19,000	29,000	27,000	43,000
Fluorene	190	1,300 J	3,800 J	4,400 J	3,400 J	870 J	2,400 J	15,000 U	4,500 J	17,000
Hexachlorobenzene	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
Hexachlorobutadiene	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
Hexachlorocyclopentadiene	NE	6,200 U	5,400 UJ	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
Hexachloroethane	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
Indeno(1,2,3-cd)pyrene	200	5,300 J	3,300 J	6,200	4,500 J	1,500 J	6,300	5,400 J	8,100	10,000
Isophorone	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
Naphthalene	NE	6,200 U	5,600	21,000	16,000	1,200 J	2,200 J	15,000 U	3,000 J	6,100
Nitrobenzene	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
N-Nitroso-di-n-propylamine	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
N-Nitrosodiphenylamine	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
Pentachlorophenol	NE	16,000 UJ	14,000 U	13,000 U	13,000 UJ	8,100 U	7,300 U	37,000 U	14,000 U	12,000 U
Phenanthrene	560	7,900	15,000	19,000	15,000	6,300	15,000	17,000	20,000	49,000
Phenol	NE	6,200 U	5,400 U	5,300 U	5,100 U	3,200 U	2,900 U	15,000 U	5,600 U	4,900 U
Pyrene	490	13,000	12,000	19,000	14,000	4,700	20,000	22,000	21,000	34,000
1,2,3-Trimethyl-4-propenyl naphthalene	NE	2,000 NJ	17,000 NJ	52,000 J	6,600 NJ	1,600 NJ	ND[b]	ND[b]	1,600 NJ	ND[b]

Table DSD-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Semivolatile Organic Compound Results for Area D

Analyte	Screening Level[a]	Sample Code and Sampling Date							
		MC-SD-D-004-0102	MC-SD-D-004-025035	MC-SD-D-005-0102	MC-SD-D-005-0304	MC-SD-D-005-0405	MC-SD-D-006-0203	MC-SD-D-006-0506	MC-SD-D-007-0203
		12/12/01	12/12/01	12/13/01	12/13/01	12/13/01	12/12/01	12/12/01	12/13/01
1,1'-Biphenyl	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
2,2'-oxybis(1-Chloropropane)	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
2,4,5-Trichlorophenol	NE	8,600 U	9,700 U	39,000 U	42,000 U	7,000 U	8,000 U	45,000 U	7,100 U
2,4,6-Trichlorophenol	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
2,4-Dichlorophenol	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
2,4-Dimethylphenol	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
2,4-Dinitrophenol	NE	8,600 U	9,700 U	39,000 U	42,000 U	7,000 U	8,000 U	45,000 U	7,100 U
2,4-Dinitrotoluene	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
2,6-Dinitrotoluene	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
2-Chloronaphthalene	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
2-Chlorophenol	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
2-Methylnaphthalene	NE	6,500	990 J	3,600 J	17,000 U	1,600 J	1,000 J	18,000 U	2,800 U
2-Methylphenol	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
2-Nitroaniline	NE	8,600 U	9,700 U	39,000 U	42,000 U	7,000 U	8,000 U	45,000 U	7,100 U
2-Nitrophenol	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
3,3'-Dichlorobenzidine	NE	3,400 UJ	3,800 U	16,000 U	17,000 U	2,800 U	3,200 UJ	18,000 U	2,800 U
3-Nitroaniline	NE	8,600 U	9,700 U	39,000 U	42,000 U	7,000 U	8,000 U	45,000 U	7,100 U
4,6-Dinitro-2-methylphenol	NE	8,600 U	9,700 U	39,000 U	42,000 U	7,000 U	8,000 U	45,000 U	7,100 U
4-Bromophenyl-phenylether	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
4-Chloro-3-methylphenol	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
4-Chloroaniline	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
4-Chlorophenyl-phenylether	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
4-Methylphenol	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
4-Nitroaniline	NE	8,600 U	9,700 U	39,000 U	42,000 U	7,000 U	8,000 U	45,000 U	7,100 U
4-Nitrophenol	NE	8,600 U	9,700 U	39,000 U	42,000 U	7,000 U	8,000 U	45,000 U	7,100 U
Acenaphthene	NE	6,100	1,700 J	9,200 J	4,300 J	1,700 J	1,500 J	18,000 U	2,800 U
Acenaphthylene	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
Acetophenone	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
Anthracene	220	3,200 J	2,600 J	5,900 J	4,300 J	1,800 J	2,800 J	18,000 U	910 J
Atrazine	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
Benzaldehyde	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
Benzo(a)anthracene	320	7,600	8,100	5,100 J	11,000 J	4,400	13,000	7,400 J	3,900
Benzo(a)pyrene	370	4,100	8,200	16,000 U	4,000 J	3,900	5,000	4,600 J	960 J
Benzo(b)fluoranthene	NE	7,800	10,000	3,600 J	8,300 J	4,200	17,000	9,000 J	3,900
Benzo(g,h,i)perylene	170	3,400 U	4,700	16,000 U	17,000 U	2,700 J	950 J	18,000 U	2,800 UJ
Benzo(k)fluoranthene	240	7,000	7,900	16,000 U	7,500 J	2,700 J	10,000	6,300 J	3,100
bis(2-Chloroethoxy)methane	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
bis(2-Chloroethyl)ether	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
bis(2-Ethylhexyl)phthalate	NE	6,200	8,200	16,000 U	17,000 U	2,800 U	7,500	18,000 U	5,700
Butylbenzylphthalate	NE	870 J	840 J	16,000 U	17,000 U	2,800 U	690 J	18,000 U	2,800 U
Caprolactam	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
Carbazole	NE	1,100 J	3,800 U	16,000 U	17,000 U	2,800 U	1,100 J	18,000 U	2,800 U

Table DSD-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Semivolatile Organic Compound Results for Area D

Analyte	Screening Level[a]	Sample Code and Sampling Date							
		MC-SD-D-004-0102	MC-SD-D-004-025035	MC-SD-D-005-0102	MC-SD-D-005-0304	MC-SD-D-005-0405	MC-SD-D-006-0203	MC-SD-D-006-0506	MC-SD-D-007-0203
		12/12/01	12/12/01	12/13/01	12/13/01	12/13/01	12/12/01	12/12/01	12/13/01
Chrysene	340	8,900	11,000	5,700 J	13,000 J	5,200	14,000	11,000 J	4,300
Dibenzo(a,h)anthracene	60	1,500 J	1,800 J	16,000 U	17,000 U	970 J	3,800	18,000 U	990 J
Dibenzofuran	NE	4,200	1,200 J	4,100 J	17,000 U	760 J	1,100 J	18,000 U	2,800 U
Diethylphthalate	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
Dimethylphthalate	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
Di-n-butylphthalate	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
Di-n-octylphthalate	NE	3,400 UJ	3,800 U	16,000 U	17,000 U	2,800 UJ	3,200 UJ	18,000 U	2,800 UJ
Fluoranthene	750	15,000	16,000	16,000	20,000	9,000	26,000	21,000	9,700
Fluorene	190	6,600	2,000 J	6,600 J	4,600 J	1,800 J	2,300 J	18,000 U	850 J
Hexachlorobenzene	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
Hexachlorobutadiene	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
Hexachlorocyclopentadiene	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 UJ	3,200 U	18,000 U	2,800 UJ
Hexachloroethane	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
Indeno(1,2,3-cd)pyrene	200	3,700	4,600	16,000 U	17,000 U	2,500 J	7,000	18,000 U	990 J
Isophorone	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
Naphthalene	NE	5,200	3,000 J	12,000 J	12,000 J	6,400	2,500 J	18,000 U	2,800 U
Nitrobenzene	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
N-Nitroso-di-n-propylamine	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
N-Nitrosodiphenylamine	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
Pentachlorophenol	NE	8,600 U	9,700 U	39,000 U	42,000 U	7,000 U	8,000 U	45,000 U	7,100 U
Phenanthrene	560	17,000	10,000	26,000	18,000	7,600	18,000	13,000 J	5,300
Phenol	NE	3,400 U	3,800 U	16,000 U	17,000 U	2,800 U	3,200 U	18,000 U	2,800 U
Pyrene	490	12,000	14,000	9,300 J	14,000 J	7,300	22,000	13,000 J	3,000
1,2,3-Trimethyl-4-propenyl naphthalene	NE	890 NJ	3,300 NJ	5,600 NJ	43,000 NJ	ND[b]	ND[b]	ND[b]	ND[b]

Table DSD-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Semivolatile Organic Compound Results for Area D

Analyte	Screening Level[a]	Sample Code and Sampling Date							
		MC-SD-D-007-0405	MC-SD-D-008-0103	MC-SD-D-008-0103-D	MC-SD-D-008-0607	MC-SD-D-009-0003	MC-SD-D-009-0506	MC-SD-D-009-0708	MC-SD-D-010-0002
		12/13/01	12/13/01	12/13/01	12/13/01	12/14/01	12/14/01	12/14/01	12/14/01
1,1'-Biphenyl	NE	2,800 U	3,000 U	16,000 U	2,800 U	96 J	340 J	400 J	420 U
2,2'-oxybis(1-Chloropropane)	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
2,4,5-Trichlorophenol	NE	7,000 U	7,700 U	41,000 U	7,000 U	1,400 U	1,600 U	1,500 U	1,100 U
2,4,6-Trichlorophenol	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
2,4-Dichlorophenol	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
2,4-Dimethylphenol	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	210 J	420 U
2,4-Dinitrophenol	NE	7,000 U	7,700 U	41,000 U	7,000 U	1,400 U	1,600 U	1,500 U	1,100 U
2,4-Dinitrotoluene	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 UJ	650 U	600 U	420 U
2,6-Dinitrotoluene	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
2-Chloronaphthalene	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
2-Chlorophenol	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
2-Methylnaphthalene	NE	620 J	1,500 J	16,000 U	2,100 J	610	3,300	3,000	420 U
2-Methylphenol	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	120 J	420 U
2-Nitroaniline	NE	7,000 U	7,700 U	41,000 U	7,000 U	1,400 U	1,600 U	1,500 U	1,100 U
2-Nitrophenol	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
3,3'-Dichlorobenzidine	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 UJ	600 U	420 U
3-Nitroaniline	NE	7,000 U	7,700 U	41,000 U	7,000 U	1,400 U	1,600 U	1,500 U	1,100 U
4,6-Dinitro-2-methylphenol	NE	7,000 U	7,700 U	41,000 U	7,000 U	1,400 U	1,600 U	1,500 U	1,100 U
4-Bromophenyl-phenylether	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
4-Chloro-3-methylphenol	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 UJ	650 U	600 U	420 U
4-Chloroaniline	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
4-Chlorophenyl-phenylether	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
4-Methylphenol	NE	2,800 U	3,000 U	16,000 U	590 J	130 J	340 J	440 J	420 U
4-Nitroaniline	NE	7,000 U	7,700 U	41,000 U	7,000 U	1,400 U	1,600 U	1,500 U	1,100 U
4-Nitrophenol	NE	7,000 U	7,700 U	41,000 U	7,000 U	1,400 UJ	1,600 U	1,500 U	1,100 U
Acenaphthene	NE	880 J	2,300 J	16,000 U	2,000 J	1,400 UJ	3,400	2,100	320 J
Acenaphthylene	NE	2,800 U	3,000 U	16,000 U	2,800 U	380 J	380 J	470 J	420 U
Acetophenone	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
Anthracene	220	2,000 J	4,100	16,000 U	3,100	2,900	4,800	3,600	720
Atrazine	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
Benzaldehyde	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
Benzo(a)anthracene	320	6,900	14,000	7,800 J	13,000	11,000	8,600 J	6,400	1,900
Benzo(a)pyrene	370	7,200	14,000	8,000 J	4,200	8,300 J	4,700 J	3,500 J	1,300 J
Benzo(b)fluoranthene	NE	9,300	17,000	9,500 J	15,000	15,000 J	7,500 J	5,400 J	2,300 J
Benzo(g,h,i)perylene	170	3,300	8,600	3,800 J	2,800 UJ	3,300 J	2,600 J	1,400 J	370 J
Benzo(k)fluoranthene	240	7,100	13,000	7,600 J	8,800	13,000 J	8,100 J	5,700 J	2,000 J
bis(2-Chloroethoxy)methane	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
bis(2-Chloroethyl)ether	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
bis(2-Ethylhexyl)phthalate	NE	5,800	9,400	6,900 J	5,300	2,600	260 J	110 J	700
Butylbenzylphthalate	NE	2,800 U	1,000 J	16,000 U	2,800 U	570 U	650 UJ	600 U	420 U
Caprolactam	NE	2,800 U	3,000 U	16,000 U	2,800 U	1,400	2,900	2,300	69 J
Carbazole	NE	640 J	1,300 J	16,000 U	820 J	760	930	700	280 J

Table DSD-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Semivolatile Organic Compound Results for Area D

Analyte	Screening Level[a]	Sample Code and Sampling Date							
		MC-SD-D-007-0405	MC-SD-D-008-0103	MC-SD-D-008-0103-D	MC-SD-D-008-0607	MC-SD-D-009-0003	MC-SD-D-009-0506	MC-SD-D-009-0708	MC-SD-D-010-0002
		12/13/01	12/13/01	12/13/01	12/13/01	12/14/01	12/14/01	12/14/01	12/14/01
Chrysene	340	9,700	18,000	11,000 J	15,000	14,000	9,800 J	6,900	2,100
Dibenzo(a,h)anthracene	60	1,600 J	3,700	16,000 U	3,300	260 J	350 J	170 J	420 UJ
Dibenzofuran	NE	680 J	1,700 J	16,000 U	1,200 J	760	1,700	1,300	130 J
Diethylphthalate	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
Dimethylphthalate	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
Di-n-butylphthalate	NE	2,800 U	3,000 U	16,000 U	2,800 U	100 J	650 U	80 J	59 J
Di-n-octylphthalate	NE	2,800 U	3,000 U	16,000 U	2,800 UJ	570 R	650 R	600 R	75 J
Fluoranthene	750	16,000	26,000	19,000	24,000	29,000	15,000	15,000	5,200
Fluorene	190	1,300 J	3,500	16,000 U	3,100	2,200	4,800	2,400	390 J
Hexachlorobenzene	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
Hexachlorobutadiene	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
Hexachlorocyclopentadiene	NE	2,800 U	3,000 U	16,000 U	2,800 UJ	570 U	650 U	600 U	420 U
Hexachloroethane	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
Indeno(1,2,3-cd)pyrene	200	4,400	9,200	4,600 J	4,000	3,200 J	2,500 J	1,300 J	440 J
Isophorone	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
Naphthalene	NE	1,400 J	3,400	16,000 U	3,600	1,700	31,000	37,000	420 U
Nitrobenzene	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
N-Nitroso-di-n-propylamine	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 UJ	650 U	600 U	420 U
N-Nitrosodiphenylamine	NE	2,800 U	3,000 U	16,000 U	2,800 U	570 U	650 U	600 U	420 U
Pentachlorophenol	NE	7,000 U	7,700 U	41,000 U	7,000 U	1,400 R	1,600 U	1,500 U	1,100 U
Phenanthrene	560	9,800	21,000	12,000 J	18,000	18,000	17,000	13,000	3,100
Phenol	NE	2,800 U	3,000 U	16,000 U	2,800 U	150 J	340 J	350 J	90 J
Pyrene	490	15,000	27,000	18,000	12,000	35,000 J	38,000 J	21,000	4,600
1,2,3-Trimethyl-4-propenyl naphthalene	NE	ND[b]	ND[b]	ND[b]	ND[b]	5,600 NJ	120,000 NJ	7,400 NJ	ND[b]

Table DSD-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Semivolatile Organic Compound Results for Area D

Analyte	Screening Level[a]	Sample Code and Sampling Date							
		MC-SD-D-010-0002-D	MC-SD-D-010-0305	MC-SD-D-010-0608	MC-SD-D-011-015025	MC-SD-D-012-0102	MC-SD-D-012-0304	MC-SD-D-012-0506	MC-SD-D-012-0708
		12/14/01	12/14/01	12/14/01	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01
1,1'-Biphenyl	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
2,2'-oxybis(1-Chloropropane)	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
2,4,5-Trichlorophenol	NE	1,200 U	1,100 U	1,300 U	4,200 U	1,300 UJ	7,200 U	7,700 U	37,000 U
2,4,6-Trichlorophenol	NE	460 U	430 U	500 U	1,700 U	520 UJ	2,800 U	3,100 U	15,000 U
2,4-Dichlorophenol	NE	460 U	430 U	500 U	1,700 U	520 UJ	2,800 U	3,100 U	15,000 U
2,4-Dimethylphenol	NE	460 U	430 U	500 U	1,700 U	520 UJ	2,800 U	3,100 U	15,000 U
2,4-Dinitrophenol	NE	1,200 U	1,100 U	1,300 U	4,200 U	1,300 UJ	7,200 U	7,700 U	37,000 U
2,4-Dinitrotoluene	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
2,6-Dinitrotoluene	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
2-Chloronaphthalene	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
2-Chlorophenol	NE	460 U	430 U	500 U	1,700 U	520 UJ	2,800 U	3,100 U	15,000 U
2-Methylnaphthalene	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
2-Methylphenol	NE	460 U	430 U	500 U	1,700 U	520 UJ	2,800 U	3,100 U	15,000 U
2-Nitroaniline	NE	1,200 U	1,100 U	1,300 U	4,200 U	1,300 R	7,200 U	7,700 U	37,000 U
2-Nitrophenol	NE	460 U	430 U	500 U	1,700 U	520 UJ	2,800 U	3,100 U	15,000 U
3,3'-Dichlorobenzidine	NE	460 U	430 U	500 U	1,700 UJ	520 R	2,800 U	3,100 U	15,000 U
3-Nitroaniline	NE	1,200 U	1,100 U	1,300 U	4,200 U	1,300 R	7,200 U	7,700 U	37,000 U
4,6-Dinitro-2-methylphenol	NE	1,200 U	1,100 U	1,300 U	4,200 U	1,300 UJ	7,200 U	7,700 U	37,000 U
4-Bromophenyl-phenylether	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
4-Chloro-3-methylphenol	NE	460 U	430 U	500 U	1,700 U	520 UJ	2,800 U	3,100 U	15,000 U
4-Chloroaniline	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
4-Chlorophenyl-phenylether	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
4-Methylphenol	NE	460 U	430 U	500 U	1,700 U	520 UJ	2,800 U	3,100 U	15,000 U
4-Nitroaniline	NE	1,200 U	1,100 U	1,300 U	4,200 U	1,300 R	7,200 U	7,700 U	37,000 U
4-Nitrophenol	NE	1,200 U	1,100 U	1,300 U	4,200 U	1,300 UJ	7,200 U	7,700 U	37,000 U
Acenaphthene	NE	200 J	430 U	500 U	1,700 U	140 J	620 J	860 J	15,000 U
Acenaphthylene	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
Acetophenone	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
Anthracene	220	430 J	430 U	500 U	810 J	260 J	1,200 J	1,300 J	5,500 J
Atrazine	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
Benzaldehyde	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
Benzo(a)anthracene	320	1,300	430 U	500 U	1,300 J	1,100 J	4,800	4,900	14,000 J
Benzo(a)pyrene	370	940	430 U	500 U	1,100 J	1,100 J	5,500	1,500 J	13,000 J
Benzo(b)fluoranthene	NE	1,500	430 U	500 U	990 J	1,400 J	6,000	6,400	15,000
Benzo(g,h,i)perylene	170	280 J	430 UJ	500 UJ	500 J	760 J	2,400 J	3,100 UJ	6,400 J
Benzo(k)fluoranthene	240	1,400	430 U	500 U	860 J	830 J	4,900	3,700	11,000 J
bis(2-Chloroethoxy)methane	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
bis(2-Chloroethyl)ether	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
bis(2-Ethylhexyl)phthalate	NE	420 J	430 U	63 J	1,700 U	1,100 J	7,300	6,800	8,300 J
Butylbenzylphthalate	NE	55 J	430 U	500 U	1,700 U	520 R	980 J	950 J	15,000 U
Caprolactam	NE	57 J	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
Carbazole	NE	230 J	430 U	500 U	1,700 U	140 J	2,800 U	3,100 U	15,000 U

Table DSD-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Semivolatile Organic Compound Results for Area D

Analyte	Screening Level[a]	Sample Code and Sampling Date							
		MC-SD-D-010-0002-D	MC-SD-D-010-0305	MC-SD-D-010-0608	MC-SD-D-011-015025	MC-SD-D-012-0102	MC-SD-D-012-0304	MC-SD-D-012-0506	MC-SD-D-012-0708
		12/14/01	12/14/01	12/14/01	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01
Chrysene	340	1,400	430 U	500 U	1,400 J	1,400 J	6,500	5,700	18,000
Dibenzo(a,h)anthracene	60	460 U	430 U	500 U	1,700 U	300 J	1,200 J	1,200 J	15,000 U
Dibenzofuran	NE	90 J	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
Diethylphthalate	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
Dimethylphthalate	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
Di-n-butylphthalate	NE	460 U	430 U	52 J	1,700 U	520 R	2,800 U	3,100 U	15,000 U
Di-n-octylphthalate	NE	460 U	430 U	500 U	1,700 UJ	520 R	2,800 UJ	3,100 UJ	15,000 U
Fluoranthene	750	3,400	430 U	500 U	3,500	2,600 J	13,000	13,000	37,000
Fluorene	190	260 J	430 U	500 U	1,700 U	220 J	960 J	1,300 J	4,700 J
Hexachlorobenzene	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
Hexachlorobutadiene	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
Hexachlorocyclopentadiene	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 UJ	3,100 UJ	15,000 U
Hexachloroethane	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
Indeno(1,2,3-cd)pyrene	200	320 J	430 U	500 U	630 J	810 J	3,500	1,400 J	7,000 J
Isophorone	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
Naphthalene	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
Nitrobenzene	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
N-Nitroso-di-n-propylamine	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
N-Nitrosodiphenylamine	NE	460 U	430 U	500 U	1,700 U	520 R	2,800 U	3,100 U	15,000 U
Pentachlorophenol	NE	1,200 U	1,100 U	1,300 U	4,200 U	1,300 UJ	7,200 U	7,700 U	37,000 U
Phenanthrene	560	2,200	430 U	500 U	2,400	1,800 J	7,900	8,600	31,000
Phenol	NE	74 J	75 J	59 J	1,700 U	520 UJ	2,800 U	3,100 U	15,000 U
Pyrene	490	2,800	430 U	500 U	2,600	2,200 J	10,000	5,000	30,000
1,2,3-Trimethyl-4-propenyl naphthalene	NE	ND[b]	ND[b]	ND[b]	ND[b]	ND[b]	ND[b]	ND[b]	ND[b]

Table DSD-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Semivolatile Organic Compound Results for Area D

Notes:
All screening levels and sample concentrations are presented in micrograms per kilogram.

D = Duplicate sample
J = Value reported is an approximate concentration of the analyte
ND = Analyte not detected
NE = Not established
NJ = The analysis indicates the presence of analyte for which there is presumptive evidence to make a tentative identification and the associated numerical value represents its approximate concentration
R = Data are unusable; analyte may or may not be present
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
Shading = Result exceeds one or more screening levels

[a] Lowest Effect Level from Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario (August 1993)
[b] The laboratory was unable to find a standard solution of 1,2,3-trimethyl-4-propenyl naphthalene, a tentatively identified compound (TIC). The laboratory increased the library search from 30 to 50 compounds to find the reference compound. However, this TIC was not found in the sample.

Table DSD-Pesticides/PCBs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Pesticide and Polychlorinated Biphenyl Results for Area D

Analyte	Screening Level[a]	Sample Code and Sampling Date								
		MC-SD-D-001-0203	MC-SD-D-001-0506	MC-SD-D-001-0608	MC-SD-D-001-0608-D	MC-SD-D-002-0102	MC-SD-D-002-025035	MC-SD-D-002-0405	MC-SD-D-003-00015	MC-SD-D-003-01504
		12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01
4,4'-DDD	8	38 J	36 J	16 J	20	29 J	32 J	55	46 J	26 J
4,4'-DDE	5	34 J	54 U	53 U	5.1 U	23 J	22 J	28	27 J	49 U
4,4'-DDT	8	22 J	54 U	53 U	12	14 J	14 J	21	26 J	49 U
Aldrin	2	32 U	28 U	27 U	2.6 U	3.3 UJ	3.0 UJ	2.5 U	29 U	25 U
alpha-BHC	6	32 U	28 U	27 U	2.6 U	3.3 UJ	3.0 UJ	2.5 U	29 U	25 U
alpha-Chlordane	7	32 U	28 U	27 U	2.6 U	3.3 UJ	3.0 UJ	2.5 U	29 U	25 U
Aroclor 1016	7	620 U	540 U	640 J	350	500 J	600 J	3,100	1,500	1,500
Aroclor 1221	70	1,300 U	1,100 U	1,100 U	100 U	130 UJ	120 UJ	99 U	1,100 U	1,000 U
Aroclor 1232	70	620 U	540 U	530 U	51 U	65 UJ	58 UJ	49 U	560 U	490 U
Aroclor 1242	70	620 U	540 U	530 U	51 U	65 UJ	58 UJ	49 U	560 U	490 U
Aroclor 1248	30	620 U	540 U	530 U	51 U	65 UJ	58 UJ	49 U	560 U	490 U
Aroclor 1254	60	620 U	640	530 U	810	680 J	750 J	1,700	560 U	490 U
Aroclor 1260	5	620 U	540 U	530 U	51 U	65 UJ	58 UJ	49 U	560 U	490 U
beta-BHC	5	32 U	28 U	27 U	2.6 U	3.3 UJ	3.0 UJ	2.5 U	29 U	25 U
delta-BHC	NE	32 U	28 U	27 U	2.6 U	3.3 UJ	3.0 UJ	2.5 U	29 U	25 U
Dieldrin	2	62 U	54 U	53 U	5.1 U	8.1 J	5.8 UJ	4.9 U	56 U	49 U
Endosulfan I	NE	32 U	28 U	27 U	2.6 U	3.3 UJ	3.0 UJ	2.5 U	29 U	25 U
Endosulfan II	NE	62 U	54 U	53 U	5.1 U	6.5 UJ	5.8 UJ	4.9 U	56 U	49 U
Endosulfan Sulfate	NE	62 U	54 U	53 U	5.1 U	6.5 UJ	13 J	4.9 U	56 U	49 U
Endrin	3	62 U	54 U	53 U	5.1 U	6.5 UJ	5.8 UJ	4.9 U	56 U	49 U
Endrin Ketone	NE	62 U	54 U	53 U	5.1 U	6.5 UJ	5.8 UJ	4.9 U	56 U	49 U
Endrin Aldehyde	NE	62 U	54 U	53 U	5.1 U	6.5 UJ	5.8 UJ	49. U	56 U	49 U
gamma-BHC (Lindane)	3	32 U	28 U	27 U	2.6 U	3.3 UJ	3.0 UJ	2.5 U	29 U	25 U
gamma-Chlordane	7	32 U	28 U	27 U	2.6 U	3.3 UJ	3.0 UJ	2.5 U	29 U	25 U
Heptachlor	NE	32 U	28 U	27 U	2.6 U	3.3 UJ	3.0 UJ	2.5 U	29 U	25 U
Heptachlor Epoxide	5	32 U	28 U	27 U	2.6 U	3.3 UJ	3.0 UJ	2.5 U	29 U	25 U
Methoxychlor	NE	320 U	280 U	270 U	26 U	33 UJ	30 UJ	25 U	290 U	250 U
Toxaphene	NE	3,200 U	2,800 U	2,700 U	260 U	330 UJ	300 UJ	250 U	2,900 U	2,500 U

Table DSD-Pesticides/PCBs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Pesticide and Polychlorinated Biphenyl Results for Area D

Analyte	Screening Level[a]	Sample Code and Sampling Date							
		MC-SD-D-004-0102	MC-SD-D-004-025035	MC-SD-D-005-0102	MC-SD-D-005-0304	MC-SD-D-005-0405	MC-SD-D-006-0203	MC-SD-D-006-0506	MC-SD-D-007-0203
		12/12/01	12/12/01	12/13/01	12/13/01	12/13/01	12/12/01	12/12/01	12/13/01
4,4'-DDD	8	22	77 U	38 J	150 J	330 J	45 J	420 J	26 J
4,4'-DDE	5	20	77 U	19 J	78 J	130 J	34 J	140 J	18 J
4,4'-DDT	8	14	77 U	5.7 UJ	5.6 UJ	64 J	24 J	54 J	12 J
Aldrin	2	3.5 U	40 U	2.9 UJ	2.9 UJ	2.9 UJ	3.3 UJ	3.0 UJ	2.9 UJ
alpha-BHC	6	3.5 U	40 U	2.9 UJ	2.9 UJ	2.9 UJ	3.3 UJ	3.0 UJ	2.9 UJ
alpha-Chlordane	7	3.5 U	40 U	2.9 UJ	2.9 UJ	2.9 UJ	3.3 UJ	3.0 UJ	2.9 UJ
Aroclor 1016	7	440	770 U	430 J	1,000 J	56 UJ	1,200 J	3,400 J	400 J
Aroclor 1221	70	140 U	1,600 U	120 UJ	110 UJ	110 UJ	130 UJ	120 UJ	120 UJ
Aroclor 1232	70	69 U	770 U	57 UJ	56 UJ	56 UJ	63 UJ	59 UJ	57 UJ
Aroclor 1242	70	69 U	770 U	57 UJ	56 UJ	56 UJ	63 UJ	59 UJ	57 UJ
Aroclor 1248	30	69 U	770 U	57 UJ	56 UJ	56 UJ	63 UJ	59 UJ	57 UJ
Aroclor 1254	60	620	650 J	57 UJ	1,700 J	2,200 J	1,400 J	3,400 J	500 J
Aroclor 1260	5	69 U	770 U	57 UJ	56 UJ	56 UJ	63 UJ	59 UJ	57 UJ
beta-BHC	5	3.5 U	40 U	2.9 UJ	2.9 UJ	2.9 UJ	3.3 UJ	3.0 UJ	2.9 UJ
delta-BHC	NE	3.5 U	40 U	2.9 UJ	2.9 UJ	2.9 UJ	3.3 UJ	3.0 UJ	2.9 UJ
Dieldrin	2	7.3	77 U	5.7 UJ	5.6 UJ	5.6 UJ	18 J	5.9 UJ	5.7 UJ
Endosulfan I	NE	3.5 U	40 U	2.9 UJ	2.9 UJ	2.9 UJ	3.3 UJ	3.0 UJ	2.9 UJ
Endosulfan II	NE	6.9 U	77 U	5.7 UJ	5.6 UJ	5.6 UJ	6.3 UJ	5.9 UJ	5.7 UJ
Endosulfan Sulfate	NE	6.9 U	77 U	5.7 UJ	5.6 UJ	5.6 UJ	6.3 UJ	5.9 UJ	5.7 UJ
Endrin	3	6.9 U	77 U	5.7 UJ	5.6 UJ	5.6 UJ	6.3 UJ	5.9 UJ	5.7 UJ
Endrin Ketone	NE	6.9 U	77 U	5.7 UJ	5.6 UJ	5.6 UJ	6.3 UJ	5.9 UJ	5.7 UJ
Endrin Aldehyde	NE	6.9 U	77 U	5.7 UJ	5.6 UJ	5.6 UJ	6.3 UJ	5.9 UJ	5.7 UJ
gamma-BHC (Lindane)	3	3.5 U	40 U	2.9 UJ	2.9 UJ	2.9 UJ	3.3 UJ	3.0 UJ	2.9 UJ
gamma-Chlordane	7	3.5 U	40 U	2.9 UJ	2.9 UJ	2.9 UJ	3.3 UJ	3.0 UJ	2.9 UJ
Heptachlor	NE	3.5 U	40 U	2.9 UJ	2.9 UJ	2.9 UJ	3.3 UJ	3.0 UJ	2.9 UJ
Heptachlor Epoxide	5	35 U	40 U	2.9 UJ	2.9 UJ	2.9 UJ	3.3 UJ	3.0 UJ	2.9 UJ
Methoxychlor	NE	35 U	400 U	29 UJ	29 UJ	29 UJ	33 UJ	30 UJ	29 UJ
Toxaphene	NE	350 U	4,000 U	290 UJ	290 UJ	290 UJ	330 UJ	300 UJ	290 UJ

Table DSD-Pesticides/PCBs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Pesticide and Polychlorinated Biphenyl Results for Area D

Analyte	Screening Level[a]	Sample Code and Sampling Date							
		MC-SD-D-007-0405	MC-SD-D-008-0103	MC-SD-D-008-0103-D	MC-SD-D-008-0607	MC-SD-D-009-0003	MC-SD-D-009-0506	MC-SD-D-009-0708	MC-SD-D-010-0002
		12/13/01	12/13/01	12/13/01	12/13/01	12/14/01	12/14/01	12/14/01	12/14/01
4,4'-DDD	8	26 J	51 J	56 J	190 J	270 J	9.9 J	5.1 J	3.7 J
4,4'-DDE	5	15 J	31 J	33 J	68 J	150 J	6.8 J	2.7 J	1.3 J
4,4'-DDT	8	13 J	21 J	26 J	49 J	82 J	2.3 J	1.7 J	3.0 J
Aldrin	2	2.9 UJ	3.2 UJ	3.0 UJ	2.9 UJ	1.9 J	2.2 J	3.1 U	2.2 U
alpha-BHC	6	2.9 UJ	3.2 UJ	3.0 UJ	2.9 UJ	1.0 J	3.6 J	3.1 U	2.2 U
alpha-Chlordane	7	2.9 UJ	3.2 UJ	3.0 UJ	2.9 UJ	21 J	3.1 J	1.4 J	2.2 U
Aroclor 1016	7	530 J	1,000 J	1,100 J	5,400 J	57 U	65 U	60 U	42 U
Aroclor 1221	70	110 UJ	120 UJ	120 UJ	110 UJ	120 U	130 U	120 U	86 U
Aroclor 1232	70	56 UJ	61 UJ	59 UJ	56 UJ	57 U	65 U	60 U	42 U
Aroclor 1242	70	56 UJ	61 UJ	59 UJ	56 UJ	7,400 J	65 U	60 U	42 U
Aroclor 1248	30	56 UJ	61 UJ	59 UJ	56 UJ	57 U	65 U	60 U	42 U
Aroclor 1254	60	630 J	1,200 J	1,400 J	3,400 J	7,600 J	65 U	60 U	42 U
Aroclor 1260	5	56 UJ	61 UJ	59 UJ	56 UJ	57 U	65 U	60 U	42 U
beta-BHC	5	2.9 UJ	3.2 UJ	3.0 UJ	2.9 UJ	88 J	9.0 J	1.8 J	2.2 U
delta-BHC	NE	2.9 UJ	3.2 UJ	3.0 UJ	2.9 UJ	2.9 U	3.3 J	3.1 U	2.2 U
Dieldrin	2	7.4 J	15 J	5.9 UJ	5.6 UJ	38 J	1.9 J	6.0 U	4.2 U
Endosulfan I	NE	2.9 UJ	3.2 UJ	3.0 UJ	2.9 UJ	31 J	1.8 J	1.5 J	2.2 U
Endosulfan II	NE	5.6 UJ	6.1 UJ	5.9 UJ	5.6 UJ	16 J	6.5 U	6.0 U	4.2 U
Endosulfan Sulfate	NE	5.6 UJ	6.1 UJ	5.9 UJ	5.6 UJ	5.7 U	16 J	6.7 J	1.7 J
Endrin	3	5.6 UJ	6.1 UJ	5.9 UJ	5.6 UJ	24 J	5.4 J	6.0 U	4.2 U
Endrin Ketone	NE	5.6 UJ	6.1 UJ	5.9 UJ	5.6 UJ	12 J	11 J	6.1 J	4.2 U
Endrin Aldehyde	NE	5.6 UJ	6.1 UJ	5.9 UJ	5.6 UJ	15 J	9.7 J	6.0 U	4.2 U
gamma-BHC (Lindane)	3	2.9 UJ	3.2 UJ	3.0 UJ	2.9 UJ	14 J	2.9 J	3.1 U	2.2 U
gamma-Chlordane	7	2.9 UJ	3.2 UJ	3.0 UJ	2.9 UJ	16 J	5.1 J	4.7	1.1 J
Heptachlor	NE	2.9 UJ	3.2 UJ	3.0 UJ	2.9 UJ	2.9 UJ	1.6 J	3.1 U	2.2 U
Heptachlor Epoxide	5	2.9 UJ	3.2 UJ	3.0 UJ	2.9 UJ	40 J	3.8 U	5.0 U	2.6 U
Methoxychlor	NE	29 UJ	31 UJ	30 UJ	29 UJ	44 J	110 J	51	15 J
Toxaphene	NE	290 UJ	310 UJ	300 UJ	290 UJ	290 U	330 U	310 U	220 U

Table DSD-Pesticides/PCBs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Pesticide and Polychlorinated Biphenyl Results for Area D

Analyte	Screening Level[a]	Sample Code and Sampling Date							
		MC-SD-D-010-0002-D	MC-SD-D-010-0305	MC-SD-D-010-0608	MC-SD-D-011-015025	MC-SD-D-012-0102	MC-SD-D-012-0304	MC-SD-D-012-0506	MC-SD-D-012-0708
		12/14/01	12/14/01	12/14/01	12/13/01	12/13/01	12/13/01	12/13/01	12/13/01
4,4'-DDD	8	8.3 J	4.3 U	5.0 U	10 J	52 U	34 J	61 U	1,600
4,4'-DDE	5	3.7 J	4.3 U	5.0 U	4.0 UJ	52 U	18 J	61 U	210 J
4,4'-DDT	8	3.7 J	4.3 U	5.0 U	4.0 UJ	52 U	7.6 J	61 U	93 J
Aldrin	2	2.4 U	2.2 U	2.6 U	2.1 UJ	27 U	2.9 UJ	31 U	28 U
alpha-BHC	6	2.4 U	2.2 U	2.6 U	2.1 UJ	27 U	2.9 UJ	31 U	28 U
alpha-Chlordane	7	1.2 J	2.2 U	2.6 U	2.1 UJ	27 U	2.9 UJ	31 U	28 U
Aroclor 1016	7	46 U	43 U	50 U	200 J	520 U	500 J	550 J	15,000 J
Aroclor 1221	70	94 U	88 U	100 U	81 UJ	1,000 U	120 UJ	1,200 U	1,100 U
Aroclor 1232	70	46 U	43 U	50 U	40 UJ	520 U	57 UJ	610 U	540 U
Aroclor 1242	70	46 U	43 U	50 U	40 UJ	520 U	57 UJ	610 U	540 U
Aroclor 1248	30	46 U	43 U	50 U	40 UJ	520 U	57 UJ	610 U	540 U
Aroclor 1254	60	46 U	43 U	50 U	550 J	520 U	350 J	480 J	8,100
Aroclor 1260	5	46 U	43 U	50 U	40 UJ	520 U	57 UJ	610 U	540 U
beta-BHC	5	2.5 J	2.2 U	2.6 U	2.1 UJ	27 U	2.9 UJ	31 U	28 U
delta-BHC	NE	2.4 U	2.2 U	2.6 U	2.1 UJ	27 U	2.9 UJ	31 U	28 U
Dieldrin	2	1.0 J	4.3 U	5.0 U	4.0 UJ	52 U	5.7 UJ	61 U	54 U
Endosulfan I	NE	2.4 U	2.2 U	2.6 U	2.1 UJ	27 U	2.9 UJ	31 U	28 U
Endosulfan II	NE	4.6 U	4.3 U	5.0 U	4.0 UJ	52 U	5.7 UJ	61 U	54 U
Endosulfan Sulfate	NE	4.0 J	4.3 U	5.0 U	4.0 UJ	52 U	5.7 UJ	61 U	54 U
Endrin	3	1.2 J	4.3 U	5.0 U	4.0 UJ	52 U	5.7 UJ	61 U	54 U
Endrin Ketone	NE	2.9 J	4.3 U	5.0 U	4.0 UJ	52 U	5.7 UJ	61 U	54 U
Endrin Aldehyde	NE	4.6 U	4.3 U	5.0 U	4.0 UJ	52 U	5.7 UJ	61 U	54 U
gamma-BHC (Lindane)	3	2.4 U	2.2 U	2.6 U	2.1 UJ	27 U	2.9 UJ	31 U	28 U
gamma-Chlordane	7	8.1 J	2.2 U	0.86 J	2.1 UJ	27 U	2.9 UJ	31 U	28 U
Heptachlor	NE	2.4 U	2.2 U	2.6 U	2.1 UJ	27 U	2.9 UJ	31 U	28 U
Heptachlor Epoxide	5	5.7 J	2.2 U	2.6 U	2.1 UJ	27 U	2.9 UJ	31 U	28 U
Methoxychlor	NE	24 U	22 U	26 U	20 UJ	270 U	29 UJ	310 U	280 U
Toxaphene	NE	240 U	220 U	260 U	200 UJ	2,700 U	290 UJ	3,100 U	2,800 U

Table DSD-Pesticides/PCBs
Milwaukee Solvay Coke and Gas Site
Summary of Sediment Sample Pesticide and Polychlorinated Biphenyl Results for Area D

Notes:
All screening levels and sample concentrations are presented in micrograms per kilogram.

D	=	Duplicate sample
J	=	Value reported is an approximate concentration of the analyte
NE	=	Not established
U	=	Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ	=	Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
Shading	=	Result exceeds one or more screening level
a		Lowest Effect Level from Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario (August 1993)


AST Area

Table AST Waste-Inorganics
Milwaukee Solvay Coke and Gas Site
Summary of Aboveground Storage Tank Waste Sample Inorganic Results

	Sample Code and Sampling Date	
	MC-AT-A-013	MC-ATW-A-01
Analyte	12/17/01	12/17/01
Aluminum	82.3 J	156 J
Antimony	3.7 U	3.7 U
Arsenic	3.0 U	3.0 U
Barium	19.7 J	44.4 J
Beryllium	0.40 U	0.40 U
Cadmium	0.40 U	0.40 U
Calcium	4,860	54,300
Chromium	29.2	1.3
Cobalt	3.0	1.0 U
Copper	8.0	9.2
Cyanide	269	9.8
Iron	26,800	35,800
Lead	31.5	13.0
Magnesium	1,550	13,000
Manganese	1,390	652
Mercury	0.10 U	0.10 U
Nickel	7.9	2.5
Potassium	424 J	38,900
Selenium	4.8 U	4.8 U
Silver	1.0 U	1.0 U
Sodium	2,600 J	4,630
Thallium	5.2 UJ	5.2 UJ
Vanadium	0.90 U	0.90 U
Zinc	1.1 U	37.4

Notes:

All sample concentrations are presented in micrograms per liter.

J = The value reported is an approximate concentration of the analyte

U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit

UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit

Table AST Waste - Phenols/Sulfide
Milwaukee Solvay Coke and Gas Site
Summary of Aboveground Storage Tank Waste Sample Total Phenols and Total Sulfide Results

	Sample Code and Sampling Date	
	MC-AT-A-013	MC-ATW-A-01
Analyte	12/17/01	12/17/01
Total Phenols	0.106	5.00
Total Sulfide	0.320U	5.20

Notes:
All sample concentrations are presented in milligrams per liter.
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit

Table AST Waste-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Aboveground Storage Tank Waste Sample Volatile Organic Compound Results

	Sample Code and Sampling Date				
	MC-AT-A-013	MC-AT-A-014	MC-AT-A-SLO1	MC-ATW-A-01	MC-AT-A-032
	12/17/01	12/17/01	12/17/01	12/17/01	12/17/01
Unit	µg/L	µg/L	µg/kg	µg/L	µg/L
Analyte					
1,1,1-Trichloroethane	10 U	50 U	150,000 U	10 UJ	NR
1,1,2,2-Tetrachloroethane	10 U	50 U	150,000 U	10 UJ	NR
1,1,2-Trichloro-1,2,2-trifluoroethane	10 U	50 U	150,000 U	10 UJ	NR
1,1,2-Trichloroethane	10 U	50 U	150,000 U	10 UJ	NR
1,1-Dichloroethane	10 U	50 U	150,000 U	10 UJ	NR
1,1-Dichloroethene	10 U	50 U	150,000 U	10 UJ	NR
1,2,4-Trichlorobenzene	10 U	50 U	150,000 U	10 UJ	NR
1,2-Dibromo-3-chloropropane	10 U	50 U	150,000 U	10 UJ	NR
1,2-Dibromoethane	10 U	50 U	150,000 U	10 UJ	NR
1,2-Dichlorobenzene	10 U	50 U	150,000 U	10 UJ	NR
1,2-Dichloroethane	10 U	50 U	150,000 U	10 UJ	NR
1,2-Dichloropropane	10 U	50 U	150,000 U	10 UJ	NR
1,3-Dichlorobenzene	10 U	50 U	150,000 U	10 UJ	NR
1,4-Dichlorobenzene	10 U	50 U	150,000 U	10 UJ	NR
2-Butanone	10 U	37 J	150,000 U	10 UJ	NR
2-Hexanone	10 U	50 U	150,000 U	10 UJ	NR
4-Methyl-2-pentanone	10 U	50 U	150,000 U	10 UJ	NR
Acetone	5 J	100	150,000 U	8 J	NR
Benzene	60	860	1,200,000	370 J	NR
Bromodichloromethane	10 U	50 U	150,000 U	10 UJ	NR
Bromoform	10 U	50 U	150,000 U	10 UJ	NR
Bromomethane	10 U	50 UJ	150,000 U	10 UJ	NR
Carbon Disulfide	10 U	50 U	150,000 U	10 UJ	NR
Carbon Tetrachloride	10 U	50 U	150,000 U	10 UJ	NR
Chlorobenzene	10 U	50 U	150,000 U	10 UJ	NR
Chloroethane	10 U	50 U	150,000 U	10 UJ	NR
Chloroform	10 U	50 U	150,000 U	10 UJ	NR
Chloromethane	10 U	50 U	150,000 U	10 UJ	NR
Cis-1,2-Dichloroethene	10 U	50 U	150,000 U	10 UJ	NR
Cis-1,3-Dichloropropene	10 U	50 U	150,000 U	10 UJ	NR
Cyclohexane	10 U	50 U	150,000 U	10 UJ	NR
Dibromochloromethane	10 U	50 U	150,000 U	10 UJ	NR
Dichlorodifluoromethane	10 U	50 U	150,000 U	10 UJ	NR
Ethylbenzene	4 J	15 J	66,000 J	17 J	NR
Isopropylbenzene	10 U	50 U	150,000 U	3 J	NR
Methyl tert-Butyl Ether	10 U	50 U	150,000 U	10 UJ	NR
Methyl Acetate	10 U	50 U	150,000 U	10 UJ	NR
Methylcyclohexane	10 U	50 U	150,000 U	10 UJ	NR
Methylene Chloride	10 U	50 U	150,000 U	10 UJ	NR
Styrene	10 U	120	36,000 J	4 J	NR
Tetrachloroethene	10 U	50 U	150,000 U	10 UJ	NR
Toluene	5 J	580	1,600,000	310 J	NR
trans-1,2-Dichloroethene	10 U	50 U	150,000 U	10 UJ	NR

Table AST Waste-VOCs
Milwaukee Solvay Coke and Gas Site
Summary of Aboveground Storage Tank Waste Sample Volatile Organic Compound Results

	Sample Code and Sampling Date				
	MC-AT-A-013	MC-AT-A-014	MC-AT-A-SLO1	MC-ATW-A-01	MC-AT-A-032
	12/17/01	12/17/01	12/17/01	12/17/01	12/17/01
Unit	µg/L	µg/L	µg/kg	µg/L	µg/L
Analyte					
trans-1,3-Dichloropropene	10 U	50 U	150,000 U	10 UJ	NR
Trichloroethene	10 U	50 U	150,000 U	10 UJ	NR
Trichlorofluoromethane	10 U	50 U	150,000 U	10 UJ	NR
Vinyl Chloride	10 U	50 U	150,000 U	10 UJ	NR
Xylenes (total)	15	340	2,400,000	440 J	NR

Notes:
µg/kg = Microgram per kilogram
µg/L = Microgram per liter
J = The value reported is an approximate concentration of the analyte
NR = Not reported; the Contract Laboratory Program (CLP) analytical report did not include results for this sample. An inquiry was made to the U.S. Environmental Protection Agency Region 5 CLP coordinator.
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit

Table AST Waste-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Aboveground Storage Tank Waste Sample Semivolatile Organic Compound Results

	Sample Code and Sampling Date						
	MC-AT-A-013	MC-AT-A-014	MC-AT-A-022	MC-AT-A-025	MC-AT-A-032	MC-AT-A-SLO1	MC-ATW-A-01
	12/17/01	12/17/01	12/17/01	12/17/01	12/18/01	12/17/01	12/17/01
Unit	µg/L	µg/kg	µg/kg	µg/kg	µg/L	µg/kg	µg/L
Analyte							
1,1'-Biphenyl	10 U	1,800,000	4,000,000	1,500,000	20 U	3,900,000	46 J
2,2'-oxybis(1-Chloropropane)	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
2,4,5-Trichlorophenol	25 U	2,500,000 U	6,700,000 U	3,200,000 U	50 U	7,900,000 U	630 U
2,4,6-Trichlorophenol	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
2,4-Dichlorophenol	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
2,4-Dimethylphenol	10 U	1,500,000	1,700,000 J	960,000 J	20 U	2,100,000 J	3,500
2,4-Dinitrophenol	25 U	2,500,000 U	6,700,000 U	3,200,000 U	50 U	7,900,000 U	630 U
2,4-Dinitrotoluene	10 U	1,000,000 U	2,700,000 UJ	1,300,000 R	20 U	3,200,000 U	250 U
2,6-Dinitrotoluene	10 U	1,000,000 U	2,700,000 U	2,700,000	20 U	3,200,000 U	250 U
2-Chloronaphthalene	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
2-Chlorophenol	10 U	1,000,000 U	2,700,000 U	1,300,000 R	20 U	3,200,000 U	250 U
2-Methylnaphthalene	10 U	11,000,000	29,000,000	11,000,000	37	27,000,000	420
2-Methylphenol	10 U	1,000,000	840,000 J	550,000 J	72	1,200,000 J	430
2-Nitroaniline	25 U	2,500,000 U	6,700,000 U	3,200,000 U	50 U	7,900,000 U	630 U
2-Nitrophenol	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
3,3'-Dichlorobenzidine	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 UJ	3,200,000 U	250 U
3-Nitroaniline	25 U	2,500,000 U	6,700,000 U	3,200,000 U	50 U	7,900,000 U	630 U
4,6-Dinitro-2-methylphenol	25 U	2,500,000 U	6,700,000 U	3,200,000 U	50 U	7,900,000 U	630 U
4-Bromophenyl-phenylether	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
4-Chloro-3-methylphenol	10 U	1,000,000 U	2,700,000 U	1,300,000 R	20 U	3,200,000 U	250 U
4-Chloroaniline	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
4-Chlorophenyl-phenylether	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
4-Methylphenol	10 U	2,000,000	850,000 J	1,100,000 J	520	2,300,000 J	2,700
4-Nitroaniline	25 U	2,500,000 U	6,700,000 U	3,200,000 U	50 U	7,900,000 U	630 U
4-Nitrophenol	25 U	2,500,000 U	6,700,000 J	3,200,000 R	50 U	7,900,000 U	630 U
Acenaphthene	1 J	750,000 J	1,300,000 J	470,000 J	20 U	1,100,000 J	71 J
Acenaphthylene	12	5,100,000	10,000,000	5,800,000	120	9,500,000	99 J
Acetophenone	16	1,000,000 U	2,700,000 U	1,300,000 U	520	3,200,000 U	250 U
Anthracene	10 U	4,500,000	8,400,000	3,800,000	41	11,000,000	47 J
Atrazine	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
Benzaldehyde	10 UJ	1,000,000 UJ	2,700,000 UJ	1,300,000 UJ	20 UJ	3,200,000 UJ	250 UJ
Benzo(a)anthracene	11	4,400,000	10,000,000	3,200,000	98 J	8,000,000	110 J
Benzo(a)pyrene	6 J	2,800,000	6,700,000	1,900,000	40 J	5,200,000	80 J
Benzo(b)fluoranthene	10	2,500,000	6,900,000	1,700,000	53 J	4,400,000	79 J
Benzo(g,h,i)perylene	2 J	520,000 J	1,400,000 J	540,000 J	8 J	1,400,000 J	250 U
Benzo(k)fluoranthene	9 J	1,400,000	3,200,000	1,700,000	40 J	1,100,000 J	88 J
bis(2-Chloroethoxy)methane	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
bis-(2-Chloroethyl)ether	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
bis(2-Ethylhexyl)phthalate	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 UJ	3,200,000 U	250 U
Butylbenzylphthalate	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 UJ	3,200,000 U	250 U
Caprolactam	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
Carbazole	10 U	2,900,000	5,700,000	2,100,000	20 U	4,800,000	120 J
Chrysene	11	4,300,000	10,000,000	3,100,000	85 J	8,800,000	100 J

Table AST Waste-SVOCs
Milwaukee Solvay Coke and Gas Site
Summary of Aboveground Storage Tank Waste Sample Semivolatile Organic Compound Results

	Sample Code and Sampling Date						
	MC-AT-A-013	MC-AT-A-014	MC-AT-A-022	MC-AT-A-025	MC-AT-A-032	MC-AT-A-SLO1	MC-ATW-A-01
	12/17/01	12/17/01	12/17/01	12/17/01	12/18/01	12/17/01	12/17/01
Unit	µg/L	µg/kg	µg/kg	µg/kg	µg/L	µg/kg	µg/L
Analyte							
Dibenzo(a,h)anthracene	10 U	100,000 J	2,700,000 U	1,300,000 U	3 J	3,200,000 U	250 U
Dibenzofuran	10 U	5,000,000	10,000,000	3,800,000	150	10,000,000	110 J
Diethylphthalate	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
Dimethylphthalate	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
Di-n-butylphthalate	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
Di-n-octylphthalate	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 UJ	3,200,000 U	250 U
Fluoranthene	26	9,600,000 J	21,000,000 J	1,200,000 J	170 J	2,200,000 J	220 J
Fluorene	1 J	880,000 J	1,100,000 J	670,000 J	160	1,100,000 J	140 J
Hexachlorobenzene	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
Hexachlorobutadiene	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
Hexachlorocyclopentadiene	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
Hexachloroethane	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
Indeno(1,2,3-cd)pyrene	2 J	700,000 J	1,800,000 J	680,000 J	10 J	1,800,000 J	26 J
Isophorone	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
Naphthalene	3 J	33,000,000	100,000,000	46,000,000	590	100,000,000	4,000
Nitrobenzene	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
N-Nitroso-di-n-propylamine	10 U	1,000,000 U	2,700,000 U	1,300,000 R	20 U	3,200,000 U	250 U
N-Nitrosodiphenylamine	10 U	1,000,000 U	2,700,000 U	1,300,000 U	20 U	3,200,000 U	250 U
Pentachlorophenol	25 U	2,500,000 U	6,700,000 U	3,200,000 R	50 U	7,900,000 U	630 U
Phenanthrene	1 J	20,000,000	38,000,000	13,000,000	240	31,000,000	290
Phenol	10 U	810,000 J	2,700,000 U	580,000 J	150	1,100,000 J	53 J
Pyrene	23	6,800,000	16,000,000 J	4,900,000 J	180 J	13,000,000	170 J
1,2,3-Trimethyl-4-propenyl naphthalene*	ND	ND	ND	ND	ND	ND	ND

Notes:
µg/kg = Microgram per kilogram
µg/L = Microgram per liter
J = The value reported is an approximate concentration of the analyte
ND = Not detected
R = Data are unusable; analyte may or may not be present
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit
* The laboratory was unable to find a standard solution of 1,2,3-trimethyl-4-propenyl naphthalene, a tentatively identified compound (TIC). The laboratory increased the library search from 30 to 50 compounds to find the reference compound. However, this TIC was not found in the sample

Table AST Waste-Pesticides/PCBs
Milwaukee Solvay Coke and Gas Site
Summary of Aboveground Storage Tank Waste Sample Pesticide and Polychlorinated Biphenyl Results

	Sample Code and Sampling Date		
	MC-AT-A-032	MC-AT-A-SLO1	MC-ATW-A-01
	12/18/01	12/17/01	12/17/01
Unit	µg/L	µg/kg	µg/L
Analyte			
4,4'-DDD	1.0 U	13,000 U	0.053 J
4,4'-DDE	7.2 J	13,000 U	0.022 J
4,4'-DDT	10 U	13,000 U	0.032 J
Aldrin	0.50 U	540 U	0.050 U
alpha-BHC	0.50 U	540 U	0.050 U
alpha-Chlordane	0.50 U	540 U	0.024 J
Aroclor 1016	10 U	10,000 U	1.0 U
Aroclor 1221	20 U	21,000 U	2.0 U
Aroclor 1232	10 U	10,000 U	1.0 U
Aroclor 1242	10 U	10,000 U	1.0 U
Aroclor 1248	10 U	10,000 U	1.0 U
Aroclor 1254	10 U	10,000 U	1.0 U
Aroclor 1260	10 U	10,000 U	1.0 U
beta-BHC	10 U	1,300 J	0.074 J
delta-BHC	0.50 UJ	540 U	0.0090 J
Dieldrin	5.4	2,000 J	0.027 J
Endosulfan I	4.1 J	540 U	0.050 U
Endosulfan II	1.0 U	13,000 U	0.0080 J
Endosulfan Sulfate	5.1 J	6,200 J	0.065 J
Endrin	1.0 U	13,000 U	0.15 J
Endrin Ketone	1.0 U	13,000 U	0.21 J
Endrin Aldehyde	4.8 J	3,900 J	0.082 J
gamma-BHC (Lindane)	0.50 U	290 J	0.050 U
gamma-Chlordane	0.50 U	2,700	0.051 J
Heptachlor	3.2 J	430 J	0.050 U
Heptachlor Epoxide	9.5 J	540 U	0.050 U
Methoxychlor	5.0 U	9,400	0.13 J
Toxaphene	50 U	54,000 U	5.0 U

Notes:
µg/kg = Microgram per kilogram
µg/L = Microgram per liter
J = The value reported is an approximate concentration of the analyte
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit

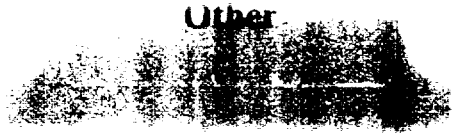
Other

Table ER-Inorganics
Milwaukee Solvay Coke and Gas Company Site
Summary of Equipment Rinsate Sample Inorganic

Analyte	Sample Code and Sampling Date	
	MC-ER-02	MC-ER-03
	12/12/01	12/13/01
Aluminum	55.0 U	55.0 U
Antimony	3.7 U	3.7 U
Arsenic	3.0 U	3.0 U
Barium	0.88 J	0.87 J
Beryllium	0.40 U	0.40 U
Cadmium	0.40 U	0.40 U
Calcium	20.9	468
Chromium	0.90 U	0.90 U
Cobalt	1.0 U	1.0 U
Copper	2.0 U	2.0 U
Cyanide	1.4 J	0.50 UJ
Iron	22.6 U	42.2
Lead	2.2 U	2.2 U
Magnesium	29.0 J	245
Manganese	0.32 J	2.6
Mercury	0.10 U	0.10 U
Nickel	1.5 U	1.5 U
Potassium	27.8 UJ	43.3 J
Selenium	4.8 U	4.8 U
Silver	1.0 U	1.0 U
Sodium	328 U	328 U
Thallium	5.2 UJ	5.2 UJ
Vanadium	0.90 U	0.90 U
Zinc	4.0	2.3

Notes:
All sample concentrations are presented in micrograms per liter.
J = Value reported is an approximate concentration of the analyte
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit

Table ER-Phenols/Sulfide
Milwaukee Solvay Coke and Gas Company Site
Summary of Equipment Rinsate Sample Total Phenols and Total Sulfide Results

Analyte	Sample Code and Sampling Date
	MC-ER-03
	12/13/01
Total Phenols	0.206
Total Sulfide	0.320U

Notes:
All sample concentrations are presented in milligrams per liter.
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit

Table ER-VOCs
Milwaukee Solvay Coke and Gas Company Site
Summary of Equipment Rinsate Sample Volatile Organic Compound Results

Analyte	Sample Code and Sampling Date	
	MC-ER-02	MC-ER-03
	12/12/01	12/13/01
1,1,1-Trichloroethane	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U
1,1-Dichloroethane	10 U	10 U
1,1-Dichloroethene	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U
1,2-Dibromo-3-chloropropane	10 R	10 R
1,2-Dibromoethane	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U
1,2-Dichloroethane	10 U	10 U
1,2-Dichloropropane	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U
2-Butanone	10 U	10 U
2-Hexanone	10 U	10 U
4-Methyl-2-pentanone	10 U	10 U
Acetone	4 J	3 J
Benzene	10 U	10 U
Bromodichloromethane	10 U	10 U
Bromoform	10 U	10 U
Bromomethane	10 U	10 U
Carbon Disulfide	10 U	10 U
Carbon Tetrachloride	10 U	10 U
Chlorobenzene	10 U	10 U
Chloroethane	10 R	10 R
Chloroform	10 U	10 U
Chloromethane	10 U	10 U
cis-1,2-Dichloroethene	10 U	10 U
cis-1,3-Dichloropropene	10 U	10 U
Cyclohexane	10 U	10 U
Dibromochloromethane	10 U	10 U
Dichlorodifluoromethane	10 U	10 U
Ethylbenzene	10 U	10 U
Isopropylbenzene	10 U	10 U
Methyl tert-Butyl Ether	10 U	10 U
Methylcyclohexane	10 U	10 U
Methylene Chloride	10 U	10 U
Styrene	10 U	10 U
Tetrachloroethene	10 U	10 U
Toluene	10 U	10 U
trans-1,2-Dichloroethene	10 U	10 U
trans-1,3-Dichloropropene	10 U	10 U

Table ER-VOCs
Milwaukee Solvay Coke and Gas Company Site
Summary of Equipment Rinsate Sample Volatile Organic Compound Results

Analyte	Sample Code and Sampling Date	
	MC-ER-02	MC-ER-03
	12/12/01	12/13/01
Trichloroethene	10 U	10 U
Trichlorofluoromethane	10 U	10 U
Vinyl Chloride	10 U	10 U
Xylenes (total)	10 U	10 U

Notes:
All sample concentrations are presented in micrograms per liter.
J = Value reported is an approximate concentration of the analyte
R = Data are unusable; analyte may or may not be present
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit

Table ER-SVOCs
Milwaukee Solvay Coke and Gas Company Site
Summary of Equipment Rinsate Sample Semivolatile Organic Compound Results

Analyte	Sample Code and Sampling Date	
	MC-ER-02	MC-ER-03
	12/12/01	12/13/01
1,1'-Biphenyl	10 U	20 U
2,2'-oxybis(1-Chloropropane)	10 U	20 U
2,4,5-Trichlorophenol	25 U	51 U
2,4,6-Trichlorophenol	10 U	20 U
2,4-Dichlorophenol	10 U	20 U
2,4-Dimethylphenol	10 U	20 U
2,4-Dinitrophenol	25 U	51 U
2,4-Dinitrotoluene	10 U	20 U
2,6-Dinitrotoluene	10 U	20 U
2-Chloronaphthalene	10 U	20 U
2-Chlorophenol	10 U	20 U
2-Methylnaphthalene	10 U	20 U
2-Methylphenol	10 U	20 U
2-Nitroaniline	25 U	51 U
2-Nitrophenol	10 U	20 U
3,3'-Dichlorobenzidine	10 UJ	20 UJ
3-Nitroaniline	25 U	51 U
4,6-Dinitro-2-methylphenol	25 U	51 U
4-Bromophenyl-phenylether	10 U	20 U
4-Chloro-3-methylphenol	10 U	20 U
4-Chloroaniline	10 U	20 U
4-Chlorophenyl-phenylether	10 U	20 U
4-Methylphenol	10 U	20 U
4-Nitroaniline	25 U	51 U
4-Nitrophenol	25 U	51 U
Acenaphthene	10 U	20 U
Acenaphthylene	10 U	20 U
Acetophenone	10 U	20 U
Anthracene	10 U	20 U
Atrazine	10 U	20 U
Benzaldehyde	10 U	20 U
Benzo(a)anthracene	10 U	20 U
Benzo(a)pyrene	10 U	20 U
Benzo(b)fluoranthene	10 U	20 U
Benzo(g,h,i)perylene	10 U	20 U
Benzo(k)fluoranthene	10 U	20 U
bis(2-Chloroethoxy)methane	10 U	20 U
bis-(2-Chloroethyl)ether	10 U	20 U
bis(2-Ethylhexyl)phthalate	10 U	20 U
Butylbenzylphthalate	10 U	20 U
Caprolactam	10 U	20 U
Carbazole	10 U	20 U
Chrysene	10 U	20 U
Dibenzo(a,h)anthracene	10 U	20 U
Dibenzofuran	10 U	20 U

Table ER-SVOCs
Milwaukee Solvay Coke and Gas Company Site
Summary of Equipment Rinsate Sample Semivolatile Organic Compound Results

Analyte	Sample Code and Sampling Date	
	MC-ER-02	MC-ER-03
	12/12/01	12/13/01
Diethylphthalate	10 U	20 U
Dimethylphthalate	10 U	20 U
Di-n-butylphthalate	10 U	20 U
Di-n-octylphthalate	10 UJ	20 UJ
Fluoranthene	10 U	20 U
Fluorene	10 U	20 U
Hexachlorobenzene	10 U	20 U
Hexachlorobutadiene	10 U	20 U
Hexachlorocyclopentadiene	10 U	20 U
Hexachloroethane	10 U	20 U
Indeno(1,2,3-cd)pyrene	10 U	20 U
Isophorone	10 U	20 U
Naphthalene	10 U	20 U
Nitrobenzene	10 U	20 U
N-Nitroso-di-n-propylamine	10 U	20 U
N-Nitrosodiphenylamine	10 U	20 U
Pentachlorophenol	25 U	51 U
Phenanthrene	10 U	20 U
Phenol	10 U	20 U
Pyrene	10 U	20 U
1,2,3-trimethyl-4-propenyl naphthalene[a]	ND	ND

Notes:
All sample concentrations are presented in micrograms per liter.
J = Value reported is an approximate concentration of the analyte
ND = Not detected
U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit
UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit

[a] The laboratory was unable to find a standard solution of 1,2,3-trimethyl-4-propenyl naphthalene, a tentatively identified compound (TIC). The laboratory increased the library search from 30 to 50 compounds to find the reference compound. However, this TIC was not found in the sample.

Table ER-Pesticides/PCBs
Milwaukee Solvay Coke and Gas Company Site
Summary of Equipment Rinsate Sample Pesticide and Polychlorinated Biphenyl Results

Analyte	Sample Code and Sampling Date	
	MC-ER-02	MC-ER-03
	12/12/01	12/13/01
4,4'-DDD	0.10 U	0.10 U
4,4'-DDE	0.10 U	0.10 U
4,4'-DDT	0.10 U	0.10 U
Aldrin	0.051 U	0.051 U
alpha-BHC	0.051 U	0.051 U
alpha-Chlordane	0.051 U	0.051 U
Aroclor 1016	1.0 U	1.0 U
Aroclor 1221	1.3 J	2.0 U
Aroclor 1232	0.75 J	1.0 U
Aroclor 1242	1.0 U	1.0 U
Aroclor 1248	0.050 J	1.0 U
Aroclor 1254	1.0 U	1.0 U
Aroclor 1260	1.0 U	1.0 U
beta-BHC	0.051 U	0.051 U
delta-BHC	0.051 U	0.051 U
Dieldrin	0.10 U	0.10 U
Endosulfan I	0.051 U	0.051 U
Endosulfan II	0.10 U	0.10 U
Endosulfan Sulfate	0.10 U	0.10 U
Endrin	0.10 U	0.10 U
Endrin Aldehyde	0.10 U	0.10 U
Endrin Ketone	0.10 U	0.10 UJ
gamma-BHC (Lindane)	0.051 U	0.051 U
gamma-Chlordane	0.0030 J	0.051 U
Heptachlor	0.051 U	0.051 U
Methoxychlor	0.51 U	0.51 U
Toxaphene	5.1 U	5.1 U

Notes:

All sample concentrations are presented in micrograms per liter.

J = Value reported is an approximate concentration of the analyte

U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit

UJ = Analyte was not present at or above the reporting limit; the value shown is an estimate of the reporting limit

Table TB-VOCs
Milwaukee Solvay Coke and Gas Company Site
Summary of Trip Blank Sample Volatile Organic Compound Results

Analyte	Sample Code and Sampling Date						
	MC-TRP-01-0000	MC-TRP-02-0000	MC-TRP-03-0000	MC-TRP-04-0000	MC-TRP-05-0000	MC-TRP-06-0000	MC-TRP-08-0000
	12/12/01	12/13/01	12/13/01	12/13/01	12/13/01	12/14/01	12/18/01
1,1,1-Trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromo-3-chloropropane	10 R	10 R	10 R	10 R	10 R	10 R	10 U
1,2-Dibromoethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	4 J	6 J	4 J	6 J	6 J	6 J	10 U
Benzene	10 U	10 U	1 J	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Disulfide	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 R	10 R	10 R	10 R	10 R	10 R	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cyclohexane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isopropylbenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl tert-Butyl Ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl Acetate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylcyclohexane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride	10 U	10 U	10 U	10 U	10 U	10 U	2 J
Styrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	2 J	10 U	3 J	10 U	10 U	5 J

Table TB-VOCs
Milwaukee Solvay Coke and Gas Company Site
Summary of Trip Blank Sample Volatile Organic Compound Results

Analyte	Sample Code and Sampling Date						
	MC-TRP-01-0000	MC-TRP-02-0000	MC-TRP-03-0000	MC-TRP-04-0000	MC-TRP-05-0000	MC-TRP-06-0000	MC-TRP-08-0000
	12/12/01	12/13/01	12/13/01	12/13/01	12/13/01	12/14/01	12/18/01
trans-1,2-Dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes (total)	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Notes:

All sample concentrations are presented in micrograms per liter.

Trip blank sample MC-TRP-07-0000 was reported by the laboratory to contain no volume. Trip blank sample MC-TRP-06-0000 was sent in the same shipment as that of sample MC-TRP-07-0000.

J = Value reported is an approximate concentration of the analyte

R = Data are unusable; analyte may or may not be present

U = Analyte was not present at or above the reporting limit; the value shown is the reporting limit

APPENDIX H
VALIDATED ANALYTICAL DATA PACKAGE: GREAT LAKES ANALYTICAL
(21 Pages)

Tetra Tech EM Inc.
200 E. Randolph Drive, Suite 4700 ◆ Chicago, IL 60601 ◆ (312) 856-8700 ◆ FAX (312) 938-0118

MEMORANDUM

Date: 25 Mar 02

To: Eduardo Gasca, Project Manager, Tetra Tech EM Inc. (Tetra Tech)
Superfund Technical Assessment and Response Team (START) for Region 5

From: Lisa Graczyk, Chemist, Tetra Tech START for Region 5

Subject: Data Validation for
Milwaukee Solvay Coke and Gas Company Site
Milwaukee, Wisconsin
Analytical Technical Direction Document (TDD) No. S05-0111-008
Project TDD No. S05-0110-013

Laboratory: Great Lakes Analytical (GLA), Buffalo Grove, Illinois
Work Orders No. B112190, B112261, B112302, B112340, and B112341
Phenol and Sulfide Analysis of 26 Soil, 33 Sediment, and 6 Groundwater Samples and 1 Equipment Rinsate Sample; Polychlorinated Biphenyl (PCB) Analysis of 2 Oil Samples

1.0 INTRODUCTION

Tetra Tech START for Region 5 validated phenol and sulfide analytical data for 26 soil, 33 sediment, and 6 groundwater samples and 1 equipment rinsate sample collected from 11 through 19 Dec 01 and PCB analytical data for 2 oil samples collected on 14 and 18 Dec 01 at the Milwaukee Solvay Coke and Gas Company site in Milwaukee, Wisconsin. The samples were analyzed under the above-referenced work orders by GLA using U.S. Environmental Protection Agency (U.S. EPA) SW-846 Method 9066 for phenol analysis, SW-846 Method 9030 for sulfide analysis of soil and sediment samples, Method 376.1 for sulfide analysis of aqueous samples, and SW-846 Method 8082 for PCB analysis of oil samples.

The data were validated in general accordance with U.S. EPA's "Contract Laboratory Program National Functional Guidelines for Organic Data Review" dated Oct 99 and "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review" dated Feb 94. Organic (phenol and PCBs)

data validation consisted of a review of the following quality control (QC) parameters: holding times, initial and continuing calibrations, blank results, matrix spike and matrix spike duplicate (MS/MSD) results, and laboratory control sample (LCS) results. Inorganic (sulfide) data validation consisted of a review of the following QC parameters: holding times, initial and continuing calibrations, blank results, LCS results, and MS/MSD results.

Section 2.0 discusses the results of the organic data validation, Section 3.0 discusses the results of the inorganic data validation, and Section 4.0 presents an overall assessment of the data. Attachment A to this memorandum contains GLA's summary of phenol, sulfide, and PCB analytical results as well as START's handwritten data qualifications where warranted. GLA also arranged for asbestos analysis of samples from the site by TEM, Incorporated (TEM), a subcontractor laboratory. Although asbestos data were not evaluated during the data validation, Attachment B to this memorandum contains TEM's summary of the asbestos analytical results for reference.

2.0 ORGANIC DATA VALIDATION RESULTS

The results of START's organic data validation are summarized below in terms of the QC parameters reviewed. The data qualifier below was applied to the sample analytical results where warranted (see Attachment A).

- J - The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.

2.1 HOLDING TIMES

Samples were analyzed (1) for phenol within the method-recommended holding time limit of 28 days after collection and (2) for PCBs within the holding time limit of 14 days to extraction and 40 days from extraction to analysis.

2.2 INITIAL AND CONTINUING CALIBRATIONS

For the phenol analysis, six standards were run to establish a linear calibration curve. There are no QC limits associated with the initial calibration, and no continuing calibration is required.

For the PCB analysis, the initial calibration was within the QC limit of less than or equal to 20 percent relative standard deviation for the average of the three calibration factors (CF) for a single Aroclor. The continuing calibration standards were within the QC limit of less than or equal to 15 percent difference between the mean CF of the initial calibration curve and the CF of the continuing calibration.

2.3 BLANK RESULTS

Method blanks were run with each analytical batch. Neither phenol nor PCBs were detected in the blanks at concentrations above the reporting limits.

The equipment rinsate sample (MCER03) had a phenol concentration of 0.206 milligram per liter. The equipment rinsate was collected from a backhoe bucket used to collect soil samples analyzed under Work Order No. B112302. Results for phenol in soil samples that were collected with the backhoe bucket were flagged "J" as estimated, because there may have been some phenol cross-contamination of the soil samples from the backhoe bucket. The soil samples collected with the backhoe bucket were those samples collected in Areas A, B, and C of the Milwaukee Solvay Coke and Gas Company site and those samples that were collected at a depth greater than the surface. It should be noted that the soil samples

were collected from the center of the backhoe bucket and that contact of the soil with the backhoe bucket was minimal.

2.4 MS/MSD RESULTS

For the phenol analysis, an MS and MSD were analyzed with each analytical batch. The MS and MSD results were within the QC limits established by the laboratory (57 to 115 percent) except for the MS and MSD associated with Work Order No. B112190. The MS and MSD that were outside the laboratory QC limits were spikes of sample MCSBA140405 and both gave a percent recovery of 46.6. All positive results for phenol in samples analyzed under Work Order No. B112190 were flagged "J" as estimated.

An MS and MSD were not analyzed during the PCB analysis. No qualification is warranted for this data gap.

2.5 LCS RESULTS

For both the phenol and PCB analyses, an LCS was analyzed with each analytical batch. LCS results were within the QC limits specified by the laboratory.

3.0 INORGANIC DATA VALIDATION RESULTS

The results of START's inorganic data validation are summarized below in terms of the QC parameters reviewed.

3.1 HOLDING TIMES

No set holding time limit exists for samples collected for sulfide analysis; however, SW-846 Method 9030 states that the samples can be held for up to 7 days. Method 376.1 does not recommend a holding time limit for sulfide. All samples were prepared for sulfide analysis within 7 days of their collection.

3.2 INITIAL AND CONTINUING CALIBRATIONS

Calibrations are not used for sulfide analysis, which is a distillation procedure.

3.3 BLANK RESULTS

Method blanks were run with each analytical batch. Sulfide was not detected in the blanks.

3.4 LCS RESULTS

An LCS was analyzed with each analytical batch. The LCS recoveries were within the laboratory-established QC limits for sulfide.

3.5 MS/MSD RESULTS

MSs and MSDs were analyzed with the samples. Recoveries were within the laboratory QC limits except for the MS associated with Work Order No. B112190 (spiked sample MCSBB060204). Under this work order, 74.4 percent recovery was obtained for the MS, and 76.8 percent recovery was obtained for the MSD. The QC limit for sulfide MSs and MSDs is 75 percent recovery. No qualification is applied for this minor discrepancy.

4.0 OVERALL ASSESSMENT OF DATA

Overall, the sample analytical data generated by GLA are acceptable for use as qualified.

ATTACHMENT A

GLA SUMMARY OF PHENOL, SULFIDE, AND PCB ANALYTICAL RESULTS

(11 Sheets)

Tetra Tech EMI - IL	Project:	Milwaukee Solvay C & G	Sampled: 12/11/01 to 12/12/01
200 E. Randolph Suite 4700	Project Number:	N/A	Received: 12/12/01
Chicago, IL 60601	Project Manager:	Eduardo Gasco	Reported: 3/25/02 10:34

General Chemistry
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
MCSBB060204			**B112190-01**				**Soil**	
Sulfide	1120365	12/18/01	12/19/01	EPA 9030	5.16	ND	mg/kg dry	G2
Phenol	1120331	"	12/20/01	EPA 9066	0.0484	**4.28** J	"	G2
MCSBA040607			**B112190-02**				**Soil**	
Sulfide	1120365	12/18/01	12/18/01	EPA 9030	4.90	**42.2**	mg/kg dry	G2
nol	1120331	"	12/20/01	EPA 9066	0.230	**30.1** J	"	G12,G2
MCSBA130608			**B112190-03**				**Soil**	
Sulfide	1120365	12/18/01	12/18/01	EPA 9030	5.14	**36.5**	mg/kg dry	G2
Phenol	1120331	"	12/20/01	EPA 9066	0.0482	**5.94** J	"	G2
MCSBA120405			**B112190-04**				**Soil**	
lfide	1120365	12/18/01	12/18/01	EPA 9030	3.83	**4.76**	mg/kg dry	G2
enol	1120331	"	12/20/01	EPA 9066	0.0359	**1.10** J	"	G2
MCSBA120405D			**B112190-05**				**Soil**	
Sulfide	1120365	12/18/01	12/18/01	EPA 9030	3.68	ND	mg/kg dry	G2
Phenol	1120331	"	12/20/01	EPA 9066	0.0345	**1.45** J	"	G2
MCSBB100405			**B112190-06**				**Soil**	
Sulfide	1120365	12/18/01	12/18/01	EPA 9030	4.15	ND	mg/kg dry	G2
Phenol	1120331	"	12/20/01	EPA 9066	0.0389	**1.49** J	"	G2
MCSBA050001C			**B112190-07**				**Soil**	
Sulfide	1120365	12/18/01	12/18/01	EPA 9030	4.07	ND	mg/kg dry	G2
Phenol	1120331	"	12/20/01	EPA 9066	0.0381	**2.60** J	"	G2
MCSBA010708			**B112190-08**				**Soil**	
Sulfide	1120365	12/18/01	12/18/01	EPA 9030	4.23	**15.7**	mg/kg dry	G2
Phenol	1120331	"	12/20/01	EPA 9066	0.0396	**2.75** J	"	G2
MCSBB090708			**B112190-09**				**Soil**	
Sulfide	1120365	12/18/01	12/18/01	EPA 9030	3.97	ND	mg/kg dry	G2
Phenol	1120331	"	12/20/01	EPA 9066	0.0372	**4.75** J	"	G2
MCSBA160607			**B112190-10**				**Soil**	
Sulfide	1120365	12/18/01	12/18/01	EPA 9030	5.35	ND	mg/kg dry	G2
Phenol	1120331	"	12/20/01	EPA 9066	0.0502	**1.43** J	"	G2

**Refer to end of report for text of notes and definitions.*

L.B.
1-15-02

Tetra Tech EMI - IL	Project:	Milwaukee Solvay C & G	Sampled: 12/11/01 to 12/12/01
200 E. Randolph Suite 4700	Project Number:	N/A	Received: 12/12/01
Chicago, IL 60601	Project Manager:	Eduardo Gasco	Reported: 3/25/02 10:34

General Chemistry
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
MCSBA150405			**B112190-11**				**Soil**	
Sulfide	1120365	12/18/01	12/18/01	EPA 9030	4.24	**15.9**	mg/kg dry	G2
Phenol	1120331	"	12/20/01	EPA 9066	0.0398	**3.07 J**	"	G2
MCSBA170607			**B112190-12**				**Soil**	
Sulfide	1120365	12/18/01	12/18/01	EPA 9030	9.12	**162**	mg/kg dry	G2
Phenol	1120331	"	12/20/01	EPA 9066	0.0855	**10.2 J**	"	G2
MCSBA220607			**B112190-13**				**Soil**	
Sulfide	1120365	12/18/01	12/18/01	EPA 9030	4.36	**56.6**	mg/kg dry	G2
Phenol	1120331	"	12/20/01	EPA 9066	0.204	**5.41 J**	"	G12,G2
MCSDD0300015			**B112190-14**				**Soil**	
Sulfide	1120365	12/18/01	12/18/01	EPA 9030	5.86	**60.8**	mg/kg dry	G2
Phenol	1120331	"	12/20/01	EPA 9066	0.0549	**2.87 J**	"	G2
MCSDD0301504			**B112190-15**				**Soil**	
Sulfide	1120365	12/18/01	12/18/01	EPA 9030	5.13	**171**	mg/kg dry	G2
Phenol	1120331	"	12/20/01	EPA 9066	0.0481	**4.31 J**	"	G2
MCSBA210708			**B112190-16**				**Soil**	
Sulfide	1120413	12/19/01	12/19/01	EPA 9030	4.35	**36.2**	mg/kg dry	
Phenol	1120331	12/18/01	12/20/01	EPA 9066	0.204	**39.4 J**	"	G12,G2
MCSBA140405			**B112190-17**				**Soil**	
Sulfide	1120413	12/19/01	12/19/01	EPA 9030	4.23	ND	mg/kg dry	
Phenol	1120331	12/18/01	12/20/01	EPA 9066	0.198	**15.2 J**	"	G12,G2
MCSDD010608D			**B112190-18**				**Soil**	
Sulfide	1120413	12/19/01	12/19/01	EPA 9030	5.26	**71.9**	mg/kg dry	
Phenol	1120331	12/18/01	12/20/01	EPA 9066	0.0493	**4.87 J**	"	G2
MCSDD010608			**B112190-19**				**Soil**	
Sulfide	1120413	12/19/01	12/19/01	EPA 9030	5.17	**91.4**	mg/kg dry	
Phenol	1120331	12/18/01	12/20/01	EPA 9066	0.0485	**4.05 J**	"	G2
MCSDD010203			**B112190-20**				**Soil**	
Sulfide	1120413	12/19/01	12/19/01	EPA 9030	5.95	**184**	mg/kg dry	
Phenol	1120331	12/18/01	12/20/01	EPA 9066	0.0558	**2.02 J**	"	G2

Refer to end of report for text of notes and definitions.

I.D.
1-15-02

Tetra Tech EMI - IL	Project:	Milwaukee Solvay C & G	Sampled: 12/11/01 to 12/12/01
200 E. Randolph Suite 4700	Project Number:	N/A	Received: 12/12/01
Chicago, IL 60601	Project Manager:	Eduardo Gasco	Reported: 3/25/02 10:34

General Chemistry
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
MCSDD010506			**B112190-21**				**Soil**	
Sulfide	1120413	12/19/01	12/19/01	EPA 9030	4.89	**5.79**	mg/kg dry	
Phenol	1120397	12/20/01	12/20/01	EPA 9066	0.0458	**5.03** J	"	
MCSDD060203			**B112190-22**				**Soil**	
Sulfide	1120413	12/19/01	12/19/01	EPA 9030	6.26	**45.8**	mg/kg dry	
Phenol	1120397	12/20/01	12/20/01	EPA 9066	0.0587	**4.09** J	"	
MCSDD060506			**B112190-23**				**Soil**	
Sulfide	1120413	12/19/01	12/19/01	EPA 9030	5.73	**120**	mg/kg dry	
Phenol	1120397	12/20/01	12/20/01	EPA 9066	0.0538	**3.30** J	"	

Tetra Tech EMI - IL	Project:	Milwaukee Solvay C & G	Sampled: 12/12/01 to 12/13/01
200 E. Randolph Suite 4700	Project Number:	N/A	Received: 12/13/01
Chicago, IL 60601	Project Manager:	Eduardo Gasco	Reported: 3/22/02 14:36

General Chemistry
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
MCSDD020102			**B112261-01**				**Soil**	
Sulfide	1120413	12/19/01	12/19/01	EPA 9030	6.21	**499**	mg/kg dry	
Phenol	1120398	12/20/01	12/21/01	EPA 9066	1.22	**4.46**	"	
MCSDD02025035			**B112261-02**				**Soil**	
Sulfide	1120413	12/19/01	12/19/01	EPA 9030	5.55	**537**	mg/kg dry	
Phenol	1120398	12/20/01	12/21/01	EPA 9066	1.09	**7.42**	"	
MCSDD020405			**B112261-03**				**Soil**	
Sulfide	1120413	12/19/01	12/19/01	EPA 9030	4.98	**243**	mg/kg dry	
Phenol	1120398	12/20/01	12/21/01	EPA 9066	0.980	**7.99**	"	
MCSBA250708			**B112261-04**				**Soil**	
Sulfide	1120413	12/19/01	12/19/01	EPA 9030	5.49	ND	mg/kg dry	
Phenol	1120398	12/20/01	12/21/01	EPA 9066	1.08	**8.84** J	"	
MCSDD040102			**B112261-05**				**Soil**	
Sulfide	1120413	12/19/01	12/19/01	EPA 9030	7.19	**578**	mg/kg dry	
Phenol	1120398	12/20/01	12/21/01	EPA 9066	1.42	**7.32**	"	
MCSDD04025035			**B112261-06**				**Soil**	
Sulfide	1120413	12/19/01	12/19/01	EPA 9030	6.94	**607**	mg/kg dry	
Phenol	1120398	12/20/01	12/21/01	EPA 9066	1.37	**6.17**	"	
MCSBC34005			**B112261-07**				**Soil**	
Sulfide	1120429	12/20/01	12/20/01	EPA 9030	3.65	ND	mg/kg dry	
Phenol	1120398	"	12/21/01	EPA 9066	0.719	**2.20**	"	
MCSBC360102			**B112261-08**				**Soil**	
Sulfide	1120429	12/20/01	12/20/01	EPA 9030	4.00	ND	mg/kg dry	
Phenol	1120398	"	12/21/01	EPA 9066	0.788	**2.31**	"	
MCSBC2903045			**B112261-09**				**Soil**	
Sulfide	1120429	12/20/01	12/20/01	EPA 9030	3.89	ND	mg/kg dry	
Phenol	1120398	"	12/21/01	EPA 9066	0.765	**3.38** J	"	
MCSBC280405			**B112261-10**				**Soil**	
Sulfide	1120429	12/20/01	12/20/01	EPA 9030	3.77	ND	mg/kg dry	
Phenol	1120398	"	12/21/01	EPA 9066	0.742	**3.50** J	"	

Tetra Tech EMI - IL	Project:	Milwaukee Solvay C & G	Sampled: 12/12/01 to 12/13/01
200 E. Randolph Suite 4700	Project Number:	N/A	Received: 12/13/01
Chicago, IL 60601	Project Manager:	Eduardo Gasco	Reported: 3/22/02 14:36

General Chemistry
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
MCSDD050405			**B112261-11**				**Soil**	
Sulfide	1120429	12/20/01	12/20/01	EPA 9030	5.54	**95.8**	mg/kg dry	
Phenol	1120398	"	12/21/01	EPA 9066	1.09	**10.1**	"	
MCSDD11015025			**B112261-12**				**Soil**	
Sulfide	1120429	12/20/01	12/20/01	EPA 9030	4.41	**110**	mg/kg dry	
Phenol	1120398	"	12/21/01	EPA 9066	0.868	**9.58**	"	
MCSDD050102			**B112261-13**				**Soil**	
Sulfide	1120429	12/20/01	12/20/01	EPA 9030	5.40	**32.2**	mg/kg dry	
Phenol	1120398	"	12/21/01	EPA 9066	1.06	**6.81**	"	
MCSDD070405			**B112261-14**				**Soil**	
Sulfide	1120429	12/20/01	12/20/01	EPA 9030	5.36	**39.0**	mg/kg dry	
Phenol	1120398	"	12/21/01	EPA 9066	1.06	**6.68**	"	
MCSDD050304			**B112261-15**				**Soil**	
Sulfide	1120429	12/20/01	12/20/01	EPA 9030	5.28	**51.8**	mg/kg dry	
Phenol	1120398	"	12/21/01	EPA 9066	1.04	**10.9**	"	
MCSDD070203			**B112261-16**				**Soil**	
Sulfide	1120429	12/20/01	12/20/01	EPA 9030	5.59	**47.6**	mg/kg dry	
Phenol	1120398	"	12/21/01	EPA 9066	1.10	**4.29**	"	
MCGWC3307			**B112261-17**				**Water**	
Sulfide	1120430	12/20/01	12/20/01	EPA 376.1	0.320	**1.20**	mg/l	
Phenol	1120399	"	12/21/01	EPA 9066	0.0300	**0.0480**	"	

Tetra Tech EMI - IL	Project:	Milwaukee Solvay C & G	Sampled: 12/13/01 to 12/14/01
200 E. Randolph Suite 4700	Project Number:	N/A	Received: 12/14/01
Chicago, IL 60601	Project Manager:	Eduardo Gasco	Reported: 3/22/02 14:45

General Chemistry
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
MCER03			**B112302-01**				**Water**	
Sulfide	1120430	12/20/01	12/20/01	EPA 376.1	0.320	ND	mg/l	
Phenol	1120399	"	12/21/01	EPA 9066	0.0300	**0.206**	"	
MCGWA2404			**B112302-02**				**Water**	
Sulfide	1120430	12/20/01	12/20/01	EPA 376.1	0.320	ND	mg/l	
Phenol	1120399	"	12/21/01	EPA 9066	0.0300	**0.0770**	"	
MCGWB3708			**B112302-03**				**Water**	
Sulfide	1120430	12/20/01	12/20/01	EPA 376.1	0.320	**0.800**	mg/l	
Phenol	1120399	"	12/21/01	EPA 9066	0.0300	**0.109**	"	
MCSBB350507BC			**B112302-04**				**Soil**	
Sulfide	1120431	12/20/01	12/20/01	EPA 9030	3.71	ND	mg/kg dry	
Phenol	1120497	12/26/01	12/27/01	EPA 9066	0.731	ND	"	
MCSBC3100005			**B112302-05**				**Soil**	
Sulfide	1120431	12/20/01	12/20/01	EPA 9030	4.03	ND	mg/kg dry	
Phenol	1120497	12/26/01	12/27/01	EPA 9066	0.793	**2.39**	"	
MCSBC300708			**B112302-06**				**Soil**	
Sulfide	1120431	12/20/01	12/20/01	EPA 9030	4.02	ND	mg/kg dry	
Phenol	1120497	12/26/01	12/27/01	EPA 9066	0.790	**1.43 J**	"	
MCSBB370910			**B112302-07**				**Soil**	
Sulfide	1120431	12/20/01	12/20/01	EPA 9030	7.34	ND	mg/kg dry	
Phenol	1120497	12/26/01	12/27/01	EPA 9066	7.22	**45.3 J**	"	G12
MCSDD120102			**B112302-08**				**Soil**	
Sulfide	1120431	12/20/01	12/20/01	EPA 9030	4.95	**43.0**	mg/kg dry	
Phenol	1120497	12/26/01	12/27/01	EPA 9066	0.975	**4.74**	"	
MCSDD120304			**B112302-09**				**Soil**	
Sulfide	1120431	12/20/01	12/20/01	EPA 9030	5.54	**38.4**	mg/kg dry	
Phenol	1120497	12/26/01	12/27/01	EPA 9066	1.09	**3.13**	"	
MCSDD120506			**B112302-10**				**Soil**	
Sulfide	1120431	12/20/01	12/20/01	EPA 9030	5.50	**47.4**	mg/kg dry	
Phenol	1120497	12/26/01	12/27/01	EPA 9066	1.08	**2.97**	"	

Tetra Tech EMI - IL	Project:	Milwaukee Solvay C & G	Sampled: 12/13/01 to 12/14/01
200 E. Randolph Suite 4700	Project Number:	N/A	Received: 12/14/01
Chicago, IL 60601	Project Manager:	Eduardo Gasco	Reported: 3/22/02 14:45

General Chemistry
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
MCSDD120708			**B112302-11**				**Soil**	
Sulfide	1120431	12/20/01	12/20/01	EPA 9030	5.01	**53.4**	mg/kg dry	
Phenol	1120497	12/26/01	12/27/01	EPA 9066	0.986	**7.01**	"	
MCSDD090708			**B112302-12**				**Soil**	
Sulfide	1120431	12/20/01	12/20/01	EPA 9030	5.69	**99.5**	mg/kg dry	
henol	1120497	12/26/01	12/27/01	EPA 9066	1.12	**11.0**	"	
MCSDD090506			**B112302-13**				**Soil**	
Sulfide	1120431	12/20/01	12/20/01	EPA 9030	6.27	**274**	mg/kg dry	
Phenol	1120497	12/26/01	12/27/01	EPA 9066	1.24	**6.39**	"	
MCSDD090003			**B112302-14**				**Soil**	
Sulfide	1120431	12/20/01	12/20/01	EPA 9030	5.36	**108**	mg/kg dry	
Phenol	1120497	12/26/01	12/27/01	EPA 9066	1.06	**4.62**	"	
MCSDD080103			**B112302-15**				**Soil**	
Sulfide	1120431	12/20/01	12/20/01	EPA 9030	5.84	**48.0**	mg/kg dry	
Phenol	1120497	12/26/01	12/27/01	EPA 9066	1.15	**3.92**	"	
MCSDD080103D			**B112302-16**				**Soil**	
Sulfide	1120431	12/20/01	12/20/01	EPA 9030	5.41	**39.0**	mg/kg dry	
Phenol	1120497	12/26/01	12/27/01	EPA 9066	1.06	**5.13**	"	
MCSDD080607			**B112302-17**				**Soil**	
Sulfide	1120431	12/20/01	12/20/01	EPA 9030	5.63	**110**	mg/kg dry	
Phenol	1120497	12/26/01	12/27/01	EPA 9066	1.11	**4.64**	"	
MCSDD100002D			**B112302-18**				**Soil**	
Sulfide	1120431	12/20/01	12/20/01	EPA 9030	4.12	**39.1**	mg/kg dry	
Phenol	1120497	12/26/01	12/27/01	EPA 9066	0.811	**7.37**	"	
MCSDD100002			**B112302-19**				**Soil**	
Sulfide	1120431	12/20/01	12/20/01	EPA 9030	4.00	**24.5**	mg/kg dry	
Phenol	1120497	12/26/01	12/27/01	EPA 9066	0.787	**3.84**	"	
MCSDD100608			**B112302-20**				**Soil**	
Sulfide	1120431	12/20/01	12/20/01	EPA 9030	4.43	ND	mg/kg dry	
Phenol	1120497	12/26/01	12/27/01	EPA 9066	0.871	**1.46**	"	

Tetra Tech EMI - IL	Project:	Milwaukee Solvay C & G	Sampled:	12/13/01 to 12/14/01
200 E. Randolph Suite 4700	Project Number:	N/A	Received:	12/14/01
Chicago, IL 60601	Project Manager:	Eduardo Gasco	Reported:	3/22/02 14:45

General Chemistry
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
MCSDD100305			**B112302-21**				**Soil**	
Sulfide	1120431	12/20/01	12/20/01	EPA 9030	3.89	**9.65**	mg/kg dry	
Phenol	1120497	12/26/01	12/27/01	EPA 9066	0.765	**2.24**	"	

Tetra Tech EMI - IL	Project:	Milwaukee Solvay C & G	Sampled: 12/17/01 to 12/19/01
200 E. Randolph Suite 4700	Project Number:	N/A	Received: 12/19/01
Chicago, IL 60601	Project Manager:	Eduardo Gasco	Reported: 3/22/02 14:37

General Chemistry
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
MC-SS-A37			**B112340-07**				**Soil**	
Sulfide	1120464	12/24/01	12/24/01	EPA 9030	4.52	ND	mg/kg dry	
Phenol	1120474	12/26/01	12/26/01	EPA 9066	0.890	**2.05**	"	
MC-SS-A38			**B112340-08**				**Soil**	
Sulfide	1120464	12/24/01	12/24/01	EPA 9030	3.78	ND	mg/kg dry	
Phenol	1120474	12/26/01	12/26/01	EPA 9066	0.745	**3.54**	"	
MCAT-013			**B112340-09**				**Water**	
Sulfide	1120465	12/24/01	12/24/01	EPA 376.1	0.320	ND	mg/l	
Phenol	1120480	12/26/01	12/26/01	EPA 9066	0.0300	**0.106**	"	
MC-A-SW01			**B112340-10**				**Water**	
Sulfide	1120465	12/24/01	12/24/01	EPA 376.1	0.320	**5.20**	mg/l	
Phenol	1120480	12/26/01	12/26/01	EPA 9066	0.600	**5.00**	"	G12
MC-PIT-PIT			**B112340-13**				**Water**	
Sulfide	1120465	12/24/01	12/24/01	EPA 376.1	0.320	ND	mg/l	
Phenol	1120480	12/26/01	12/26/01	EPA 9066	0.0300	**0.144**	"	

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

Tetra Tech EMI - IL
200 E. Randolph Suite 4700
Chicago IL, 60601

Project: Milwaukee Solvay C & G
Project Number: N/A
Project Manager: Eduardo Gasco

Reported:
01/02/02 15:35

Polychlorinated Biphenyls by EPA Method 8082

Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MC-OIL-01 (B112341-01) OIL Sampled: 12/14/01 11:00 Received: 12/19/01 10:06									
PCB-1016	ND	3.50	mg/kg	1	1120513	12/27/01	12/31/01	EPA 8082	
PCB-1221	ND	3.50	"	"	"	"	"	"	
PCB-1232	ND	3.50	"	"	"	"	"	"	
PCB-1242	ND	3.50	"	"	"	"	"	"	
PCB-1248	ND	3.50	"	"	"	"	"	"	
PCB-1254	ND	3.50	"	"	"	"	"	"	
PCB-1260	ND	3.50	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*91.8 %*		*10-214*		"	"	"	
Surrogate: Decachlorobiphenyl		*75.5 %*		*10-248*		"	"	"	
MC-PCB-02 (B112341-02) OIL Sampled: 12/18/01 11:10 Received: 12/19/01 10:06									
PCB-1016	ND	3.50	mg/kg	1	1120513	12/27/01	12/31/01	EPA 8082	
PCB-1221	ND	3.50	"	"	"	"	"	"	
PCB-1232	ND	3.50	"	"	"	"	"	"	
PCB-1242	ND	3.50	"	"	"	"	"	"	
PCB-1248	ND	3.50	"	"	"	"	"	"	
PCB-1254	ND	3.50	"	"	"	"	"	"	
PCB-1260	ND	3.50	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*105 %*		*10-214*		"	"	"	
Surrogate: Decachlorobiphenyl		*226 %*		*10-248*		"	"	"	

Great Lakes Analytical

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Andy Johnson, Project Manager

Tetra Tech EMI - IL	Project:	Milwaukee Solvay C & G	Sampled:	12/11/01 to 12/12/01
200 E. Randolph Suite 4700	Project Number:	N/A	Received:	12/12/01
Chicago, IL 60601	Project Manager:	Eduardo Gasco	Reported:	3/25/02 10:34

Notes and Definitions

#	Note
G12	The reporting limits have been elevated due to low sample volume.
G2	The recovery of one or more analytes in the matrix QC (MS/MSD) associated with this sample is below the laboratory's established acceptance criteria. Refer to the included QC reports for more detail.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

ATTACHMENT B

TEM SUMMARY OF ASBESTOS ANALYTICAL RESULTS

(Two Sheets)

BULK ASBESTOS SAMPLE EVALUATION

POLARIZED LIGHT MICROSCOPY (PLM) TECHNIQUE

NVLAP LAB ID 101130-0

Company Name:	Great Lakes Analytical	**Client Project Ref:**	P.O. 1305
Contact	Andy Johnson	**Project Location:**	
Address:	1380 Busch Parkway	**TEM Project:**	37520
	Buffalo Grove Illinois 60089-	**Analyzed by:**	Rebecca Frejek
		Date Analyzed:	12/26/01

Sample Information				Fibrous Materials				Non-Fibrous Materials	
Client Sample ID Description	TEM ID.	COLOR	ACM	Asbestos Fibers Type	Asbestos Fibers Percent	Non-Asbestos Fibers Type	Non-Asbestos Fibers Percent	Filler Binder	Comments
B112340-01	156619	Grey/Tan	Yes	Chrysotile Amosite	N/D 54-60	Cellulose Glass	3-5 3-5	30-40	
B112340-02	156620	Grey/Brown	Yes	Chrysotile Amosite	N/D 80-90	Cellulose Glass	- -	10-20	
B112340-03	156621	Lt. Grey	Yes	Chrysotile Amosite	25-35 N/D	Cellulose Glass	<1 -	65-75	
B112340-04	156622	Grey	Yes	Chrysotile Amosite	40-45 N/D	Cellulose Glass Synthetic	3-5 - 3-5	45-54	
B112340-05	156623	Grey	Yes	Chrysotile Amosite	30-40 N/D	Cellulose Glass	<1 -	60-70	

Samples were analyzed following the procedures contained in the EPA Method 600/R-93/116, July 1993. This report applies only to samples tested.

SLM: The optical resolution of polarized light microscopy limits the size of fibers that are visible. In samples where very small fibers may be present, the asbestos fibers may be smaller than the resolution limit of a polarized light microscope. In those cases, the result of the PLM analysis is not conclusive where the sample is reported as non-asbestos. Samples that are expected to contain small fibers (such as floor tile samples) and that are reported as non-asbestos by PLM should be further analyzed by transmission electron microscopy.

Key: ACM = Asbestos Containing Material as defined in USEPA NESHAP Regulation; TR = Trace; N/D = None Detected

Rebecca Frejek

Signature of Analyst

01-02-02

BULK ASBESTOS SAMPLE EVALUATION

POLARIZED LIGHT MICROSCOPY (PLM) TECHNIQUE

NVLAP LAB ID 101130-0

Company Name:	Great Lakes Analytical	**Client Project Ref:**	P.O. 1305
Contact	Andy Johnson	**Project Location:**	
Address:	1380 Busch Parkway	**TEM Project:**	37520
	Buffalo Grove Illinois 60089-	**Analyzed by:**	Rebecca Frejek
		Date Analyzed:	12/26/01

Sample Information				Fibrous Materials				Non-Fibrous Materials	
Client Sample ID / Description	TEM ID.	COLOR	ACM	Asbestos Fibers Type	Asbestos Fibers Percent	Non-Asbestos Fibers Type	Non-Asbestos Fibers Percent	Filler / Binder	Comments
B112340-06	156624	Black	Yes	Chrysotile Amosite	62-70 N/D	Cellulose Glass	3-5 -	25-35	
B112340-11	156625	Brown	Yes	Chrysotile Amosite	25-30 5-10	Cellulose Glass Synthetic	3-5 3-5 <1	50-64	
B112340-12	156626	Grey	N/D	Chrysotile Amosite	N/D N/D	Cellulose Glass Synthetic	2-3 - 1-2	95-97	

Samples were analyzed following the procedures contained in the EPA Method 600/R-93/116, July 1993. This report applies only to samples tested.

SLM: The optical resolution of polarized light microscopy limits the size of fibers that are visible. In samples where very small fibers may be present, the asbestos fibers may be smaller than the resolution limit of a polarized light microscope. In those cases, the result of the PLM analysis is not conclusive where the sample is reported as non-asbestos. Samples that are expected to contain small fibers (such as floor tile samples) and that are reported as non-asbestos by PLM should be further analyzed by transmission electron microscopy.

Key: ACM = Asbestos Containing Material as defined in USEPA NESHAP Regulation; TR = Trace; N/D = None Detected

Rebecca Frejek

Signature of Analyst