154081

Volume 1
Sauget Area 1
Data Tables/Maps

ARCS Contract No. 68-W8-0086
Work Assignment No. 47-5N60

February 1998

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 5
Office of Superfund
77 West Jackson Boulevard
Chicago, Illinois 60604

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1 Introduction

Ecology and Environment, Inc. (E & E), was assigned by the United States Environmental Protection Agency (U.S. EPA) to provide Technical Assistance (TA) related to the Sauget Area 1 and 2 sites located in the villages of Sauget and Cahokia, St. Clair County, Illinois. All work was conducted under work assignment number 47-5N60, issued by U.S. EPA Region 5, under the Alternative Remedial Contracting Strategy (ARCS) contract number 68-W8-0086.

The objective of E & E's TA is to provide information to EPA for enforcement, cleanup oversight, and cost recovery efforts. Specifically, this work has involved compiling and summarizing existing technical and potentially responsible party (PRP) data for each subunit of the sites. This report provides technical data summary tables and maps for each of the Sauget sites along with other information compiled during E & E's file searches of various agencies and organizations. Under the task "Acquisition of Existing Information," E & E reviewed all available technical information concerning the Sauget Area 1 and 2 Sites in files at the agencies and organizations listed below:

- U.S. EPA Region 5 Offices in Chicago
  - 7th Floor Records Center
  - Office of Regional Counsel (ORC) Files
  - Working PRP Investigator Files

- Illinois Environmental Protection Agency (IEPA) Offices in Springfield
  - Freedom of Information Act (FOIA) Files

- Miscellaneous Federal Agencies
  - U.S. Fish and Wildlife Service
  - U.S. Food and Drug Administration
  - U.S. Department of Agriculture
  - U.S. Army Corps of Engineers

- Miscellaneous State and Local Agencies
  - Illinois Department of Public Health
  - Illinois Department of Transportation
  - St. Clair County
  - Village of Sauget and Fire Department
  - Village of Cahokia and Fire Department
  - East Side Health Department

E & E contacted the sources listed above by telephone to inquire about file materials, if any, that may be pertinent. File searches were scheduled and conducted at U.S. EPA, IEPA, and St. Clair County offices only. The other listed agencies and organizations indicated either that was no file information available, or that their files were included in the state or federal file system.

This report (Volumes 1 and 2) compiles the existing technical information and data for the Sauget sites. The report is organized as follows: Section 1 provides the introduction to the report and Section 2 describes the report organization in detail. Volume 1 of this report provides the technical data summary tables and maps for the Sauget Area 1 sites, and Volume 2 provides the technical data summary tables for the Sauget Area 2 sites.

2 Report Organization

This section describes the report organization and provides pertinent information for both Volumes 1 and 2. The report, Volumes 1 and 2, begins with introductory text (the Introduction, Section 1; and Report Organization, Section 2), followed by sections that supply details on the specific Sauget Area 1 or Area 2 sites. Volume 1 sections are broken out as follows:

- Sites G, H, and L,
- Site I and Creek Segment A (CS-A),
- Site M and CS-B,
- Site N and CS-C, CS-D, and CS-E,
- CS-F, and
- Area 1 Groundwater.

Volume 2 sections are broken out as follows:

- Site P,
- Sites O, Q, R, and S, and
- Area 2 Groundwater.

Each section tab is followed by an illustration of the site(s) covered in that section. Immediately following the figure are individual site narratives for each of the sites contained within the specific section (e.g., the Volume 1 section tab "Site I and CS-A" is followed by a figure showing Site I and CS-A, and then by individual Site Narratives for Site I and CS-A). The figures and site narratives within each section are followed by subtabs that include all the

technical data summary tables generated for each individual site. More detail on these elements is given below:

Figures

E & E has developed site maps for areas within Sauget Area 1 and 2 based upon only pertinent features present on the respective United States Geological Survey (USGS) 7.5-minute topographic quadrangle. The specific site maps include the site locations, all historical sample locations from available file information, and tables showing selected contaminants from samples collected at those locations. Generally, every soil/sediment, waste, and surface water sample collected for a given site will be presented in table format on the map. There are, however, some exceptions to this presentation: 1) sampling locations may be presented where no chemical data were obtained or where the sample results were not located in the available file information; and 2) additional sample locations were discovered toward the end of the process of assembling this deliverable, and the new sample locations are presented on the map but the corresponding data for the samples are not included on the figure due to time constraints. In the second case, the analytical data are presented within the tabbed section of the report, but are not included on the map table. The maps for Area 1 and Area 2 ground-water will also differ from this presentation, in that data from only one representative sampling event from any given well were selected for presentation on the figure. Again, additional available groundwater data are provided in the body of each section.

The data presented on each map represent a summary of selected contaminants for each sample. Since the analyses performed varied for most of the sampling events, E & E, with concurrence of the U.S. EPA Work Assignment Manager (WAM), chose to present data for total volatile organic compounds (VOCs), base-neutral/acid extractables (BNAs), pesticides (Pest), and polychlorinated biphenyls (PCBs), along with selected metals and cyanide. The values presented represent the sum of the concentrations for all compounds analyzed within each parameter group regardless of numbers (e.g., the VOC value for one sample may represent analysis of only benzene, toluene, ethyl benzene, and xylene (BTEX) constituents, whereas another sample may represent a total of all compounds from a Target Compound List (TCL) VOC scan). The report tables do not generally distinguish the total number of compounds detected within each parameter group. It also should be noted that in order to not present data that potentially represent laboratory or method contamination, any result indicating that a compound was also detected in the blank sample was not included in the concentration presented on the figures. In addition, two VOCs (methylene chloride and

acetone) and certain BNAs (all phthalates) were not included in their respective totals because of the typical association of these compounds with laboratory and sampling method contamination. All data reported on the maps should be in milligrams per kilogram (mg/kg) for soils and sediments and in micrograms per liter (μg/L) for all waters unless otherwise listed. Each data table presented on the maps also indicates the agency or company that collected the samples and the sampling date. A partial listing of acronyms that may be found on the tables is as follows:

- E & E—Ecology and Environment, Inc.,
- G & M—Geraghty & Miller,
- IEPA—Illinois Environmental Protection Agency, and
- U.S. EPA—United States Environmental Protection Agency.

The scales posted on each figure are approximate, as are many of the sample locations. The placement of the sample locations on each map was based on the file information description or map provided with that sample. Some locations are considered suspect due to very poor location descriptions in the file information.

Site Narratives

The figures are followed in the report by individual site narratives. These narratives are in a table format, and provide a summary description of the available site information, the nature and extent of contamination, and any existing or constructed site containment features. Every sample location available for a given site is listed in the site narrative. In the case of the site narratives for groundwater, each sampling event is also provided in the narrative table. The sampling locations are followed by the name of the entity that collected the samples, the sampling date, and a file reference within the site narrative table.

Beneath the sampling information portion of the site narrative table is a brief summary of the nature and extent of contamination, a description of the site containment features and integrity, and any other pertinent comments about the site. The nature and extent of contamination section of the narrative table briefly summarizes the contamination data presented on the figures. The description of the source containment and integrity is based solely on review of available file information, and therefore may not be completely accurate

or current, The section of the table concerning other comments is typically used to reference an attached site description paragraph.

Technical Data Summary Tables

E & E organized the technical data copied from the file searches into separate data summary tables for the Sauget Area 1 and Area 2 sites. These summary tables were further organized by subunits (Sites) within each area. In addition, technical data were organized to evaluate groundwater at each site. Extensive sources of data (such as some site R data from Monsanto) were too voluminous to transfer into E & E data summary tables. Therefore, such data are presented within this report in the original format copied during the file searches. Any recently discovered additional data are also included in the original table format copied from the file searches.

Following the data summary tables for each data set is a copy of the original file map (or location description) that details where the samples were collected. These sample maps and/or descriptions formed the basis for the sample locations that were placed on the site maps at the front of each section.

SDMS US EPA REGION V
FORMAT- OVERSIZED - 5
IMAGERY INSERT FORM

The item(s) listed below are not available in SDMS. In order to view original document or document pages, contact the Superfund Records Center.

SITE NAME	**SAUGET AREA 1**		
DOC ID #	**154081**		
DESCRIPTION OF ITEM(S)	**MAP - SAMPLING LOCATIONS/ DATA**		
REASON WHY UNSCANNABLE	**_X_ OVERSIZED**	**OR**	**____ FORMAT**
DATE OF ITEM(S)	**1998**		
NO. OF ITEMS	**1**		
PHASE	**REM**		
PRP			
PHASE (AR DOCUMENTS ONLY)	**___ Remedial ___ Removal ___ Deletion Docket ___ AR** **___ Original ___ Update # ___ Volume ___ of ___**		
O.U.			
COMMENT(S)			
AREA 1 GROUNDWATER (partially scanned)			

ND	Not detected
Dup	Duplicate sample

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SAUGET AREA 1
AREA 1 GROUNDWATER
SAMPLING LOCATIONS/DATA

SITE NARRATIVE

SITE G

SITE NARRATIVE - SAUGET AREA 1 / Site G

Sample Locations	Sampling Entity	Date Sampled	Data Source
#1, #2, #3	IEPA	10/1/84	Individual Special Analysis forms
SS-01 thru SS-43	E & E	11/11/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
G-1 thru G-9	E & E	1/87	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
S-41, S-42	Weston	3/4/87	"Removal Action Plan for Dead Creek Sites" prepared for U.S. EPA by Weston-SPER, August 1987
WS-1, WS-2, WS-3 (aka#1) (aka#2) (aka#3)	IEPA	10/1/84	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
G-106, G-107	IEPA	10/1/84	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
X114,X115,X116	IEPA	11/11/94	Memo to M. Rebbe (IDPH) from P. Takacs (IEPA) dated 12/30/94 Re: November Sampling with maps and data
B-B1, B3	Geraghty & Miller	10/18/91	"Site Investigation for Dead Creek Sector B and Sites L and M" prepared for Monsanto Company by Geraghty & Miller, Inc., March 1992

Nature and Extent of Contamination:

VOC concentrations ranged from 0.004 to 709 mg/kg in 38 of 61 soil samples, BNAs ranged from 0.2 to 22,000 mg/kg in 35 of 61 samples, pesticides ranged from 0.03 to 135 mg/kg in 9 of 61 samples, and PCBs ranged fro 0.13 to 74,000 mg/kg for 50 of 70 samples collected. The greatest concentrations in subsurface soils were detected at depths between 10 to 25 feet BGS. In addition, concentrations of VOCs and pesticides tended to be higher in the subsurface than in surface soils. The extent of contamination at Site G is very well defined given the numbers of surface and subsurface samples collected. Based upon the depths and thicknesses of waste observed in subsurface borings, a total volume of approximately 60,000 cubic yards of waste and contaminated fill is estimated to be present at Site G.

Containment and Integrity (if known):

Prior to 1995 there was no know containment for wastes at Site G. In 1994, the Sauget Fire Department (SFD) was called to the site on four separate occasions to extinguish fires. The cause of the fires was believed to be spontaneous combustion. Approximately 30,000 tons of clean soil was graded over the site during a removal action conducted by USEPA in 1995. Access is restricted via a security fence that was also installed by USEPA in 1995.

Other Comments: See the attached "Site Description" for more site details.

SITE DESCRIPTION - Sauget Area 1/Site G

Site G is roughly a 5 acre disposal area located in Sauget which operated from approximately 1952 until the late 1970's. The site is bordered by Queeny Ave. to the north, Dead Creek to the east, a cultivated field to the south, and by Wiese Engineering to the west. Prior to the removal action conducted by EPA in 1995, the site consisted of scattered corroded drums with some cinder/fly ash cover material with two pits filled with oily tar-like waste in the northeast portion of the site. In 1994, the Sauget Fire Department (SFD) was called to the site on four separate occasions to extinguish fires. The fires were though to have started by spontaneous combustion. Boring logs from site G reveal 3 to 12 feet of fill material overlying 15 to 25 feet of waste. The maximum depth of waste was noted at 36 feet BGS. Based on the depths and thickness of the waste along with horizontal distances between borings, a total volume of approximately 60,000 cubic yards of waste and contaminated fill is estimated to be present in the subsurface at site G.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report prepared by IEPA)

SITE NARRATIVE

SITE H

SITE NARRATIVE - SAUGET AREA 1 / Site H

Sample Locations	Sampling Entity	Date Sampled	Data Source
H-1 thru H-9	E & E	12/86-1/87	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988

Nature and Extent of Contamination:

Contaminant concentrations in Site H soils are generally higher in the central and northern portions of the site when compared to results from the southern portion. VOCs ranged from 1 to 573 mg/kg in 8 of 11 samples collected, BNAs ranged from 0.1 to 59,177 mg/kg in 9 of 11 samples, pesticides averaged 1.6 mg/kg for two of 11 samples, and PCBs ranged from 0.2 to 18,000 mg/kg for 7 of 11 samples. The highest concentrations of contaminants were generally detected in samples collected from 10 to 25 feet BGS. The extent of contamination is only moderately well defined at Site H because only subsurface soil samples have been collected from this site, and samples were collected from only nine boring locations.

Containment and Integrity (if known):

There is no known surface or subsurface containment in place at Site H. The surface of the site is grass covered, although some areas are sparsely vegetated with cinders and slag evident at the surface. Waste material was identified at depths below the water table in some borings. Access is unrestricted.

Other Comments: See the attached "Site Description" for more site details.

recycled paper

SITE DESCRIPTION - Sauget Area 1/Site H

Site H is roughly a 5 to 7 acre disposal area located in Sauget which operated from approximately 1931 until 1957. The site, contiguous with Site I under Queeny Avenue is known collectively as the " Sauget-Monsanto Landfill". Site H is bordered by Queeny Avenue to the north, Falling Springs Road. to the east, and by the Metro Construction company to the west. There is no clear delineation of site H to the south, however, the landfill extends approximately 1,250 feet south of Queeny Avenue Prior to the site's use as a landfill, the site was a series of sand and gravel borrow pits. According to two CERCLA (103[c]) forms submitted by Monsanto to USEPA, the site accepted chemical wastes from the Monsanto's Queeny and Krummrich plants in St. Louis and Sauget, respectively. Aerial photos show landfilling activities decreasing by the late 1950's. Site H is currently graded and sparsely vegetated with no waste materials present at the surface other than cinders and slag. Borings from site H reveal 2.5 to 13 feet of fill material across the site. The waste materials found in six of the eight borings completed consisted of multi-colored sludges, solids and oily refuse underlying the fill. A waste thickness of approximately 20 feet was noted in borings in the central portion of the site.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report prepared by IEPA)

recycled paper

SITE NARRATIVE

SITE L

SITE NARRATIVE - SAUGET AREA 1 / Site L

Sample Locations	Sampling Entity	Date Sampled	Data Source
DC-L1 thru DC-L4	E & E	12/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
X-1, X-2	IEPA	1/28/81	Individual Special Analysis forms from Microfiche
Samples L1 thru L5 from borings LB-10 thru LB-17	Geraghty & Miller	10/15/91 & 10/16/91	"Site Investigation for Dead Creek Sector B and Sites L and M" prepared for Monsanto Company by Geraghty & Miller, Inc., March 1992

Nature and Extent of Contamination:

VOC concentrations in soil samples from Site L ranged from 0.01 to 420 mg/kg for 10 of the 11 samples collected, BNAs ranged from 0.3 to 390 mg/kg for 9 of 11 samples, pesticides were not detected in any of the 5 samples analyzed, and PCBs ranged from 16 to 500 mg/kg in 2 of 7 samples. Contaminants were generally detected at depths ranging from 5 to 15 feet BGS. The extent of contamination is well defined both laterally and vertically for the main impoundment associated with Site L. A second, smaller impoundment, identified by photographs does not appear to have been located by sampling or investigated in any detail.

Containment and Integrity (if known):

There is no known surface or subsurface containment in place at Site L. The site consisted of unlined surface impoundments used for disposal of washwater from truck cleaning. The surface of the site is presently covered with cinder and slag. Access to the site is unrestricted.

Other Comments: See the attached "Site Description" for more site details.

SITE DESCRIPTION - Sauget Area 1/Site L

Site L is the former location of two surface impoundments used by Waggoner Trucking and later by Ruan Trucking. The hazardous waste transporters used the impoundments approximately between the years of 1975 to 1981 to dispose of wash water from truck cleaning operations. The main impoundment was located 125 feet east of Dead Creek - Segment B and about 250 feet south of the present Metro Construction building. Historical aerial photos show the dimensions of the filled impoundment to be approximately 150 feet by 70 feet. A later inspection by Geraghty & Miller determined the impoundment to be approximately 165 feet by 35 feet. This area is now covered by black cinders and is used by Metro Construction for equipment storage. The second impoundment was identified in a historical aerial photo. This impoundment was located to the east of the main impoundment described above. IEPA has estimated the quantity of wash water disposed of at the site between 1971 and 1978 to be roughly 164,000, gallons assuming that Ruan Trucking operated at the same volume as Waggoner Trucking. Four borings conducted at the site indicate the main impoundment had a depth of approximately 8 feet, was not lined, and had a base of medium- to coarse-grained sands.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report prepared by IEPA)

(3)

Attachment C

Time Collected: 7:40 P.M.

Date Collected: OCT. 1, 84

SPECIAL ANALYSIS FORM

Lab # [illegible] cmc

Date Received OCT 2 1984

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
ST. CLAIR	CAHOKIA / DEAD CREEK	1630700025

SOURCE OF SAMPLE: (Exact Location) SAMPLE WAS A COMPOSITE OF SOIL AND/OR WASTE MATERIALS IN THE GENERAL AREA OF SAMPLES #1 AND #2.

PHYSICAL OBSERVATIONS, REMARKS:

SEVERAL MATERIALS FROM A WHITISH SUBSTANCE TO A DARK BROWN FINE POWDER LIKE MATERIAL WERE OBTAINED.

TESTS REQUESTED: PCB'S, ORGANIC SCAN, HEAVY METALS

COLLECTED BY: KENNETH MENSING TRANSPORTED BY: KEN MENSING
MIKE GRANT

LABORATORY

RECEIVED BY: Hanji D. Kulthia DATE COMPLETED: DATE FORWARDED:

Cd 16.8

Cr 30.0

~~Cu 912~~

Fe ~~6025~~ 6025

~~Pb 327~~

Mn 9.9

~~Zn 10400~~

Hg 1.99

As

IEPA - CHAMPAIGN LAB
Rec'd.
OCT 5 1984

IL 532-0314
LPC 8A 4/77

(NOT FOR DATA PROCESSING)

cmc

Attachment B

(7)

Time Collected: 7:30 P.M.

Date Collected: OCT. 1, 84

Lab # ~~[illegible] 8~~ CMC

SPECIAL ANALYSIS FORM

Date Received

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
ST. CLAIR	CAHOKIA / DEAD CREEK	1630700005

SOURCE OF SAMPLE: (Exact Location) SAMPLE WAS COLLECTED FROM A BLACK OILY PIT JUST WEST OF THE NORTHWEST CORNER OF DEAD CREEK.

PHYSICAL OBSERVATIONS, REMARKS: JUST EAST OF SAMPLE # 1. VERY THICK BLACK OILY MATERIAL FLOATING ON WATER. SAMPLE CONSISTED OF BOTH THE OILY MATERIAL AND WATER.

TESTS REQUESTED: PCB'S, ORGANIC SCAN, HEAVY METALS

COLLECTED BY: KEN MENSING
MIKE GRANT

TRANSPORTED BY: KEN MENSING

LABORATORY

RECEIVED BY: [illegible]

DATE COMPLETED:

DATE FORWARDED:

Cd 0.8

Cr 27.2

~~Cu 584.0~~

Fe 151

Pb 52.1

Mn 20.1

~~Zn 339~~

Hg 0.46

As

IEPA - CHAMPAIGN LAB
Rec'd.
OCT - 5 1984

recycled paper

LPC-8A 4/77

(NOT FOR DATA PROCESSING)

(1)

Attachment

Time Collected: 7:15 P.M.

Date Collected: OCT. 1, 94

Lab # [illegible] 3 — 35957 cm

SPECIAL ANALYSIS FORM

Date Received [illegible]

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
ST. CLAIR	CAHOKIA / DEAD CREEK	1630700005

SOURCE OF SAMPLE: (Exact Location) SAMPLE WAS COLLECTED FROM A BLACK OILY PIT JUST WEST OF THE NORTHWEST CORNER OF DEAD CREEK.

PHYSICAL OBSERVATIONS, REMARKS: JUST WEST OF SAMPLE #2 VERY THICK BLACK OILY MATERIAL DUMPED ON THE GROUND.

TESTS REQUESTED: PCB'S, ORGANIC SCAN, HEAVY METALS

COLLECTED BY: KEN MENSING MIKE GRANT

TRANSPORTED BY: KEN MENSING

LABORATORY

RECEIVED BY: Harji D. Kalthia

DATE COMPLETED:

DATE FORWARDED:

Cd	0.1
Cr	24.4
[redacted]	
Fe	106
Pb	26.6
Mn	<0.1
Zn	101.4
Hg	0.36
As	

IEPA - CHAMPAIGN OCT - 5 1994
Rec'd. 5013906

LPC-8A 4/77 recycled paper

(NOT FOR DATA PROCESSING)

ecology and environment

cmc

SAUGET Analytical Data
Site G

SEDIMENT SAMPLES
Organic Compounds (µg/g unless otherwise noted)
Collected by IEPA

Sample Number	1	2	3	Maximum
Date Collected	10 01/84	10/01/84	10/1/84	Detected
Organic Compounds				
Detection Limits/Units	400 /µg/g	250 /ug/l	10 /µg/g	
0-Dichlorobenzene	ND	ND	ND	ND
Bis (2-chloroethyl)ether	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	ND	ND
Isophrone	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND
Methylnaphthalene	ND	ND	ND	ND
Diemethylnaphthalene	ND	ND	ND	ND
Trimethylnaphthalene	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND
Fluoranthene	ND	ND	ND	ND
Pyrene	**610**	ND	ND	**610**
Benzidine	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND
Benzo(a)anthracene	ND	ND	ND	ND
3,3-Dichlorobenzidine	ND	ND	ND	ND
Chlorobenzene	NA	**580**	ND	**580**
2-Chlorophenol	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
Phenol	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2,4-Dinitrophenol	ND	ND	ND	ND
2-Methyl-4,6-dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Phenyl Indene	**320**	ND	ND	**320**
Dimethyl Phenanthrene	**3100**	ND	ND	**3100**
Trimethyl Phenanthrene	**1400**	ND	ND	**1400**
Aliphatic Hydrocarbons	**14200**	**5230**	ND	**14200**
Other Organic Compounds	**1200(est)**	**400(est)**	**4070**	**4070**
PCBs (ug/g)	<16	NA	**18**	**18**

µg/g - Micrograms per gram
µg/L - Micrograms per liter
NA - Parameter not analyzed
ND - Not detected

SAUGET Analytical Data
Site G

SEDIMENT SAMPLES
Heavy Metals
Collected by IEPA

	Sample Number	1	2	3	Maximum
	Date Collected	10 01/84	10/01/84	10/1/84	Detected
Heavy Metals					
Cadmium		**0.1**	**0.8**	**16.8**	**16.8**
Chromium		**24.4**	**27.2**	**30**	**30**
Calcium		**101.9**	**309**	**912**	**912**
Iron		**106**	**151**	**6025**	**6025**
Lead		**26.6**	**52.1**	**337**	**337**
Manganese		<0.1	<0 1	**9.9**	**9.9**
Zinc		**101.4**	**339**	**104100**	**104100**
Mercury		**0.36**	**0.46**	**1.99**	**1.99**
Arsenic		NA	NA	NA	NA

Units of measure not listed in data package.
NA - Not Analyzed

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Volatile Organic Compounds (μg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-01	DC-SS-02	DC-SS-03	DC-SS-04	DC-SS-05	DC-SS-06	DC-SS-07	DC-SS-08	DC-SS-09	DC-SS-10
Location/Grid	C-1	G-1	B-2	E-2	H-2	H-2	I-2	I-2	A-3	B-3
Date Collected	11/10/86	11/10/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
VOC										
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	34 B	32 B	33 B	35 B	42 B	63 B	61 B	27 B	51 B	59 B
Acetone	28 BJ	23 BJ	25 BJ		48 B	41 B	25 JB		55 B	
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	43 B	ND	ND	51 B	ND	51 B	37 B	57 B	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND	ND	ND	ND	9 J	8 J
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	22	11 J
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	18 B	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

μg/kg - Micrograms per kilogram.
B - Compound detected in blank sample
J - Estimated value
ND - Not detected.

recycled paper

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Volatile Organic Compounds (μg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-11	DC-SS-12	DC-SS-13	DC-SS-14	DC-SS-15	DC-SS-16	DC-SS-17	DC-SS-18	DC-SS-19	DC-SS-20
Location/Grid	C-3	D-3	E-3	F-3	G-3	G-3	H-3	A-4	B-4	C-4
Date Collected	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
VOC										
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	59 B	105 B	43 B	95 B	26 B	56 B	90 B	36 B	81 B	73 B
Acetone	37 B	27 BJ	32 B	ND	18 B	28 BJ	13 BJ	67 B	140 B	99 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	42 B	61 B	16 B	46 B	ND	ND	180 B	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
~~2-Chloroethyl Vinyl Ether~~	~~ND~~	~~ND~~	~~ND~~	~~ND~~	ND	~~ND~~	~~ND~~	~~ND~~	~~ND~~	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	16 J	280	ND	ND	14 J	ND	ND	55	220 B	510 B
2-Hexanone	ND	ND	ND	22 B	ND	ND	ND	ND	17 BJ	58 B
Tetrachloroethene	63	50	ND	24	ND	ND	ND	ND	13 J	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	36 B	ND	30 B	ND	12	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

μg/kg - Micrograms per kilogram

B - Compound detected in blank sample

J - Estimated value

ND - Not detected

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-21	DC-SS-22	DC-SS-23	DC-SS-24	DC-SS-25	DC-SS-26	DC-SS-27	DC-SS-28	DC-SS-29	DC-SS-30
Location/Grid	D-4	E-4	F-4	G-4	G-4	H-4	I-4	J-4	A-5	B-5
Date Collected	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
VOC										
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	160 B	62 B	58 B	71 B	79 B	68 B	63 B	63 B	80 B	62 B
Acetone	400 B	ND	41	39 B	90	14 BJ	17 BJ	13 BJ	37 B	16 BJ
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	42	ND	ND	40 B	46 B	36 B	36 B	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	160	49 B	ND	320	610	ND	ND	ND	ND	47
2-Hexanone	23 BJ	28 BJ	20 J	51 B	ND	ND	ND	ND	ND	ND
Tetrachloroethene	40 J	ND	ND	ND	ND	12 J	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	45	37	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram
B - Compound detected in blank sample
J - Estimated value
ND - Not detected

recycled paper

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-31	DC-SS-32	DC-SS-33	DC-SS-34	DC-SS-35	DC-SS-36	DC-SS-37	DC-SS-38	DC-SS-39	DC-SS-40
Location/Grid	B-5	C-5	D-5	E-5	F-5	G-5	H-5	A-6	B-6	C-6
Date Collected	11/11/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86
VOC										
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	90 B	35 B	230 B	46 B	23 B	55 B	69 B	40 B	63 B	40 B
Acetone	36 B	30 B	170 B	19 BJ	ND	25 B	48 B	43 B	66 B	150 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	43 B	ND	37 B	ND	48 B	34 B	35 B	59 B	46 B
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	11 J	ND	19	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	2 J	80	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	190	29 J	2000	68	100	ND	ND	140	12 J	31
2-Hexanone	16 BJ	ND	89 B	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	21	ND	ND	ND	ND	ND	12 J	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	32	ND	ND	ND	1400	ND	33
Chlorobenzene	ND	ND	ND	18	ND	ND	ND	40	ND	ND
Ethylbenzene	ND	ND	ND	[illegible]	ND	ND	55	140	ND	ND
Styrene	ND	ND	ND	[illegible]	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	[illegible]	ND	ND	150	170	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

J - Estimated value

ND - Not detected

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-41	DC-SS-42	DC-SS-43	DC-SS-44	DC-SS-45	Maximum
Location/Grid	D-6	F-6	B-7	BLANK	BLANK	Concentration
Date Collected	11/12/86	11/12/86	11/12/86	11/13/86	11/11/86	Detected
VOC						
Chloromethane	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND
Methylene chloride	37 B	60 B	29 B	52 B	65 B	230 B
Acetone	41 B	58 B	21 BJ	18 BJ	28 J	400 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	37 B	39 B	40 B	ND	ND	180 B
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	19
Dibromochloromethane	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	4 J	ND	ND	80
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	34	ND	ND	ND	ND	2000
2-Hexanone	ND	ND	ND	ND	ND	89 B
Tetrachloroethene	ND	ND	ND	ND	ND	63
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	1400
Chlorobenzene	ND	ND	ND	ND	ND	40
Ethylbenzene	ND	ND	ND	ND	ND	140
Styrene	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	170

µg/kg - Micrograms per kilogram
B - Compound detected in blank sample
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-01	DC-SS-02	DC-SS-03	DC-SS-04	DC-SS-05	DC-SS-06	DC-SS-07	DC-SS-08	DC-SS-09	DC-SS 10
Location/Grid	C-1	G-1	B-2	E-2	H-2	H-2	I-2	I-2	A-3	B-3
Date Collected	11/10/86	11/10/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
BNAs										
Phenol	ND	ND	ND	ND	ND	ND	ND	[illegible]	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	[illegible]	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	ND	ND	ND	ND	[illegible]	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	[illegible]	ND	ND	810 J	ND
4-Chloroaniline	ND	ND	ND	ND	ND	[illegible]	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
~~4-Chloro-3-methylphenol~~	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	[illegible]	ND	ND	ND	ND	ND	ND	ND

μg/kg - Micrograms per kilogram.
B - Compound detected in blank sample.
J - Estimated value.
ND - Not detected.

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-01	DC-SS-02	DC-SS-03	DC-SS-04	DC-SS-05	DC-SS-06	DC-SS-07	DC-SS-08	DC-SS-09	DC-SS-10
Location/Grid	C-1	G-1	B-2	E-2	H-2	H-2	I-2	I-2	A-3	B-3
Date Collected	11/10/86	11/10/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
BNAs										
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	2600 J	ND
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butly phthalate	ND	ND	ND	170 BJ	2800 B	ND	460 BJ	320 BJ	ND	ND
Fluoranthene	ND	ND	ND	ND	ND	ND	480	ND	540 J	ND
Pyrene	ND	ND	ND	ND	ND	ND	290 J	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND	ND	220 J	ND	950 J	ND
bis(2-ethylhexyl)phthalate	ND	910	230 J	470	ND	ND	170 J	140 J	240 J	ND
Chrysene	ND	ND	ND	ND	ND	ND	310 J	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	610 BJ
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	610	ND	750 J	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	160 J	ND	ND
Benzo(a)pyrene	ND	ND	ND	ND	ND	ND	190 J	47 J	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	280 J	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	84 J	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	230 J	ND	1100 J	ND

μg/kg - Micrograms per kilogram
B - Compound detected in blank sample
J - Estimated value
ND - Not detected

recycled paper

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-11	DC-SS-12	DC-SS-13	DC-SS-14	DC-SS-15	DC-SS-16	DC-SS-17	DC-SS-18	DC-SS-19	DC-SS-20
Location/Grid	C-3	D-3	E-3	F-3	G-3	G-3	H-3	A-4	B-4	C-4
Date Collected	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
BNAs										
Phenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	**990 J**	ND	ND	ND
Naphthalene	**14000**	ND	ND	ND	ND	ND	**120000**	ND	ND	**1800 J**
4-Chloroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	**1000 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	**570 J**	ND	ND	ND	ND	**1800 J**	**1100 J**	ND	ND	ND

μg/kg - Micrograms per kilogram

B - Compound detected in blank sample

J - Estimated value.

ND - Not detected

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-11	DC-SS-12	DC-SS-13	DC-SS-14	DC-SS-15	DC-SS-16	DC-SS-17	DC-SS-18	DC-SS-19	DC-SS-20
Location/Grid	C-3	D-3	E-3	F-3	G-3	G-3	H-3	A-4	B-4	C-4
Date Collected	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
BNAs										
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	920 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	10000 J	ND	ND	ND
Pentachlorophenol	4700 J	7800 J	ND	ND	1200000	1400000	ND	ND	ND	ND
Phenanthrene	4800 J	ND	ND	ND	40000 J	37000 J	8700 J	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butly phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	3000 BJ
Fluoranthene	ND	1300 J	ND	ND	44000	45000	ND	ND	ND	ND
Pyrene	ND	1100 J	ND	ND	85000	71000	3800 J	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	86000	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND	27000 J	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	6000	820 J	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	4400 J	39000 J	39000 J	ND	ND	ND	ND
Di-n-octyl phthalate	2600 BJ	3100 B	ND	14000 B	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	1200 J	ND	ND	47000	48000	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	ND	520 J	ND	ND	22000 J	20000 J	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

μg/kg - Micrograms per kilogram
B - Compound detected in blank sample
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-21	DC-SS-22	DC-SS-23	DC-SS-24	DC-SS-25	DC-SS-26	DC-SS-27	DC-SS-28	DC-SS-29	DC-SS-30
Location/Grid	D-4	E-4	F-4	G-4	G-4	H-4	I-4	J-4	A-5	B-5
Date Collected	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
BNAs										
Phenol	ND	ND	78 J	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	22000000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	89 J	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	120 J	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	180 J	ND	ND	ND	140 J	1800 J	ND	ND
Naphthalene	ND	ND	110 J	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	1000 J	ND	ND	ND	ND	3400 J	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	70 J	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram
B - Compound detected in blank sample
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-21	DC-SS-22	DC-SS-23	DC-SS-24	DC-SS-25	DC-SS-26	DC-SS-27	DC-SS-28	DC-SS-29	DC-SS-30
Location/Grid	D-4	E-4	F-4	G-4	G-4	H-4	I-4	J-4	A-5	B-5
Date Collected	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
BNAs										
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	12000	ND	18000 J	ND	ND	23000 J	ND	ND
Phenanthrene	ND	ND	1200	ND	ND	ND	180 J	ND	ND	ND
Anthracene	ND	ND	300 J	ND	ND	ND	ND	ND	ND	ND
Di-n-butly phthalate	ND	360 BJ	1700 B	ND	ND	ND	330 BJ	ND	ND	ND
Fluoranthene	ND	ND	2200	ND	6700 J	4800 J	ND	ND	ND	ND
Pyrene	ND	ND	850	5500 J	9000 J	ND	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	960	ND	5100 J	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	ND	660	ND	ND	ND	ND	ND	2900 J	ND
Chrysene	ND	ND	1100	ND	6400 J	ND	270 J	ND	ND	ND
Di-n-octyl phthalate	ND	140 BJ	99 BJ	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	1800	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	10000 J	10000 J	ND	ND	ND	ND	ND
Benzo(a)pyrene	ND	ND	840	ND	4500 J	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	1100	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	430	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	1200	ND	ND	ND	ND	ND	ND	ND

μg/kg - Micrograms per kilogram
B = Compound detected in blank sample
J = Estimated value
ND - Not detected

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SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-31	DC-SS-32	DC-[illegible]	DC-SS-34	DC-SS-35	DC-SS-36	DC-SS-37	DC-SS-38	DC-SS-39	DC-SS-40
Location/Grid	B-5	C-5	D-5	E-5	F-5	G-5	H-5	A-6	B-6	C-6
Date Collected	11/11/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86
BNAs										
Phenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	240 J	ND	2600 J	ND	ND
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	6200
1,2,4-Trichlorobenzene	ND	ND	ND	35000	ND	65 J	5300 J	ND	1800 J	ND
Naphthalene	ND	ND	ND	ND	ND	71 J	26000	110000	ND	140 J
4-Chloroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND	50 J	ND	850 J	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	1500 J
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	1100 J	220000	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	200 J	ND	ND	ND	ND

µg/kg - Micrograms per kilogram
B - Compound detected in blank sample
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-31	DC-SS-32	DC-SS-33	DC-SS-34	DC-SS-35	DC-SS-36	DC-SS-37	DC-SS-38	DC-SS-39	DC-SS-40
Location/Grid	B-5	C-5	D-5	E-5	F-5	G-5	H-5	A-6	B-6	C-6
Date Collected	11/11/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86
BNAs										
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	1000000
Dibenzofuran	ND	ND	ND	ND	ND	95 J	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	9900 J	ND	1600 J	ND	ND	21000000	1100 J
Phenanthrene	ND	ND	ND	ND	ND	2800	4900 J	ND	ND	920 J
Anthracene	ND	ND	ND	ND	ND	600	ND	ND	ND	810 J
Di-n-butly phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	880 J
Fluoranthene	ND	ND	ND	ND	ND	4600	ND	ND	ND	2600
Pyrene	ND	ND	ND	ND	ND	3100	ND	5800 J	ND	2400
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND	2100	ND	ND	ND	1400 J
bis(2-ethylhexyl)phthalate	ND	ND	1400 J	ND	ND	ND	ND	ND	ND	2500
Chrysene	ND	ND	ND	ND	ND	2700	ND	8400 J	ND	2500
Di-n-octyl phthalate	ND	ND	2000 BJ	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	4800	ND	ND	ND	3600
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	ND	ND	ND	ND	ND	1900	ND	1900 J	3900 J	1700 J
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	1700	ND	ND	ND	2100
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	550 J	ND	ND	ND	530 J
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	1500	ND	ND	ND	2400

μg/kg - Micrograms per kilogram
B - Compound detected in blank sample
J - Estimated value
ND - Not detected.

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SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-41	DC-SS-42	DC-SS-43	DC-SS-44	DC-SS-45	Maximum
Location/Grid	D-6	F-6	B-7	BLANK	BLANK	Concentration
Date Collected	11/12/86	11/12/86	11/12/86	11/13/86	11/11/86	Detected
BNAs						
Phenol	ND	ND	ND	ND	ND	78 J
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	210 J	ND	ND	22000000
Benzyl Alcohol	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	89 J
2-Methylphenol	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	6200
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	35000
Naphthalene	ND	290 J	110 J	ND	ND	120000
4-Chloroaniline	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND	1000 J
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	1500 J
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	220000
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	770 J	ND	ND	1800 J

µg/kg - Micrograms per kilogram
B - Compound detected in blank sample
J - Estimated value
ND - Not detected.

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-41	DC-SS-42	DC-SS-43	DC-SS-44	DC-SS-45	Maximum
Location/Grid	D-6	F-6	B-7	BLANK	BLANK	Concentration
Date Collected	11/12/86	11/12/86	11/12/86	11/13/86	11/11/86	Detected
BNAs						
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	1000000
Dibenzofuran	ND	ND	460 J	ND	ND	920 J
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	1500 J	ND	ND	1500 J
4-Nitroaniline	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	10000 J
Pentachlorophenol	ND	20000	25000	ND	ND	21000000
Phenanthrene	ND	ND	15000	ND	ND	40000 J
Anthracene	ND	ND	4100	ND	ND	4100
Di-n-butly phthalate	ND	ND	ND	150 J	1500 B	3000 BJ
Fluoranthene	ND	ND	20000	ND	ND	45000
Pyrene	ND	ND	19000	ND	ND	85000
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	86000
Benzo (a)anthracene	ND	ND	10000	ND	ND	27000 J
bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND	6000
Chrysene	ND	ND	10000	ND	ND	39000 J
Di-n-octyl phthalate	ND	ND	ND	ND	79 BJ	14000 B
Benzo(b)fluoranthene	ND	ND	15000	81 J	ND	48000
Benzo(k)fluoranthene	ND	750 J	ND	ND	ND	10000 J
Benzo(a)pyrene	ND	180 J	7800	ND	ND	22000 J
Indeno(1,2,3-cd)pyrene	ND	ND	5200	ND	ND	5200
Benzo(g,h,i)perylene	ND	ND	1500 J	ND	ND	1500 J
Dibenzo(a,h)anthracene	ND	ND	5400	ND	ND	5400

μg/kg - Micrograms per kilogram
B - Compound detected in blank sample
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Pesticides/PCBs (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-01	DC-SS-02	DC-SS-03	DC-SS-04	DC-SS-05	DC-SS-06	DC-SS-07	DC-SS-08	DC-SS-09	DC-SS-10
Location/Grid	C-1	G-1	B-2	E-2	H-2	H-2	I-2	I-2	A-3	B-3
Date Collected	11/10/86	11/10/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
Pesticides/PCBs										
Alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	31 J	ND	ND	79	51	290	84	ND	ND
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	2730000 C	44000
Aroclor-1254	ND	ND	ND	ND	ND	ND	ND	1430	ND	ND
Aroclor-1260	ND	450	ND	751	990	740	3800	1830	ND	ND

µg/kg - Micrograms per kilogram.

C - Result confirmed by GC/MS.

J - Estimated value.

ND - Not detected.

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Pesticides/PCBs (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-11	DC-SS-12	DC-SS-13	DC-SS-14	DC-SS-15	DC-SS-16	DC-SS-17	DC-SS-18	DC-SS-19	DC-SS-20
Location/Grid	C-3	D-3	E-3	F-3	G-3	G-3	H-3	A-4	B-4	C-4
Date Collected	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
Pesticides/PCBs										
Alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	24000000 C	ND	ND	ND	184000	171000	ND	1700000	3600000 C	ND
Aroclor-1254	29000000 C	ND	ND	ND	ND	ND	ND	ND	7500000 C	ND
Aroclor-1260	21000000 C	174000 C	165000 J	887000	305000 J	232000 J	2700000 JC	ND	8000000 C	639000

µg/kg - Micrograms per kilogram
C - Result confirmed by GC/MS
J - Estimated value
ND - Not detected.

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Pesticides/PCBs (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-21	DC-SS-22	DC-SS-23	DC-SS-24	DC-SS-25	DC-SS-26	DC-SS-27	DC-SS-28	DC-SS-29	DC-SS-30
Location/Grid	D-4	E-4	F-4	G-4	G-4	H-4	I-4	J-4	A-5	B-5
Date Collected	11/10/86	11/10/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
Pesticides/PCBs										
Alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	145000 JC	110000 C	ND	ND	ND	ND	ND	21000	30300
Aroclor-1254	2700000	ND	ND	ND	ND	ND	ND	246000 J	ND	ND
Aroclor-1260	ND	547000 C	218000 C	117000 J	122000 J	120000	2200000 C	625000	23000	35600

µg/kg - Micrograms per kilogram
C - Result confirmed by GC/MS.
J - Estimated value.
ND - Not detected.

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Pesticides/PCBs (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-31	DC-SS-32	DC-SS-33	DC-SS-34	DC-SS-35	DC-SS-36	DC-SS-37	DC-SS-38	DC-SS-39	DC-SS-40
Location/Grid	B-5	C-5	D-5	E-5	F-5	G-5	H-5	A-6	B-6	C-6
Date Collected	11/11/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86
Pesticides/PCBs										
Alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	ND	ND	ND	ND	ND	ND	ND	ND	119000 JC
Aroclor-1260	ND	12600 J	25600 J	5250000 C	9600	144000 C	151000 J	8700	544000	279000 C

µg/kg - Micrograms per kilogram.
C - Result confirmed by GC/MS.
J - Estimated value.
ND - Not detected.

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Pesticides/PCBs (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SS-41	DC-SS-42	DC-SS-43	DC-SS-44	DC-SS-45	Maximum
	Location/Grid	D-6	F-6	B-7	BLANK	BLANK	Concentration
	Date Collected	11/12/86	11/12/86	11/12/86	11/13/86	11/11/86	Detected
Pesticides/PCBs							
Alpha-BHC		ND	ND	ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND	ND
Aldrin		ND	ND	ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND	ND	290
Endrin		ND	ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND	ND
Chlordane		ND	ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND	ND
Aroclor-1248		26600 J	ND	17000	ND	ND	24000000 C
Aroclor-1254		ND	ND	ND	ND	ND	29000000 C
Aroclor-1260		85800	52800	30100	ND	ND	21000000 C

µg/kg - Micrograms per kilogram.
C - Result confirmed by GC/MS.
J - Estimated value.
ND - Not detected.

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Total Metals (mg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-01	DC-SS-02	DC-SS-03	DC-SS-04	DC-SS-05	DC-SS-06	DC-SS-07	DC-SS-08	DC-SS-09	DC-SS-10
Location/Grid	C-1	G-1	B-2	E-2	H-2	H-2	I-2	I-2	A-3	B-3
Date Collected	11/10/86	11/10/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
Total Metals										
Aluminum	11400	10900	7820	9670	15300	16500	7610	5950	9290	7880
Antimony	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	6.8 R	4.9 R	5.7 R	5.8 R	5.8	5.7 R	7.5	5.6 R	13 R	5.4 R
Barium	163	174	151	145	222	224	202	138	13800	575
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	2.6	3.4	1.8	1.7	6.3	4.8	10	3.3	10	4.4
Chromium	16	15	12	14	21	22	19	11	119	52
Cobalt	6.2	7.8	6.4	6.4	8	9.3	6	5.6	15	8.5
Copper	327	344	162	245	392	572	2220	675	1200	260
Iron	19000	20300	15700	17400	25900	27600	20300	13800	38600	18000
Lead	103 *	134 *	68 *	99 *	232 *	230 *	514 *	131 *	655 *	334 *
Manganese	336	295	300	329	339	390	291	217	322	171
Mercury	0.16	0.23	ND	ND	0.11	ND	ND	ND	6.6	1.3
Nickel	22	25	18	22	35	33	24	16	360	84
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND	ND	4.2	5
Thallium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	25	26	20	23	35	38	22	16	139	31
Zinc	299	406	188	281	619	613	975	354	4580	5130
Cyanide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram.
ND - Not detected.
R - Spike sample recovery not within control limits.
* - Laboratory duplicate analysis not within control limits.

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Total Metals (mg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-11	DC-SS-12	DC-SS-13	DC-SS-14	DC-SS-15	DC-SS-16	DC-SS-17	DC-SS-18	DC-SS-19	DC-SS-20
Location/Grid	C-3	D-3	E-3	F-3	G-3	G-3	H-3	A-4	B-4	C-4.
Date Collected	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
Total Metals										
Aluminum	2790	23300	4780	4710	6960	6170	8890	4860	4790	9410
Antimony	ND	ND	ND	ND	14	21	ND	ND	ND	ND
Arsenic	5.6 R	2.6 R	12 R	8 R	36 R	38 R	33 R	64 R	57 R	40 R
Barium	20200	7340	169000	67300	1160	869	1560	13900	1810	4780
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	4.5	8.1	6	4	46	45	17	7.2	10	11
Chromium	39	46	24	52	147	98	66	137	47	34
Cobalt	12	13	89	27	11	11	7.3	15	3.8	6.7
Copper	487	1430	624	483	2170	1620	914	246	637	639
Iron	29800	45000	22200	22400	75800	108000	46000	46800	48600	25800
Lead	614 *	711 *	310 *	2950 *	1240 *	1610 *	1470 *	207 *	263 *	1470 *
Manganese	96	150	129	191	770	874	534	193	223	144
Mercury	1.7	14	2	7.4	3.2	5.8	6.6	0.57	12	2.3
Nickel	61	382	62	48	122	109	87	95	84	39
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	3	ND
Silver	ND	ND	ND	ND	6.4	5.4	6.1	ND	ND	3.3
Thallium	ND	ND	ND	ND	ND	ND	ND	ND	21	ND
Tin	ND	ND	ND	ND	34	34	ND	ND	163	ND
Vanadium	75	129	29	46	133	140	211	25	19400	20
Zinc	794	23900	8110	1840	22800	15600	5100	32100	3.9	46700
Cyanide	4.8	3.3	2	2.8	1.6	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram

ND - Not detected

R - Spike sample recovery not within control limits

* - Laboratory duplicate analysis not within control limits

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Total Metals (mg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-21	DC-SS-22	DC-SS-23	DC-SS-24	DC-SS-25	DC-SS-26	DC-SS-27	DC-SS-28	DC-SS-29	DC-SS-30
Location/Grid	D-4	E-4	F-4	G-4	G-4	H-4	I-4	J-4	A-5	B-5
Date Collected	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86	11/11/86
Total Metals										
Aluminum	6960	4990	9620	4470	5720	16300	5040	14900	19500	2890
Antimony	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	14 R	23 R	22 R	39 *	24 *	11 *	10 *	11 *	10 *	84 *
Barium	10600	19300	4340	6320	2220	3190	1460	1000	3760	1430
Beryllium	ND	ND	ND	ND	ND	ND	ND	1.4	ND	ND
Boron	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	5	8.7	20	17 R*	20 R*	21 R*	27 R*	5.2 R*	8 R*	11 R*
Chromium	44	81	48	14 R*	50 R*	137 R*	22 R*	92 R*	12 R*	28 R*
Cobalt	12	18	59	ND	[5.0]	[163]	[5.2]	[3.9]	[18]	[3.3]
Copper	444	684	1950	1480	1900	1020	648	4880	489	852
Iron	33600	15900	39900	26800 *	29200 *	33900 *	28700 *	35600 *	12500 R*	34000 *
Lead	482 *	296 *	11700 *	418 *	437	580 *	440 *	873 *	279 R*	304 *
Manganese	116	278	10800	184 R*	204 R*	326 R*	259 R*	247 R*	75 R*	238 R*
Mercury	3	2.7	11	1.02	1.13	1.6	26	3	0.66	23
Nickel	52	33	50	105 *	135 *	60 *	34 *	86 *	111 *	52 *
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	33	3.7 R*	3.4 R*	3.5 R*	ND	ND	ND	3.6 R*
Thallium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tin	ND	ND	ND	ND	16	ND	ND	43	ND	12
Vanadium	69	41	166	64	75	108	59	75	11	284
Zinc	814	7100	24200	32200	41400	4660	4520	3280	3080	67800
Cyanide	4.4	3.2	2.7	1.3	1.7	ND	ND	2.5	ND	ND

mg/kg - Milligrams per kilogram
ND - Not detected
R - Spike sample recovery not within control limits
* - Laboratory duplicate analysis not within control limits

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Total Metals (mg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-31	DC-SS-32	DC-SS-33	DC-SS-34	DC-SS-35	DC-SS-36	DC-SS-37	DC-SS-38	DC-SS-39	DC-SS-40
Location/Grid	B-5	C-5	D-5	E-5	F-5	G-5	H-5	A-6	B-6	C-6
Date Collected	11/11/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86
Total Metals										
Aluminum	4790	12700	14300	5720	2830	6370	4560	2630	4890	7640
Antimony	ND	ND	19	ND	ND	ND	ND	ND	16	18
Arsenic	7.4 *	8.6 *	1340	9200	533	1750	3870	ND	4480	1940
Barium	1250	1390	ND	ND	ND	ND	ND	ND	ND	ND
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	8.7 R*	8.1 R*	5.2 R*	6.5 R*	5.3 R*	15 R*	26 R*	2 R*	9.7 R*	26 R*
Chromium	29 R*	21 R*	14 R*	24 R*	28 R*	49 R*	45 R*	19 R*	26 R*	106 R*
Cobalt	ND	[4.0]	ND	[12]	[2.4]	[9.7]	[5.9]	[20]	[6.3]	[16]
Copper	624	1420	596	435	317	5500	2260	327	1090	1660
Iron	82900 *	17500	12400 *	16400 *	23400 *	28400 *	53900 *	9780 *	22000 *	75100 *
Lead	232	1270 *	417 *	318 *	205	689 *	724 *	105 *	725 *	18400 *
Manganese	408 R*	191 R*	43 R*	119 R*	102 R*	243 R*	746 R*	50 R*	193 R*	457 R*
Mercury	18	0.91	0.9	2	2.2	5	3	0.49	2.9	2.2
Nickel	35 *	29 *	ND	21 *	15 *	95 *	53 *	35 *	159 *	70 *
Selenium	ND	ND	ND	ND	ND	1.9	4.1	ND	1.8	1.3
Silver	ND	5.4 R*	4.1 R*	ND	ND	8.9 R*	8 R*	ND	6.9 R*	19 R*
Thallium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tin	14	ND	ND	ND	ND	14	18	16	17	22
Vanadium	632	30	16	112	39	132	118	23	120	33
Zinc	20600	1890	44400	12000	21700	4980	4720	239	1660	6350
Cyanide	ND	ND	ND	2	22	ND	2.3	1.4	ND	13

mg/kg - Milligrams per kilogram
ND - Not detected
R - Spike sample recovery not within control limits
* - Laboratory duplicate analysis not within control limits

SAUGET Analytical Data
Site G

SURFACE SOIL SAMPLES
Total Metals (mg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SS-41	DC-SS-42	DC-SS-43	DC-SS-44	DC-SS-45	Maximum
Location/Grid	D-6	F-6	B-7	BLANK	BLANK	Concentration
Date Collected	11/12/86	11/12/86	11/12/86	11/13/86	11/11/86	Detected
Total Metals						
Aluminum	10300	5540	8960	7520	9260	23300
Antimony	ND	ND	ND	ND	ND	21
Arsenic	42 *	12 *	8 *	ND	7 R*	9200
Barium	5210	1960	360	441	326	169000
Beryllium	ND	ND	ND	ND	ND	1.4
Boron	ND	ND	ND	ND	ND	ND
Cadmium	8.1 R*	13 R*	14 R*	1.5 R*	1.4	46
Chromium	20 R*	21 R*	66 R*	11 R*	13	147
Cobalt	[4.6]	[10]	[4.4]	[4.1]	4.9	89
Copper	1510	1090	753	33	31	5500
Iron	15300 *	26500 *	17700 *	13400 *	16200	108000
Lead	516 *	411 *	326 *	60 *	68 *	18400 *
Manganese	77 R*	331 R*	159 R*	336 R*	381	10800
Mercury	1.2	3	3.4	ND	ND	26
Nickel	30 *	145 *	27 *	15 *	16	382
Selenium	ND	ND	ND	ND	ND	4.1
Silver	3.9 R*	3 R*	3 R*	ND	ND	33
Thallium	ND	ND	ND	ND	ND	21
Tin	14	ND	ND	ND	ND	163
Vanadium	17	550	16	19	22	19400
Zinc	39000	2360	1500	170	162	67800
Cyanide	1.8	1	ND	2	ND	22

mg/kg - Milligrams per kilogram
ND - Not detected
R - Spike sample recovery not within control limits
* - Laboratory duplicate analysis not within control limits

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SOURCE: Ecology and Environment, Inc., 1988.

SCALE

0 100 200 300 400 500 FEET

FIGURE 3-6 GRID SECTION DESIGNATIONS FOR SURFACE SOIL SAMPLING AT SITE G

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SAUGET Analytical Data
Site G

SUBSURFACE SOIL SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

Sample Number	DC-G1-26	DC-G1-27	DC-GB-29	DC-G2-30	DC-G2-31	DC-G3-33	DC-GB-34	DC-G4-35	DC-G4-36	DC-G5-37
Sample Depth (ft)	0-10	10-20	NA	5-15	5-15	10-20	NA	5-20	5-20	5-15
Date Collected	01/12/87	1/12/87	01/14/87	01/14/87	01/14/87	1/26/87	1/26/87	1/26/87	1/26/87	1/27/87
VOC			BLANK				BLANK			
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	8 BJ	15 B	9 BJ	6223 B	7112 B	602 B	4 BJ	3 BJ	3 BJ	851 BJ
Acetone	32 BJ	266 B	ND	4699 B	3048 BJ	10500 B	20 B	1980 EB	2250 EB	3302 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	36 B	29 B	27 B	15240 B	17780 B	4100 B	ND	22 B	15 B	3683 B
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	762 J
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	3 J	5 J	10160
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	635 J
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	9 J	ND	13970	5207	ND	ND	ND	ND	3556
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	406 J	ND	ND	ND	ND	ND	27940
Chlorobenzene	ND	ND	ND	584 J	ND	1600	ND	107	150	2413
Ethylbenzene	ND	ND	ND	ND	ND	164 J	ND	ND	ND	1245 J
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	92	ND	ND	ND	2794

µg/kg - Micrograms per kilogram
B - Compound detected in blank sample
E - Estimated value. Concentration detected exceeds the calibrated range.
J - Estimated value
ND - Not detected.

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SAUGET Analytical Data
Site G

SUBSURFACE SOIL SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

	Sample Number	DC-G6-67	DC-GB-68	DC-G7-69	DC-G8-70	DC-G9-71	Maximum
	Sample Depth (ft)	20-30	NA	10-25	10-20	35-40	Concentration
	Date Collected	02/23/87	02/24/87	02/24/87	02/24/87	02/24/87	Detected
VOC			BLANK				
Chloromethane		ND	ND	ND	ND	ND	ND
Bromomethane		ND	ND	ND	ND	ND	ND
Vinyl chloride		ND	ND	ND	ND	ND	ND
Chloroethane		ND	ND	ND	ND	ND	ND
Methylene chloride		1082 BJ	48 B	646 BJ	871 BJ	465 BJ	7112 B
Acetone		4118 B	18 B	15385 B	12857 B	6047 B	15385 B
Carbon Disulfide		ND	ND	ND	ND	ND	ND
1,1-Dichloroethene		ND	ND	ND	ND	ND	ND
1,1-Dichloroethane		ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene		ND	ND	ND	700 J	ND	700 J
Chloroform		ND	ND	ND	ND	11628	11628
1,2-Dichloroethane		435 J	ND	ND	ND	ND	435 J
2-Butanone (MEK)		8941 B	27 B	9692 B	12286	9535 B	17780 B
1,1,1-Trichloroethane		ND	ND	ND	ND	ND	ND
Carbon Tetrachloride		ND	ND	ND	ND	ND	ND
Vinyl Acetate		ND	ND	ND	ND	ND	ND
Bromodichloromethane		ND	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene		ND	ND	ND	ND	ND	ND
Trichloroethene		1141 J	ND	3846	2000 J	ND	3846
Dibromochloromethane		ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane		ND	ND	ND	ND	ND	ND
Benzene		9882	ND	21538	5143	45349	45349
cis-1,3-Dichloropropene		ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether		ND	ND	ND	ND	ND	ND
Bromoform		ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone		1176 J	ND	4154	6000	ND	6000
2-Hexanone		ND	ND	ND	ND	ND	ND
Tetrachloroethene		11765	ND	44615	58571	12791	58571
1,1,2,2-Tetrachloroethane		ND	ND	ND	ND	581 J	581 J
Toluene		117647	ND	38462	12143	94186	117647
Chlorobenzene		27059 B	1 J	538462 E	100000 B	197674 E	538462 E
Ethylbenzene		988 J	ND	16923	14286	7209	16923
Styrene		ND	ND	ND	ND	ND	ND
Total Xylenes		2235	ND	41538	35714	16279 B	41538

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

E - Estimated value. Concentration detected exceeds the calibrated range.

J - Estimated value.

ND - Not detected

SAUGET Analytical Data
Site G

SUBSURFACE SOIL SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

Sample Number	DC-G1-26	DC-G1-27	DC-GB-29	DC-G2-30	DC-G2-31	DC-G3-33	DC-GB-34	DC-G4-35	DC-G4-36	DC-G5-37
Sample Depth (ft)	0-10	10-20	NA	5-15	5-15	10-20	NA	5-20	5-20	5-15
Date Collected	01/12/87	1/12/87	01/14/87	01/14/87	01/14/87	01/26/87	01/26/87	01/26/87	01/26/87	01/27/87
BNAs			BLANK				BLANK			
Phenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	**177800**
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	**8763 J**
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	**3556 J**	ND	ND	ND	**2376**	**3750 J**	ND
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND	ND	ND	**6095 J**
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	**3556 J**
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	**38100**
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	**7874 J**
Naphthalene	ND	ND	ND	**4953 J**	**4826 J**	ND	ND	ND	ND	**254000**
4-Chloroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5969 J**
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphathalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	**13970 J**
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	**49530**
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram.
B - Compound detected in blank sample.
E - Estimated value. Concentration detected exceeds the calibrated range.
J - Estimated value.
ND - Not detected.

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SAUGET Analytical Data
Site G

SUBSURFACE SOIL SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

	Sample Number	DC-G1-26	DC-G1-27	DC-GB-29	DC-G2-30	DC-G2-31	DC-G3-33	DC-GB-34	DC-G4-35	DC-G4-36	DC-G5-37
	Sample Depth (ft)	0-10	10-20	NA	5-15	5-15	10-20	NA	5-20	5-20	5-15
	Date Collected	01/12/87	1/12/87	01/14/87	01/14/87	01/14/87	01/26/87	01/26/87	01/26/87	01/26/87	01/27/87
BNAs				BLANK				BLANK			
2,4-Dinitrophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine		ND	ND	ND	ND	ND	ND	ND	ND	ND	**177800**
4-Bromophenyl-phenylether		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene		ND	ND	ND	**40640**	**27940**	ND	ND	ND	ND	ND
Pentachlorophenol		ND	ND	ND	**620000 E**	**990600**	ND	ND	ND	ND	ND
Phenanthrene		ND	ND	ND	ND	ND	ND	ND	ND	ND	**26670**
Anthracene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butly phthalate		**279 BJ**	**293 BJ**	**368 BJ**	ND	ND	ND	ND	ND	ND	ND
Fluoranthene		ND	ND	[illegible]	ND	ND	ND	ND	ND	ND	ND
Pyrene		ND	ND	[illegible]	[illegible]	ND	ND	ND	ND	ND	**19050**
Butyl Benzyl phthalate		ND	ND	[illegible]	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene		ND	ND	ND	ND	ND	ND	ND	ND	ND	**22860**
Di-n-octyl phthalate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,I)perylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram.
B - Compound detected in blank sample
E - Estimated value. Concentration detected exceeds the calibrated range
J - Estimated value.
ND - Not detected.

SAUGET Analytical Data
Site G

SUBSURFACE SOIL SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

Sample Number	DC-G6-67	DC-GB-68	DC-G7-69	DC-G8-70	DC-G9-71	Maximum
Sample Depth (ft)	20-30	NA	10-25	10-20	35-40	Concentration
Date Collected	02/23/87	02/24/87	02/24/87	02/24/87	02/24/87	Detected
BNAs		BLANK				
Phenol	ND	ND	ND	ND	ND	177800
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	8763 J
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	3750 J
Benzyl Alcohol	ND	ND	ND	ND	ND	6095 J
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	3556 J
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	14118 J	ND	ND	141429 J	ND	141429 J
1,2,4-Trichlorobenzene	103529	ND	120000 J	ND	15116 J	120000 J
Naphthalene	341176	ND	109231 J	5428571	109302	5428571
4-Chloroaniline	ND	ND	230769 J	ND	8023 J	230769 J
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND
2-Methylnaphathalene	8706 J	ND	ND	37143 J	13953 J	37143 J
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	49530
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	2674 J	2674 J

μg/kg - Micrograms per kilogram

B - Compound detected in blank sample.

E - Estimated value. Concentration detected exceeds the calibrated range

J - Estimated value.

ND - Not detected.

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SAUGET Analytical Data
Site G

SUBSURFACE SOIL SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

Sample Number	DC-G6-67	DC-GB-68	DC-G7-69	DC-G8-70	DC-G9-71	Maximum
Sample Depth (ft)	20-30	NA	10-25	10-20	35-40	Concentration
Date Collected	02/23/87	02/24/87	02/24/87	02/24/87	02/24/87	Detected
BNAs		BLANK				
2,4-Dinitrophenol	ND	ND	ND	ND	13953 J	13953 J
4-Nitrophenol	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	33846 J	ND	4302 J	33846 J
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	22857	ND	22857
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	11279	11279
4-Nitroaniline	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	177800
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	40640
Pentachlorophenol	23529 J	ND	4769231	185714 J	ND	4769231
Phenanthrene	12941 J	ND	ND	51429 J	22581	51429 J
Anthracene	ND	ND	ND	ND	8488 J	8488 J
Di-n-butly phthalate	17647 J	10000 B	ND	ND	17442 BJ	17647 J
Fluoranthene	6588 J	ND	ND	ND	ND	6588 J
Pyrene	ND	ND	ND	ND	7558 J	19050
Butyl Benzyl phthalate	ND	ND	ND	ND	23256	23256
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND	22860
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND

μg/kg - Micrograms per kilogram
B - Compound detected in blank sample
E - Estimated value. Concentration detected exceeds the calibrated range.
J - Estimated value.
ND - Not detected.

SAUGET Analytical Data
Site G

SUBSURFACE SOIL SAMPLES
Pesticides/PCBs (µg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

	Sample Number	DC-G1-26	DC-G1-27	DC-GB-29	DC-G2-30	DC-G2-31	DC-G3-33	DC-GB-34	DC-G4-35	DC-G4-36	DC-G5-37
	Sample Depth (ft)	0-10	10-20	NA	5-15	5-15	10-20	NA	5-20	5-20	5-15
	Date Collected	01/12/87	1/12/87	01/14/87	01/14/87	01/14/87	01/26/87	01/26/87	01/26/87	01/26/87	01/27/87
Pesticides/PCBs				BLANK				BLANK			
Alpha-BHC		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	**3073**	**3683**	ND	ND	ND	ND	ND
Endrin		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260		**130 J**	ND	ND	ND	ND	ND	**1792 J**	ND	ND	**57150**

µg/kg - Micrograms per kilogram
C - Result confirmed by GC/MS.
J - Estimated value
ND - Not detected

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SAUGET Analytical Data
Site G

SUBSURFACE SOIL SAMPLES
Pesticides/PCBs (µg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

	Sample Number	DC-G6-67	DC-GB-68	DC-G7-69	DC-G8-70	DC-G9-71	Maximum
	Sample Depth (ft)	20-30	NA	10-25	10-20	35-40	Concentration
	Date Collected	02/23/87	02/24/87	02/24/87	02/24/87	02/24/87	Detected
Pesticides/PCBs			BLANK				
Alpha-BHC		ND	ND	ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND	ND
Aldrin		ND	ND	ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND	ND	ND
4,4'-DDE		52941	ND	135385 J	ND	ND	135385 J
Endrin		ND	ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND	ND
Chlordane		ND	ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	174419 C	174419 C
Aroclor-1254		ND	ND	ND	ND	ND	ND
Aroclor-1260		764706	ND	661538 J	4428571	267442 C	4428571

µg/kg - Micrograms per kilogram
C - Result confirmed by GC/MS
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Site G

SUBSURFACE SOIL SAMPLES
Total Metals (mg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

Sample Number	DC-G1-26	DC-G1-27	DC-GB-29	DC-G2-30	DC-G2-31	DC-G3-33	DC-GB-34	DC-G4-35	DC-G4-36	DC-G5-37
Sample Depth (ft)	0-10	10-20	NA	5-15	5-15	10-20	NA	5-20	5-20	5-15
Date Collected	01/12/87	1/12/87	01/14/87	01/14/87	01/14/87	01/26/87	01/26/87	01/26/87	01/26/87	01/27/87
Total Metals			BLANK				BLANK			
Aluminum	9760	18667	12821	5304	3380	12767	14359	8671	8200	9304
Antimony	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	4 R	2 R	6 R	3 R	2 R	5	7	4	4	5
Barium	213	168	359	45949	15570	206	424	117	140	233
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	ND	ND	2	2	ND	ND	3	ND	ND	ND
Chromium	9	6	13	18	5	16	13	9	7	16
Cobalt	ND	ND	ND	56	19	ND	ND	ND	ND	16
Copper	16	ND	31	28	8	8	33	18	3	16
Iron	14000	9853	16282	13544	6392	12712	13846	8829	9900	11418
Lead	12 R	8 R	68 R	30 R	16 R	11 *	51 *	8 *	32 *	14 *
Manganese	308	179	410	242	92	278 R	382 R	182 R	209 R	461
Mercury	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	13	ND	17	35	ND	15	19	13	13	89
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	28	21	36	22	14	25	28	ND	19	27
Zinc	103	27	167	115	39	44	190	50	65	224
Cyanide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram
ND - Not detected
R - Spike sample recovery not within control limits
* - Duplicate analysis not within control limits

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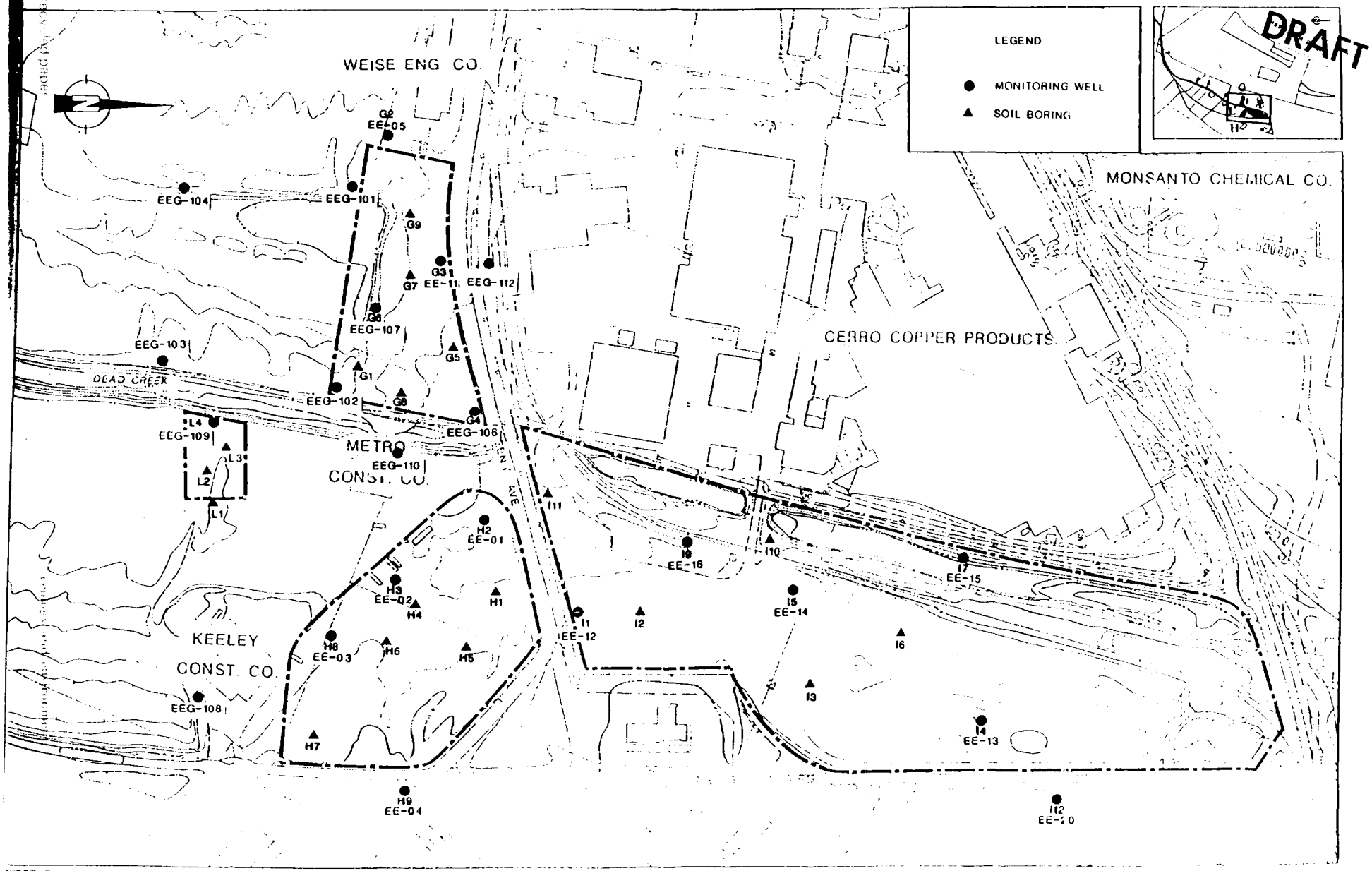
SAUGET Analytical Data
Site G

SUBSURFACE SOIL SAMPLES
Total Metals (mg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

	Sample Number	DC-G6-67	DC-GB-68	DC-G7-69	DC-G8-70	DC-G9-71	Maximum
	Sample Depth (ft)	20-30	NA	10-25	10-20	35-40	Concentration
	Date Collected	02/23/87	02/24/87	02/24/87	02/24/87	02/24/87	Detected
Total Metals			BLANK				
Aluminum		1859	6785	16615	4343	966	18667
Antimony		ND	ND	ND	ND	ND	ND
Arsenic		ND	6 R	123 R	16 R	ND	123 R
Barium		142	363	1554	284	133	45949
Beryllium		ND	ND	ND	ND	ND	ND
Boron		ND	ND	ND	ND	ND	ND
Cadmium		ND	2	14	5	ND	14
Chromium		12	11	985	109	11	985
Cobalt		ND	ND	ND	ND	13	56
Copper		18	30	2215	507	10	2215
Iron		6035	12354	53692	12243	4058	53692
Lead		25 *	57 *	3123 *	833 *	22 *	3123 *
Manganese		73 *	357 *	282 *	193 *	43 *	461
Mercury		ND	ND	ND	34.3	ND	34.3
Nickel		10 *	14	123 *	399 *	ND	399 *
Selenium		ND	ND	ND	ND	ND	ND
Silver		ND	ND	ND	12	ND	12
Thallium		ND	ND	ND	ND	ND	ND
Tin		ND	ND	80	26	ND	80
Vanadium		31	16	1315	109	ND	1315
Zinc		86 *	168 *	2954 *	4257 *	51	4257 *
Cyanide		ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram
ND - Not detected
R - Spike sample recovery not within control limits
* - Duplicate analysis not within control limits



SOURCE: Ecology and Environment, Inc., 1988.

SCALE 0 200 400 600 800 1000 FEET

FIGURE 3-7 MONITORING WELL AND BORING LOCATIONS AT AREA 1

SAUGET Analytical Data
Site G

SOIL SAMPLES
PCB and PCP (mg/kg)
Collected by Weston (3/4/87)

	Sample Number		S-41	S-42	Maximum Concentration
PCP			< 10	< 2600 #	ND
PCB			70	25	70

- high detection limit due to matrix interference
mg/kg - Milligrams per kilogram.
PCP - Pentachlorophenol
PCB - Polychlorinated biphenyl

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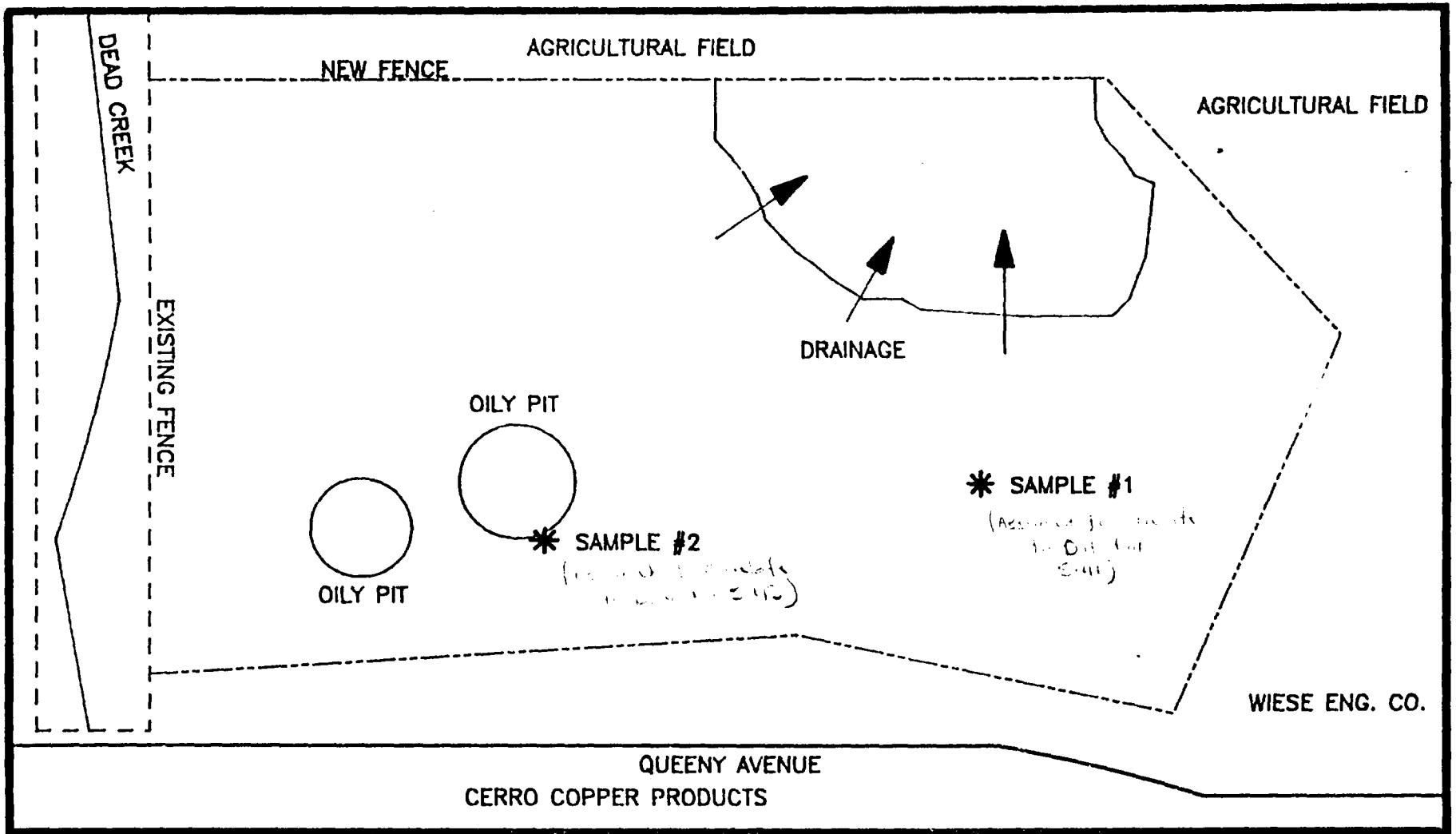

NO SCALE

FIGURE 2

SITE MAP

DEAD CREEK, SITE–G

SAUGET, ILLINOIS

WESTON
DESIGNERS CONSULTANTS

DRAWN	DATE	PCS #
J. Binkley	8/12/87	1057
APPROVED	TDD #	
SDS	S-8703-11	

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SAUGET Analytical Data
Dead Creek - Segment G

WASTE/SOIL SAMPLES
Metals (mg/kg)
Collected by IEPA (10/01/84)

Sample Number	WS-1	WS-2	WS-3	G106	G106	G106	G106	G106	G106	G106
Description	Oily Waste	Oily Waste	Comp. Oil & Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth Interval				7.5'-9'	10'-11.5'	12.5'-13'	15.5'-17'	18'-19.5	20'-21.5	30'-31.5'
Metals										
Arsenic	0.3	0.6	97	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.1	0.8	16.8	NA	NA	NA	NA	NA	NA	NA
Copper	101.4	509	712	140	90	59	54	56	28	14
Chromium	24.4	27.2	30	NA	NA	NA	NA	NA	NA	NA
Iron	106	151	6025	12600	12300	10400	9700	13600	5700	4700
Lead	26.6	52.1	337	15	11	8	9	12	3	6
Nickel	NA	NA	NA	36	21	11	43	21	8	19
Phosphorus	NA	NA	NA	592	475	383	391	540	249	183
Manganese	ND	ND	9.9	NA	NA	NA	NA	NA	NA	NA
Mercury	0.36	0.46	1.99	NA	NA	NA	NA	NA	NA	NA
Zinc	101.4	339	104100	183	53	36	43	49	29	ND

Sample Number	G107	G107	Maximum
Description	Soil	Soil	Concentration
Depth Interval	0.5'-2'	5'-6.5'	Detected
Metals			
Arsenic	NA	NA	97
Cadmium	NA	NA	16.8
Copper	91	53	712
Chromium	NA	NA	30
Iron	21200	21900	21900
Lead	170	49	337
Nickel	37	39	43
Phosphorus	1340	681	1340
Manganese	NA	NA	9.9
Mercury	NA	NA	1.99
Zinc	370	313	104100

mg/kg - Milligrams per kilogram.

ND - Not detected

NA - Parameter not analyzed.

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SAUGET Analytical Data
Dead Creek - Segment G

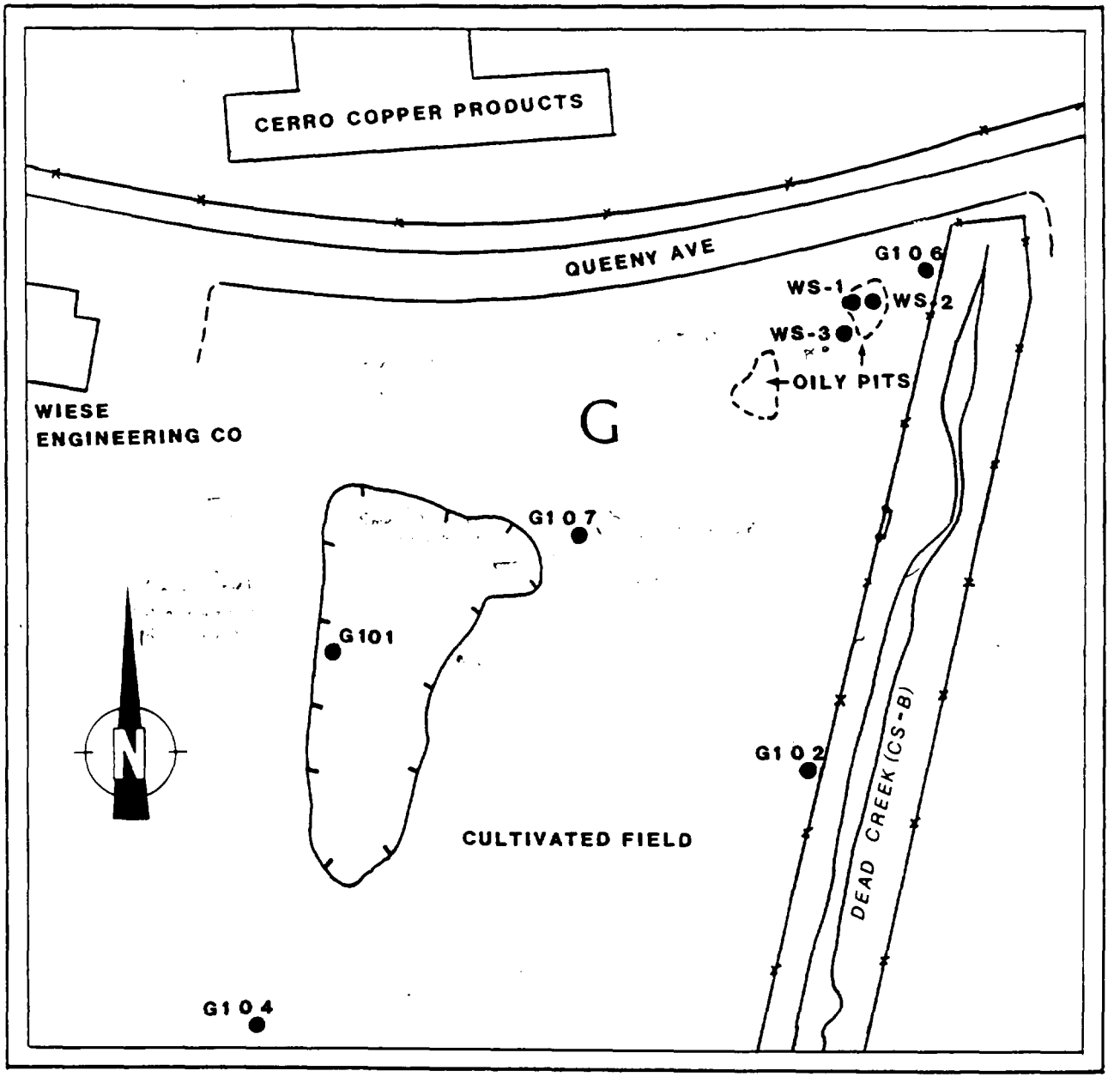
WASTE/SOIL SAMPLES

Collected by IEPA (10/01/84)

Sample Number	WS-1	WS-2	WS-3	G106	G106	G106	G106	G106	G106	G106
Description	Oily Waste	Oily Waste	Comp Oil & Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth Interval				7.5'-9'	10'-11.5'	12.5'-13'	15.5'-17'	18'-19.5	20'-21.5	30'-31.5'
Alphatic Hydrocarbons	19200	5.23	ND	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	ND	0.58	ND	NA	NA	NA	NA	NA	NA	NA
Dimethyl phenanthrene	3100	ND	ND	NA	NA	NA	NA	NA	NA	NA
Phenyl indene	320	ND	ND	NA	NA	NA	NA	NA	NA	NA
Pyrene	610	ND	ND	NA	NA	NA	NA	NA	NA	NA
Trimethyl Phenanthrene	1400	ND	ND	NA	NA	NA	NA	NA	NA	NA
Other Organics (not specified)	1200	0.4	4070	NA	NA	NA	NA	NA	NA	NA
PCB's (µg/g)	ND	ND	18	NQ	NQ	NQ	ND	ND	ND	ND

Sample Number	G107	G107	Maximum
Description	Soil	Soil	Concentration
Depth Interval	0.5'-2'	5'-6.5'	Detected
Alphatic Hydrocarbons	NA	NA	19200
Chlorobenzene	NA	NA	0.58
Dimethyl phenanthrene	NA	NA	3100
Phenyl indene	NA	NA	320
Pyrene	NA	NA	610
Trimethyl Phenanthrene	NA	NA	1400
Other Organics (not specified)	NA	NA	4070
PCB's (µg/g)	0.62	ND	18

mg/kg - Milligrams per kilogram.
ND - Not detected.
NQ - detected but not quanitfied (trace)
NA - Parameter not analyzed.
µg/g - Micrograms per gram.



LEGEND

G106 IEPA MONITORING WELL

WS-1 IEPA WASTE SAMPLING LOCATION

FIGURE G-1
DEAD CREEK SITE AREA G WITH SAMPLE LOCATIONS

SAUGET Analytical Data
Site G

SOIL SAMPLES
Volatile Organic Compounds (mg/kg) dry weight
Collected by Geraghty & Miller, Inc. (10/91)

	Sample Number	B-B1	Maximum
	Sample Depth (ft)	*0-2*	*Concentration*
	Date Collected	10/18/91	Detected
VOC			
Methylene chloride		<1.3 J	ND
Acetone		<1.8 J	ND
Carbon disulfide		<0.92 J	ND
2-Butanone		<3.7 J	ND
Benzene		<0.92 J	ND
Tetrachloroethene		<0.92 J	ND
Toluene		**5.3 J**	**5.3 J**
Chlorobenzene		**2 J**	**2 J**
Ethylbenzene		<0.92 J	ND
Xylenes		**0.36 J**	**0.36 J**
Chloroform		<0.92 J	ND
1,1,1-Trichloroethane		<0.92 J	ND

mg/kg - miligrams per kilogram
J - Estimated value
ND - Not detected

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SAUGET Analytical Data
Site G

SOIL SAMPLES
Base Neutrals/Acids (mg/kg) dry weight
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	B-B1	Maximum
	Sample Depth (ft)	0-2	Concentration
	Date Collected	10/18/91	Detected
BNAs		*	
Phenol		<0 490	ND
2-Chlorophenol		0.460 J/<0.490	0.46 J
1,3-Dichlorobenzene		0.180 J/0.180 J	0.18 J
1,4-Dichlorobenzene		2.3/2.0	2.3
1,2-Dichlorobenzene		<0 490	ND
4-Methylphenol		<0 490	ND
Isophorone		<0 490	ND
2,4-Dimethylphenol		<0 490	ND
2,4-Dichlorophenol		0.840/0.880	0.88
1,2,4-Trichlorobenzene		1.6/1.6	1.6
Naphthalene		1.1/1.0	1.1
4-Chloroaniline		<0 490	ND
2-Methylnaphthalene		<0 490	ND
2,4,6-Trichlorophenol		1.3/1.4	1.4
2,4,5-Trichlorophenol		<2 5	ND
Acenaphthylene		<0 490	ND
Acenaphthene		0.230 J/0.270 J	0.27 J
Dibenzofuran		0.160 J/0.170 J	0.17 J
Diethylphthalate		<0 490	ND
Fluorene		0.340 J/0.310 J	0.34 J
N-Nitrosodiphenylamine		0.520/0.760	0.76
Hexachlorobenzene		<0 490	ND
Pentachlorophenol		1.4 J/2.9	2.9
Phenanthrene		0.870/<0.490	0.87
Anthracene		0.430 J/<0.490	0.49
Di-n-butyl phthalate		<0 490	ND
Fluoranthene		1.8/<0.490	1.8
Pyrene		6.6/4.3	6.6
Butyl Benzyl phthalate		<0 490	ND
Benzo(a)anthracene		1.6/1.8	1.8
bis(2-ethylhexyl)phthalate		2.4 B/1.9 B	2.4 B
Chrysene		1.7/1.2	1.7
Benzo(b)fluoranthene		2.7/4.0	4
Benzo(k)fluoranthene		1.9/<0.490	1.9
Benzo(a)pyrene		1.9/1.9	1.9
Indeno(1,2,3-cd)pyrene		0.7/1.0	1
Dibenzo(a,h)anthracene		<0 490	ND
Benzo(g,h,i)perylene		0.650/1.0	1

* - Sample analyzed twice
J - Estimated concentration
B - Compound also detected in blank sample
E - Compound concentration is outside of instrument calibration limits

SAUGET Analytical Data
Site G

SOIL SAMPLES
Total Metals (mg/kg) dry weight
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	B-B1	B-B2	B-B3	Maximum
Sample Depth (ft)	0-2	4-6	2-4	Concentration
Date Collected	10/18/91	10/18/91	10/18/91	Detected
Total Metals				
Aluminum	49200	7170	7460	49200
Antimony	<14.6 J	<13.5 J	<12.6 J	ND
Barium	1980	202	274	1980
Cadmium	22 J	R	R	22 J
Calcium	17300	16100	18500	18500
Chromium	71.1	10.4	10.9	71.1
Cobalt	10.3 B	8.7 B	10.5 B	10.5 B
Copper	3160 J	<21.8	23.6 J	3160 J
Iron	24200	17600	14400	24200
Magnesium	3030	7160	7460	7460
Manganese	119 J	177 J	252 J	252 J
Nickel	292 J	19.3 J	22.6 J	292 J
Potassium	1070 B	1470	1700	1700
Silver	5.1 J	<2.7 J	<2.5 J	5.1 J
Sodium	<259	<281	<304	ND
Vanadium	16.4	20.2	22.2	22.2
Zinc	5140	<65.0	<133	5140
Mercury	1.1	0.03	0.02	1.1
Lead	696	10	11.7	696
Selenium	4.4 J	R	R	4.4 J
Arsenic	72.2 J	11.1 J	2.5 J	72.2 J
Cyanide	2.5	<0.34	<0.31	2.5

mg/kg - Milligrams per kilogram

B - Concentration was less than the contract required detection limit but greater than or equal to the instrument detection limit

J - Estimated value

R - Unusable data

NA - Not analyzed

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SAUGET Analytical Data
Site G

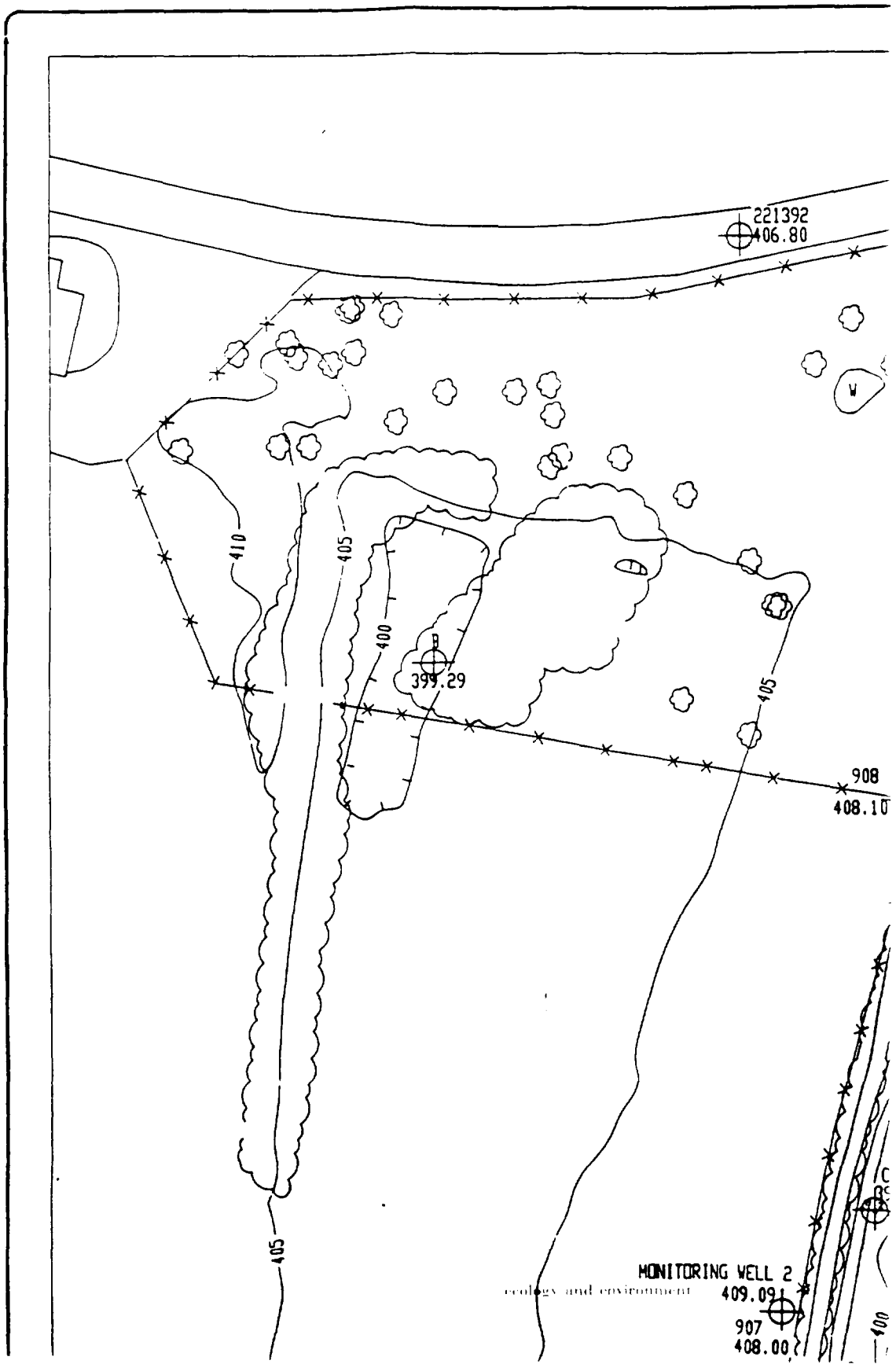
SOIL SAMPLES
Pesticides/PCBs (mg/kg) dry weight
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	B-B1	B-B3	B-B2	Maximum
	Sample Depth (ft)	0-2	2-4	4-6	Concentration
	Date Collected	10/18/91	10/18/91	10/18/91	Detected
Pesticides/PCBs					
Aroclor-1248		**250 J**	**0.140 J**	<0.110 J	**250 J**
Aroclor-1254		<230 J	<0 200 J	<0.220 J	ND
Aroclor-1260		<230 J	<0.200 J	<0 220 J	ND
Total PCBs		**250**	**0.140**	0	**250**

mg/kg - Milligrams per kilogram.

J - Estimated value

ND - Not detected.



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SAUGET Analytical Data
Site G

Soil SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by IEPA

Sample Number	x114	x115	x116	Maximum
Date Collected	11/11/94	11/11/94	11/11/94	Detected
VOC				
Chloromethane	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Methylene chloride	**49**	**28**	**270**	**270**
Acetone	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Styrene	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND

µg/kg - Micrograms per kilogram
ND - Not detected

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SAUGET Analytical Data
Site G

Soil SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by IEPA

	Sample Number	x114	x115	x116	Maximum
	Date Collected	11/11/94	11/11/94	11/11/94	Detected
BNAs					
Phenol		ND	ND	ND	ND
bis(2-Chloroethyl)ether		ND	ND	ND	ND
2-Chlorophenol		ND	ND	ND	ND
1,3-Dichlorobenzene		ND	ND	ND	ND
1,4-Dichlorobenzene		ND	ND	ND	ND
Benzyl Alcohol		ND	ND	ND	ND
1,2-Dichlorobenzene		ND	ND	ND	ND
2-Methylphenol		ND	ND	ND	ND
bis(2-Chloroisopropyl)ether		ND	ND	ND	ND
4-Methylphenol		ND	ND	ND	ND
N-Nitroso-n-Dipropylamine		ND	ND	ND	ND
Hexachloroethane		ND	ND	ND	ND
Nitrobenzene		ND	ND	ND	ND
Isophorone		ND	ND	ND	ND
2-Nitrophenol		ND	ND	ND	ND
2,4-Dimethylphenol		ND	ND	ND	ND
Benzoic Acid		ND	ND	ND	ND
bis-(2-Chloroethoxy)methane		ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND
1,2,4-Trichlorophenol		ND	ND	ND	ND
Naphthalene		ND	**240 J**	ND	**240**
4-Chloroaniline		ND	ND	ND	ND
Hexachlorobutadiene		ND	ND	ND	ND
4-Chloro-3-methylphenol		ND	ND	ND	ND
2-Methylnaphathalene		ND	**70 J**	ND	**70**
Hexachlorocyclopentadiene		ND	ND	ND	ND
2,4,6-Trichlorophenol		ND	ND	ND	ND
2,4,5-Trichlorophenol		ND	ND	ND	ND
2-Chloronaphthalene		ND	ND	ND	ND
2-Nitroaniline		ND	ND	ND	ND
Dimethyl Phthalate		ND	ND	ND	ND
Acenaphthylene		ND	ND	ND	ND
3-Nitroaniline		ND	ND	ND	ND
Acenaphthene		ND	**340 J**	ND	**340**

μg/kg - Micrograms per kilogram
J - Estimated value.
ND - Not detected

SAUGET Analytical Data
Site G

Soil SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by IEPA

Sample Number	x114	x115	x116	Maximum
Date Collected	11/11/94	11/11/94	11/11/94	Detected
BNAs				
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND
Carbazole	ND	ND	ND	ND
Di-n-butly phthalate	230 J	430 J	ND	430
Fluoranthene	86 J	ND	ND	86
Pyrene	89 J	ND	ND	89
Butyl Benzyl phthalate	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	650 B	1000 B	ND	1000
Di-n-octyl phthalate	ND	ND	ND	ND
Chrysene	59 J	ND	ND	59
Benzo(b)fluoranthene	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND

μg/kg - Micrograms per kilogram
B - Compound detected in blank sample
J - Estimated value
ND - Not detected

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SAUGET Analytical Data
Site G

Soil SAMPLES
Pesticides/PCBs (μg/kg)
Collected by IEPA

	Sample Number	x114	x115	x116	Maximum
	Date Collected	11/11/94	11/11/94	11/11/94	Detected
Pesticides/PCBs					
Alpha-BHC		ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND
Aldrin		ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND
Endrin		ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND
Chlordane		ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND
Aroclor-1248		ND	ND	**15000**	**15000**
Aroclor-1254		**88 P**	**440**	**29000**	**29000**
Aroclor-1260		**180**	**550**	**46000**	**46000**

μg/kg - Micrograms per kilogram
ND - Not detected
P - Greater than 25% differnce exists for the detected concentrations between the two GC columns The lower of the results is reported

FIGURE 4-27 TOTAL ORGANIC CONCENTRATIONS IN SURFICIAL SOIL AT SITE G

State of Illinois
ENVIRONMENTAL PROTECTION AGENCY

Mary A. Gade, Director

2200 Churchill Road, Springfield, IL 62794-9276

MEMORANDUM

Date: December 30, 1994

From: Paul E. Takács, IEPA/BOL/NPL

To: Monica Rebbe, IDPH

Subject: L1630200005 -- St. Clair County
Sauget Sites (Area 1, Area 2) -- Sauget
Superfund/Technical Reports

The primary purpose of this memorandum is to present and interpret the results from a sampling event that IEPA was tasked to perform on November 9 and 10, 1994 at the Sauget Area 1 and Area 2 Sites. This sampling entailed the collection of sixteen surface soil samples within Site Q and near Site G (see Attachment A).

As outlined in the September 6 proposal to the Illinois Department of Public Health (IDPH) (see Attachment B), the objective of the sampling event was to gather data on areas in the Sauget and Cahokia area that were impacted by last year's flooding. This project represents a cooperative effort between IEPA and IDPH. All analytical costs were paid for by IDPH.

Actual field sampling was performed by Tom Miller and Doug Hayward of IEPA's Collinsville office with Monica Rebbe (IDPH) and Paul Takacs (IEPA) providing general oversight and assistance. The sixteen soil samples were sent to Applied Research and Development Laboratory (ARDL) in Mt. Vernon for analysis. ARDL was picked because of its proximity to the site.

Each sample was collected with a stainless steel spoon, sealed in a glass jar and packed with blue ice before shipping as per normal IEPA guidelines. One trip blank was sent to ARDL along with each group of samples that were taken on both days. All samples arrived at ARDL on the same day they were taken. Analyses were then run for volatile and semivolatile organic compounds, pesticides, PCBs and inorganics. As per the Health and Safety Plan (Attachment C), the sampling was performed in Level C protection.

Inorganics

In general, the samples ranged from very low to high levels of contamination. The first group of samples were taken in the east borrow pit of Site Q. Previous site visits have noted two large mounded areas near the west-central portion of this pit. Two soil samples each were taken around the edges of both mounds where drums and waste piles were exposed. Sample X101 was a grayish waste

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material that had fairly high levels of antimony (157ppm), cadmium (2,260ppm), chromium (3,650ppm), lead (7,690ppm), mercury (4.9ppm), nickel (153ppm), selenium (59.9ppm) and cyanide (3.3ppm). Sample X102 was a white crumbly waste. It had only low levels of inorganic contamination with magnesium (4,259ppm) being most significant. The next sample, X103 was a bluish-grey waste that had high levels of antimony (17,900ppm), arsenic (216ppm), copper (1,630ppm), lead (195,000ppm) and silver (30.2ppm). Sample X104, similar to X102, contained the white crumbly substance that had similar contaminants (magnesium @ 4,600ppm). Samples X105 and X106 were both located in waste piles near the northern portion of the borrow pit along the west boundary. X105 was a grayish crystalline substance, which did not appear to have inorganic contamination (although the sample did have a pH of 2.6). X106 was a light blue flaky material that also did not appear to have significant inorganic contamination. Samples X107 and X108 were also taken at the northern portion of the pit. X107 was taken on a ridge of what appeared to be waste material, although the reddish material resembling clay in this sample did not appear to have significant inorganic contamination. X108 was the northernmost sample taken in the east borrow pit. It was dark grey in color and had rather significant concentrations of lead (571ppm).

Samples X109, X110 and X111 were collected along the east bank of the west borrow pit with X109 and X110 taken from one waste pile that resembled the one X105 and X106 came from in the other borrow pit. X109 was a reddish grey waste that did not contain high levels of organics, while X110 contained antimony (47.6ppm), arsenic (19.3ppm), copper (226ppm), lead (5,320ppm), nickel (371ppm), and silver (28.9ppm). Both samples also had pH's (3.6 and 3.7, respectively). Sample X111 was a grayish-white material collected south of the above-mentioned samples and contained nickel (25.9ppm) and vanadium (23.1ppm).

Samples X112 and X113 were taken along the river bank, just south of Site R. Both samples contained a hard blackish substance that appeared to have been disposed of in drums. X112 contained notable levels of cadmium (56.2ppm) and zinc (10,300ppm), while X113 was found to contain magnesium (4,710ppm).

The remaining samples (X114, X115 and X116) were collected around Site G. Both X114 and X115 were soil samples collected in lower elevation areas to the south of the southern Site G fence that could have received runoff from Site G. These samples showed rather high levels of copper (675ppm in X114 and 1,150ppm in X115), lead (172ppm in X114), nickel (32.7ppm in X114 and 38.5ppm in X115) and vanadium (23.3ppm in X114 and 22.7ppm in X115). The last sample (X116) was located in a ridge off of the southwest corner of Site G. X116 which was a brownish waste material containing significant levels of copper (515ppm), mercury (4.7ppm) and high levels of zinc (38,200ppm).

Volatile Organic Contaminants

Only X101, X106, X115 and X116 showed any significant measurable

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levels of VOCs. VOCs at X101 consisted of chlorinated solvents and associated degradation products (1,2-DCA @ 240ppb, 1,1-DCE @ 24ppb and 1,1,1-TCA @ 10Jppb). There were also minor levels of BTX compounds, methylene chloride and acetone in this sample and a few others. X106 had a 1,1,1-TCA concentration of 18ppb. X115 and X116 had methylene chloride concentrations of 28ppb and 630Eppb, respectively (analyses at these locations did not flag these compounds as laboratory contaminants).

Semivolatile Compounds

With the exception of PNAs and the tentatively identified compounds (TICs), most of the samples did not show high measurable levels of semivolatile compounds. The analytical results may be somewhat misleading, however, because of the presence of very high levels of BEHP in the laboratory blanks. Because of these levels (up to 110,000,000Bppb), detection levels were very high and the presence of certain semivolatile compounds could have been masked. Sample X107 had a total concentration of 1030Jppb of 2-methylphenol, 4-methylphenol, isophorone and 2,4-dimethylphenol. As far as PNAs were concerned; X108 had PNAs at 310Jppb, X109 at 1182Jppb, X110 at 380Jppb and X111 at 723Jppb. Most of the TICs consisted of phthalates and unknown compounds. X115 had 55,200Jppb of TICs and X116 had 66,100,000Jppb. Many of the other samples had various phthalates on TIC sheets that ranged from 0 to 83,890,000Jppb.

Pesticides and PCBs

ARDL did not note any measurable levels of pesticides, but PCBs did show up with high levels at several locations. The more significant total PCB concentrations were 223,000ppb at X101, 26,000ppb at X104, 31,900ppb at X105DL, 39,000ppb at X107DL, 79,000ppb at X108DL and 90,000ppb at X116DL. Aroclors 1254 and 1260 were prevalent in most samples and Aroclor 1248 showed up at X103, X107, X108 and X116. Various PCB precursors also were noted on the semivolatile TIC sheets for several samples.

Conclusions

In general, the presence of the phthalate compounds caused very high detection limits in many of the samples that most likely masked the presence of sample contaminants. Also, given the appearance of the sample materials, the contaminant levels appeared to be lower than what was expected.

Samples of the mounded waste materials were rather high in metals, indicating the possible presence of paint sludge materials. Samples here also showed high levels of PCBs which indicated that the source of PCBs found in sediments of the east borrow pit might have originated from the mound or drums around the mound.

The presence of rather low pH levels at several of the samples

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SAUGET Analytical Data
Site H

SUBSURFACE SOIL SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by Ecology & Environment, Inc. (12/86-1/87)

Sample Number	DC-H1-14	DC-H1-15	DC-H2-16	DC-H3-17	DC-H3-18	DC-H4-19	DC-HB-20	DC-H5-21	DC-H6-22	DC-H7-23
Sample Depth (ft)	15-25	35-50	5-20	10-20	10-20	10-25	NA	0-10	35-50	35-50
Date Collected	12/18/86	12/18/87	1/5/87	1/6/87	1/6/87	1/6/87	1/7/87	1/7/87	1/8/87	1/8/87
VOC							BLANK			
Chloromethane	ND	ND	ND	ND	ND	ND	66	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	710 BJ	13 J	13137 B	52 B	38 B	55600 B	59 B	39 B	32 B	38 B
Acetone	7099 B	30 B	21140 B	461 B	1135 BE	18070 B	49 B	15 BJ	2835 BE	319 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	192	53	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	12 J	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	10968 B	ND	27180 B	ND	ND	25020 B	ND	ND	ND	33
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	10 J	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	61290	4 J	22650	256	71	22240	ND	ND	19	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	7852 J	909 E	554	ND	14 J	ND	9 J	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5645	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	25806	ND	11174	486	145	76450	ND	ND	ND	ND
Chlorobenzene	451613 E	24	120800	307	77	12788	ND	ND	ND	ND
Ethylbenzene	10000	ND	4379 J	ND	ND	12788	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	19355	ND	1510 J	ND	ND	23630	ND	ND	ND	ND

µg/kg - Micrograms per kilogram.
B - Compound detected in blank sample
E - Estimated value. Concentration detected exceeds the calibrated range
J - Estimated value
ND - Not detected.

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SAUGET Analytical Data
Site H

SUBSURFACE SOIL SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

	Sample Number	DC-H8-24	DC-H9-28	Maximum
	Sample Depth (ft)	5-15	15-25	Concentration
	Date Collected	1/9/87	1/13/87	Detected
VOC				
Chloromethane		ND	ND	66
Bromomethane		ND	ND	ND
Vinyl chloride		ND	ND	ND
Chloroethane		ND	ND	ND
Methylene chloride		38 B	6 BJ	55600 B
Acetone		754 BE	1524 BE	21140 B
Carbon Disulfide		ND	ND	ND
1,1-Dichloroethene		ND	ND	ND
1,1-Dichloroethane		ND	ND	ND
trans-1,2-Dichloroethene		ND	ND	ND
Chloroform		ND	ND	192
1,2-Dichloroethane		ND	ND	12 J
2-Butanone (MEK)		ND	36 B	27180 B
1,1,1-Trichloroethane		ND	ND	ND
Carbon Tetrachloride		ND	ND	ND
Vinyl Acetate		ND	ND	ND
Bromodichloromethane		ND	ND	ND
1,2-Dichloropropane		ND	ND	ND
trans-1,3-Dichloropropene		ND	ND	ND
Trichloroethene		ND	ND	10 J
Dibromochloromethane		ND	ND	ND
1,1,2-Trichloroethane		ND	ND	ND
Benzene		ND	ND	61290
cis-1,3-Dichloropropene		ND	ND	ND
2-Chloroethyl Vinyl Ether		ND	ND	ND
Bromoform		ND	ND	ND
4-Methyl-2-pentanone		ND	ND	7852 J
2-Hexanone		ND	ND	ND
Tetrachloroethene		ND	ND	5645
1,1,2,2-Tetrachloroethane		ND	ND	ND
Toluene		ND	ND	76450
Chlorobenzene		ND	ND	451613 E
Ethylbenzene		ND	ND	12788
Styrene		ND	ND	ND
Total Xylenes		ND	ND	23630

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample.

E - Estimated value. Concentration detected exceeds the calibrated range.

J - Estimated value.

ND - Not detected.

SAUGET Analytical Data
Site H

SUBSURFACE SOIL SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (12/86-1/87)

Sample Number	DC-H1-14	DC-H1-15	DC-H2-16	DC-H3-17	DC-H3-18	DC-H4-19	DC-HB-20	DC-H5-21	DC-H6-22	DC-H7-23
Sample Depth (ft)	15-25	35-50	5-20	10-20	10-20	10-25	NA	0-10	35-50	35-50
Date Collected	12/18/86	12/18/87	1/5/87	1/6/87	1/6/87	1/6/87	1/7/87	1/7/87	1/8/87	1/8/87
BNAs							BLANK			
Phenol	ND	ND	ND	ND	422 J	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	241935 J	ND	13288 J	ND	ND	7645 J	ND	ND	ND	ND
1,4-Dichlorobenzene	30645161 E	1190	890000	ND	ND	68110	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND	ND	7923 J	ND	ND	ND	ND
1,2-Dichlorobenzene	19354839 E	548	90600	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	172 J	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	92 J	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	1408 J	2640	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	741935	167 J	ND	294 J	330 J	8479 J	ND	ND	ND	ND
1,2,4-Trichlorobenzene	7580645	4048	211400	ND	145 J	194600	ND	ND	61 J	ND
Naphthalene	ND	ND	2265000	282 J	1320	ND	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphathalene	ND	ND	347300	ND	277 J	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	612903	179 J	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	377500	ND	251 J	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

μg/kg - Micrograms per kilogram.
B - Compound detected in blank sample
E - Estimated value. Concentration detected exceeds the calibrated range
J - Estimated value
ND - Not detected.

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SAUGET Analytical Data
Site H

SUBSURFACE SOIL SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Ecology & Environment, Inc. (12/86-1/87)

	Sample Number	DC-H1-14	DC-H1-15	DC-H2-16	DC-H3-17	DC-H3-18	DC-H4-19	DC-HB-20	DC-H5-21	DC-H6-22	DC-H7-23
	Sample Depth (ft)	15-25	35-50	5-20	10-20	10-20	10-25	NA	0-10	35-50	35-50
	Date Collected	12/18/86	12/18/87	1/5/87	1/6/87	1/6/87	1/6/87	1/7/87	1/7/87	1/8/87	1/8/87
BNAs								BLANK			
2,4-Dinitrophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran		ND	ND	604000	205 J	1188	ND	ND	ND	ND	ND
2,4-Dinitrotoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene		ND	ND	483200	ND	647	ND	ND	ND	ND	ND
4-Nitroaniline		ND	ND	ND	ND	ND	1834000 E	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine		ND	ND	ND	ND	ND	[illegible]	ND	ND	ND	ND
4-Bromophenyl-phenylether		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene		ND	714	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene		ND	ND	2114000	256 J	1320	ND	ND	947	47 J	ND
Anthracene		ND	ND	679500	ND	198 J	ND	ND	221 J	ND	ND
Di-n-butly phthalate		ND	ND	25670 BJ	1152 B	1267 B	ND	1126 B	824 B	878 B	1062 B
Fluoranthene		ND	ND	1330000	ND	145 J	ND	ND	972	ND	ND
Pyrene		ND	ND	664400	ND	ND	ND	ND	935	ND	ND
Butyl Benzyl phthalate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene		ND	ND	377500	ND	ND	ND	ND	554	ND	ND
bis(2-ethylhexyl)phthalate		ND	ND	ND	ND	251 J	ND	ND	541	ND	614
Chrysene		ND	ND	332200	ND	ND	ND	ND	750	ND	ND
Di-n-octyl phthalate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene		ND	ND	211400	ND	ND	ND	ND	1021	ND	ND
Benzo(k)fluoranthene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene		ND	ND	271800	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene		ND	ND	135900	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene		ND	ND	113250	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene		ND	ND	31710 J	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram
B - Compound detected in blank sample.
E - Estimated value. Concentration detected exceeds the calibrated range
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Site H

SUBSURFACE SOIL SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Ecology & Environment, Inc. (12/86-1/87)

Sample Number	DC-H8-24	DC-H9-28	Maximum
Sample Depth (ft)	5-15	15-25	Concentration
Date Collected	1/9/87	1/13/87	Detected
BNAs			
Phenol	ND	ND	422 J
bis(2-Chloroethyl)ether	ND	ND	ND
2-Chlorophenol	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	241935 J
1,4-Dichlorobenzene	62 J	ND	30645161 E
Benzyl Alcohol	ND	ND	7923 J
1,2-Dichlorobenzene	ND	ND	19354839 E
2-Methylphenol	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND
4-Methylphenol	ND	ND	172 J
N-Nitroso-n-Dipropylamine	ND	ND	ND
Hexachloroethane	ND	ND	ND
Nitrobenzene	ND	ND	ND
Isophorone	ND	ND	ND
2-Nitrophenol	ND	ND	ND
2,4-Dichlorophenol	ND	ND	92 J
Benzoic Acid	ND	ND	2640
bis-(2-Chloroethoxy)methane	ND	ND	ND
2,4-Dichlorophenol	ND	ND	741935
1,2,4-Trichlorobenzene	ND	ND	7580645
Naphthalene	44 J	ND	2265000
4-Chloroaniline	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND
2-Methylnaphathalene	156 J	ND	347300
Hexachlorocyclopentadiene	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	612903
2,4,5-Trichlorophenol	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND
2-Nitroaniline	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND
Acenaphthylene	130 J	ND	377500
3-Nitroaniline	ND	ND	ND
Acenaphthene	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample.

E - Estimated value. Concentration detected exceeds the calibrated range.

J - Estimated value.

ND - Not detected.

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SAUGET Analytical Data
Site H

SUBSURFACE SOIL SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (12/86-1/87)

Sample Number	DC-H8-24	DC-H9-28	Maximum
Sample Depth (ft)	5-15	15-25	Concentration
Date Collected	1/9/87	1/13/87	Detected
BNAs			
2,4-Dinitrophenol	ND	ND	ND
4-Nitrophenol	ND	ND	ND
Dibenzofuran	143 J	ND	604000
2,4-Dinitrotoluene	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND
Diethylphthalate	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND
Fluorene	247 J	ND	483200
4-Nitroaniline	ND	ND	1834000 E
4,6-Dinitro-2-methylphenol	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	6681 J
4-Bromophenyl-phenylether	ND	ND	ND
Hexachlorobenzene	ND	ND	714
Pentachlorophenol	ND	ND	ND
Phenanthrene	169 J	ND	2114000
Anthracene	129 J	ND	679500
Di-n-butly phthalate	1014 B	343 BJ	25670 BJ
Fluoranthene	351 J	ND	1330000
Pyrene	1209	ND	664400
Butyl Benzyl phthalate	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND
Benzo (a)anthracene	1157	ND	377500
bis(2-ethylhexyl)phthalate	ND	305 J	614
Chrysene	3380	ND	332200
Di-n-octyl phthalate	ND	ND	ND
Benzo(b)fluoranthene	442	ND	211400
Benzo(k)fluoranthene	ND	ND	ND
Benzo (a)pyrene	780	ND	271800
Indeno(1,2,3-cd)pyrene	ND	ND	135900
Benzo(g,h,I)perylene	494	ND	113250
Dibenzo(a,h)anthracene	ND	ND	31710 J

μg/kg - Micrograms per kilogram.
B - Compound detected in blank sample.
E - Estimated value. Concentration detected exceeds the calibrated range.
J - Estimated value
ND - Not detected.

SAUGET Analytical Data
Site H

SUBSURFACE SOIL SAMPLES
Pesticides/PCBs (µg/kg)
Collected by Ecology & Environment, Inc. (12/86-1/87)

Sample Number	DC-H1-14	DC-H1-15	DC-H2-16	DC-H3-17	DC-H3-18	DC-H4-19	DC-HB-20	DC-H5-21	DC-H6-22	DC-H7-23
Sample Depth (ft)	15-25	35-50	5-20	10-20	10-20	10-25	NA	0-10	35-50	35-50
Date Collected	12/18/86	12/18/87	1/5/87	1/6/87	1/6/87	1/6/87	1/7/87	1/7/87	1/8/87	1/8/87
Pesticides/PCBs							BLANK			
Alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	**504**	ND	ND
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND	**431**	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND	ND	**923**	ND	ND
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260	**985483**	**1130 J**	**139524**	ND	**251**	**18000000**	**205**	**5166**	**1755**	ND

µg/kg - Micrograms per kilogram
J - Estimated value
ND - Not detected

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SAUGET Analytical Data
Site H

SUBSURFACE SOIL SAMPLES
Pesticides/PCBs (µg/kg)
Collected by Ecology & Environment, Inc. (1/87)

	Sample Number	DC-H8-24	DC-H9-28	Maximum
	Sample Depth (ft)	5-15	15-25	Concentration
	Date Collected	1/9/87	1/13/87	Detected
Pesticides/PCBs				
Alpha-BHC		ND	ND	ND
Beta-BHC		ND	ND	ND
Delta-BHC		ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND
Heptachlor		ND	ND	ND
Aldrin		ND	ND	ND
Heptachlor Epoxide		ND	ND	ND
Endosulfan I		ND	ND	ND
Dieldrin		ND	ND	ND
4,4'-DDE		**780**	ND	**780**
Endrin		ND	ND	ND
Endosulfan II		ND	ND	ND
4,4'-DDD		ND	ND	**431**
Endosulfan sulfate		ND	ND	ND
4,4'-DDT		**780**	ND	**923**
Methoxychlor		ND	ND	ND
Endrin Ketone		ND	ND	ND
Chlordane		ND	ND	ND
Toxaphene		ND	ND	ND
Aroclor-1016		ND	ND	ND
Aroclor-1221		ND	ND	ND
Aroclor-1232		ND	ND	ND
Aroclor-1242		ND	ND	ND
Aroclor-1248		ND	ND	ND
Aroclor-1254		ND	ND	ND
Aroclor-1260		ND	ND	**18000000**

µg/kg - Micrograms per kilogram.

J - Estimated value.

ND - Not detected.

SAUGET Analytical Data
Site II

SUBSURFACE SOIL SAMPLES
Total Metals (mg/kg)
Collected by Ecology & Environment, Inc. (12/86-1/87)

	Sample Number	DC-H1-14	DC-H1-15	DC-H2-16	DC-H3-17	DC-H3-18	DC-H4-19	DC-HB-20	DC-H5-21	DC-H6-22	DC-H7-23
	Sample Depth (ft)	15-25	35-50	5-20	10-20	10-20	10-25	NA	0-10	35-50	35-50
	Date Collected	12/18/86	12/18/87	1/5/87	1/6/87	1/6/87	1/6/87	1/7/87	1/7/87	1/8/87	1/8/87
Total Metals								BLANK			
Aluminum		2403	1452	4015	450	697	7167	10974	7074	2811	2282
Antimony		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic		26 *	3 *	7 R	15 R	13 R	388 R	6 R	42 R	ND	ND
Barium		3242	38	1879	85	97	607	372	331	55	46
Beryllium		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium		232	ND	5	ND	ND	294	ND	221	ND	ND
Chromium		100	4	97	ND	ND	51	15	56	6	5
Cobalt		19	3	105	ND	ND	47	6	8	ND	ND
Copper		374	3	415	13	12	2444	29	972	ND	ND
Iron		48226	3810	84545	510	564	54167	15641	27160	5905	4741
Lead		1150 *	4	174 R	5 R	4 R	4500 R	44 R	3827 R	4 R	3 R
Manganese		2403	51	621	7	9	2292	376	36543	78	71
Mercury		0.8	ND	ND	ND	ND	3.9	ND	ND	ND	ND
Nickel		15097	90	298	6	4	2083	17	42	9	9
Selenium		2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver		4 R	ND	ND	ND	ND	9	ND	44	ND	ND
Thallium		ND	ND	ND	ND	ND	ND	ND	1	ND	ND
Tin		111	ND	14	ND	ND	40	ND	ND	ND	ND
Vanadium		95	ND	ND	ND	ND	28	27	28	9	7
Zinc		39516	39	248	8	10	3875	153	8099	23	15
Cyanide		2	ND	2	ND	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram.
ND - Not detected
R - Spike sample recovery not within control limits.
* - Duplicate analysis not within control limits.

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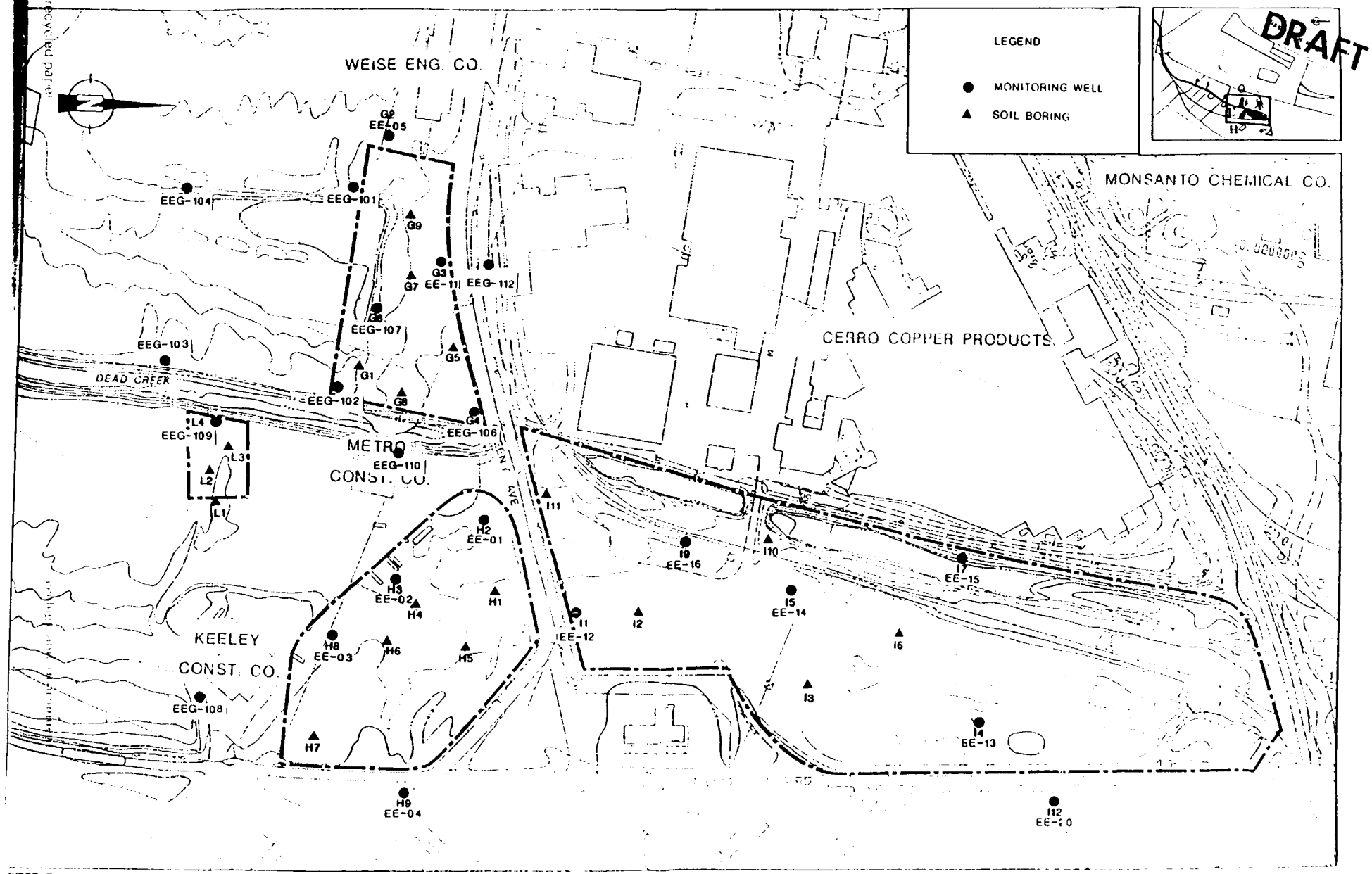
SAUGET Analytical Data
Site H

SUBSURFACE SOIL SAMPLES
Total Metals (mg/kg)
Collected by Ecology & Environment, Inc. (1/87)

	Sample Number	DC-H8-24	DC-H9-28	Maximum
	Sample Depth (ft)	5-15	15-25	Concentration
	Date Collected	1/9/87	1/13/87	Detected
Total Metals				
Aluminum		12117	2203	12117
Antimony		ND	ND	ND
Arsenic		4 R	3 R	388 R
Barium		218	52	3242
Beryllium		ND	ND	ND
Boron		ND	ND	ND
Cadmium		ND	ND	294
Chromium		18	ND	100
Cobalt		ND	ND	105
Copper		51	ND	2444
Iron		20519	5215	84545
Lead		60 R	5 R	4500 R
Manganese		336	66	36543
Mercury		1.4	ND	3.9
Nickel		16	ND	15097
Selenium		ND	ND	2
Silver		ND	ND	44
Thallium		ND	ND	1
Tin		ND	ND	111
Vanadium		27	ND	95
Zinc		308	20	39516
Cyanide		ND	ND	2

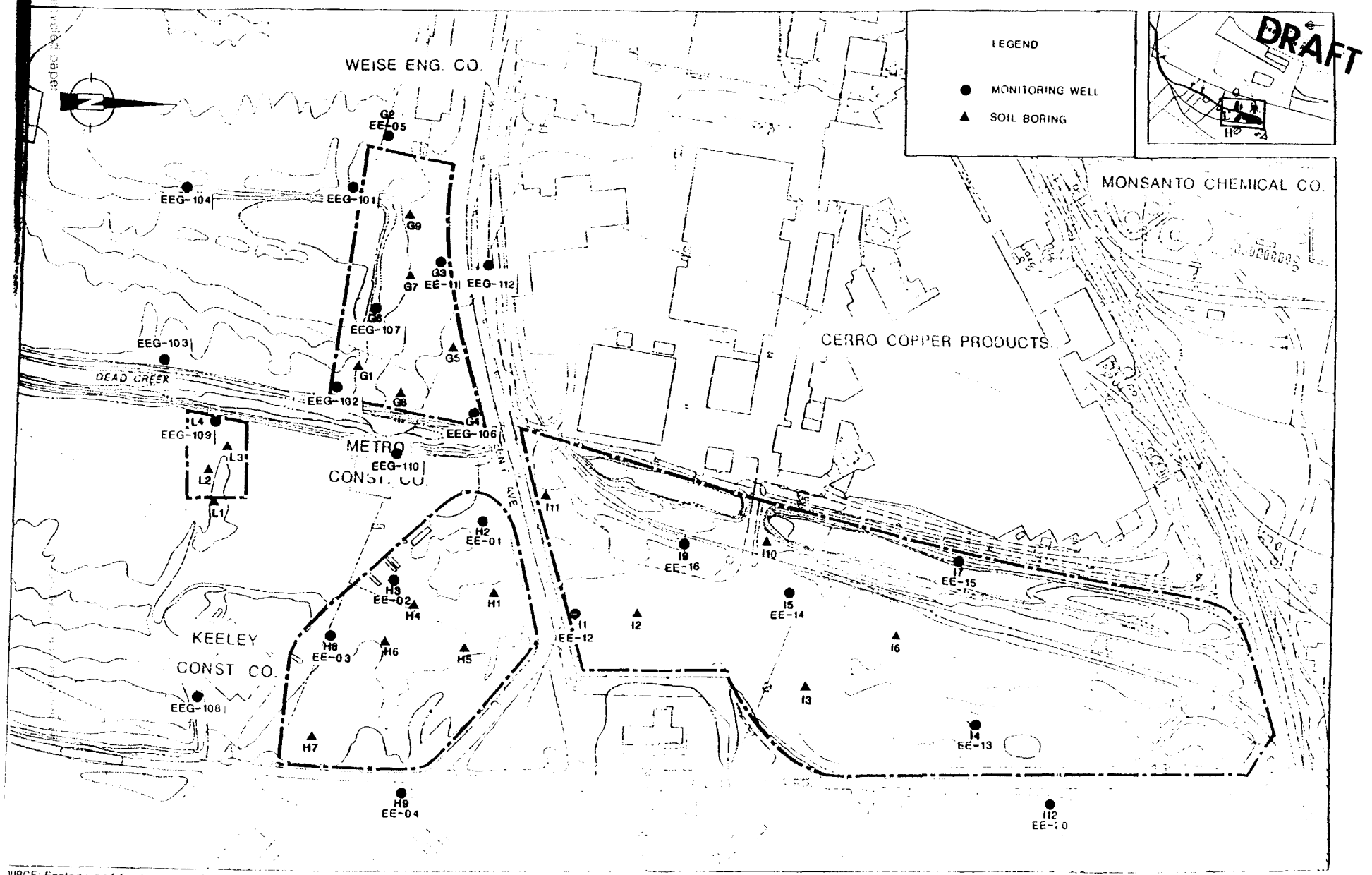
mg/kg - Milligrams per kilogram
ND - Not detected
R - Spike sample recovery not within control limits
* - Duplicate analysis not within control limits



SOURCE: Ecology and Environment, Inc., 1988.

FIGURE 3-7 MONITORING WELL AND BORING LOCATIONS AT AREA 1

Site L Data



SOURCE: Ecology and Environment, Inc., 1988.

FIGURE 3-7 MONITORING WELL AND BORING LOCATIONS AT AREA 1

SAUGET Analytical Data
Site L

SUBSURFACE SOIL SAMPLES
Pesticides/PCBs (μg/kg)
Collected by Ecology & Environment, Inc. (12/86)

	Sample Number	DC-LB-01	DC-L1-02	DC-L2-03	DC-L3-04	DC-L4-09	DC-L4-10	Maximum
	Sample Depth (ft)	NA	5-10	5-15	5-15	10-20	10-20	Concentration
	Date Collected	12/12/86	12/12/86	12/12/86	12/12/86	12/17/86	12/17/86	Detected
Pesticides/PCBs		BLANK						
Alpha-BHC		ND	ND	ND	ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND	ND	ND
Aldrin		ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND	ND	ND	ND
Endrin		ND	ND	ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND	ND	ND
Chlordane		ND	ND	ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND	ND	ND	ND
Aroclor-1260		ND	ND	ND	ND	ND	ND	ND

μg/kg - Micrograms per kilogram
ND - Not detected

SAUGET Analytical Data
Site L

SUBSURFACE SOIL SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (12/86)

Sample Number	DC-LB-01	DC-L1-02	DC-L2-03	DC-L3-04	DC-L4-09	DC-L4-10	Maximum
Sample Depth (ft)	NA	5-10	5-15	5-15	10-20	10-20	Concentration
Date Collected	12/12/86	12/12/86	12/12/86	12/12/86	12/17/86	12/17/86	Detected
BNAs	BLANK						
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	**310 J**	**310 J**
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	**11538**	**58228**	ND	ND	**58228**
Phenanthrene	**45 J**	ND	**602**	**1772 J**	ND	ND	**1772 J**
Anthracene	ND	ND	ND	ND	ND	ND	ND
Di-n-butly phthalate	ND	**171 J**	**372 J**	**2784**	ND	ND	**2784**
Fluoranthene	ND	ND	**448**	ND	ND	ND	**448**
Pyrene	ND	ND	**282 J**	ND	ND	ND	**282 J**
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	**911 J**	ND	ND	**911 J**
bis(2-ethylhexyl)phthalate	ND	ND	**1217**	ND	**750**	**1297**	**1297**
Chrysene	ND	ND	**205 J**	ND	ND	ND	**205 J**
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND

μg/kg - Micrograms per kilogram
J - Estimated value
ND - Not detected.

SAUGET Analytical Data
Site L

SUBSURFACE SOIL SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by Ecology & Environment, Inc. (12/86)

Sample Number	DC-LB-01	DC-L1-02	DC-L2-03	DC-L3-04	DC-L4-09	DC-L4-10	Maximum
Sample Depth (ft)	NA	5-10	5-15	5-15	10-20	10-20	Concentration
Date Collected	12/12/86	12/12/86	12/12/86	12/12/86	12/17/86	12/17/86	Detected
VOC	BLANK						
Chloromethane	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	17 B	14 B	141 B	2278 B	8	5 J	2278 B
Acetone	32 B	907 B	449 B	4557 B	32 B	81 B	4557 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	20253	96	49	20253
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	16	ND	10000 B	16 B	ND	10000 B
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	141	4177	7 J	4 J	4177
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	8 J	167	ND	68 B	49 B	167
2-Hexanone	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	2179	26582	93	50	26582
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	40 J	ND	ND	ND	40 J
Styrene	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	179	670 J	ND	ND	670 J

µg/kg - Micrograms per kilogram.
B - Compound detected in blank sample.
J - Estimated value.
ND - Not detected.

SAUGET Analytical Data
Site L

SUBSURFACE SOIL SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Ecology & Environment, Inc. (12/86)

	Sample Number	DC-LB-01	DC-L1-02	DC-L2-03	DC-L3-04	DC-L4-09	DC-L4-10	Maximum
	Sample Depth (ft)	NA	5-10	5-15	5-15	10-20	10-20	Concentration
	Date Collected	12/12/86	12/12/86	12/12/86	12/12/86	12/17/86	12/17/86	Detected
BNAs		BLANK						
Phenol		ND	ND	**346 J**	**1519 J**	ND	ND	**1519 J**
bis(2-Chloroethyl)ether		ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol		ND	ND	ND	**2152**	ND	ND	**2152**
1,3-Dichlorobenzene		ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene		ND	ND	ND	**215 J**	ND	ND	**215 J**
Benzyl Alcohol		ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene		ND	ND	ND	ND	ND	ND	ND
2-Methylphenol		ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether		ND	ND	ND	ND	ND	ND	ND
4-Methylphenol		ND	ND	**88 J**	**1089 J**	ND	ND	**1089 J**
N-Nitroso-n-Dipropylamine		ND	ND	ND	ND	ND	ND	ND
Hexachloroethane		ND	ND	ND	ND	ND	**49 J**	**49 J**
Nitrobenzene		ND	ND	ND	ND	ND	ND	ND
Isophorone		ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol		ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND	ND	ND	ND
Benzoic Acid		ND	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane		ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorophenol		ND	ND	ND	ND	ND	ND	ND
Naphthalene		ND	ND	**154 J**	**532 J**	ND	ND	**532 J**
4-Chloroaniline		ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene		ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol		ND	ND	ND	ND	ND	ND	ND
2-Methylnaphathalene		ND	ND	**333 J**	**1000 J**	ND	ND	**1000 J**
Hexachlorocyclopentadiene		ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol		ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol		ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene		ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline		ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate		ND	ND	ND	ND	ND	ND	ND
Acenaphthylene		ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline		ND	ND	ND	ND	ND	ND	ND
Acenaphthene		ND	ND	**44 J**	ND	ND	ND	**44 J**

µg/kg - Micrograms per kilogram.
J - Estimated value.
ND - Not detected.

SITE NARRATIVE

CREEK SEGMENT A

X-2

Priority

D012728

Time Collected: 2:10 pm

Lab # D012728

SPECIAL ANALYSIS FORM

Date Collected: 1-28-81

Date Received JAN 29 1981

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
St. Clair	Cahokia / Dead Creek	General

SOURCE OF SAMPLE: (Exact Location) Sample X-2 was collected from the wheat field immediatly adjacent to where X-1 was collected

PHYSICAL OBSERVATIONS, REMARKS: Sample generally appears to be uncontaminated top-soil.

TESTS REQUESTED: P.C.B.'s + Chlorinated Hydrocarbons

COLLECTED BY: Perry Mann + Tom Powell TRANSPORTED BY: Perry Mann

LABORATORY

RECEIVED BY: CMC DATE COMPLETED: 3-19-81 DATE FORWARDED: 3-19-81 J. Hanley

75 PPB

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D012728

SITE NARRATIVE - SAUGET AREA 1 / Creek Segment A

Sample Locations	Sampling Entity	Date Sampled	Data Source
SD-32 thru SD-36	E & E	11/6/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
SW-12, SW-13	E & E	11/6/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
SS-1, SS-2, S501, S502	IEPA	1/28/81	Individual Special Analysis forms off Microfiche
X128, X129, S503, S504	IEPA	1/28/81	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
A10 thru A16 A21 & A22	Advent Group	1989	"Site Investigation/Feasibility Study for Creek Segment A" prepared by Advent Group, June 1990

Nature and Extent of Contamination:

Contaminated sediments in CS-A were removed by the PRP in 1990. IEPA provided oversight of the removal activities for CS-A. It is not known if any confirmation sampling of the excavation base or sidewalls was completed at the time of removal. It is therefore assumed that only low levels of residual contamination may be present in soils adjacent to the CS-A excavation.

Containment and Integrity (if known):

CS-A was remediated in 1990 by the PRP under IEPA's oversight. Approximately 27,500 tons of contaminated creek sediment was removed from CS-A. This creek segment has since been filled and covered with crushed stone, and the entire property is fenced with 24-hour surveillance to control access.

Other Comments: See the attached "Site Description" for more site details.

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SITE DESCRIPTION - Sauget Area 1/Creek Segment A

Creek Segment A (CS-A) is located west of Site I on Cerro Copper property, and stretches from the Alton & Southern Railroad at the north end, to Queeny Avenue to the south. CS-A is the northernmost segment of Dead Creek. The 1,700 foot creek segment consisted of two holding ponds that were created when the Queeny Avenue culvert was blocked off. In 1990, Cerro Copper remediated CS-A by excavating 27,500 tons of contaminated sediments, which were disposed of at RCRA- and TSCA-regulated facilities. Materials removed from CS-A were described as fill and fluidized creek bottom sediments. The fill material was tan to black, stained, silt to silty sand, intermixed with concrete, bricks, road aggregate, rags, slag, and vitreous pellets. The fill material varied from 1 to 15 feet thick. The fluidized crrek sediments were brown to yellowish brown and black silt with organic matter. The creek sediments ranged from 0.5 to 11 feet thick. CS-A has since been filled and covered with crushed gravel, and is enclosed by fencing.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report prepared by IEPA)

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SITE NARRATIVE - SAUGET AREA 1 / Site I

Sample Locations	Sampling Entity	Date Sampled	Data Source
I-1 thru I-12	E & E	1/27/87 to 2/4/87	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988

Nature and Extent of Contamination:

VOC concentrations in subsurface soils at Site I ranged from 0.013 to 129.9 mg/kg for 12 of the 15 samples collected. BNA concentrations ranged from 4.9 to 10,967 mg/kg for 12 of 15 samples. Pesticide concentrations ranged from 29.7 to 492.8 mg/kg for 3 of 15 samples. PCBs ranged from 20.4 to 342.9 mg/kg for 5 of 15 samples collected. Contamination was detected at depths extending to 38 feet BGS. Metals, most notably Cd, Pb, and Cu, were elevated in most samples collected. Waste material was noted inseveral borings at depths below the water table. The extent of contamination is only fairly well defined due to the fact that only subsurface soils were collected. Waste volumes for Site I are estimated at 200,000 cubic yards of waste and contaminated fill in the south pit and 50,000 cubic yards in the north pit.

Containment and Integrity (if known):

There is no known constructed containment in place at Site I, other than the current fill material and crushed gravel that are in place at the surface. Most of the site is covered with compacted crushed gravel, and serves as a parking area for truck trailers. Based upon the available boring logs, no subsurface containment is in place in the area used for disposal. Access to the site is restricted though security fencing and 24-hour surveillence cameras.

Other Comments: See the attached "Site Description" for more site details.

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SITE DESCRIPTION - Sauget Area 1/Site I

Site I encompasses approximately 19 acres, and consists of a disposal area which operated from approximately 1931 until 1957. The site, contiguous with site H beneath Queeny Avenue, is known collectively as the " Sauget-Monsanto Landfill". Site H is bordered by Queeny Avenue to the south, Falling Springs Road to the east, the Alton & Southern Railroad to the north, and by Dead Creek (CS-A) to the west. Prior to it's use as a landfill, the site was a series of sand and gravel pits. According to two CERCLA (103[c]) forms submitted by Monsanto to USEPA, the site accepted chemical wastes from the Monsanto's Queeny and Krummrich plants in St. Louis and Sauget, respectively. Aerial photos show landfilling activities decreasing by the late 1950's. Site I is currently graded and covered with crushed stone, and is used by the current owner (Cerro Copper) to park trailers and machinery. Access to Site I is barred by a security fence and is monitored by cameras. Borings from Site I revealed two disposal pits. The southernmost pit was contiguous with Site H under Queeny Avenue. Both pits are estimated to be approximately 23 to 25 feet deep. The thickness of fill material across the site ranges from 3 feet outside of the pits to 13 feet over the pit areas. The waste materials found below the fill consisted of oily sand, clay, wood and cinders mixed with refuse. Each of the pits contained a sludge-like material and staining to the Cahokia alluvium deposits beneath the waste. Based on the estimated depths and thicknesses of the waste material encountered in borings and the distances between boring locations across Sites I and H, an estimated total volume of 200,000 cubic yards of contaminated waste and fill material exists in the south pit, and an estimated total waste volume of 50,000 cubic yards is found in the north pit.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report prepared by IEPA)

SITE NARRATIVE

SITE I

Site I and CS-A

SAUGET Analytical Data
Site L

SEDIMENT SAMPLES
Volatile Organic Compounds (mg/kg dry weight)
Collected by Geraghty & Miller

Sample Number	L1 (LB-16/LB-17)	L1 (LB-17)	L2 (LB-13)	L3 (LB-14)	L4 (LB-12)	L5 (LB-10)	BLANK	Maximum
Sample Depth (ft)	3'-8'	8'-14'	8'-10'	9'-11'	8'-10'	7'-8.5'	NA	Concentration
Date Collected	10/16/91	10/16/91	10/15/91	10/16/91	10/15/91	10/15/91	10/16/91	Detected
VOC							(µg/L)	
Methylene chloride	< 0.89 J	< 3.1 J	< 16 J	< 0.007 J	< 0.006 J	< 0.007 J	< 5	ND
Acetone	< 1.3 J	< 5.8 J	< 32 J	**0.015 J**	< 0.013 J	< 0.014 J	< 10	**0.015 J**
Carbon Disulfide	< 0.63 J	< 2.9 J	< 16 J	< 0.007 J	< 0.006 J	< 0.007 J	< 5	ND
2-Butanone (MEK)	< 1.3 J	< 5.8 J	< 32 J	< 0.023 J	< 0.013 J	< 0.028 J	< 10	ND
Benzene	< 0.63 J	< 2.9 J	**5.7 J**	< 0.007 J	< 0.006 J	< 0.007 J	< 5 J	**5.7 J**
Tetrachloroethene	< 0.63 J	< 2.9 J	< 16 J	< 0.007 J	< 0.006 J	< 0.007 J	< 5	ND
Toluene	**4.5 J**	**32 J**	**400 J**	< 0.007 J	< 0.006 J	< 0.007 J	< 5 J	**400 J**
Chlorobenzene	**5.3 J**	**0.9 J**	**3.6 J**	**0.066 J**	**0.012 J**	**0.03 J**	< 5 J	**5.3 J**
Ethylbenzene	< 0.63 J	< 2.9 J	< 16 J	< 0.007 J	< 0.006 J	< 0.007 J	< 5 J	ND
Xylenes	**0.54 J**	< 2.9 J	**11 J**	< 0.007 J	< 0.006 J	< 0.007 J	< 5 J	**11 J**
Chloroform	< 0.63 J	< 2.9 J	< 16 J	< 0.007 J	< 0.006 J	< 0.007 J	< 5 J	ND
1,1,1-Trichloroethane	< 0.63 J	< 2.9 J	< 16 J	< 0.007 J	< 0.006 J	< 0.007 J	< 5 J	ND

J - Estimated value
mg/kg - Milligrams per kilogram
ND - Not detected
µg/L - Micrograms per liter

SAUGET Analytical Data
Site L

SEDIMENT SAMPLES
Base Neutrals/Acids (mg/kg dry weight)
Collected by Geraghty & Miller

Sample Number	L1 (LB-16/LB-17)	L1 (LB-17)	L2 (LB-13)	L3 (LB-14)	L4 (LB-12)	L5 (LB-10)	BLANK	Maximum
Sample Depth (ft)	3'-8'	8'-14'	8'-10'	9'-11'	8'-10'	7'-8.5'		Concentration
Date Collected	10/16/91	10/16/91	10/15/91	10/16/91	10/15/91	10/15/91	10/16/91	Detected
BNAs							(µg/L)	
Phenol	13	13	16	< 0.46	< 0.42	< 0.45	< 10	16
2-Chlorophenol	< 3.3	< 3.8	2.6 J	< 0.46/0.013 J	< 0.42	< 0.45	< 10	2.6 J
1,3-Dichlorobenzene	4.3	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	4.3
1,4-Dichlorobenzene	93 E/100 D	3.2 J	13	0.028 J/0.018 J	< 0.42	< 0.45	< 10	100 D
1,2-Dichlorobenzene	7.7	2.9 J	3.4 J	< 0.46/0.01 J	< 0.42	< 0.45	< 10	7.7
4-Methylphenol	3.2 J	5.5	7.1	< 0.46	< 0.42	< 0.45	< 10	7.1
Isophorone	< 3.3	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	ND
2,4-Dimethylphenol	< 3.3	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	ND
2,4-Dichlorophenol	2.4 J	< 3.8	11	< 0.46	< 0.42	< 0.45	< 10	11
1,2,4-Trichlorobenzene	73 E/79 D	5.5	< 4.2	< 0.46	< 0.42	< 0.45	< 10	79 D
Naphthalene	7.3	< 3.8	< 4.2	< 0.46/0.096 J	< 0.42	< 0.45	< 10	7.3
4-Chloroaniline	13	270 E/260 D	49	0.320 J/0.043 J	< 0.42	< 0.45	< 10	270 E
2-Methylnaphathalene	2.3 J	1.6 J	3.1 J	< 0.46/0.21 J	< 0.42	< 0.45	< 10	3.1
2,4,6-Trichlorophenol	1.5 J	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	1.5 J
2,4,5-Trichlorophenol	< 17	< 19	< 21	< 2.3	< 2.1	< 2.3	< 10	ND
Acenaphthylene	0.28 J	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	0.28 J
Acenaphthene	3.1 J	< 3.8	< 4.2	< 0.46/0.083 J	< 0.42	< 0.45	< 10	3.1 J
Dibenzofuran	3 J	< 3.8	< 4.2	< 0.46/0.042 J	< 0.42	< 0.45	< 10	3 J
Diethylphthalate	1 J	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	1 J
Fluorene	5	< 3.8	< 4.2	< 0.46/0.079 J	< 0.42	< 0.45	< 10	5
N-Nitrosodiphenylamine	< 3.3	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	ND
Hexachlorobenzene	4.8	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	4.8
Pentachlorophenol	28	29	< 21	< 2.3	< 2.1	< 2.3	< 50	29
Phenanthrene	23	< 3.8	< 4.2	0.091 J/0.42 J	< 0.42	< 0.45	< 10	23
Anthracene	4.2	< 3.8	< 4.2	0.028 J/0.15 J	< 0.42	< 0.45	< 10	4.2
Di-n-butly phthalate	1.8 J	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	1.8 J
Fluoranthene	16	< 3.8	< 4.2	0.13 J/0.52	< 0.42	< 0.45	< 10	16
Pyrene	23	< 3.8	< 4.2	0.13 J/0.42 J	< 0.42	< 0.45	< 10	23
Butyl Benzyl phthalate	5.4	< 3.8	< 4.2	< 0.46	< 0.42	< 0.45	< 10	5.4
Benzo (a)anthracene	8.6	< 3.8	< 4.2	0.075 J/0.26 J	< 0.42	< 0.45	< 10	8.6
bis(2-ethylhexyl)phthalate	< 3.3	< 3.8	< 4.2	2.2 B/< 0.45	0.017 BJ	0.044 BJ	1 J	2.2 B
Chrysene	8.2	< 3.8	< 4.2	0.076 J/0.3 J	< 0.42	< 0.45	< 10	8.2
Benzo(b)fluoranthene	5.4	< 3.8	< 4.2	0.058 J/0.19 J	< 0.42	< 0.45	< 10	5.4
Benzo(k)fluoranthene	4.6	< 3.8	< 4.2	< 0.46/0.19 J	< 0.42	< 0.45	< 10	4.6
Benzo (a)pyrene	5.3	< 3.8	< 4.2	0.07 J/0.22 J	< 0.42	< 0.45	< 10	5.3
Indeno(1,2,3-cd)pyrene	2.9 J	< 3.8	< 4.2	< 0.46/0.11 J	< 0.42	< 0.45	< 10	2.9 J
Benzo(g,h,i)perylene	< 3.3	< 3.8	< 4.2	< 0.46/0.027 J	< 0.42	< 0.45	< 10	ND
Benzoic acid	3.2 J	< 3.8	< 4.2	< 0.46/0.049 J	< 0.42	< 0.45	< 10	3.2 J

B - Compound detected in blank sample.
D - Compound concentration is at a secondary dilution factor.
E - Estimated value. Concentration detected exceeds the calibrated range
J - Estimated value
mg/kg - Milligrams/kilogram

SAUGET Analytical Data
Site L

SEDIMENT SAMPLES
PCBs (mg/kg dry weight)
Collected by Geraghty & Miller

	Sample Number	L1 (LB-16/LB -17)	L1 (LB-17)	Equipment	Maximum
	Sample Depth (ft)	3'-8'	8'-14'	Blank	Concentration
	Date Collected	10/16/91	10/16/91	10/16/91	Detected
PCBs				µg/L	
Aroclor-1248		120 J	< 18 J	< 0.5 J	120 J
Aroclor-1254		< 310 J	< 36 J	< 1 J	ND
Aroclor-1260		380 J	16 J	< 1 J	380 J
Total PCBs		500	16	0	500

mg/kg - Milligrams per kilogram
J - Estimated value
µg/L - Micrograms per liter

SAUGET Analytical Data
Site L

SEDIMENT SAMPLES
Total Metals (mg/kg dry weight)
Collected by Geraghty & Miller

	Sample Number	L1 (LB-16/LB -17	L1 (LB-17)	L2 (LB-13)	L3 (LB-14)	L4 (LB-12)	L5 (LB-10)	Equipment	Maximum
	Sample Depth (ft)	3'-8'	8'-14'	8'-10'	9'-11'	8'-10'	7'-8.5'	Blank	Concentration
	Date Collected	10/16/91	10/16/91	10/15/91	10/16/91	10/15/91	10/15/91	10/16/91	Detected
Total Metals								µg/L	
Aluminum		7320	6660	3190	12800	5290	2810	< 200	12800
Antimony		< 11.6 J	< 12.3 J	< 12.6 J	< 13.7 J	< 12.8 J	< 13.6 J	< 50	ND
Barium		1440	235	1360	208	194	213	< 10	1440
Cadmium		42	< 1.2	< 1.3	< 1.4	< 1.3	< 1.4	< 5	42
Calcium		75500	18200	21300	22400	15500	15700	341 B	75500
Chromium		27	11	3.9	17.8	7.8	4.1	< 10	27
Cobalt		8.3 B	7.3 B	< 2.5	8.4 B	5.9 B	< 2.7	< 10	8.4 B
Copper		308 J	96.1 J	< 6.3 J	19.4 J	9.7 J	52.9 J	< 25	308 J
Iron		24000	12400	1400	21700	11800	1790	151	24000
Magnesium		5150	7210	705 B	9440	6570	384 B	< 50	9440
Manganese		535	269	88.1	782	259	10.1	< 10	782
Nickel		95.9 J	473 J	71.9 J	24.7 J	113 J	< 10.8 J	< 40	473 J
Potassium		1130 B	1390	975 B	2280	1090 B	993 B	< 1000	2280
Silver		< 2.3	< 2.5	< 2.5	< 2.7	< 2.6	< 2.7	< 10	ND
Sodium		< 295	< 347	< 226	< 303	< 332	< 136	997 B	997 B
Vanadium		27.6	19.7	131	35.4	15.6	7.7 B	< 10	131
Zinc		4240 J	364 J	756 J	77 J	35.6 J	6.4 J	< 20	4240 J
Mercury		1.8 J	0.19 J	0.01 J	0.03 J	0.01 J	0.02 J	< 0.2 J	1.8 J
Lead		664 J	106 J	5.3 J	11.7 J	7.6 J	8.7 J	< 3	664 J
Selenium		< 1.2 J	< 1.2 J	< 1.3 J	< 1.4	< 1.3 J	< 1.4 J	< 5	ND
Arsenic		49.2	90.9	68.7	10.1	4.9	12.6	< 10	90.9
Cyanide		0.46 J	< 0.31 J	NA	NA	NA	NA	< 10	0.46 J

mg/kg - Milligrams per kilogram
B - Compound detected in blank sample
J - Estimated value
NA - Parameter not analyzed
ND - Not detected
µg/L - Micrograms per liter

SAUGET Analytical Data

Site L

SUBSURFACE SOIL SAMPLES
TCLP Metals (mg/L)
Collected by Geraghty & Miller

	Sample Number		GML1 (LB-16/LB-17)	GML1 (LB-17)	Maximum
	Well Number		3'-8'	8'-14'	Concentration
	Date Collected		10/16/91	10/16/91	Detected
Metals		Regulatory Limit			
Arsenic		5	< 0.2	< 0.2	ND
Barium		100	**1.8 (1.7)***	**1.4 (1.3)***	**1.8**
Cadmium		1	**0.066 (0.059)***	**0.021 (0.019)***	**0.066**
Chromium		5	< 0.05	< 0.05	ND
Lead		5	**0.24 (0.22)***	< 0.2	**0.24**
Mercury		0.2	< 0.02	< 0.02	ND
Selenium		1	< 0.5	< 0.5	ND
Silver		5	< 0.01	< 0.01	ND

mg/L - Milligrams per liter
ND - Not detected
TCLP - Toxicity Characteristic Leaching Procedure
* - sample analyzed twice

SAUGET Analytical Data
Site L

SUBSURFACE SOIL SAMPLES
TCLP Volatile Organic Compounds (mg/L)
Collected by Geraghty & Miller

	Sample Number		GML1 (LB-16/LB-17)	GML1 (LB-17)	Maximum
	Sample Depth		3'-8'	8'-14'	Concentration
	Date Collected		10/16/91	10/16/91	Detected
VOC		Regulatory Limit			
Benzene		0.5	< 0.02	< 0.02	ND
Carbon Tetrachloride		0.5	< 0.02	< 0.02	ND
Chlorobenzene		100	**0.041 (0.036)***	< 0.02	**0.041**
Chloroform		6	< 0.02	< 0.02	ND
1,2-Dichloroethane		0.5	< 0.02	< 0.02	ND
1,1-Dichloroethylene		0.7	< 0.02	< 0.02	ND
2-Butanone		200	< 0.04	< 0.04	ND
Tetrachloroethylene		0.7	< 0.02	< 0.02	ND
Trichloroethylene		0.5	< 0.02	< 0.02	ND
Vinyl chloride		0.2	< 0.04	< 0.04	ND
MISC					
Ignitability - Flash point		< 140 degrees F	non-ignitable	non-ignitable	
Corrosivity (pH units)		< 2 or > 12.5	**8.2**	**8.4**	**8.4**
Reactivity (mg/kg dw)					
Sulfide		500	71	**24**	71
Cyanide		250	< 1	< 1.1	ND

mg/L - Milligrams per liter.
mg/kg dw - Milligrams per kilogram dry weight
ND - Not detected
TCLP - Toxicity Characteristic Leaching Procedure
* - sample analyzed twice

SAUGET Analytical Data
Site L

SUBSURFACE SOIL SAMPLES
TCLP Base Neutrals/Acids (mg/L)
Collected by Geraghty & Miller

	Sample Number		GML1 (LB-16/LB-17)	GML1 (LB-17)	Maximum
	Well Number		3'-8'	8'-14'	Concentration
	Date Collected		10/16/91	10/16/91	Detected
BNAs		Regulatory Limit			
Cresol (o)		200	< 0.05	< 0.05	ND
Cresol (m,p)		200	**0.17 (0.1)***	**0.19 (0.11)***	**0.19**
1,4-Dichlorobenzene		7.5	**0.41 (0.33)***	< 0.05	**0.41**
2,4-Dinitrotoluene		0.13	< 0.05	< 0.05	ND
Hexachlorobenzene		0.13	< 0.05	< 0.05	ND
Hexachlorobutadiene		0.5	< 0.05	< 0.05	ND
Hexachloroethane		3	< 0.05	< 0.05	ND
Nitrobenzene		2	< 0.05	< 0.05	ND
Pentachlorophenol		100	< 0.25	< 0.25	ND
2,4,5-Trichlorophenol		400	< 0.25	< 0.25	ND
2,4,6-Trichlorophenol		2	< 0.05	< 0.05	ND
Pyridine		5	< 0.25	< 0.25	ND

mg/L - Milligrams per liter
ND - Not detected.
TCLP - Toxicity Characteristic Leaching Procedure
* - sample analyzed twice

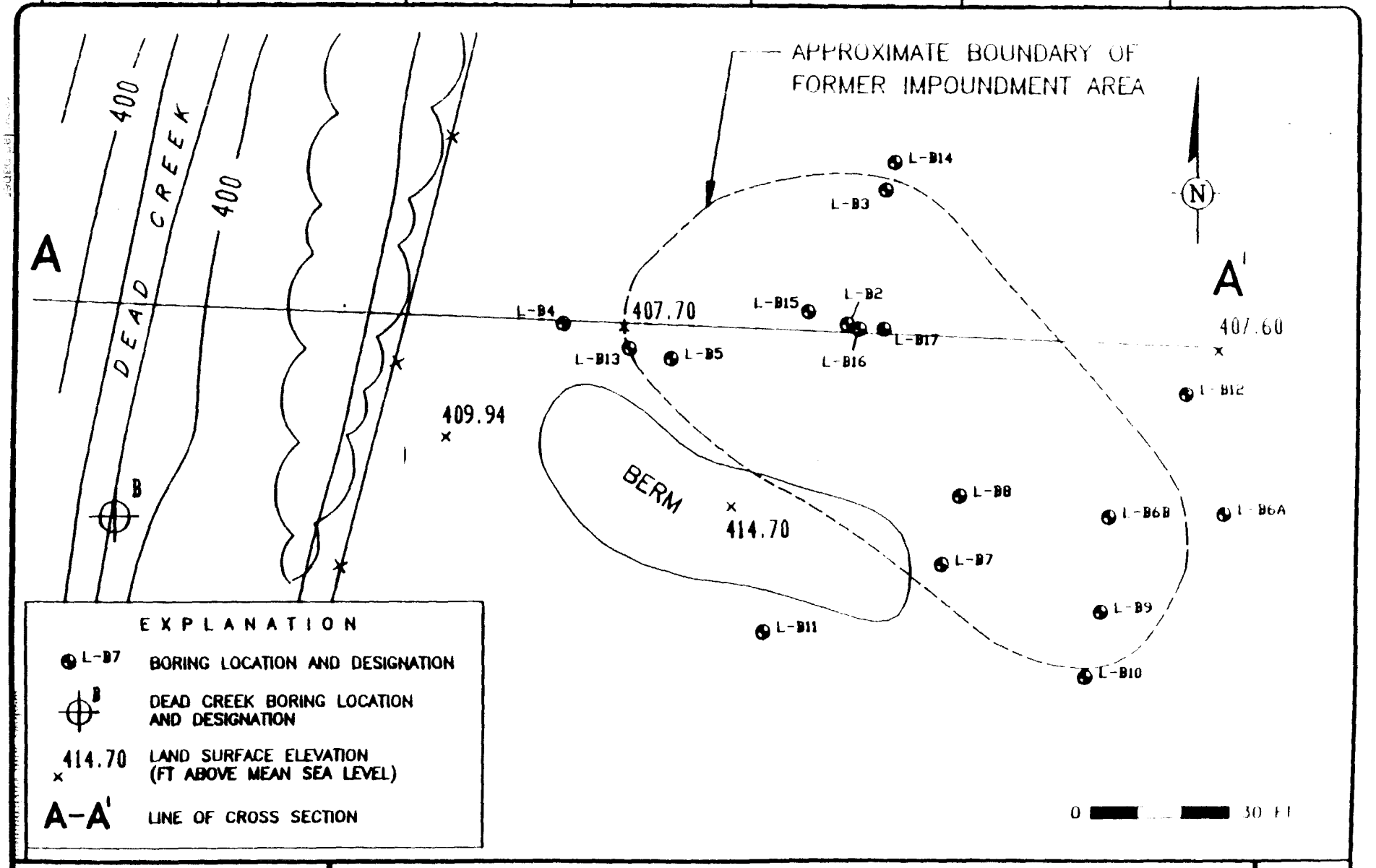
SAUGET Analytical Data
Site L

SUBSURFACE SOIL SAMPLES
TCLP Pesticides (mg/L)
Collected by Geraghty & Miller

	Sample Number		GML1 (LB-16/LB-17)	GML1 (LB-17)	Maximum
	ISGS Location		3'-8'	8'-14'	Concentration
	Date Collected		10/16/91	10/16/91	Detected
Pesticides		Regulatory Limit			
Chlordane		0.03	< 0.005	< 0.005	ND
Endrin		0.02	< 0.001	< 0.001	ND
Heptachlor		0.008	< 0.0005	< 0.0005	ND
Heptachlor epoxide		0.008	< 0.0005	< 0.0005	ND
Lindane (g-BHC)		0.4	< 0.0005	< 0.0005	ND
Methoxychlor		10	< 0.025	< 0.025	ND
Toxaphene		0.5	< 0.05	< 0.05	ND
2,4-D		10	< 0.05	< 0.05	ND
Silvex (2,4,5-TP)		1	< 0.01	< 0.01	ND

mg/L - Milligrams per liter.
ND - Not detected.
TCLP - Toxicity Characteristic Leaching Procedure

DWG DATE: 28JAN92 | PRJCT NO.: NY60508- | FILE NO.: 1444 | DRAWING: AREA-L | CHECKED: B.A. BLUM | APPROVED: B.A. BLUM | DRAFTER: W.H. CROW



GERAGHTY & MILLER, INC.
Environmental Services

BORING LOCATIONS
SITE L, CAHOKIA, ILLINOIS

MONSANTO COMPANY ST. LOUIS, MISSOURI

FIGURE 2-2

SAUGET Analytical Data
Site L

SOIL SAMPLES
PCBs
Collected by IEPA

	Sample Number	X-1	X-2	Maximum
	Date Collected	01/28/81	01/28/81	Detected
	Units	mg/kg	µg/kg	mg/kg
Paramter				
Total PCBs		74	75	74

mg/kg - Milligrams per kilogram
PCB - Polychlorinated biphenyl
µg/kg - Micrograms per kilogram

X-1

Priority

Time Collected: 2:05 pm

Date Collected: 1-28-81

Lab # 001577

SPECIAL ANALYSIS FORM

Date Received JAN 29 1981

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
St. Clair	Cahokia / Dead Creek	General

SOURCE OF SAMPLE: (Exact Location) sample X-1 was collected from a field from a point ≈ 100 yds west of P6108

PHYSICAL OBSERVATIONS, REMARKS: sample is a sludge like oily-tar like substance having a similar type odor

TESTS REQUESTED: P.C.B.'s + Chlorinated Hydrocarbons

COLLECTED BY: Terry Mann + Tom Powell TRANSPORTED BY: Terry Mann

LABORATORY

RECEIVED BY: CMC DATE COMPLETED: 3-19-81 DATE FORWARDED: 3-19-81

J. Bunting

14 PPM

LPC-8A 4/77 recycled paper (NOT FOR DATA PROCESSING) recycle and conserve

001577

Site I Data

SAUGET Analytical Data
Site L

SUBSURFACE SOIL SAMPLES
Total Metals (mg/kg)
Collected by Ecology & Environment, Inc. (12/86)

	Sample Number	DC-LB-01	DC-L1-02	DC-L2-03	DC-L3-04	DC-L4-09	DC-L4-10	Maximum
	Sample Depth (ft)	NA	5-10	5-15	5-15	10-20	10-20	Concentration
	Date Collected	12/12/86	12/12/86	12/12/86	12/12/86	12/17/86	12/17/86	Detected
Total Metals		BLANK						
Aluminum		9397	10697	5205	7380	1120	1378	10697
Antimony		ND	ND	32	ND	ND	ND	32
Arsenic		6 *	5 *	ND	172	55 *	68 *	172
Barium		410	197	192	192	114	142	410
Beryllium		ND	ND	ND	ND	ND	ND	ND
Boron		ND	ND	ND	ND	ND	ND	ND
Cadmium		ND	ND	6	ND	ND	ND	6
Chromium		ND	16	15	10	ND	3	16
Cobalt		ND	6	9	9	ND	ND	9
Copper		ND	12	105	141	82	101	141
Iron		13846	16053	5564	11899	1500	1446	16053
Lead		43 *	9 *	106	41	5 *	5 *	106
Manganese		345	255	44	149	10	10	345
Mercury		ND	ND	ND	0.1	ND	ND	0.1
Nickel		14	21	408	2392	83	93	2392
Selenium		ND	ND	ND	ND	ND	ND	ND
Silver		ND	ND	ND	ND	ND	ND	ND
Thallium		ND	ND	ND	ND	ND	ND	ND
Tin		ND	ND	ND	ND	ND	ND	ND
Vanadium		22	25	10	19	ND	ND	25
Zinc		178	59	144	166	11	10	178
Cyanide		ND	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram.
ND - Not detected
* - Duplicate analysis not within control limits

SDMS US EPA REGION V
FORMAT- OVERSIZED - 5
IMAGERY INSERT FORM

The item(s) listed below are not available in SDMS. In order to view original document or document pages, contact the Superfund Records Center.

SITE NAME	**SAUGET AREA 1**		
DOC ID #	**154081**		
DESCRIPTION OF ITEM(S)	**MAP - SAMPLING LOCATION/ DATA**		
REASON WHY UNSCANNABLE	**_X_OVERSIZED**	**OR**	**___ FORMAT**
DATE OF ITEM(S)	**1998**		
NO. OF ITEMS	**1**		
PHASE	**REM**		
PRP			
PHASE (AR DOCUMENTS ONLY)	**___ Remedial ___ Removal ___ Deletion Docket ___ AR** **___ Original ___ Update # ___ Volume ___ of ___**		
O.U.			
COMMENT(S)			
CREEK SECTOR B (CS-B) & SITE M (partially scanned)			

3.

APPROXIMATE SCALE

0 1/16 1/8 Mile

CREEK SECTOR B (CS-B) AND SITE M
SAMPLING LOCATIONS/DATA

SAUGET Analytical Data
Site I

SUBSURFACE SOIL SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

Sample Number	DC-I1-38	DC-I2-39	DC-I3-40	DC-I5-41	DC-I5-42	DC-I6-43	DC-I8-44	DC-I7-45	DC-I7-46	DC-I7-47
Sample Depth (ft)	0-10	5-25	5-15	5-27.5	28-38	10-25	NA	3.5-12.5	13-23	13-23
Date Collected	1/27/87	1/28/87	1/29/87	1/30/87	1/30/87	2/2/87	2/3/87	2/3/87	2/3/87	2/3/87
VOC							BLANK			
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	740 BJ	2160 B	6769 B	5207 B	5310 B	1047 BJ	6 B	7 B	15 B	13 B
Acetone	2192 BJ	11340 B	16920 B	10541 B	6726 B	13398 B	10 JB	1950 EB	850 EB	914 EB
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	3 J	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	3562 B	10530 B	16920 B	13970 B	9794 B	9702 B	18	30	ND	23
1,1,1-Trichloroethane	ND	ND	1692	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	3810	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	397 J	5265	ND	24130	637 J	2156	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND	4158	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	5265	1354 J	2667	2950	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	658 J	7425	677 BJ	24130 B	1652 JB	5082	ND	ND	ND	ND
Chlorobenzene	90420 E	13500	126900	45720	14160	7854	ND	10	ND	ND
Ethylbenzene	15070	3375	ND	9779	3068	5082	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	19180	8100	ND	11049	1652 J	4158	ND	ND	ND	ND

µg/kg - Micrograms per kilogram.
B - Compound detected in blank sample.
E - Estimated value. Concentration detected exceeds the calibrated range
J - Estimated value
ND - Not detected.

SAUGET Analytical Data
Site I

SUBSURFACE SOIL SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by Ecology & Environment, Inc. (2/87)

Sample Number	DC-I9-48	DC-I9-49	DC-I10-50	DC-I11-51	DC-I11-52	DC-I12-57	DC-I12-58	Maximum
Sample Depth (ft)	6-23	24-30	15-30	6-20	26-39	3.5-12.5	18.5-27.5	Concentration
Date Collected	2/4/87	2/4/87	2/4/87	2/5/87	2/5/87	2/13/87	2/13/87	Detected
VOC								
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	1117 BJ	418 BJ	636 BJ	852 BJ	46 B	17 B	17 B	6769 B
Acetone	13377 B	5289 B	6480 B	13861 B	708 B	1461 BE	549 BE	16920 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	3 J
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	10731 B	4059 B	8640 B	14696 B	168 B	12 B	27 B	16920 B
1,1,1-Trichloroethane	ND	ND	432 J	ND	ND	ND	ND	1692
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	648 J	ND	ND	ND	ND	3810
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1000 J	107 J	1008 J	3340	23 J	ND	ND	24130
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND	ND	1 BJ	4158
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	612 J	ND	ND	ND	ND	5265
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	77910	1353 B	3120	1837	48	ND	ND	77910
Chlorobenzene	3234	935	2640	108550	2040	ND	ND	126900
Ethylbenzene	588 J	283 J	8160	1035 J	96	ND	ND	15070
Styrene	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	867 J	102 J	2760	1620 J	80	ND	ND	19180

µg/kg - Micrograms per kilogram.

B - Compound detected in blank sample.

E - Estimated value. Concentration detected exceeds the calibrated range

J - Estimated value

ND - Not detected.

SAUGET Analytical Data
Site I

SUBSURFACE SOIL SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

Sample Number	DC-I1-38	DC-I2-39	DC-I3-40	DC-I5-41	DC-I5-42	DC-I6-43	DC-I8-44	DC-I7-45	DC-I7-46	DC-I7-47
Sample Depth (ft)	0-10	5-25	5-15	5-27.5	28-38	10-25	NA	3.5-12.5	13-23	13-23
Date Collected	1/27/87	1/28/87	1/29/87	1/30/87	1/30/87	2/2/87	2/3/87	2/3/87	2/3/87	2/3/87
BNAs							BLANK			
Phenol	ND	27000 J	ND	ND	ND	15246 J	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	18900 J	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	10960 J	32400	3666 J	558800	22420	72380	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	8905 J	324000	2679 J	139700 J	6490 J	15400 J	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	3014 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	62100 J	ND	ND	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	6713 J	1485000	ND	8255000 E	637200 E	477400	ND	ND	ND	ND
Naphthalene	2877 J	58050	ND	63500 J	1100 J	44660 J	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	43180 J	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphathalene	3425 J	7020 J	ND	58420 J	1700 J	169400	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	14014	ND	ND	ND	ND

µg/kg - Micrograms per kilogram.
E - Estimated value. Concentration detected exceeds the calibrated range
J - Estimated value
ND - Not detected.

SAUGET Analytical Data
Site I

SUBSURFACE SOIL SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

	Sample Number	DC-I1-38	DC-I2-39	DC-I3-40	DC-I5-41	DC-I5-42	DC-I6-43	DC-I8-44	DC-I7-45	DC-I7-46	DC-I7-47
	Sample Depth (ft)	0-10	5-25	5-15	5-27.5	28-38	10-25	NA	3.5-12.5	13-23	13-23
	Date Collected	1/27/87	1/28/87	1/29/87	1/30/87	1/30/87	2/2/87	2/3/87	2/3/87	2/3/87	2/3/87
BNAs								BLANK			
2,4-Dinitrophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate		ND	ND	ND	ND	ND	16940 J	ND	ND	ND	ND
4-Chlorophenyl-Phenylether		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene		ND	ND	ND	ND	ND	35420 J	ND	ND	ND	ND
4-Nitroaniline		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine		ND	45900 J	ND	100330 J	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene		ND	117450	ND	1270000	177000	32340 J	ND	ND	ND	ND
Pentachlorophenol		191800	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene		7948 J	ND	ND	48000 J	ND	101640 J	ND	ND	ND	ND
Anthracene		ND	ND	ND	203200	ND	23100 J	ND	ND	ND	ND
Di-n-butly phthalate		ND	ND	ND	203200	ND	36960 J	9728	15600	8500	10668
Fluoranthene		8905 J	ND	ND	203200	ND	18480 J	ND	ND	ND	ND
Pyrene		2877 J	ND	ND	24000 J	ND	49280 J	ND	ND	ND	ND
Butyl Benzyl phthalate		ND	ND	ND	139000 J	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene		2466 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate		15070	31050 J	ND	ND	ND	130900	ND	ND	2375	ND
Chrysene		3973 J	ND	ND	ND	ND	ND	ND	ND	ND	5588
Di-n-octyl phthalate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene		1507 J	ND	ND	ND	ND	32430 J	ND	ND	ND	ND
Benzo(k)fluoranthene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene		2466 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

μg/kg - Micrograms per kilogram.
E - Estimated value. Concentration detected exceeds the calibrated range.
J - Estimated value.
ND - Not detected.

SAUGET Analytical Data
Site I

SUBSURFACE SOIL SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

Sample Number	DC-I9-48	DC-I9-49	DC-I10-50	DC-I11-51	DC-I11-52	DC-I12-57	DC-I12-58	Maximum
Sample Depth (ft)	6-23	24-30	15-30	6-20	26-39	3.5-12.5	18.5-27.5	Concentration
Date Collected	2/4/87	2/4/87	2/4/87	2/5/87	2/5/87	2/13/87	2/13/87	Detected
BNAs								
Phenol	ND	ND	ND	ND	ND	ND	ND	**27000 J**
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	**70140**	ND	ND	ND	**70140**
1,4-Dichlorobenzene	ND	ND	ND	**1837000**	**1596 J**	ND	ND	**1837000**
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	**324000**
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	**3014 J**
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND	**62100 J**
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	**9000 J**	ND	ND	ND	ND	**9000 J**
1,2,4-Trichlorobenzene	ND	ND	**116400**	**100200**	**112800**	ND	ND	**8255000 E**
Naphthalene	**514500**	**1845 J**	ND	ND	ND	ND	ND	**514500**
4-Chloroaniline	ND	ND	ND	ND	ND	ND	ND	**43180 J**
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	**5880 J**	ND	ND	**23380 J**	ND	ND	ND	**169400**
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	**14014**

μg/kg - Micrograms per kilogram.

E - Estimated value. Concentration detected exceeds the calibrated range.

J - Estimated value

ND - Not detected

SAUGET Analytical Data
Site I

SUBSURFACE SOIL SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

Sample Number	DC-I9-48	DC-I9-49	DC-I10-50	DC-I11-51	DC-I11-52	DC-I12-57	DC-I12-58	Maximum
Sample Depth (ft)	6-23	24-30	15-30	6-20	26-39	3.5-12.5	18.5-27.5	Concentration
Date Collected	2/4/87	2/4/87	2/4/87	2/5/87	2/5/87	2/13/87	2/13/87	Detected
BNAs								
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	**5586 J**	ND	ND	ND	ND	ND	ND	**5586 J**
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND	**16940 J**
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	**6174 J**	**3075 J**	ND	ND	ND	ND	ND	**35420 J**
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND	**100330 J**
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	**100800**	**63460**	**46800**	ND	ND	**1270000**
Pentachlorophenol	ND	ND	ND	ND	ND	ND	ND	**191800**
Phenanthrene	**12495 J**	ND	ND	ND	**1320 J**	ND	ND	**101640 J**
Anthracene	ND	ND	ND	ND	ND	ND	ND	**203200**
Di-n-butly phthalate	ND	**10332**	ND	ND	**11280**	ND	**134 J**	**203200**
Fluoranthene	ND	ND	ND	ND	ND	ND	ND	**203200**
Pyrene	**2205 J**	ND	ND	ND	ND	ND	ND	**49280 J**
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	**139000 J**
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	**6720 J**	ND	ND	ND	ND	**6720 J**
bis(2-ethylhexyl)phthalate	ND	**5535**	ND	**48430 J**	**11000**	ND	ND	**130900**
Chrysene	ND	ND	ND	ND	ND	ND	ND	**5588**
Di-n-octyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND	**32430 J**
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND	ND	ND	**2466 J**
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,I)perylene	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND

μg/kg - Micrograms per kilogram.
E - Estimated value. Concentration detected exceeds the calibrated range.
J - Estimated value.
ND - Not detected.

SAUGET Analytical Data
Site I

SUBSURFACE SOIL SAMPLES
Pesticides/PCBs (µg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

Sample Number	DC-I1-38	DC-I2-39	DC-I3-40	DC-I5-41	DC-I5-42	DC-I6-43	DC-I8-44	DC-I7-45	DC-I7-46	DC-I7-47
Sample Depth (ft)	0-10	5-25	5-15	5-27.5	28-38	10-25	NA	3.5-12.5	13-23	13-23
Date Collected	1/27/87	1/28/87	1/29/87	1/30/87	1/30/87	2/2/87	2/3/87	2/3/87	2/3/87	2/3/87
Pesticides/PCBs							BLANK			
Alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	**492800**	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260	ND	**270000 J**	**183300**	**342900 J**	**86140**	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Site I

SUBSURFACE SOIL SAMPLES
Pesticides/PCBs (µg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

Sample Number	DC-I9-48	DC-I9-49	DC-I10-50	DC-I11-51	DC-I11-52	DC-I12-57	DC-I12-58	Maximum
Sample Depth (ft)	6-23	24-30	15-30	6-20	26-39	3.5-12.5	18.5-27.5	Concentration
Date Collected	2/4/87	2/4/87	2/4/87	2/5/87	2/5/87	2/13/87	2/13/87	Detected
Pesticides/PCBs								
Alpha-BHC	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	**29694**	**6642**	ND	ND	ND	ND	ND	**29694**
Endosulfan sulfate	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	**4305**	ND	ND	ND	ND	ND	**4305**
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	ND	ND	**492800**
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260	ND	ND	**20400 J**	ND	ND	ND	ND	**342900 J**

µg/kg - Micrograms per kilogram.

J - Estimated value.

ND - Not detected.

SAUGET Analytical Data
Site I

SUBSURFACE SOIL SAMPLES
Total Metals (mg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

	Sample Number	DC-I1-38	DC-I2-39	DC-I3-40	DC-I5-41	DC-I5-42	DC-I6-43	DC-I8-44	DC-I7-45	DC-I7-46	DC-I7-47
	Sample Depth (ft)	0-10	5-25	5-15	5-27.5	28-38	10-25	NA	3.5-12.5	13-23	13-23
	Date Collected	1/27/87	1/28/87	1/29/87	1/30/87	1/30/87	2/2/87	2/3/87	2/3/87	2/3/87	2/3/87
Total Metals								BLANK			
Aluminum		13548	1259	12324	2063	1060	1252	8103	7195	2863	2747
Antimony		ND	ND	ND	ND	14	18	15	ND	ND	ND
Arsenic		11	ND	6	3	ND	14	7	5	3	2
Barium		3603	919	334	3544	ND	400	347	338	83	82
Beryllium		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium		11	6	3	2	ND	2	2	2	ND	ND
Chromium		115	15	16	35	ND	731	12	23	5	5
Cobalt		ND	27	14	22	ND	22	ND	ND	ND	ND
Copper		630	84	508	157	ND	149	28	258	ND	ND
Iron		41507	10135	18732 *	11418	3553	23231	14744	14935	7300	7468
Lead		171 *	81 *	373	232 *	6 *	292 *	ND	ND	10 *	10 *
Manganese		256 R	96 R	404 R	115 R	35 R	143 R	395 R	248 R	124 R	125 R
Mercury		2.2	0.5	ND	1.1	ND	1.5	ND	ND	ND	ND
Nickel		111	981	28	2405	31	51	15	35	ND	11
Selenium		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tin		55	ND	55	ND	ND	14	4	11	4	3
Vanadium		553	20	32	20	ND	69	21	18	ND	ND
Zinc		6329	491	331	201	13	652	203	439	29	27
Cyanide		ND	ND	ND	3	ND	ND	ND	ND	ND	ND

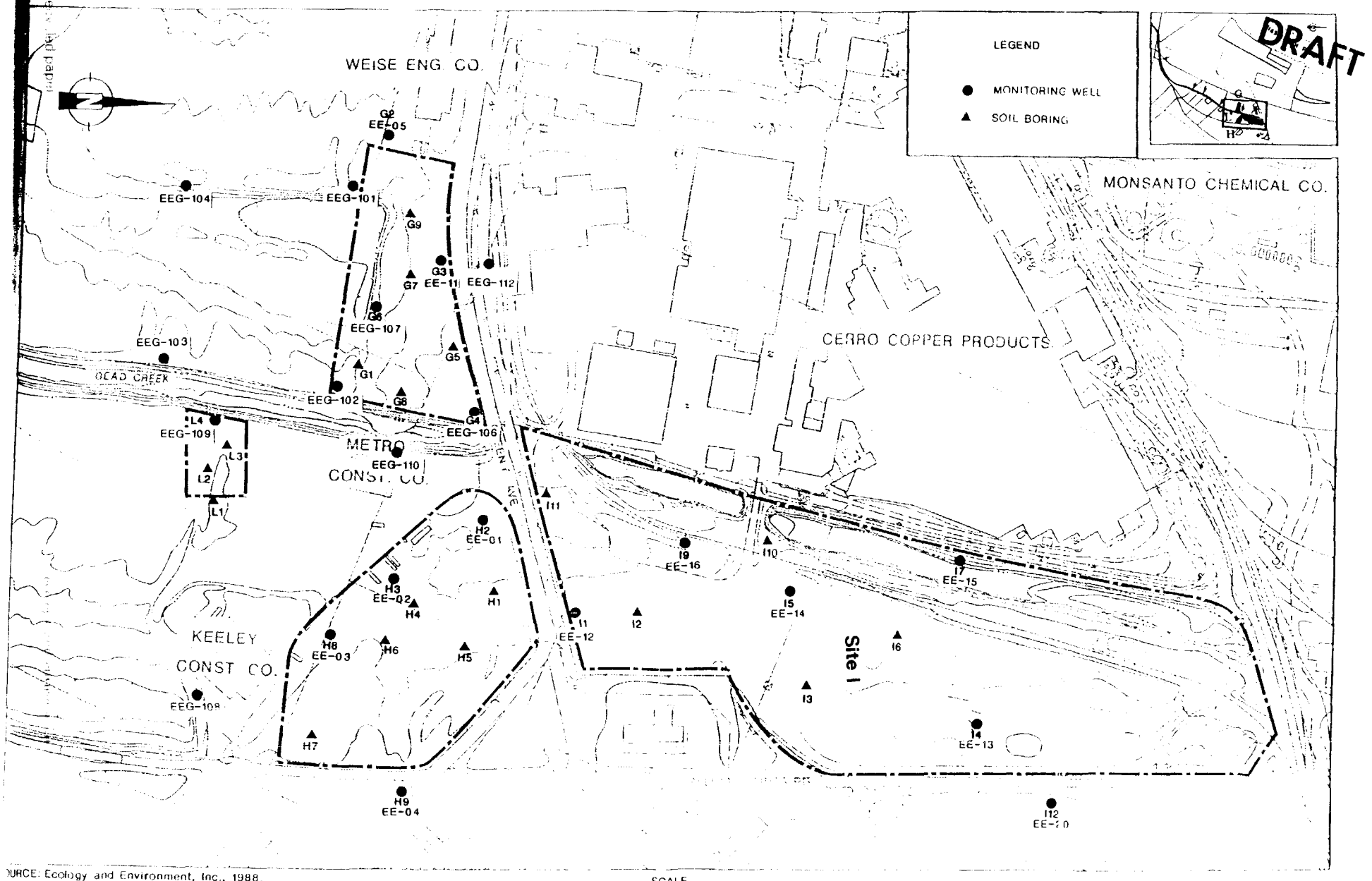
mg/kg - Milligrams per kilogram
ND - Not detected
R - Spike sample recovery not within control limits
* - Duplicate analysis not within control limits

SAUGET Analytical Data
Site I

SUBSURFACE SOIL SAMPLES
Total Metals (mg/kg)
Collected by Ecology & Environment, Inc. (1/87-2/87)

Sample Number	DC-I9-48	DC-I9-49	DC-I10-50	DC-I11-51	DC-I11-52	DC-I12-57	DC-I12-58	Maximum
Sample Depth (ft)	6-23	24-30	15-30	6-20	28-39	3.5-12.5	18.5-27.5	Concentration
Date Collected	2/4/87	2/4/87	2/4/87	2/5/87	2/6/87	2/13/87	2/13/87	Detected
Total Metals								
Aluminum	8897	1556	1687	6650	1011	1449	1205	13548
Antimony	ND	ND	ND	6663	ND	ND	ND	6663
Arsenic	14	ND	1	ND	ND	2 R	ND	14
Barium	519	ND	ND	8	ND	ND	ND	3603
Beryllium	ND	ND	ND	1530	ND	ND	ND	1530
Boron	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	13	ND	ND	ND	ND	ND	ND	13
Chromium	96	4	6	7	ND	4	4	731
Cobalt	34	ND	13	140	ND	ND	ND	140
Copper	575	ND	ND	23	ND	ND	ND	630
Iron	27647	4667	4687	543	2867	4899	4207	41507
Lead	5647 *	704	9 *	23333	29 *	7 *	3 *	23333
Manganese	240 R	35 R	61 R	5483 *	43 R	98 *	63 *	5483 *
Mercury	3.2	ND	ND	240 R	ND	ND	ND	240 R
Nickel	206	ND	145	0.9	11	ND	ND	2405
Selenium	ND	ND	ND	1320	ND	ND	ND	1320
Silver	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	ND	ND	ND	ND	ND	ND	ND	ND
Tin	24	5	2	ND	ND	ND	ND	55
Vanadium	40	ND	ND	ND	ND	ND	ND	553
Zinc	1156	125	89	43	18	21 *	20 *	6329
Cyanide	2	ND	ND	3183	ND	ND	ND	3183

mg/kg - Milligrams per kilogram
ND - Not detected
R - Spike sample recovery not within control limits
* - Duplicate analysis not within control limits



SOURCE: Ecology and Environment, Inc., 1988.

FIGURE 3-7 MONITORING WELL AND BORING LOCATIONS AT AREA 1

CS-A Data

SAUGET Analytical Data
Dead Creek - Segment A

SOIL/SEDIMENT SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by Advent Group

Sample Number	A10	A11B	A11C	A12B	A12C	A13B	A14C	A15B	A15C	A16B
Sample Depth (ft)	15-17	4-8	2-6.5	3-7	4-9	4.5-6	8.5-10	6-9	4.5-9	9-12
Date Collected	07/13/90	07/18/90	07/18/90	07/13/90	07/12/90	7/11/90	7/11/90	7/7/90	7/10/90	7/18/90
VOC										
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	580 J	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	1600 B	1500 B	1700 B	25000 B	5400 B	4400 B	2500 B	2300 B	3800 B	20000 B
Acetone	ND	1000 JB	690 JB	22600 JB	4500 JB	2400 JB	1300 JB	2300 B	6300 B	16000 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	1600	ND
1,2-Dichloroethene (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	15000
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	740 J	ND	ND	ND	ND	ND	ND	ND	870 J	100000
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	440 J	2600 J
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	380 J	680 J	ND	ND	4600 J
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	330 J	ND
Toluene	ND	ND	170 J	ND	690 J	ND	ND	ND	ND	7200 J
Chlorobenzene	650	240 J	530 J	5200 J	4600	2100	590 J	420 J	1100 J	31000
Ethylbenzene	1100	2900	ND	3600 J	ND	1400 J	ND	ND	1400 J	80000
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (total)	ND	360	3800	ND	ND	460 J	ND	ND	5200	500000
Acrolein	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	170 J	ND	ND	ND
Dichlorodifluoromethane	ND	ND	ND	ND	ND	6900	ND	ND	ND	ND
Acetonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	460 J	630 J	ND	ND	1700 J	1800 J	1300 J	1000 J	ND	ND
Propionitrile (Ethyl Cyanide)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Chloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methacrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isobutyl alcohol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloro-1,3-Butadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram
B - Compound detected in blank sample
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment A

SOIL/SEDIMENT SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by Advent Group

Sample Number	A16C	A21C	A22B	A23A	Maximum
Sample Depth (ft)	2-5	4-8	0-7	19-20	Concentration
Date Collected	07/18/90	07/14/90	07/17/90	07/14/90	Detected
VOC					
Chloromethane	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	580
Vinyl chloride	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND
Methylene chloride	30000 B	5800 B	3100 B	210	30000 B
Acetone	23000 JB	4100 JB	2000 JB	240	23000 JB
Carbon Disulfide	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND
1,1-Dichloroethane	6400 J	ND	260 J	ND	6400 J
1,2-Dichloroethene (total)	ND	ND	1400	ND	15000
Chloroform	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND
2-Butanone	ND	1600 J	ND	ND	1600 J
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND
Trichloroethene	14000 J	ND	690 J	210	100000
Dibromochloromethane	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND
Benzene	5800 J	ND	ND	ND	5800 J
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND
Tetrachloroethene	11000 J	ND	ND	ND	11000 J
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	330 J
Toluene	ND	ND	ND	570	7200 J
Chlorobenzene	24000	6100	620 J	1800	31000
Ethylbenzene	50000	ND	560 J	330	50000
Styrene	ND	ND	ND	ND	ND
Xylene (total)	240000	ND	ND	ND	500000
Acrolein	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	170 J
Dichlorodifluoromethane	ND	ND	ND	ND	6900
Acetonitrile	ND	ND	ND	ND	ND
Iodomethane	ND	3000 J	1000 J	ND	3000 J
Propionitrile (Ethyl Cyanide)	ND	ND	ND	ND	ND
3-Chloropropene	ND	ND	ND	ND	ND
Methacrylonitrile	ND	ND	ND	ND	ND
Dibromomethane	ND	ND	ND	ND	ND
Isobutyl alcohol	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND
2-Chloro-1,3-Butadiene	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram.
B - Compound detected in blank sample.
J - Estimated value.
ND - Not detected.

SAUGET Analytical Data
Dead Creek - Segment A

SOIL/SEDIMENT SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Advent Group

Sample Number	A10	A11B	A11C	A12B	A12C	A13B	A14C	A15B	A15C	A16B
Sample Depth (ft)	15-17	4-8	2-6.5	3-7	4-9	4.5-6	8.5-10	6-9	4.5-9	9-12
Date Collected	07/13/90	07/18/90	07/18/90	07/19/90	07/13/90	7/11/90	7/13/90	7/7/90	7/10/90	7/18/90
BNAs										
Phenol	ND	720 JB	ND	ND	ND	1300 J	ND	ND	ND	610000 B
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	3200 JB	ND	5100	ND	120 J	4900 J	32000 J
1,4-Dichlorobenzene	210 J	ND	3600 J	58000	18000 J	39000	730	1100	64000	390000 B
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	58 J	ND	840 J	6100 JB	ND	12000	210 J	1100	74000	650000 B
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	1600 J	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	8800	12000 J	31000 J	47000	ND	490	46000	160000 B
Naphthalene	130 J	ND	850 J	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	140 J	17000	9400	13000 J	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	600 J	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl methacrylate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyridine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodimethylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl methacrylate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Picoline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosomethylethylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl methanesulfonate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiethylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl methanesulfonate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosopyrrolidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetophenone	150 J	ND	1300 JB	ND	ND	24000	320 J	140 J	8100 J	ND
N-Nitrosomorpholine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Toluidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosopiperidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
a,a-Dimethylphenethylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Phenylenediamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-di-n-butylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Safrole	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4,5-Tetrachlorobenzene	ND	ND	19000	3100 J	8000 J	28000	ND	140 J	10000 J	19000 J
Isosafrole	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Naphthoquinone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dinitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorobenzene	ND	ND	13000	4400 J	18000 J	19000	260 J	380 J	28000	37000 J
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

BDL - Below detection limits

J - Estimated value

ND - Not detected

SAUGET Analytical Data

Dead Creek - Segment A

SOIL/SEDIMENT SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Advent Group

Sample Number	A10	A11B	A11C	A12B	A12C	A13B	A14C	A15B	A15C	A16B
Sample Depth (ft)	15-17	4-8	2-6.5	3-7	4-9	4.5-6	8.5-10	6-9	4.5-9	9-12
Date Collected	07/13/90	07/18/90	07/18/90	07/13/90	07/12/90	7/11/90	7/11/90	7/7/90	7/10/90	7/18/90
BNAs										
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	800 J	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	110 J	ND	ND	ND	ND	ND	ND	49 J	2500 J	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	1700 J	ND	ND	ND	ND	39 J	4300 J	ND
Pentachlorophenol	800 J	ND	ND	ND	ND	ND	ND	88 J	ND	ND
Phenanthrene	66 J	ND	670 J	3000 J	ND	1800 J	ND	ND	1800 J	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	55 JB	1100 JB	1100 JB	ND	4400 J	ND	ND	56J	ND	ND
Fluoranthene	ND	ND	540 J	3900 J	6700 J	1400 J	ND	ND	ND	ND
Pyrene	ND	ND	540 J	4900 J	ND	1500 J	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	1100 J	ND	160 J	11000 J	7000 JB
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	75 J	ND	ND	3400 J	8600 J	6200 B	190 JB	240 JB	11000 JB	26000 JB
Di-n-octyl phthalate	ND	ND	ND	ND	3800 J	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Naphthylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Naphthylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,3'4'6-Tetrachlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trinitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diallate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenacetin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diphenylamine	110 J	ND	ND	ND	ND	ND	ND	42 J	2500 J	ND
5-Notro-o-toluidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Aminobiphenyl	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pronamide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-sec-Butyl-4,6-dinityophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachloronitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroquinoline-1-oxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methapyrilene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aramite	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzilate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Dimethylaminoazobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Diemethylbenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Acetylaminofluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7-12-Diemethylbenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorophene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Methylcholanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram
B - Compound detected in blank sample
BDL - Below detection limits
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment A

SOIL/SEDIMENT SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Advent Group

	Sample Number	A16C	A21C	A22B	A23A	Maximum
	Sample Depth (ft)	2-5	4-8	0-7	19-20	Concentration
	Date Collected	07/18/90	07/14/90	07/17/90	07/14/90	Detected
BNAs						
Phenol		21000 JB	ND	ND	380	610000 B
bis(2-Chloroethyl)ether		ND	ND	ND	ND	ND
2-Chlorophenol		ND	ND	ND	ND	ND
1,3-Dichlorobenzene		23000 J	ND	ND	ND	32000 J
1,4-Dichlorobenzene		260000 B	13000 J	34000 J	2900	390000 B
Benzyl Alcohol		ND	ND	ND	820	820
1,2-Dichlorobenzene		360000 B	ND	ND	610	650000 B
2-Methylphenol		ND	ND	ND	600	600
bis(2-Chloroisopropyl)ether		ND	ND	ND	ND	ND
4-Methylphenol		ND	ND	ND	120	120
N-Nitroso-n-Dipropylamine		ND	ND	ND	ND	ND
Hexachloroethane		ND	ND	ND	ND	ND
Nitrobenzene		ND	ND	ND	ND	ND
Isophorone		ND	ND	ND	ND	ND
2-Nitrophenol		ND	ND	ND	ND	ND
2,4-Dimethylphenol		ND	ND	ND	550	1600 J
Benzoic Acid		ND	ND	ND	2800	2800
bis-(2-Chloroethoxy)methane		ND	ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene		12000 JB	6000 J	ND	950	160000 B
Naphthalene		5600 J	ND	ND	1500	5600 J
4-Chloroaniline		14000 J	ND	ND	730	17000
Hexachlorobutadiene		ND	ND	ND	ND	ND
4-Chloro-3-methylphenol		ND	ND	ND	ND	ND
2-Methylnaphthalene		ND	ND	ND	ND	600 J
Hexachlorocyclopentadiene		ND	ND	ND	ND	ND
Methyl methacrylate		ND	ND	ND	ND	ND
Pyridine		ND	ND	ND	ND	ND
N-Nitrosodimethylamine		ND	ND	ND	ND	ND
Ethyl methacrylate		ND	ND	ND	ND	ND
2-Picoline		ND	ND	ND	ND	ND
N-Nitrosomethylethylamine		ND	ND	ND	ND	ND
Methyl methanesulfonate		ND	ND	ND	ND	ND
N-Nitrosodiethylamine		ND	ND	ND	ND	ND
Ethyl methanesulfonate		ND	ND	ND	ND	ND
Aniline		ND	ND	ND	3600	3600
Pentachloroethane		ND	ND	ND	ND	ND
3-Methylphenol		ND	ND	ND	120	120
N-Nitrosopyrrolidine		ND	ND	ND	ND	ND
Acetophenone		4300 JB	ND	ND	2900	24000
N-Nitrosomorpholine		ND	ND	ND	ND	ND
o-Toluidine		ND	ND	ND	ND	ND
N-Nitrosopiperidine		ND	ND	ND	ND	ND
a,a-Dimethylphenethylamine		ND	ND	ND	ND	ND
2,6-Dichlorophenol		ND	ND	ND	ND	ND
Hexachloropropene		ND	ND	ND	ND	ND
p-Phenylenediamine		ND	ND	ND	ND	ND
N-Nitroso-di-n-butylamine		ND	ND	ND	ND	ND
Safrole		ND	ND	ND	ND	ND
1,2,4,5-Tetrachlorobenzene		ND	ND	ND	ND	28000
Isosafrole		ND	ND	ND	ND	ND
1,4-Naphthoquinone		ND	ND	ND	ND	ND
1,3-Dinitrobenzene		ND	ND	ND	ND	ND
Pentachlorobenzene		ND	ND	ND	ND	37000 J
2,4,6-Trichlorophenol		ND	ND	ND	ND	ND
2,4,5-Trichlorophenol		ND	ND	ND	ND	ND
2-Chloronaphthalene		ND	ND	ND	ND	ND
2-Nitroaniline		ND	ND	ND	ND	ND
Dimethyl Phthalate		ND	ND	ND	ND	ND
Acenaphthylene		ND	ND	ND	ND	ND
2,6-Dinitrotoluene		ND	ND	ND	ND	ND
3-Nitroaniline		ND	ND	ND	ND	ND
Acenaphthene		ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram

B - Compound detected in blank sample

BDL - Below detection limits

J - Estimated value

ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment A

SOIL/SEDIMENT SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Advent Group

Sample Number	A16C	A21C	A22B	A23A	Maximum
Sample Depth (ft)	2-5	4-8	0-7	19-20	Concentration
Date Collected	07/18/90	07/14/90	07/17/90	07/14/90	Detected
BNAs					
2,4-Dinitrophenol	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	800 J
4-Nitroaniline	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	4200 J	ND	ND	ND	4200 J
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	4300 J
Pentachlorophenol	ND	ND	ND	ND	800 J
Phenanthrene	5400 J	4900 J	14000 J	790 J	14000 J
Anthracene	ND	ND	ND	ND	ND
Di-n-butyl phthalate	ND	ND	ND	2900 J	4400 J
Fluoranthene	3600 J	8100 J	ND	ND	8100 J
Pyrene	4200 J	8300 J	10000 J	ND	10000 J
Butyl Benzyl phthalate	100000 B	ND	ND	620 J	100000 B
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND
Chrysene	5700 J	4800 J	ND	1000 J	5700 J
bis(2-ethylhexyl)phthalate	ND	6700 J	ND	20000	26000
Di-n-octyl phthalate	18000 JB	7300 J	ND	ND	18000 JB
Benzo(b)fluoranthene	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND
1,4-Dioxane	ND	ND	ND	ND	ND
1-Naphthylamine	ND	ND	ND	ND	ND
2-Naphthylamine	ND	ND	ND	ND	ND
2,3'4'6-Tetrachlorophenol	ND	ND	ND	ND	ND
1,3,5-Trinitrobenzene	ND	ND	ND	ND	ND
Diallate	ND	ND	ND	ND	ND
Phenacetin	ND	ND	ND	ND	ND
Diphenylamine	4200 J	ND	ND	ND	4200 J
5-Notro-o-toluidine	ND	ND	ND	ND	ND
4-Aminobiphenyl	ND	ND	ND	ND	ND
Pronamide	ND	ND	ND	ND	ND
2-sec-Butyl-4,6-dinityophenol	ND	ND	ND	ND	ND
Pentachloronitrobenzene	ND	ND	ND	ND	ND
4-Nitroquinoline-1-oxide	ND	ND	ND	ND	ND
Methapyrilene	ND	ND	ND	ND	ND
Aramite	ND	ND	ND	ND	ND
Chlorobenzilate	ND	ND	ND	ND	ND
p-Dimethylaminoazobenzene	ND	ND	ND	ND	ND
3,3'-Diemethylbenzidine	ND	ND	ND	ND	ND
2-Aacetylaminofluorene	ND	ND	ND	ND	ND
7-12-Diemethylbenzidine	ND	ND	ND	ND	ND
Hexachlorophene	ND	ND	ND	ND	ND
3-Methylcholanthrene	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram
B - Compound detected in blank sample
BDL - Below detection limits
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment A

SOIL/SEDIMENT SAMPLES
PCBs (µg/kg)
Collected by Advent Group

Sample Number	A10	A10	A10	A10	A10	A10	A11A	A11A	A11B	A11B
Sample Depth (ft)	6-7	9-10	15-17	20-22	24-29	37-38	8-13	13-18	4-8	8 1-10 6
Date Collected	07/13/90	07/13/90	07/13/90	07/13/90	07/13/90	07/13/90	07/19/90	07/19/90	07/18/90	07/18/90
PCBs										
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	**10000**	**3200**	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	ND	**480**	**1400**	**4300**	**880**	0	ND	**530**	**210**
Aroclor-1260	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sample Number	A11B	A11C	A11C	A11C	A11D	A11D	A12A	A12A	A12B	A12B
Sample Depth (ft)	12-17	2-6.5	6 5-10 5	12.5-16.5	8-10	18 5-23 5	8-11	11-20.5	3-7	9-12
Date Collected	07/18/90	07/18/90	07/18/90	07/18/90	07/18/90	07/18/90	07/19/90	07/19/90	07/13/90	07/13/90
PCBs										
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	**13000**
Aroclor-1232	ND	**45000**	ND	ND	ND	ND	ND	ND	**32000**	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	**920**	**10000**	**13000**	**1300**	ND	ND	ND	**67**	ND	**830**
Aroclor-1260	ND	ND	ND	ND	ND	**38000**	ND	ND	ND	ND

Sample Number	A12B	A12B	A12C	A12C	A12C	A12D	A12D	A12D	A13A	A13A
Sample Depth (ft)	14-17	17-19	4-9	10-13	14-16	6-13	17-20	20-25	9-14	14-19
Date Collected	07/13/90	07/13/90	07/12/90	07/12/90	07/12/90	07/18/90	07/18/90	07/18/90	07/20/90	07/20/90
PCBs										
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	**29000**	**6700**	ND	ND
Aroclor-1254	ND	**270**	ND	ND	ND	**530000**	ND	ND	ND	ND
Aroclor-1260	ND	ND	ND	ND	ND	ND	**72000**	**9100**	ND	ND

Sample Number	A13A	A13B	A13B	A13B	A13C	A13C	A13C	A13D	A14A	A14A
Sample Depth (ft)	19-20 5	4 5-6	6-9 5	9 5-12	4-8 5	6-13	13-16	18-23	4-9	13 5-23 5
Date Collected	07/20/90	07/11/90	07/11/90	07/11/90	07/12/90	07/12/90	07/12/90	07/19/90	07/20/90	07/20/90
PCBs										
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	**1900**	**780000**	**20000**	ND	ND	ND	ND
Aroclor-1232	ND	**340000**	**32000**	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	**100000**	**18000**	**350**	**130000**	**5500**	ND	**670**	**99**	**62**
Aroclor-1260	ND	ND	ND	ND	ND	ND	ND	**630**	ND	ND

µg/kg - Micrograms per kilogram
ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment A

SOIL/SEDIMENT SAMPLES
PCBs (µg/kg)
Collected by Advent Group

	Sample Number	A14A	A14B	A14B	A14C	A14C	A14C	A14D	A14D	A14D	A15B
	Sample Depth (ft)	23 5-28 5	4-8 5	8 5-13	4-8 5	8 5-10 5	13 5-16 5	10-14	15-19	24-29	6-9
	Date Collected	07/20/90	07/11/90	07/11/90	07/11/90	07/11/90	07/11/90	07/12/90	07/12/90	07/12/90	07/07/90
PCBs											
Aroclor-1016		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	**100000**	**5200**	**190000**	ND	**5200**	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	**1700**	ND	ND	ND	ND	**3700**
Aroclor-1242		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254		ND	**14000**	**1100**	**350000**	**520**	**1000**	ND	ND	ND	ND
Aroclor-1260		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

	Sample Number	A15B	A15B	A15C	A15C	A15C	A15D	A15D	A15D	A15D	A16A
	Sample Depth (ft)	13-16	16-19	4 5-9	9.5-14 5	14 5-17 5	4-9	12-14	19-24	24-29	9-14
	Date Collected	07/07/90	07/07/90	07/10/90	07/10/90	07/10/90	07/12/90	07/12/90	07/12/90	07/12/90	07/20/90
PCBs											
Aroclor-1016		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	**1500**	**15000**	ND	ND	ND	ND	ND
Aroclor-1232		**7200**	ND	**300000**	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254		**1800**	ND	**68000**	**160**	**2300**	ND	ND	ND	ND	ND
Aroclor-1260		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

	Sample Number	A16A	A16A	A16B	A16B	A16C	A16C	A16C	A16D	A16D	A16D
	Sample Depth (ft)	14-19	24-29	9-12	14-19	2-5	7-12	12-17	13-18	18-23	23-31
	Date Collected	07/20/90	07/20/90	07/18/90	07/18/90	07/18/90	07/18/90	07/18/90	07/20/90	07/20/90	07/20/90
PCBs											
Aroclor-1016		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	**1600000**	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	**5400**	ND	**13000**	**1100**	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND
Aroclor-1254		**2100**	ND	ND	ND	ND	ND	**450**	ND	**90**	ND
Aroclor-1260		**860**	ND	ND	ND	ND	ND	ND	ND	ND	ND

	Sample Number	A16E	A16E	A16E	A21B	A21B	A21B	A21C	A21C	A21C	A21D
	Sample Depth (ft)	13-18	18-23	25 5-28	1-6	6-10	10-13	4-8	8-11	13-14 5	4-9
	Date Collected	07/20/90	07/20/90	07/20/90	07/17/90	07/17/90	07/17/90	07/14/90	07/14/90	07/14/90	07/10/90
PCBs											
Aroclor-1016		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248		**520**	**1300**	**550**	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254		**290**	**690**	**400**	ND	**200**	ND	ND	ND	ND	**90**
Aroclor-1260		ND	ND	ND	**27000**	ND	ND	**30000**	ND	ND	ND

µg/kg - Micrograms per kilogram.
ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment A

SOIL/SEDIMENT SAMPLES
PCBs (μg/kg)
Collected by Advent Group

	Sample Number	A21D	A21D	A22A	A22A	A22A	A22B	A22B	A22C	A22C	A22D
	Sample Depth (ft)	9-14	14-19	9-14	19-22	24-28	0-7	7-13	3-9	10-15	4-9
	Date Collected	07/10/90	07/10/90	07/11/90	07/11/90	07/11/90	07/17/90	07/17/90	07/17/90	07/17/90	07/11/90
PCBs											
Aroclor-1016		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	ND	**120000**	ND	ND	ND	ND
Aroclor-1254		**150**	ND	ND	ND	ND	ND	ND	**19000**	ND	ND
Aroclor-1260		ND	ND	ND	ND	ND	ND	ND	ND	ND	**12000**

	Sample Number	A22D	A22D	A23A	A23A	A23A	A23A	**Maximum**
	Sample Depth (ft)	9-14	24-27	12-13	13-19	19-20	21-23	**Concentration**
	Date Collected	07/11/90	07/11/90	07/14/90	07/14/90	07/14/90	07/14/90	**Detected**
PCBs								
Aroclor-1016		ND	ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND	ND	**780000**
Aroclor-1232		ND	ND	ND	ND	ND	ND	**1600000**
Aroclor-1242		ND	ND	ND	ND	ND	ND	**13000**
Aroclor-1248		ND	ND	**3300**	**5700**	**150000**	**1600**	**150000**
Aroclor-1254		ND	ND	ND	ND	ND	ND	**530000**
Aroclor-1260		ND	ND	**690**	**1200**	ND	ND	**72000**

μg/kg - Micrograms per kilogram.
ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment A

SOIL/SEDIMENT SAMPLES
PCB Precursor Concentrations (mg/kg)
Collected by Advent Group

	Sample Number	A11B	A11B	A11B	A11C	A11C	A11C	A11D	A12A	A12D	A12D
	Sample Depth (ft)	4-8	8 1-10 6	12-17	2-6 5	6 5-10 5	12 5-16 5	18 5-23 5	18-23	6-13	17-20
	Date Collected	07/18/90	07/18/90	07/18/90	07/18/90	07/18/90	07/18/90	07/18/90	07/19/90	07/18/90	07/18/90
PCBs											
Biphenyl		6.6 J	1.5 J	0.2	5.2 J	BDL	BDL	BDL	BDL	BDL	0.3
Chlorobiphenyl		BDL	BDL	BDL	0.9 J	BDL	BDL	BDL	0.04	3.6 J	0.03
Dichlorobiphenyl		BDL	BDL	BDL	1.5 J	BDL	BDL	BDL	BDL	35 J	0.3
Trichlorobiphenyl		BDL	BDL	BDL	0.2 J	BDL	BDL	BDL	BDL	60 J	0.7
Tetrachlorobiphenyl		BDL	BDL	0.01	0.1 J	0.3 J	BDL	0.5	0.01	75 J	1
Pentachlorophenyl		BDL	BDL	0.04	0.1 J	0.9 J	0.03	1.3	0.02	69 J	1
Hexachlorobiphenyl		BDL	BDL	0.04	BDL	BDL	0.07	3.8	0.05	210 J	2.3
Decachlorobiphenyl		BDL	BDL	BDL	BDL	BDL	BDL	3	BDL	BDL	BDL

	Sample Number	A12D	A16A	A16B	A16B	A16C	A16C	A16D	A16D	A16E	A16E
	Sample Depth (ft)	20-25	14-19	9-12	14-19	2-5	7-12	18-23	23-31	13-18	18-23
	Date Collected	07/18/90	07/20/90	07/18/90	07/18/90	07/18/90	07/18/90	07/20/90	07/20/90	07/20/90	07/20/90
PCBs											
Biphenyl		0.04	BDL	8.3 J	1 J	24 J	1.2 J	0.02	BDL	BDL	BDL
Chlorobiphenyl		0.04	BDL	1.8 J	0.3 J	6 J	0.4 J	BDL	BDL	BDL	BDL
Dichlorobiphenyl		0.06	BDL	5.3 J	0.7 J	26 J	0.8 J	0.03	BDL	BDL	BDL
Trichlorobiphenyl		0.2	0.01	3.8 J	0.5 J	24 J	0.7 J	0.04	BDL	BDL	0.02
Tetrachlorobiphenyl		0.3	0.06	4.3 J	0.3 J	21 J	0.4 J	0.06	0.02	0.04	0.09
Pentachlorophenyl		0.3	0.13	BDL	0.2 J	8.6 J	BDL	0.1	0.02	BDL	0.05
Hexachlorobiphenyl		0.7	0.12	BDL	0.08 J	BDL	BDL	0.23	BDL	BDL	BDL
Decachlorobiphenyl		BDL	0.09	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

	Sample Number	A16E	Maximum
	Sample Depth (ft)	25 5-28	Concentration
	Date Collected	07/20/90	Detected
PCBs			
Biphenyl		BDL	24 J
Chlorobiphenyl		BDL	6 J
Dichlorobiphenyl		BDL	35 J
Trichlorobiphenyl		0.03	60 J
Tetrachlorobiphenyl		0.1	75 J
Pentachlorophenyl		0.03	69 J
Hexachlorobiphenyl		BDL	210 J
Decachlorobiphenyl		BDL	3

mg/kg - Milligrams per kilogram
BDL - Below detection limit
J - Estimated value
**The following samples showed BDL readings for all precursor parameters

A10 6-7, A10 9-10, A10 15-17, A11A 13-18, A11A 8-13, A11D 8-10, A12A 8-11, A12A 11-20 5, A12A 18-23, A12B 3-7, A12B 9-12, A12B 14-17, A12B 17-19, A13A 9-14, A13A 14-19, A13A 19-20 5, A14A 4-9, A14A 13 5-23 5, A14A 23 5-28 5, A15A 9-14, A15A 1[illegible] 19, A15A 19-24, A16A 9-14, A16A 24-29, A16C 12-17, A16D 13-18, A16D 18-23, A16E 25 5-28, A21B 6-10, A21B 10-13, A21C 4-8, A21C 8-11, A21C 13-14 5, A22B 7-13, A22C 10-15

SAUGET Analytical Data
Dead Creek - Segment A

SOIL/SEDIMENT SAMPLES
Total Metals (mg/kg)
Collected by Advent Group

Sample Number	A10	A11A	A11B	A11C	A11D	A12A	A12B	A12C	A12D	A13B
Sample Depth (ft)	15-17	8-13	4-8	2-6.5	8-10	8-11	3-7	4-9	17-20	4.5-6
Date Collected	07/13/90	07/19/90	07/18/90	07/18/90	07/18/90	07/19/90	07/13/90	07/12/90	07/18/90	07/11/90
Total Metals										
Silver	ND	ND	ND	8	ND	ND	328	93	ND	154
Aluminum	5150	7380	5870	5430	10300	6270	8050	3780	3170	5480
Arsenic	3.4	13	4.7	23.1	4.4	3.9	ND	194	3	78
Barium	252	240	212	182	2450	197	516	500	244	1980
Beryllium	ND	ND	ND	ND	ND	ND	44.1	1.9	ND	9.1
Calcium	17700	3940	20100	8090	11700	15900	ND	5330	9130	14600
Cadmium	ND	5.2	ND	4.9	ND	ND	393	47	ND	529
Cobalt	ND	ND	15.7	15.3	38.4	ND	ND	ND	ND	ND
Chromium	10.7	222	11.7	27.2	94.2	12.6	553	695	10	581
Copper	19.9	1130	117	3330	2100	103	77700	34800	298	42600
Iron	9990	13800	13800	16700	13100	12100	312000	68100	7310	118000
Mercury	ND	ND	ND	3.1	3.3	ND	27	5.3	ND	17.7
Potassium	ND	1870	1490	1090	ND	1420	ND	ND	ND	ND
Magnesium	6700	2660	6690	4130	2500	7330	ND	ND	3840	ND
Manganese	236	56	440	197	160	150	41.6	139	101	379
Sodium	ND	ND	ND	ND	4540	ND	ND	ND	ND	ND
Nickel	27.5	303	23	301	6940	133	1530	959	47.7	1420
Lead	10.8	72	12.9	278	718	7.6	32400	2380	29.7	15700
Antimony	ND	ND	ND	ND	ND	ND	356	66.1	ND	98
Selenium	ND	ND	1.3	1	0.8	2.5	38.9	28.8	ND	ND
Thallium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	16.5	21	19.4	17	33.5	19.4	ND	27.4	12.9	41.5
Zinc	82.5	1410	68.5	1200	655	333	26800	4020	172	21300

mg/kg - Milligrams per kilogram
ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment A

SOIL/SEDIMENT SAMPLES
Total Metals (mg/kg)
Collected by Advent Group

	Sample Number	A13C	A13D	A14A	A14B	A14C	A14C	A14D	A15B	A15B	A15C
	Sample Depth (ft)	4-8.5	18-23	4-9	4-8.5	4-8.5	8.5-10	10-14	6-9	13-16	4.5-9
	Date Collected	07/12/90	07/19/90	07/20/90	07/11/90	07/11/90	07/11/90	07/12/90	07/07/90	07/07/90	07/10/90
Total Metals											
Silver		73.5	ND	ND	44.1	141	ND	ND	ND	ND	63.8
Aluminum		4350	5930	5450	3740	4970	7200	4500	7180	1520	4540
Arsenic		145	4.6	2.9	99.5	122	7.6	5.5	11.9	2.4	105
Barium		2180	219	201	5200	1560	250	191	242	57.9	2180
Beryllium		3.4	ND	ND	ND	25.2	ND	ND	1.6	ND	27.8
Calcium		12600	15000	15700	12600	5260	22700	14500	21900	6270	7350
Cadmium		226	ND	ND	49.7	316	2.7	ND	7.3	ND	532
Cobalt		31.4	ND	ND	23	ND	ND	ND	ND	ND	ND
Chromium		452	15.4	10.8	329	402	17	9.8	22.9	4.9	333
Copper		25900	151	48.1	15600	41300	338	41.4	722	28.4	17800
Iron		83100	12100	11800	76100	172000	19800	11200	21200	4240	254000
Mercury		2.3	ND	ND	28.7	12.8	0.16	ND	ND	ND	61.2
Potassium		ND	1220	1250	ND	ND	1720	ND	1630	ND	ND
Magnesium		ND	6400	6580	2710	ND	5980	5180	5880	2100	ND
Manganese		305	249	173	265	163	871	351	622	116	230
Sodium		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel		2230	27.4	27.7	1220	1240	47.7	14.2	73.4	ND	1820
Lead		4160	30.2	13.6	1640	20800	88.5	10.6	250	ND	5860
Antimony		48	ND	ND	22.6	175	ND	ND	ND	ND	136
Selenium		ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND
Thallium		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium		35.4	19.4	17.4	34.6	ND	25	15.9	24.8	ND	43
Zinc		11500	209	69.8	6080	15000	187	47.9	337	28.1	13700

mg/kg - Milligrams per kilogram.
ND - Not detected

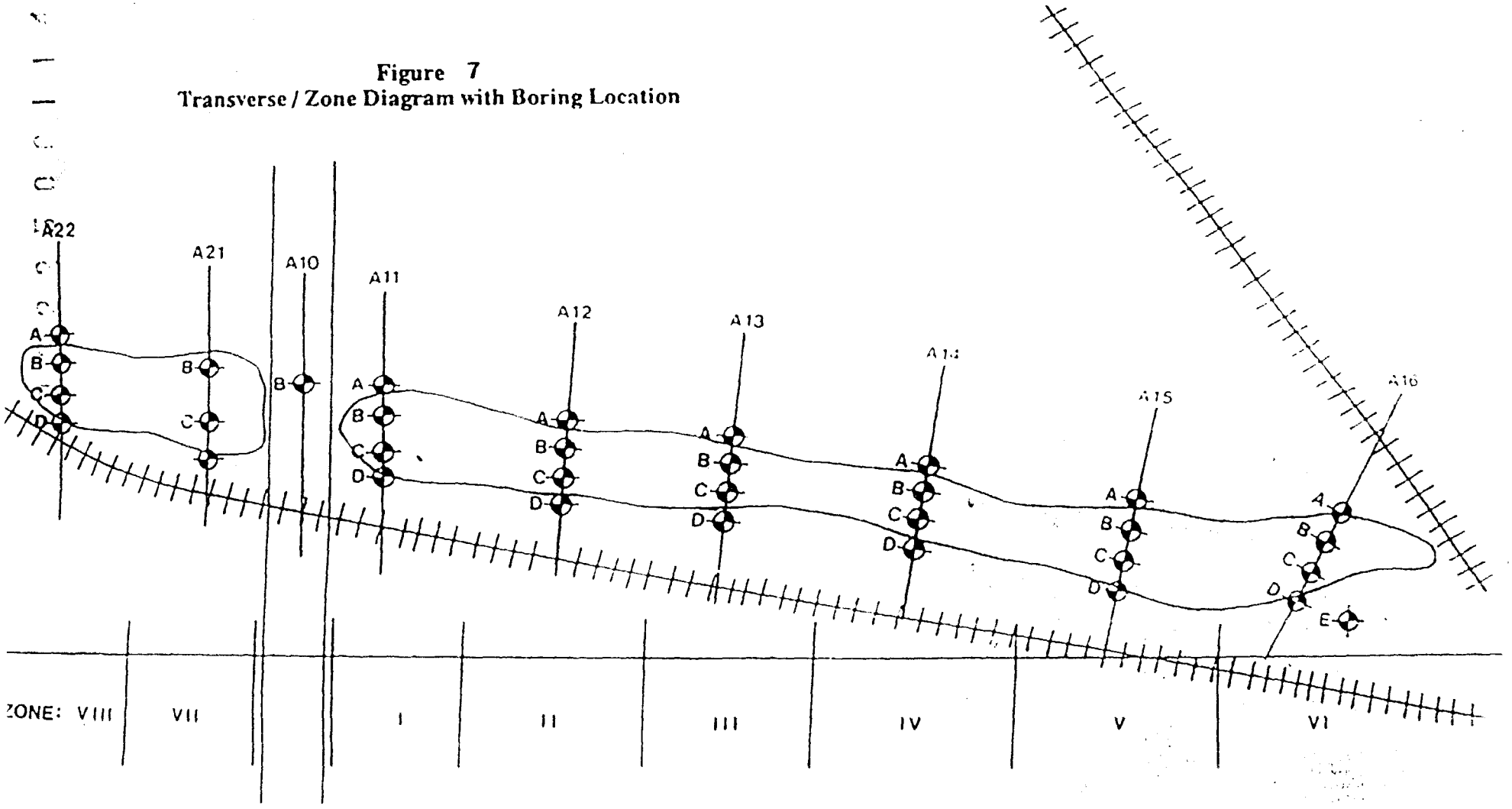
SAUGET Analytical Data
Dead Creek - Segment A

SOIL/SEDIMENT SAMPLES
Total Metals (mg/kg)
Collected by Advent Group

Sample Number	A15D	A16B	A16C	A21B	A21C	A21D	A22B	A22C	A23A	Maximum
Sample Depth (ft)	4-9	9-12	2-5	1-6	4-8	14-19	0-7	3-9	19-20	Concentration
Date Collected	07/12/90	07/18/90	07/18/90	07/17/90	07/14/90	07/10/90	07/17/90	07/17/90	07/14/90	Detected
Total Metals										
Silver	ND	55.8	91.9	132	348	ND	2.4	11.9	ND	348
Aluminum	4980	1980	1400	2800	5120	4550	3110	2970	5590	10300
Arsenic	6.4	10.8	7.5	7.6	25.3	ND	6.9	18.5	5.6	194
Barium	170	712	473	529	1050	148	241	414	198	5200
Beryllium	ND	3.1	2.5	2.9	36	ND	ND	ND	ND	44.1
Calcium	13500	9030	7270	17000	12100	12600	12700	12000	26200	26200
Cadmium	ND	52.5	49.4	135	470	ND	2.6	29.2	ND	532
Cobalt	ND	ND	ND	ND	ND	ND	ND	ND	23	38.4
Chromium	11.3	128	119	434	397	12.4	28.7	62	15.6	695
Copper	25	26000	16600	29400	91800	24.7	1160	3510	591	91800
Iron	10800	52300	69900	45700	199000	11300	10100	12600	13500	312000
Mercury	ND	124	93	8.2	16.3	ND	0.17	ND	ND	124
Potassium	1060	ND	ND	ND	ND	ND	ND	ND	ND	1870
Magnesium	5350	1560	ND	1600	ND	4320	4220	2740	5160	7330
Manganese	379	47.7	40.1	228	235	167	194	133	318	871
Sodium	ND	1310	ND	ND	ND	ND	ND	ND	ND	4540
Nickel	15	705	716	562	6410	47.7	95.2	317	56.3	6940
Lead	9.5	3760	2910	10000	30400	12.9	145	749	24	32400
Antimony	ND	117	114	51.8	305	ND	ND	ND	ND	356
Selenium	ND	10.9	5.3	8.8	41.6	ND	0.73	2	ND	41.6
Thallium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	15.2	ND	ND	ND	ND	20.3	10.3	11.9	17.4	43
Zinc	52.1	2290	2120	9300	26700	270	373	1510	237	26800

mg/kg - Milligrams per kilogram
ND - Not detected

Figure 7
Transverse / Zone Diagram with Boring Location



LOCATION OF BORINGS A10 THRU A16, A21 AND A22

Source: "Site Investigation/Feasibility Study for Creek Segment A" Advent Group, 1990

SAUGET Analytical Data
Dead Creek - Segment A

SEDIMENT SAMPLES (mg/kg)

Collected by IEPA

	Sample Number	x128	x129	x128	x129	Maximum
	Date Collected	11/26/80	11/26/80	01/28/81	01/28/81	Concentration
Parameter						Detected
Ammonia		NA	NA	30	96	96
Barium		NA	NA	1200	2500	2500
Cadmium		NA	NA	51	22	51
Calcium		NA	NA	5300	13100	13100
Chromium		NA	NA	140	490	490
Copper		NA	NA	5500	24000	24000
Iron		NA	NA	29500	51900	51900
Lead		NA	NA	840	2600	2600
Magnesium		NA	NA	2300	2100	2300
Manganese		NA	NA	140	250	250
Mercury		NA	NA	101	6.9	101
Nickel		NA	NA	570	1500	1500
Potassium		NA	NA	670	520	670
Silver		NA	NA	29	98	98
Zinc		NA	NA	2300	5800	5800
Aliphatic Hydrocarbons		13	26	NA	NA	26
Dichlorobenzene		ND	1.7	NA	NA	1.7
PCBs		2.2	13	NA	NA	13

mg/kg - Milligrams per kilogram
NA - parameter not analyzed
ND - below detection limits

SAUGET Analytical Data
Dead Creek - Segment A

SURFACE WATER SAMPLES (mg/L unless otherwise noted)

Collected by IEPA

	Sample Number	S503	S504	S501	S502	Maximum
	Date Collected	11/26/80	11/26/80	01/26/81	01/26/81	Concentration
Parameter						Detected
Alkalinity		127	110	NA	NA	127
Ammonia		0.2	1	NA	NA	1
Arsenic		0.058	0.025	NA	NA	0.058
Barium		1.2	0.7	NA	NA	1.2
BOD-5		630	158	NA	NA	630
Boron		0.2	0.3	NA	NA	0.3
Cadmium		0.36	0.19	NA	NA	0.36
COD		NA	1190	NA	NA	1190
Chloride		33	36	NA	NA	36
Chromium (Total)		0.61	0.21	NA	NA	0.61
Copper		4.5	3.6	NA	NA	4.5
Cyanide		0.01	0.01	NA	NA	0.01
Fluoride		0.4	0.7	NA	NA	0.7
Hardness		227	260	NA	NA	260
Iron		58	28	NA	NA	58
Lead		6.6	2.8	NA	NA	6.6
Magnesium		35.8	28.7	NA	NA	35.8
Manganese		1	0.67	NA	NA	1
Mercury		0.0016	0.0016	NA	NA	0.0016
Nickel		4.2	3.3	NA	NA	4.2
Nitrate-Nitrite		1.4	1.7	NA	NA	1.7
pH		6.9	7	NA	NA	7
Phenol		0.02	0.035	NA	NA	0.035
Phosphorus		1.9	3.4	NA	NA	3.4
Potassium		4.3	6.2	NA	NA	6.2
R.O.E.		361	407	NA	NA	407
Selenium		0.002	NA	NA	NA	0.002
Silver		0.24	0.14	NA	NA	0.24
Sodium		19.7	22.4	NA	NA	22.4
Sulfate		99	130	NA	NA	130
Zinc		30	17			30
PCB (ppb)		22	28			28
Aliphatic hydrocarbons (ppb)		23000	NA			23000

NA - parameter not analyzed
ND - below detection limits
mg/L - Milligrams per liter
ppb - Parts per billion

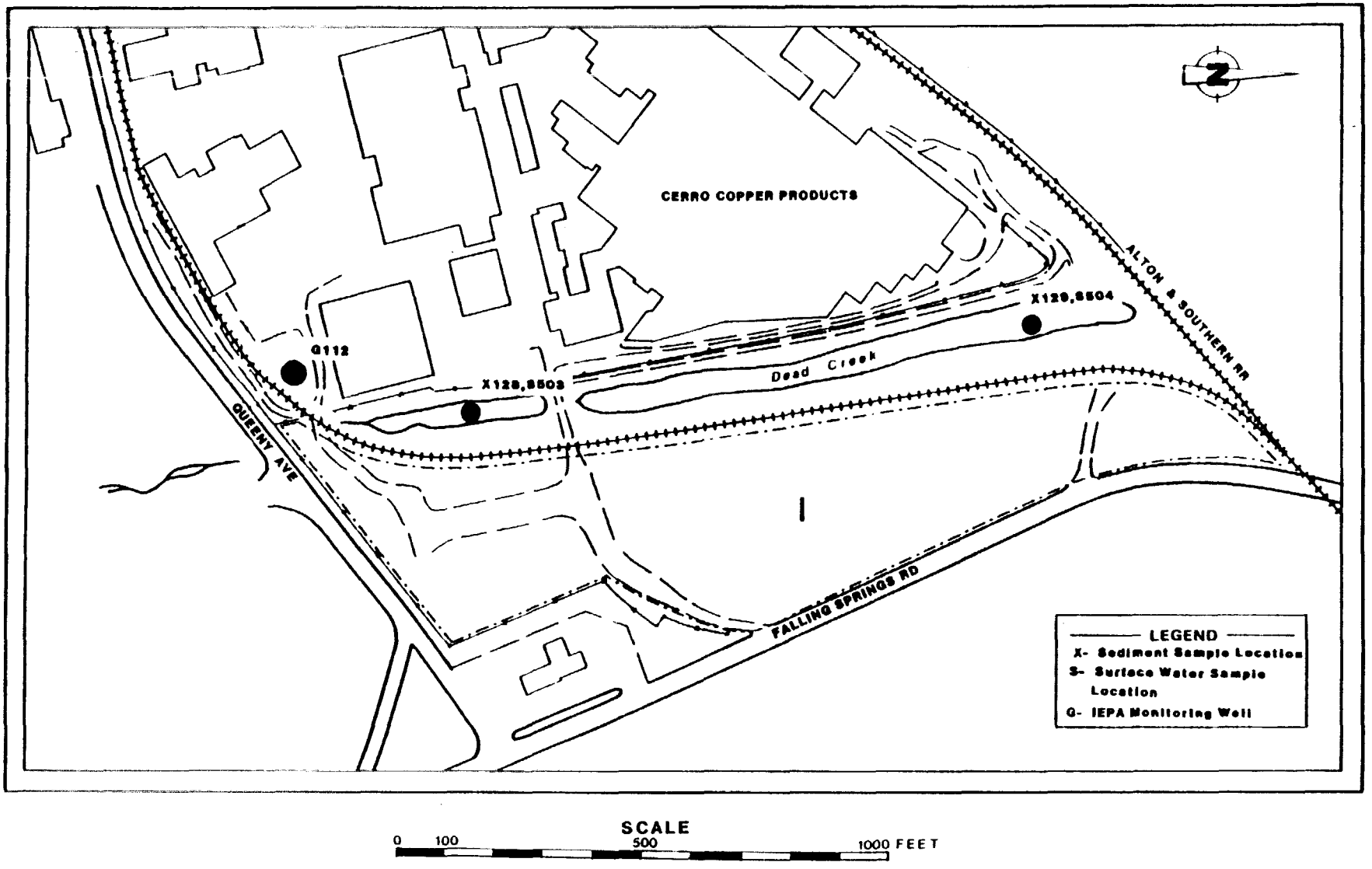


FIGURE IA-1
DEAD CREEK SITE AREA I AND CREEK SECTOR A WITH SAMPLING LOCATIONS

SAUGET Analytical Data

Dead Creek - Segment A

SOIL SAMPLES
PCBs (µg/kg)
Collected by IEPA

	Sample Number	S501	S502	Maximum
	Date Collected	01/28/81	01/28/81	Concentration
PCBs				Detected
PCBs		2	<1	2

µg/kg - Micrograms per kilogram.
PCBs - Polychlorinated biphenyls

SAUGET Analytical Data
Dead Creek - Segment A

SOIL SAMPLES
Furnace AA/ICAP Metals (mg/kg unlesss otherwise noted)
Collected by IEPA

		Furnace AA Metals		ICAP Metals		Maximum
	Sample Number	SS-1	SS-2	SS-1	SS-2	Concentration
	Date Collected	01/28/81	01/28/81	01/28/81	01/28/81	Detected
Metals						
Cadmium		22	51	22.11	50.6	51
Chromium		490	140	491.4	140	491.4
Copper		24300	5500	24324.01	5500	24324.01
Iron		51900	29500	51911.7	29535.8	51911.7
Lead		2600	840	2604.42	843.88	2604.42
Manganese		250	140	245.7	141.35	250
Nickel		1500	570	1474.2	569.6	1500
Silver		98	29	98.28	29.54	98.28
Zinc		5800	2300	NA	NA	5800
Mercury (ug/g)		6.9	101	NA	NA	101
Arsenic		96	30	95.8	29.5	96
Selenium		0.98	1.1	0.98	1.05	1.1
Calcium		13100	5300	13095.8	NA	13100
Magnesium		2100	2300	2088.5	NA	2300
Sodium		<245	<210	NA	NA	NA
Potassium		520	670	NA	NA	670
Barium		2500	1200	NA	NA	2500

mg/kg - Milligrams per kilogram.
NA - Parameter not analyzed

SS-1

Priority

Time Collected: 2:55pm

Lab # B 3[illegible]3[illegible]

SPECIAL ANALYSIS FORM

Date Collected: 1-28-91

Date Received JAN 29 [illegible]

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
St. Clair	Cahokia / Dead Creek	General

SOURCE OF SAMPLE: (Exact Location) SS-1 collected at the south end of the southern pond located on the east side of Alcoa Copper

PHYSICAL OBSERVATIONS, REMARKS: Dark oily plastic soil exhibiting an organic type odor

TOTAL METALS

[illegible] PER [illegible] UNLESS OTHERWISE [illegible] BASED ON ~~wet weight as received~~

TESTS REQUESTED: ~~P.C.B.'s~~ + Chlorinated Hydrocarbons

Champaign = A.A. ~~I CAP~~ SCAN for metals

COLLECTED BY: Perry Mann + Tom Powell TRANSPORTED BY: Perry Mann

LABORATORY

RECEIVED BY:		DATE COMPLETED:		DATE FORWARDED:
Cd	~~22.4~~ 22. SM	As	~~95.8~~	96. SM
Cr	~~491.4~~ 490. SM	Se	~~[illegible]~~ 0.98	
Cu	~~24324.01~~ 24300. SM	Ca	~~13095.8~~	13100. SM
Fe	[redacted] ~~51911.7~~ 51900. SM	Mg	~~2098.5~~	2100. SM
Pb	[redacted] ~~2604.42~~ 2600 SM	Na	< 245.	
Mn	~~245.70~~ 250. SM	K	~~516.~~	520. SM
Ni	~~[illegible]~~ ~~1474~~ 1500 SM	Ba	~~2450.~~	2500. SM
Ag	~~99.28~~ 98. SM			
Zn	~~5770.~~ 5800 SM			
Hg	~~[illegible]~~ 6.9 ug/g	[redacted]		

PC-8A 4/77 recycled paper (NOT FOR DATA PROCESSING)

CHAMPAIGN MAR 6 1991 ecology and environment

SS-2 Priority

Time Collected: 3:15 pm Lab # 18 C 399

Date Collected: 1-29-81 CHEMICAL ANALYSIS FORM Date Received JAN 29 1981

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
St. Clair	Cahokia / Dead Creek	General

SOURCE OF SAMPLE: (Exact Location) SS-2 was collected from the north end of the northpond ~~[illegible]~~ on Cerro Copper's property

PHYSICAL OBSERVATIONS, REMARKS: gray to dark soil; oily; no distinguishable odor

TOTALS METHOD
DATA IN UNITS OF [illegible] PER
CRM[illegible] UNLESS
OTH[illegible] USED
ON ~~wet weight as received~~

TESTS REQUESTED: ~~P.C.B.'s + Chlorinated Hydrocarbons~~
Champaign = ~~AA Emp~~ SCAN for metals

COLLECTED BY: Perry Mann + Tom Powell TRANSPORTED BY: Perry Mann

LABORATORY

RECEIVED BY:		DATE COMPLETED:		DATE FORWARDED:
Cd	~~50.6~~ 51. SM	As	~~29.5~~	30. SM
Cr	140	Se	~~1.05~~	1.1 SM
Cu	5,500	Ca	~~5250~~	5300. SM
Fe	~~29535.8~~ 29,500. SM	Mg	2300	
Pb	~~843.88~~ 840. SM	Na	< 210.	
Mn	~~141.35~~ 140. SM	K	~~675.~~	670. SM
Ni	~~569.6~~ 570. SM	Ba	~~1180.~~	1200. SM
Ag	~~29.54~~ 29. SM			
Zn	~~2330~~ 2300. SM			
Hg	~~101,000 ppb~~ 101. SM ug/g	[redacted]		[redacted]

LPC-8A 4/77 recycled paper (NOT FOR DATA PROCESSING) CHAMPAIGN [illegible]gy and [illegible]nment MAR 6 1981

S501

Priority

Time Received: 3:00 pm

Date Collected: 1-28-81

Lab # D012775

CHEMICAL ANALYSIS FORM

Date Received JAN 29 1981

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
St. Clair	Cahokia / Dead Creek	General

SOURCE OF SAMPLE: (Exact Location) ~~S501~~ S501 was collected from the south pond at the south end located on Cerro's property ~~odor detected~~

PHYSICAL OBSERVATIONS, REMARKS: greenish gray color with slight odor detected.

TESTS REQUESTED: P.C.B.'s + Chlorinated Hydrocarbons

COLLECTED BY: Terry Mann + Tom Powell TRANSPORTED BY: Terry Mann

LABORATORY

RECEIVED BY: CMC DATE COMPLETED: 3-19-81 DATE FORWARDED: 3-19-81

J. Newberry

2 ppb

EC-8A 4/77 recycled paper (NOT FOR DATA PROCESSING) ecology and environment

D012775

Priority

Time Collected: 3:15 PM Lab # 0012728

SPECIAL ANALYSIS FORM

Date Collected: 1-28-81 Date Received JAN 29 1981

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND/NOISE POLLUTION CONTROL

COUNTY:	FILE HEADING:	FILE NUMBER:
St. Clair	Cahokia / Dead Creek	General

SOURCE OF SAMPLE: (Exact Location) S-502 was collected from the north pond at the northern end of Cerro Copper's property, adjacent to Monsanto's property

PHYSICAL OBSERVATIONS, REMARKS: Bright Brownish-orange color, oil film on surface, strong organic odor.

TESTS REQUESTED: P.C.B.'s + Chlorinated Hydrocarbons

COLLECTED BY: Terry Mann + Tom Powell TRANSPORTED BY: Terry Mann

LABORATORY

RECEIVED BY: [illegible] DATE COMPLETED: 3-19-81 DATE FORWARDED: 3-19-81

PCBs < 0.1 µg/l

< 1 ppb

LPC-8A 4/77 recycled paper (NOT FOR DATA PROCESSING) ecology and environment

0012726

SAUGET Analytical Data
Dead Creek - Sector A

SURFACE WATER SAMPLES
Volatile Organic Compounds (µg/L)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-11	DC-SW-12	DC-SW-13	Maximum
	Date Collected	11/6/86	11/06/86	11/06/86	Concentration
VOC		BLANK			Detected
Chloromethane		ND	ND	ND	ND
Bromomethane		ND	ND	ND	ND
Vinyl chloride		ND	ND	ND	ND
Chloroethane		ND	ND	ND	ND
Methylene chloride		6 B	4 BJ	4	6 B
Acetone		17 B	20 B	6	20 B
Carbon Disulfide		ND	ND	ND	ND
1,1-Dichloroethene		ND	ND	ND	ND
1,1-Dichloroethane		ND	ND	3	3
trans-1,2-Dichloroethene		ND	ND	ND	ND
Chloroform		25	8	7	25
1,2-Dichloroethane		ND	ND	ND	ND
2-Butanone (MEK)		ND	ND	ND	ND
1,1,1-Trichloroethane		ND	33	41	41
Carbon Tetrachloride		ND	ND	31	31
Vinyl Acetate		ND	ND	ND	ND
Bromodichloromethane		ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND
trans-1,3-Dichloropropene		ND	ND	ND	ND
Trichloroethene		ND	6	16	16
Dibromochloromethane		ND	ND	ND	ND
1,1,2-Trichloroethane		ND	ND	ND	ND
Benzene		ND	1 J	ND	1 J
cis-1,3-Dichloropropene		ND	ND	ND	ND
2-Chloroethyl Vinyl Ether		ND	ND	ND	ND
Bromoform		ND	ND	ND	ND
4-Methyl-2-pentanone		ND	6 J	ND	6 J
2-Hexanone		ND	ND	ND	ND
Tetrachloroethene		ND	ND	ND	ND
1,1,2,2-Tetrachloroethane		ND	ND	ND	ND
Toluene		ND	ND	ND	ND
Chlorobenzene		ND	2 J	ND	2 J
Ethylbenzene		ND	ND	ND	ND
Styrene		ND	2 J	ND	2 J
Total Xylenes		ND	ND	ND	ND

µg/L - Micrograms per liter.
B - Compound detected in blank
J - Estimated value
ND - Not detected

recycled paper
ecology and environment

SAUGET Analytical Data
Dead Creek - Sector A

SURFACE WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-11	DC-SW-12	DC-SW-13	Maximum
	Date Collected	11/06/86	11/06/86	11/06/86	Concentration
BNAs		BLANK			Detected
Phenol		ND	ND	ND	ND
bis(2-Chloroethyl)ether		ND	ND	ND	ND
2-Chlorophenol		ND	ND	ND	ND
1,3-Dichlorobenzene		ND	ND	ND	ND
1,4-Dichlorobenzene		ND	ND	ND	ND
Benzyl Alcohol		ND	ND	ND	ND
1,2-Dichlorobenzene		ND	ND	ND	ND
2-Methylphenol		ND	ND	ND	ND
bis(2-Chloroisopropyl)ether		ND	ND	ND	ND
4-Methylphenol		ND	ND	ND	ND
N-Nitroso-n-Dipropylamine		ND	ND	ND	ND
Hexachloroethane		ND	ND	ND	ND
Nitrobenzene		ND	ND	ND	ND
Isophorone		ND	ND	ND	ND
2-Nitrophenol		ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND
Benzoic Acid		ND	ND	ND	ND
bis-(2-Chloroethoxy)methane		ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND
1,2,4-Trichlorophenol		ND	ND	ND	ND
Naphthalene		ND	ND	ND	ND
4-Chloroaniline		ND	3 J	ND	3 J
Hexachlorobutadiene		ND	ND	ND	ND
4-Chloro-3-methylphenol		ND	ND	ND	ND
2-Methylnaphathalene		ND	ND	ND	ND
Hexachlorocyclopentadiene		ND	ND	ND	ND
2,4,6-Trichlorophenol		ND	ND	ND	ND
2,4,5-Trichlorophenol		ND	ND	ND	ND
2-Chloronaphthalene		ND	ND	ND	ND
2-Nitroaniline		ND	ND	ND	ND
Dimethyl Phthalate		ND	ND	ND	ND
Acenaphthylene		ND	ND	ND	ND
3-Nitroaniline		ND	ND	ND	ND
Acenaphthene		ND	ND	ND	ND

μg/L - Micrograms per liter
B - Compound detected in blank
J - Estimated value
ND - Not detecte

SAUGET Analytical Data
Dead Creek - Sector A

SURFACE WATER SAMPLES
Base Neutrals/Acids (µg/L)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-11	DC-SW-12	DC-SW-13	Maximum
	Date Collected	11/06/86	11/06/86	11/06/86	Concentration
BNAs		BLANK			Detected
2,4-Dinitrophenol		ND	ND	ND	ND
4-Nitrophenol		ND	ND	ND	ND
Dibenzofuran		ND	ND	ND	ND
2,4-Dinitrotoluene		ND	ND	ND	ND
2,6-Dinitrotoluene		ND	ND	ND	ND
Diethylphthalate		ND	ND	ND	ND
4-Chlorophenyl-Phenylether		ND	ND	ND	ND
Fluorene		ND	ND	ND	ND
4-Nitroaniline		ND	ND	ND	ND
4,6-Dinitro-2-methylphenol		ND	ND	ND	ND
N-Nitrosodiphenylamine		ND	ND	ND	ND
4-Bromophenyl-phenylether		ND	ND	ND	ND
Hexachlorobenzene		ND	ND	ND	ND
Pentachlorophenol		ND	ND	ND	ND
Phenanthrene		ND	4 J	ND	4 J
Anthracene		ND	ND	ND	ND
Di-n-butly phthalate		17 B	5 BJ	27 B	27 B
Fluoranthene		ND	ND	ND	ND
Pyrene		ND	ND	ND	ND
Butyl Benzyl phthalate		ND	12 J	ND	12 J
3,3'-Dichlorobenzidine		ND	ND	ND	ND
Benzo (a)anthracene		ND	ND	ND	ND
bis(2-ethylhexyl)phthalate		ND	7 J	5 J	7 J
Chrysene		ND	ND	ND	ND
Di-n-octyl phthalate		ND	36 J	1 J	36 J
Benzo(b)fluoranthene		ND	ND	ND	ND
Benzo(k)fluoranthene		ND	ND	ND	ND
Benzo (a)pyrene		ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene		ND	ND	ND	ND
Benzo(g,h,I)perylene		ND	ND	ND	ND
Dibenzo(a,h)anthracene		ND	ND	ND	ND

µg/L - Micrograms per liter.
B - Compound detected in blank
J - Estimated value
ND - Not detected

recycled paper

SAUGET Analytical Data
Dead Creek - Sector A

SURFACE WATER SAMPLES
Pesticides/PCBs (μg/L)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-11	DC-SW-12	DC-SW-13	Maximum
	Date Collected	11/06/86	11/06/86	11/06/86	Concentration
Pesticides/PCBs		BLANK			Detected
Alpha-BHC		ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND
Aldrin		ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND
Endrin		ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND
Chlordane		ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND
Aroclor-1260		ND	ND	ND	ND

μg/L - Micrograms per liter.
ND - Not detected

SAUGET Analytical Data
Dead Creek - Sector A

SURFACE WATER SAMPLES
Base Neutrals/Acids (µg/L)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-11	DC-SW-12	DC-SW-13	Maximum
	Date Collected	11/06/86	11/06/86	11/06/86	Concentration
BNAs		BLANK			Detected
2,4-Dinitrophenol		ND	ND	ND	ND
4-Nitrophenol		ND	ND	ND	ND
Dibenzofuran		ND	ND	ND	ND
2,4-Dinitrotoluene		ND	ND	ND	ND
2,6-Dinitrotoluene		ND	ND	ND	ND
Diethylphthalate		ND	ND	ND	ND
4-Chlorophenyl-Phenylether		ND	ND	ND	ND
Fluorene		ND	ND	ND	ND
4-Nitroaniline		ND	ND	ND	ND
4,6-Dinitro-2-methylphenol		ND	ND	ND	ND
N-Nitrosodiphenylamine		ND	ND	ND	ND
4-Bromophenyl-phenylether		ND	ND	ND	ND
Hexachlorobenzene		ND	ND	ND	ND
Pentachlorophenol		ND	ND	ND	ND
Phenanthrene		ND	4 J	ND	4 J
Anthracene		ND	ND	ND	ND
Di-n-butly phthalate		17 B	5 BJ	27 B	27 B
Fluoranthene		ND	ND	ND	ND
Pyrene		ND	ND	ND	ND
Butyl Benzyl phthalate		ND	12 J	ND	12 J
3,3'-Dichlorobenzidine		ND	ND	ND	ND
Benzo (a)anthracene		ND	ND	ND	ND
bis(2-ethylhexyl)phthalate		ND	7 J	5 J	7 J
Chrysene		ND	ND	ND	ND
Di-n-octyl phthalate		ND	36 J	1 J	36 J
Benzo(b)fluoranthene		ND	ND	ND	ND
Benzo(k)fluoranthene		ND	ND	ND	ND
Benzo (a)pyrene		ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene		ND	ND	ND	ND
Benzo(g,h,i)perylene		ND	ND	ND	ND
Dibenzo(a,h)anthracene		ND	ND	ND	ND

µg/L - Micrograms per liter.
B - Compound detected in blank
J - Estimated value
ND - Not detected

recycled paper

SAUGET Analytical Data
Dead Creek - Sector A

SURFACE WATER SAMPLES
Total Metals (μg/L)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-11	DC-SW-12	DC-SW-13	Maximum
	Date Collected	11/06/86	11/06/86	11/06/86	Concentration
Total Metals		BLANK			Detected
Aluminum		323	354	294	354
Antimony		ND	115	ND	115
Arsenic		ND	ND	ND	ND
Barium		ND	ND	ND	ND
Beryllium		ND	ND	ND	ND
Boron		ND	ND	ND	ND
Cadmium		ND	75	23	75
Chromium		ND	81	65	81
Cobalt		ND	ND	ND	ND
Copper		ND	7030	2410	7030
Iron		ND	2040	724	2040
Lead		ND	3060	76	3060
Manganese		ND	68	252	252
Mercury		ND	0.59	0.2	0.59
Nickel		ND	2600	667	2600
Selenium		ND	ND	ND	ND
Silver		ND	16	ND	16
Thallium		ND	ND	ND	ND
Tin		ND	499	ND	499
Vanadium		ND	ND	ND	ND
Zinc		ND	1450	480	1450
Cyanide		ND	ND	ND	ND

μg/L - Micrograms per liter
ND - Not detected

recycled paper

SAUGET Analytical Data
Dead Creek - Segment A

SEDIMENT SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SD-32	DC-SD-33	DC-SD-34	DC-SD-35	DC-SD-36	DC-SD-31	Maximum
Sample Depth (ft)	1.5-2	0-0.5	0-0.5	0-0.5	1.5-2	NA	Concentration
Date Collected	11/06/86	11/06/86	11/06/86	11/06/86	11/06/86	11/6/86	Detected
VOC						BLANK	
Chloromethane	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	14000 B	6300 B	6600 B	8800 B	7200 B	14000 B	14000 B
Acetone	11000 B	12000 B	5300 B	23000 B	6800 B	4700 B	23000 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	12000 B	11000 B	9200 B	ND	12000 B	5400 B	12000 B
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	930 JB	ND	ND	ND	930 JB
2-Hexanone	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	480 J	ND	480 J
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND	ND

(µg/kg) - Micrograms per kilogram
B - Compound detected in blank sample
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment A

SEDIMENT SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SD-32	DC-SD-33	DC-SD-34	DC-SD-35	DC-SD-36	DC SD-31	Maximum Concentration Detected
Sample Depth (ft)	1.5-2	0-0.5	0-0.5	0-0.5	1.5-2	NA	
Date Collected	11/06/86	11/06/86	11/06/86	11/06/86	11/06/86	11/06/86	
BNAs						BLANK	
Phenol	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	160 J	ND	ND	ND	550 J	ND	550 J
1,4-Dichlorobenzene	1000	ND	410 J	130 J	2900	ND	2900
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	480	270 J	ND	ND	ND	ND	480
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND
Naphthalene	580	ND	ND	90 J	1500 J	ND	1500 J
4-Chloroaniline	ND	ND	ND	130 J	ND	ND	130 J
Hexachlorobutadiene	ND	ND	ND	1000 J	ND	ND	1000 J
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	450 J	ND	ND	ND	450 J
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	170 J	ND	170 J

µg/kg - Micrograms per kilogram
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment A

SEDIMENT SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SD-32	DC-SD-33	DC-SD-34	DC-SD-35	DC-SD-36	DC-SD-31	Maximum
Sample Depth (ft)	1.5-2	0-0.5	0-0.5	0-0.5	1.5-2	NA	Concentration
Date Collected	11/06/86	11/06/86	11/06/86	11/06/86	11/06/86	11/06/86	Detected
BNAs						BLANK	
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	220 J	ND	ND	ND	ND	ND	220 J
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	110 J	ND	ND	1100 J	ND	ND	1100 J
Pentachlorophenol	ND	ND	ND	800 J	ND	ND	800 J
Phenanthrene	190 J	ND	ND	ND	ND	ND	190
Anthracene	ND	ND	ND	ND	ND	ND	ND
Di-n-butly phthalate	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	ND	600 J	ND	ND	600 J
Pyrene	110 J	ND	ND	1000 J	1400 J	ND	1400 J
Butyl Benzyl phthalate	520	ND	2400 J	ND	900 J	ND	2400 J
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	280 J	2200 J	2900	130 J	ND	ND	2900
Chrysene	110 J	ND	710 J	1000 J	1700 J	ND	1700 J
Di-n-octyl phthalate	300 J	420 J	2900	8100	11000	ND	11000
Benzo(b)fluoranthene	ND	ND	330 J	760 J	1000 J	ND	1000 J
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	430 J	540 J	ND	540 J
Indeno(1,2,3-cd)pyrene	ND	ND	ND	570 J	ND	ND	570 J
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	960 J	ND	ND	960 J

µg/kg - Micrograms per kilogram
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment A

SEDIMENT SAMPLES
Total Metals (mg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SD-32	DC-SD-33	DC-SD-34	DC-SD-35	DC-SD-36	DC-SD-31	Maximum
Sample Depth (ft)	1.5-2	0-0.5	0-0.5	0-0.5	1.5-2	NA	Concentration
Date Collected	11/06/86	11/06/86	11/06/86	11/06/86	11/06/86	11/06/86	Detected
Total Metals							
Aluminum	8570	6720	8310	7210	9180	10500	10500
Antimony	ND	ND	ND	ND	ND	ND	ND
Arsenic	18 R	30 R	76 R	21 R	12 R	5.2 R	76 R
Barium	430	287	287	732	328	277	732
Beryllium	ND	ND	ND	ND	ND	ND	ND
Boron	ND	ND	ND	ND	ND	ND	ND
Cadmium	18	25	22	31	17	2.1	31
Chromium	34	102	121	206	75	13	206
Cobalt	8.9	3.2	ND	27	11	5.4	27
Copper	2620 *	4630 *	3130 *	11400 *	10300 *	31 *	11400 *
Iron	25000	37400	36100	36600	21900	15700	37400
Lead	225	1900	2030	1600	910	30	2030
Manganese	123	69	66	296	153	384	384
Mercury	2.81	4.06	5.62	3	1.18	ND	5.62
Nickel	765 R*	310 R*	255 R*	559 R*	307 R*	19 R*	765 R*
Selenium	ND	3.3	ND	3	ND	ND	3.3
Silver	6	26	23	33	13	ND	33
Thallium	ND	ND	ND	ND	ND	ND	ND
Tin	14	76	412	57	ND	ND	412
Vanadium	24	20	23	25	22	24	25
Zinc	1590	1510	1230	3420	2740	172	3420
Cyanide	ND	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram
ND - Not detected
R - Spike sample recovery not within control limits.
* - Duplicate analysis not within control limits.

SAUGET Analytical Data
Dead Creek - Segment A

SEDIMENT SAMPLES
Pesticides/PCBs (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SD-32	DC-SD-33	DC-SD-34	DC-SD-35	DC-SD-36	DC-SD-31	Maximum
	Sample Depth (ft)	1.5-2	0-0.5	0-0.5	0-0.5	1.5-2	NA	Concentration
	Date Collected	11/06/86	11/06/86	11/06/86	11/06/86	11/06/86	11/06/86	Detected
Pesticides/PCBs								
Alpha-BHC		ND	ND	ND	ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND	ND	ND
Aldrin		ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND	ND	ND	ND
Endrin		ND	ND	ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND	ND	ND
Chlordane		ND	ND	ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND	ND	ND
Aroclor-1248		21000 C	7900	11000	ND	ND	ND	21000 C
Aroclor-1254		13000 JC	6500	10600	71000 C	38000	ND	71000 C
Aroclor-1260		ND	2000 J	2200 J	24000 C	13000 J	ND	24000 C

µg/kg - Micrograms per kilogram
C - Result confirmed by GC/MS
J - Estimated value
ND - Not detected

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Site M and CS-B

SDMS US EPA REGION V
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DESCRIPTION OF ITEM(S)	MAP - SAMPLING LOCATIONS/ DATA		
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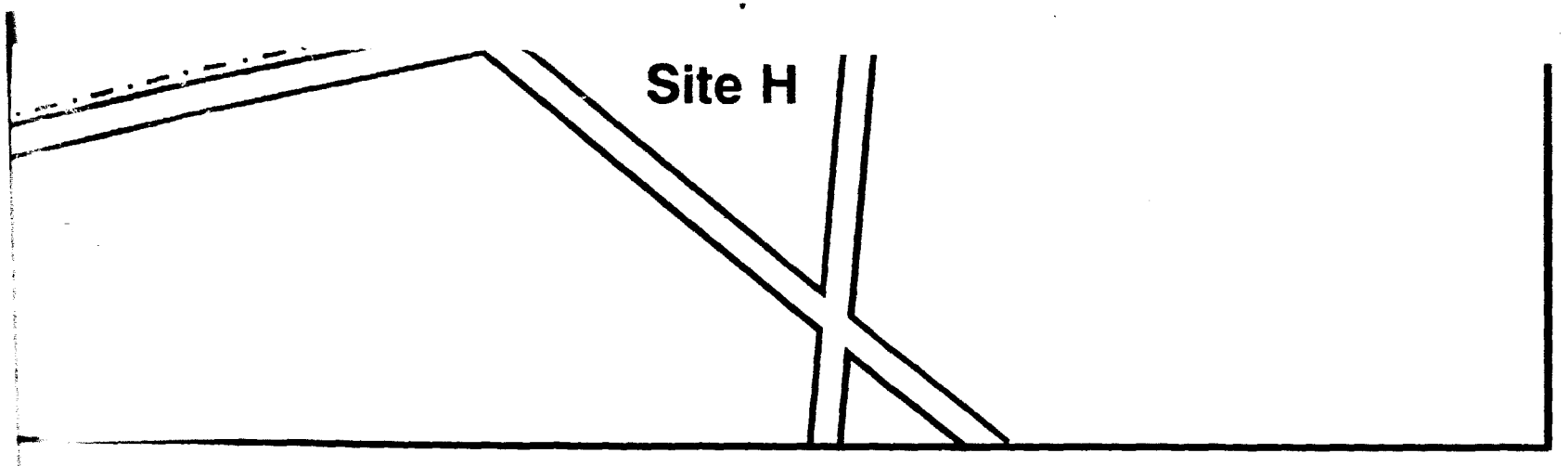
CREEK SEGMENT A (CS-A) & SITE I (partially scanned)			



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SAUGET AREA 1
CREEK SEGMENT A (CS-A) AND SITE I
SAMPLING LOCATIONS/DATA

SITE NARRATIVE

SITE M

SITE NARRATIVE - SAUGET AREA 1 / Site M

Sample Locations	Sampling Entity	Date Sampled	Data Source
SW-02, SW03	E & E	11/5/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
SD-15 thru SD-17	E & E	11/5/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
M-1 thru M-7 and South Shore	Geraghty & Miller	11/91 to 1/92	"Site Investigation for Dead Creek Sector B and Sites L and M" prepared for Monsanto Company by Geraghty & Miller, Inc., March 1992
X123,X124,S501, S502	IEPA	9/15/80	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
#6	IEPA	9/25/80	Memo to Division file from T. Powell (Southern Region) sample locations

Nature and Extent of Contamination:

VOC concentrations in sediments at Site M were 10.82 mg/kg in one the six samples collected which were analyzed for VOCs. BNA concentrations in sediments ranged from 169.2 to 221.1 mg/kg in 2 of the 6 samples. Pesticides were not detected in any of the four sediment samples analyzed for this parameter group. PCBs were detected at concentrations ranging from 1.7 to 505 mg/kg for 13 of 14 samples. Metals, most notably Cd, Cr, Cu, and Pb, were elevated in most samples.

VOCs were not detected in the 3 surface water samples collected. BNA's were detected at a concentration of 3 μg/L in 1 of the 3 samples. Pesticides were not detected in any of the three surface water samples analyzed. PCBs were detected at concentrations ranging from 0.9 to 4.4 μg/L for 2 of the 5 surface water samples. Metals, most notably Cr and Cu, were elevated in some water samples.

The extent of surface water and sediment contamination in Site M is very well defined due to the numbers of samples and sampling points which have been evaluated in past investigations.

Containment and Integrity (if known):

There is no known containment for Site M. The site is a former sand and gravel borrow pit that is approximately 15 feet deep. Site M is connected by a cut-through to CS-B of Dead Creek. Access to the site is restricted by fencing installed by USEPA.

Other Comments: See the attached "Site Description" for more site detail

SITE DESCRIPTION - Sauget Area 1/Site M

Site M is a sand borrow pit excavated by the H.H. Hall Construction Company in the mid- to late-1940's. The pit is located on the east side of Dead Creek at the end of Walnut Street in Cahokia. The dimensions of the pit are 220 feet by 320 feet (or 59,200 sq. feet). The water in the pit is up to 14 feet deep and is connected to Dead Creek segment B through an eight foot opening at the southwest portion of the pit. Geraghty & Miller results from a Site M investigation showed that approximately 3,600 cubic yards of sediment have been impacted by PCBs at Site M (PCBs above 50 mg/kg). The site is currently fenced.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report prepared by IEPA)

SITE NARRATIVE

CREEK SEGMENT B

SITE NARRATIVE - SAUGET AREA 1 / Creek Segment B

Sample Locations	Sampling Entity	Date Sampled	Data Source
SD13,SD14,SD18,SD 19,SD20	E & E	11/5/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
SW04,SW05, SW06	E & E	11/5/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
A-B1 thru J-B1 A-B2 thru J-B2 A-B3 thru J-B3	Geraghty & Miller	10/91	"Site Investigation for Dead Creek Sector B and Sites L and M" prepared for Monsanto Company by Geraghty & Miller, Inc., March 1992
0100301 0100303 0100305	IEPA/ Monsanto	10/2/80	Memo to file from J. Kelly dated November 19, 1980. Re: Cooperative Sampling between IEPA & Monsanto Chemical Co. at Dead Creek, Cahokia IL, on October 2, 1980
SW1	IEPA	5/15/75	Memo to Division of Water Pollution Control from L. Eastep - IEPA dated 5/15/75 Re: Citizen complaint and subsequent sample collection
S501 - S504	IEPA	9/23/93	Letter to Alan Altur (USEPA) from P. Takacs (IEPA) dated November 2, 1993 with sample data and maps attached
S501	IEPA	3/11/94	Letter to Alan Altur (USEPA) from P. Takacs dated November 2, 1993 with sample data and maps attached
X106-X122, X125-X127	IEPA	9/80-10/80	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
P-1	IEPA	1980	Unknown
#1, #2, #3, #4, #5	IEPA	9/25/80	Memo to Division File from T. Powell (southern region) Re: Sample Locations
1,2,10,11,12,13,14, 15,16,17,18,19,20, 24,25,35,36,37,43,49	IEPA	1980	"Summary of the Phase Two Investigation at Dead Creek" Author unknown, Date unknown

SITE NARRATIVE - SAUGET AREA 1 / Creek Segment B

Nature and Extent of Contamination:

VOC concentrations in CS-B sediments ranged from 0.99 to 540 mg/kg for 12 of the 41 samples collected. BNA concentrations in sediments ranged from 0.35 to 30,840 mg/kg for 21 of the 44 samples. Pesticides were not detected in any of the 26 sediment samples analyzed. PCBs were detected at concentrations ranging from 0.17 to 13,000 mg/kg in 55 of the 72 sediment samples. Metals, most notably Cd, Cr, Cu and Hg were elevated in sediment samples throught the segment.

VOC concentrations in surface water ranged from 3 to 54 μg/L for 4 of the 7 samples. BNA concentrations in surface waters ranged from 0.009 to 214 μg/L for 5 of the 7 samples. Pesticides were detected in one of the 7 surface water samples analyzed at a concentration of 50.88 μg/L. PCBs were detected at concentrations ranging from 3.6 to 44 μg/L in 3 of the 5 surface water samples. Metals, most notably Cu and Hg were elevated in some surface water samples collected.

The extent of contamination in CS-B is extremely well defined due to the volume of samples collected and locations of those samples.

Containment and Integrity (if known):

There is no known containment for the contaminated sediments in CS-B. However, access is somewhat restricted via fencing which was installed by USEPA in 1982, although some accessible breaches in the fencing exist.

Other Comments: See the attached "Site Description" for more site details.

SITE DESCRIPTION - Sauget Area 1/Creek Segment B

Creek Segment B (CS-B) includes 1,800 feet of an intermittent portion of Dead Creek which lies between Queeny Avenue to the north and Judith Lane to the south. Three Sauget Area 1 sites (Sites G, L, and M) are adjacent to CS-B, and all are considered to be possible contributing sources of contamination identified in CS-B. In addition, CS-B previously received discharges from CS-A and from an outfall which originated at the Midwest Rubber Company. Geraghty & Miller estimated a volume of 3,300 cubic yards of sediment (the upper 2 feet) have been impacted by contaminants in CS-B. The banks of the creek are heavily vegetated, and debris is scattered throughout the northern portion of CS-B. The entire length of CS-B was fenced by USEPA in 1982. Near the southern portion of CS-B, Dead Creek is connected to Site M by an 8-foot wide cut-through.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report and from a Site Summary for Sauget Area 1 Sites, both prepared by IEPA)

Site M Data

SAUGET Analytical Data
Site M

SURFACE WATER SAMPLES
Volatile Organic Compounds (µg/L)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-01	DC-SW-02	DC-SW-03	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	Concentration
VOC		BLANK			Detected
Chloromethane		ND	ND	ND	ND
Bromomethane		ND	ND	ND	ND
Vinyl chloride		ND	ND	ND	ND
Chloroethane		ND	ND	ND	ND
Methylene chloride		6 B	3 BJ	3 BJ	6 B
Acetone		12 B	ND	7 BJ	12 B
Carbon Disulfide		ND	ND	ND	ND
1,1-Dichloroethene		ND	ND	ND	ND
1,1-Dichloroethane		ND	ND	ND	ND
trans-1,2-Dichloroethene		ND	ND	ND	ND
Chloroform		27	ND	ND	27
1,2-Dichloroethane		ND	ND	ND	ND
2-Butanone (MEK)		ND	ND	ND	ND
1,1,1-Trichloroethane		ND	ND	ND	ND
Carbon Tetrachloride		ND	ND	ND	ND
Vinyl Acetate		ND	ND	ND	ND
Bromodichloromethane		ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND
trans-1,3-Dichloropropene		ND	ND	ND	ND
Trichloroethene		ND	ND	ND	ND
Dibromochloromethane		ND	ND	ND	ND
1,1,2-Trichloroethane		ND	ND	ND	ND
Benzene		ND	ND	ND	ND
cis-1,3-Dichloropropene		ND	ND	ND	ND
2-Chloroethyl Vinyl Ether		ND	ND	ND	ND
Bromoform		ND	ND	ND	ND
4-Methyl-2-pentanone		ND	ND	ND	ND
2-Hexanone		ND	ND	ND	ND
Tetrachloroethene		ND	ND	ND	ND
1,1,2,2-Tetrachloroethane		ND	ND	ND	ND
Toluene		ND	ND	ND	ND
Chlorobenzene		ND	ND	ND	ND
Ethylbenzene		ND	ND	ND	ND
Styrene		ND	ND	ND	ND
Total Xylenes		ND	ND	ND	ND

µg/L - Micrograms per liter
B - Compound detected in blank
J- Estimated value
ND - Not detected

SAUGET Analytical Data
Site M

SURFACE WATER SAMPLES
Base Neutrals/Acids (µg/L)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SW-01	DC-SW-02	DC-SW-03	Maximum
Date Collected	11 05 86	11 05 86	11 05 86	Concentration
BNAs	BLANK			Detected
Phenol	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methylnaphathalene	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND

µg/L - Micrograms per liter
B - Compound detected in blank
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Site M

SURFACE WATER SAMPLES
Base Neutrals/Acids (µg/L)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SW-01	DC-SW-02	DC-SW-03	Maximum
Date Collected	11/05/86	11/05/86	11/05/86	Concentration
BNAs	BLANK			Detected
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND
Di-n-butly phthalate	15 B	26 B	25 B	26 B
Fluoranthene	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND
Di-n-octyl phthalate	ND	4 J	2 J	4 J
Benzo(b)fluoranthene	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND
Benzo(g,h,I)perylene	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND

µg/L - Micrograms per liter
B - Compound detected in blank
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Site M

SURFACE WATER SAMPLES
Total Metals (µg/L)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-01	DC-SW-02	DC-SW-03	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	Concentration
Total Metals		BLANK			Detected
Aluminum		ND	464	ND	464
Antimony		ND	ND	ND	ND
Arsenic		ND	ND	ND	ND
Barium		ND	200	ND	200
Beryllium		ND	ND	ND	ND
Boron		ND	ND	ND	ND
Cadmium		ND	ND	ND	ND
Chromium		ND	14	ND	14
Cobalt		ND	ND	ND	ND
Copper		ND	51	46	51
Iron		255	937	350	937
Lead		ND	6.4	ND	6.4
Manganese		ND	97	95	97
Mercury		ND	ND	ND	ND
Nickel		ND	46	ND	46
Selenium		ND	ND	ND	ND
Silver		ND	ND	ND	ND
Thallium		ND	ND	ND	ND
Tin		ND	ND	ND	ND
Vanadium		ND	ND	ND	ND
Zinc		ND	186	73	186
Cyanide		ND	ND	ND	ND

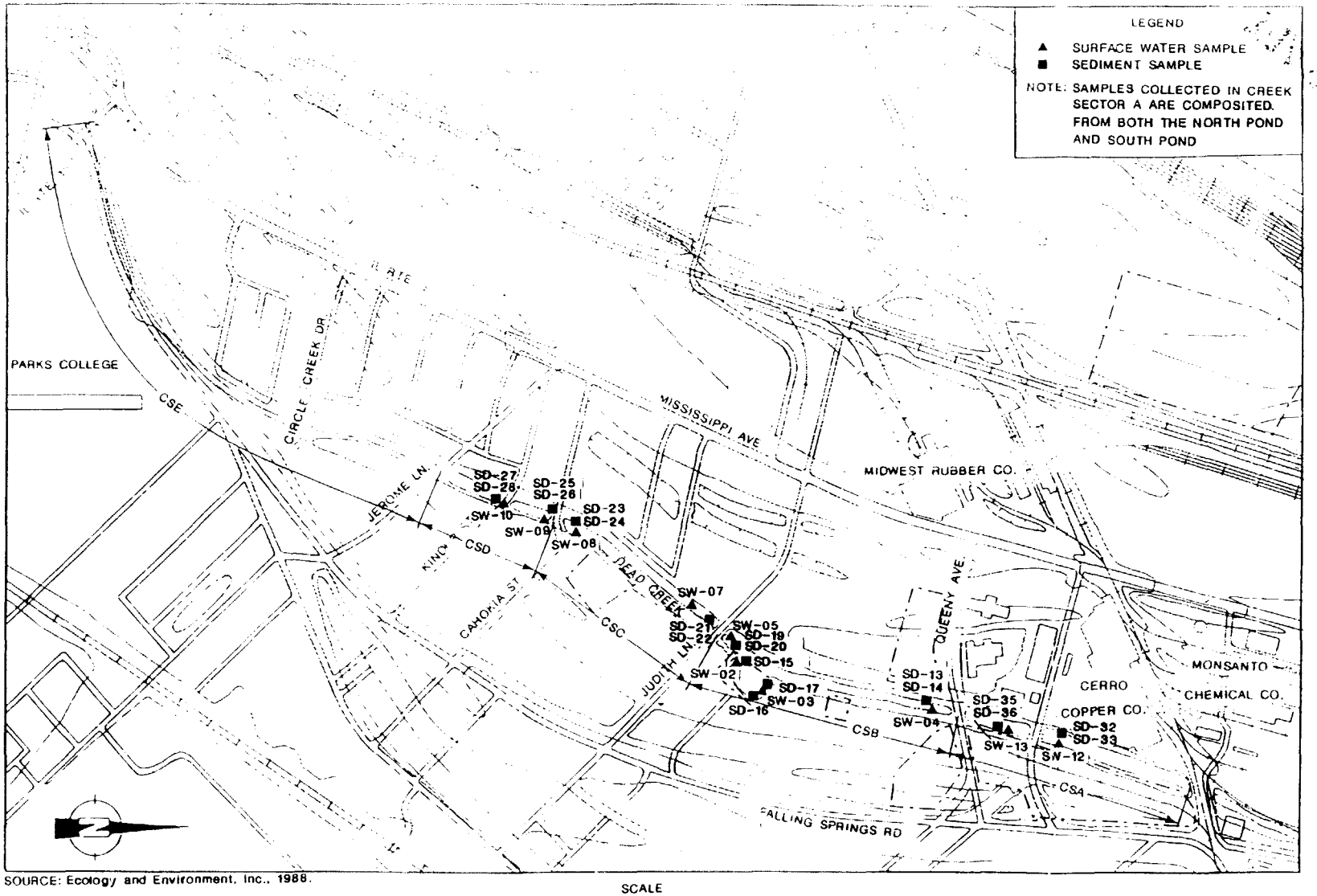
µg/L - Micrograms per liter
ND - Not detected

SAUGET Analytical Data
Site M

SURFACE WATER SAMPLES
Pesticides/PCBs (µg/L)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-01	DC-SW-02	DC-SW-03	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	Concentration
Pesticides/PCBs		BLANK			Detected
Alpha-BHC		ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND
Aldrin		ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND
Endrin		ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND
Chlordane		ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND
Aroclor-1260		ND	ND	ND	ND

µg/L - Micrograms per liter
ND - Not detected



SOURCE: Ecology and Environment, Inc., 1988.

SCALE

0 1000 2000 3000 4000 5000 FEET

FIGURE 3-5 SURFACE WATER AND SEDIMENT SAMPLING LOCATIONS IN DEAD CREEK AND SITE M

SAUGET Analytical Data
Dead Creek - Site M

SEDIMENT SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SD-15	DC-SD-16	DC-SD-17	Maximum
Sample Depth (ft)	0-0.5	0-0.5	0-0.5	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	Detected
VOC				
Chloromethane	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Methylene chloride	7800 B	10000 B	8400 B	10000 B
Acetone	4900 B	5100	5600 JB	5600 JB
Carbon Disulfide	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
2-Butanone (MEK)	11000	14000	13000	14000
1,1,1-Trichloroethane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Styrene	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND

µg/kg - Micrograms per kilogram
B - Compound detected in blank
J - Estimated value
NA- Not applicable
ND- Not detected

SAUGET Analytical Data
Dead Creek - Site M

SEDIMENT SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SD-15	DC-SD-16	DC-SD-17	Maximum
Sample Depth (ft)	0-0.5	0-0.5	0-0.5	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	Detected
BNAs				
Phenol	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methylnaphathalene	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND

(µg/kg) - Micrograms per kilogram
J - Estimated value
NA - Not applicable
ND - Not detected

SAUGET Analytical Data
Dead Creek - Site M

SEDIMENT SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SD-15	DC-SD-16	DC-SD-17	Maximum
Sample Depth (ft)	0-0.5	0-0.5	0-0.5	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	Detected
BNAs				
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND
Di-n-butly phthalate	580 B	570 BJ	560 J	580 J
Fluoranthene	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	540 J	150 J	540 J
Chrysene	ND	ND	ND	ND
Di-n-octyl phthalate	120 J	270 J	ND	270 J
Benzo(b)fluoranthene	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND

(μg/kg) - Micrograms per kilogram
J - Estimated value
NA - Not applicable
ND - Not detected

SAUGET Analytical Data
Dead Creek - Site M

SEDIMENT SAMPLES
Pesticides/PCBs (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SD-15	DC-SD-16	DC-SD-17	Maximum
	Sample Depth (ft)	0-0.5	0-0.5	0-0.5	Concentration
	Date Collected	11/05/86	11/05/86	11/05/86	Detected
Pesticides/PCBs					
Alpha-BHC		ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND
Aldrin		ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND
Endrin		ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND
Chlordane		ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	
Aroclor-1232		ND	ND	ND	ND
Aroclor-1242		ND	**20000**	ND	**20000**
Aroclor-1248		**660**	**8830**	**5200**	**8830**
Aroclor-1254		**670**	ND	**4200**	**4200**
Aroclor-1260		**430 J**	ND	**2700 J**	**2700 J**

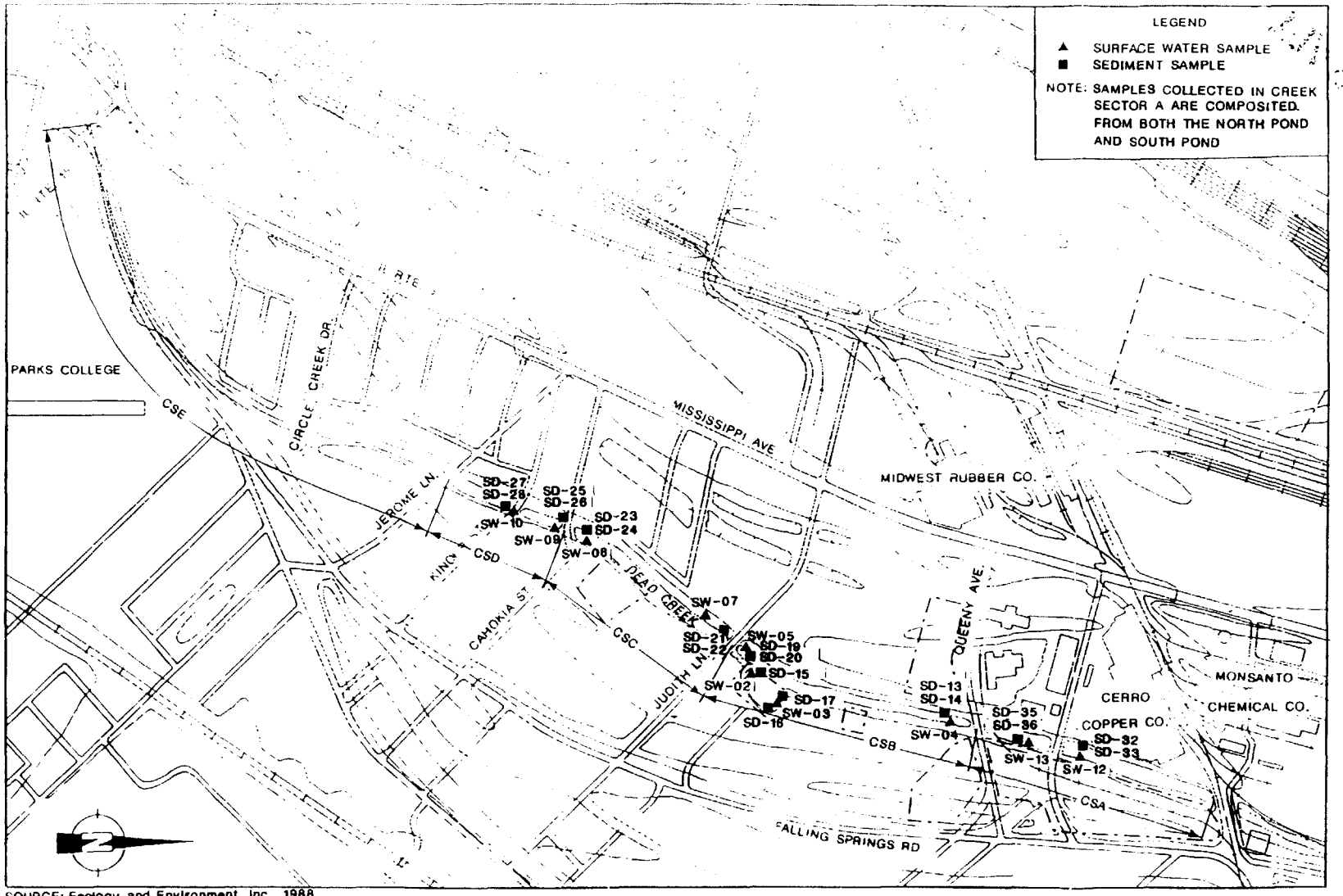
µg/kg - Micrograms per kilogram
J - Estimated value
NA - Not applicable
ND - Not detected

SAUGET Analytical Data
Dead Creek - Site M

SEDIMENT SAMPLES
Total Metals (mg/kg)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SD-15	DC-SD-16	DC-SD-17	Maximum
	Sample Depth (ft)	0-0.5	0-0.5	0-0.5	Concentration
	Date Collected	11/05/86	11/05/86	11/05/86	Detected
Total Metals					
Aluminum		**6560**	**2430**	**7510**	**7510**
Antimony		ND	ND	ND	ND
Arsenic		**3.6 R**	**12 R**	**16 R**	**16 R**
Barium		**156**	**131**	**196**	**196**
Beryllium		ND	ND	ND	ND
Boron		ND	ND	ND	ND
Cadmium		**1.5**	**11**	**8**	**11**
Chromium		**15**	**37**	**53**	**53**
Cobalt		**7.7**	**7.2**	**5**	**7.7**
Copper		**167 ***	**1270 ***	**1780**	**1780**
Iron		**11100**	**26000**	**14400**	**26000**
Lead		**26**	**65**	**71**	**71**
Manganese		**100**	**97**	**139**	**139**
Mercury		**0.13**	**0.56**	**0**	**0.56**
Nickel		**356 R***	**258 R***	**309 R***	**356 R***
Selenium		ND	ND	ND	ND
Silver		ND	ND	ND	ND
Thallium		ND	ND	ND	ND
Tin		ND	**23**	ND	**23**
Vanadium		**19**	ND	**19**	**19**
Zinc		**868**	**872**	**1010**	**1010**
Cyanide		ND	ND	ND	ND

mg/kg - Milligrams per kilogram
NA - Not applicable
ND - Not detected
R - Spike sample recovery not within control limits
* - Duplicate analysis not within control limits



SOURCE: Ecology and Environment, Inc., 1988.

SCALE

0 1000 2000 3000 4000 5000 FEET

FIGURE 3-5 SURFACE WATER AND SEDIMENT SAMPLING LOCATIONS IN DEAD CREEK AND SITE M

SAUGET Analytical Data
Site M

SEDIMENT/SURFACE WATER SAMPLES
Volatile Organic Compounds
Collected by Geraghty & Miller, Inc.

Sample Number	M3	M-4A	Maximum	South Shore	Equipment	Maximum
Sample Depth (ft)	0-8	0-1	Sediment	Surface Water	Blank	Water
Date Collected	11/05/91	01/07/92	Concentration	01/08/92	11/5/91	Concentration
VOC	mg/kg	mg/kg	mg/kg	µg/L	µg/L	µg/L
Methylene chloride	<2.2 J	<2.6 J	<2.6 J	<5.0 J	**1.0 J**	**1 J**
Acetone	<4.5 J	<52 J	<52 J	<100 J	<10	<100 J
Carbon disulfide	<2.2 J	<2.6 J	<2.6 J	<5.0 J	<5.0 J	<5.0 J
2-Butanone	<4.5 J	<52 J	<52 J	<100 J	<10	<100 J
Benzene	<2.2 J	<2.6 J	<2.6 J	<5.0 J	<5.0 J	<5.0 J
Tetrachloroethene	<2.2 J	<2.6 J	<2.6 J	<5.0 J	<5.0	<5.0 J
Toluene	<2.2 J	<2.6 J	<2.6 J	<5.0 J	<5.0 J	<5.0 J
Chlorobenzene	**10 J**	<2.6 J	**10 J**	<5.0 J	<5.0 J	<5.0 J
Ethylbenzene	**0.82 J**	<2.6 J	**0.82 J**	<5.0 J	<5.0 J	<5.0 J
Xylenes	<2.2 J	<2.6 J	<2.6 J	<5.0 J	<5.0 J	<5.0 J
Chloroform	<2.2 J	<2.6 J	<2.6 J	<5.0 J	**21**	**21**
1,1,1-Trichloroethane	<2.2 J	<2.6 J	<2.6 J	<5.0 J	**2.0 J**	**2 J**

mg/kg - Milligrams per kilogram.

µg/L - Micrograms per liter.

J - Estimated value.

recycled paper

SAUGET Analytical Data
Site M

SEDIMENT/SURFACE WATER SAMPLES
Base Neutrals/Acids
Collected by Geraghty & Miller, Inc.

	Sample Number	M3	M-4A	Maximum	South Shore	Equipment	Maximum
	Sample Depth (ft)	0-8	0-1	Sediment	Surface Water	Blank	Water
	Date Collected	11/05/91	01/07/92	Concentration	01/08/92	11/05/91	Concentration
BNAs		mg/kg	mg/kg	mg/kg	µg/L	µg/L	µg/L
Phenol		<12	<14	<14	<10	<10	<10
2-Chlorophenol		<12	<14	<14	<10	<10	<10
1,3-Dichlorobenzene		4.1 J	2.3 J	4.1 J	<10	<10	<10
1,4-Dichlorobenzene		40	27	40	<10	<10	<10
1,2-Dichlorobenzene		26	3.3 J	26	<10	<10	<10
4-Methylphenol		<12	<14	<14	<10	<10	<10
Isophorone		<12	<14	<14	<10	<10	<10
2,4-Dimethylphenol		<12	<14	<14	<10	<10	<10
2,4-Dichlorophenol		<12	<14	<14	<10	<10	<10
1,2,4-Trichlorobenzene		14	5 J	14	<10	<10	<10
Naphthalene		3.3 J	2.6 J	3.3 J	<10	<10	<10
4-Chloroaniline		<12	<14	<14	<10	<10	<10
2-Methylnaphthalene		6.9 J	1.6 J	6.9 J	<10	<10	<10
2,4,6-Trichlorophenol		<12	<14	<14	<10	<10	<10
2,4,5-Trichlorophenol		<59	<14	<59	<10	<50	<50
Acenaphthylene		<12	<14	<14	<10	<10	<10
Acenaphthene		<12	1.5 J	1.5 J	<10	<10	<10
Dibenzofuran		<12	2.1 J	2.1 J	<10	<10	<10
Diethylphthalate		<12	<14	<14	<10	<10	<10
Fluorene		5.2 J	5.9 J	5.9 J	<10	<10	<10
N-Nitrosodiphenylamine		<12	<14	<14	<10	<10	<10
Hexachlorobenzene		<12	<14	<14	<10	<10	<10
Pentachlorophenol		<59	<69	<69	<50	<50	<50
Phenanthrene		11 J	13 J	13 J	<50	<10	<50
Anthracene		2.5 J	3.9 J	3.9 J	<50	<10	<50
Di-n-butly phthalate		<12	<14	<14	<50	<10	<50
Fluoranthene		21	21	21	<50	<10	<50
Pyrene		23	27	27	<50	<10	<50
Butyl Benzyl phthalate		<12	1.6 J	1.6 J	<50	0.2 J	0.2 J
Benzo (a)anthracene		9.4 J	9.2	9.4 J	<50	<10	<50
bis(2-ethylhexyl)phthalate		18 B	<14	18 B	<50	<10	<50
Chrysene		12	9.9 J	12	<50	<10	<50
Benzo(b)fluoranthene		15	8.4 J	15	<50	<10	<50
Benzo(k)fluoranthene		9.3 J	6.6 J	9.3 J	<50	<10	<50
Benzo(a)pyrene		7.5 J	6.9 J	7.5 J	<50	<10	<50
Indeno(1,2,3-cd)pyrene		3.7 J	4.4 J	4.4 J	<50	<10	<50
Dibenzo(a,h)anthracene		1.2 J	<14	1.2 J	<50	<10	<50
Benzo(g,h,i)perylene		6 J	6 J	6 J	<50	<10	<50
Benzoic Acid		NA	NA	NA	3 J	NA	3 J

mg/kg - Milligrams per kilogram
µg/L - Micrograms per liter
B - Compound detected in blank sample
J - Estimated value
NA - Parameter not analyzed

SAUGET Analytical Data
Site M

SEDIMENT/SURFACE WATER SAMPLES
Total Metals
Collected by Geraghty & Miller, Inc.

	Sample Number	M1	M2	M3	Maximum	South Shore	Equipment	Maximum
	Sample Depth (ft)	0-3	0-3.5	0-8	Sediment	Surface Water	Blank	Water
	Date Collected	11/05/91	11/05/91	11/05/91	Concentration	01/08/92	11/05/91	Concentration
Total Metals		mg/kg	mg/kg	mg/kg	mg/kg	µg/L	µg/L	µg/L
Aluminum		4670	7220	7290	7290	<200	<200	<200
Antimony		<30.8 J	16.6 BJ	41.2 J	41.2 J	<50	<50	<50
Barium		1760	3080	9060	9060	140	<10.0	140
Cadmium		17.2	8.6	47.2	47.2	<5.0	<5.0	<5.0
Calcium		11500	5560	12500	12500	46000	395 B	46000
Chromium		80	89.5	183	183	<10	<10	<10
Cobalt		18.8 B	9.1 B	20.6 B	20.6 B	<10	<10	<10
Copper		8150	13400	21000	21000	200	81.4	200
Iron		16300	20600	48500	48500	270	<50	270
Magnesium		6200	3090	4340	6200	3900	<50	3900
Manganese		154	162	178	178	56	<10.0	56
Nickel		1390	959	2490	2490	<40.0	<40.0	<40.0
Potassium		758 B	1080 B	989 B	1080 B	3700	<1000	3700
Silver		18	19.6	26 J	26 J	<10.0	<10.0	<10.0
Sodium		<309	211 B	<338	211 B	20000	<500	20000
Vanadium		19.3 B	29.3	37.7	37.7	<10.0	<10.0	<10.0
Zinc		9930	12300	31600	31600	130	<20	130
Mercury		0.07	0.38	0.45	0.45	<0.20	<0.20	<0.20
Lead		625	796	1910	1910	11 J	<3.0	11 J
Selenium		<3.1	<1.6 J	<3.2 J	<3.2 J	<10.0	5	5
Arsenic		25.2 J	7 J	94 J	94 J	<10.0	<10.0	<10.0
Cyanide		NA	NA	1.3 J	1.3 J	<10.0	<10.0	<10.0

mg/kg - Milligrams per kilogram
µg/L - Micrograms per liter.
B - Estimated value. The value is less than the CRDL, but greater than the instrument detection limit.
J - Estimated value
NA - Parameter not analyzed

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SAUGET Analytical Data
Site M

SEDIMENT/SURFACE WATER SAMPLES
PCBs
Collected by Geraghty & Miller, Inc.

	Sample Number	M1	M2	M3	M-1A	M-2A	M-3A	M-4A	M-5A	M-6A	M-7A	Maximum
	Sample Depth (ft)	0-3	0-3 5	0-8	0-1	0-1	0-1	0-1	0-1	0-1	0-1	Sediment
	Date Collected	11/05/91	11/05/91	11/05/91	01/07/92	01/07/92	01/07/92	01/07/92	01/07/92	01/07/92	01/07/92	Concentration
Pesticides/PCBs		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aroclor-1248		13	6.9	210	16	67	110	140	110	260	21 J	260
Aroclor-1254		8 X	4.2 X	81 J	31	77	63	120	110	190	54	190
Aroclor-1260		8.3	3.8 J	72 J	16	43	19 J	51	39	55	22 J	72 J
Total PCBs		29.3	14.9	363	63	187	192	311	259	505	97	505

	Sample Number	South Shore	Equipment	Maximum
	Sample Depth (ft)	Surface Water	Blank	Water
	Date Collected	01/08/92	11/05/91	Concentration
Pesticides/PCBs		µg/L	µg/L	µg/L
Aroclor-1248		<0 50	<0 50	<0 50
Aroclor-1254		<0 50	<1 0	<0 50
Aroclor-1260		<0 50	<1 0	<0 50
Total PCBs		0	0	0

mg/kg - Milligrams per kilogram

µg/L - Micrograms per liter

J - Estimated value

X - Due to the presence of Aroclor 1248 1254 and 1260 the quantitation is based on one peak only

SAUGET Analytical Data
Site M

SEDIMENT SAMPLES
RCRA Hazardous Characteristic Parameters
Collected by Geraghty & Miller, Inc.

Sample Number		M1, M2, M3	Composite M3	Maximum
Sample Depth (ft)	Regulatory	0-8	0-5	Concentration
Date Collected	Limit	11/05/91	12/04/91	Detected
Ignitability - Flash point	<140 deg. F	non-ignitable	NA	
Corrosivity (pH units)	<2 or >12.5	7.2	NA	7.2
Reactivity (mg/kg)dry wt.				
Sulfide	500	500	<4.5	500
Cyanide	250	<1.6	NA	<1.6
TCLP VOLATILES (mg/L)				
Benzene	0.5	<0.020	NA	<0.020
Carbon tetrachloride	0.5	<0.020	NA	<0.020
Chlorobenzene	100	0.076 (0.063) *	NA	0.076 *
Chloroform	6	<0.020	NA	<0.020
1,2-Dichloroethane	0.5	<0.020	NA	<0.020
1,1-Dichloroethylene	0.7	<0.020	NA	<0.020
2-Butanone (MEK)	200	<0.40	NA	<0.40
Tetrachloroethylene	0.7	<0.020	NA	<0.020
Trichloroethylene	0.5	<0.020	NA	<0.020
Vinyl chloride	0.2	<0.040	NA	<0.040
TCLP SEMIVOLATILES (mg/L)				
Cresol (o)	200	<0.050	NA	<0.050
Cresol (m,p)	200	<0.050	NA	<0.050
1,4-Dichlorobenzene	7.5	<0.050	NA	<0.050
2,4-Dinotrotoluene	0.13	<0.050	NA	<0.050
Hexachlorobenzene	0.13	<0.050	NA	<0.050
Hexachlorobutadiene	0.5	<0.050	NA	<0.050
Hexachloroethane	3	<0.050	NA	<0.050
Nitrobenzene	2	<0.050	NA	<0.050
Pentachlorophenol	100	<0.25	NA	<0.25
2,4,5-Trichlorophenol	400	<0.25	NA	<0.25
2,4,6-Trichlorophenol	2	<0.050	NA	<0.050
Pyridine	5	<0.25	NA	<0.25

NA - Parameter not analyzed.

* Methods SW-846-1311 - Toxicity characteristic leaching procedure (TCLP) results which are above the quantitation limit have been correcte by analytical bias per instructions in Section 8.2.5 of Method 1311 (Federal Register, June 29, 1990). The first number reported is the corrected TCLP value (used to determine if the sample is hazardous) and the value in parenthesis () is the uncorrected analytical results.

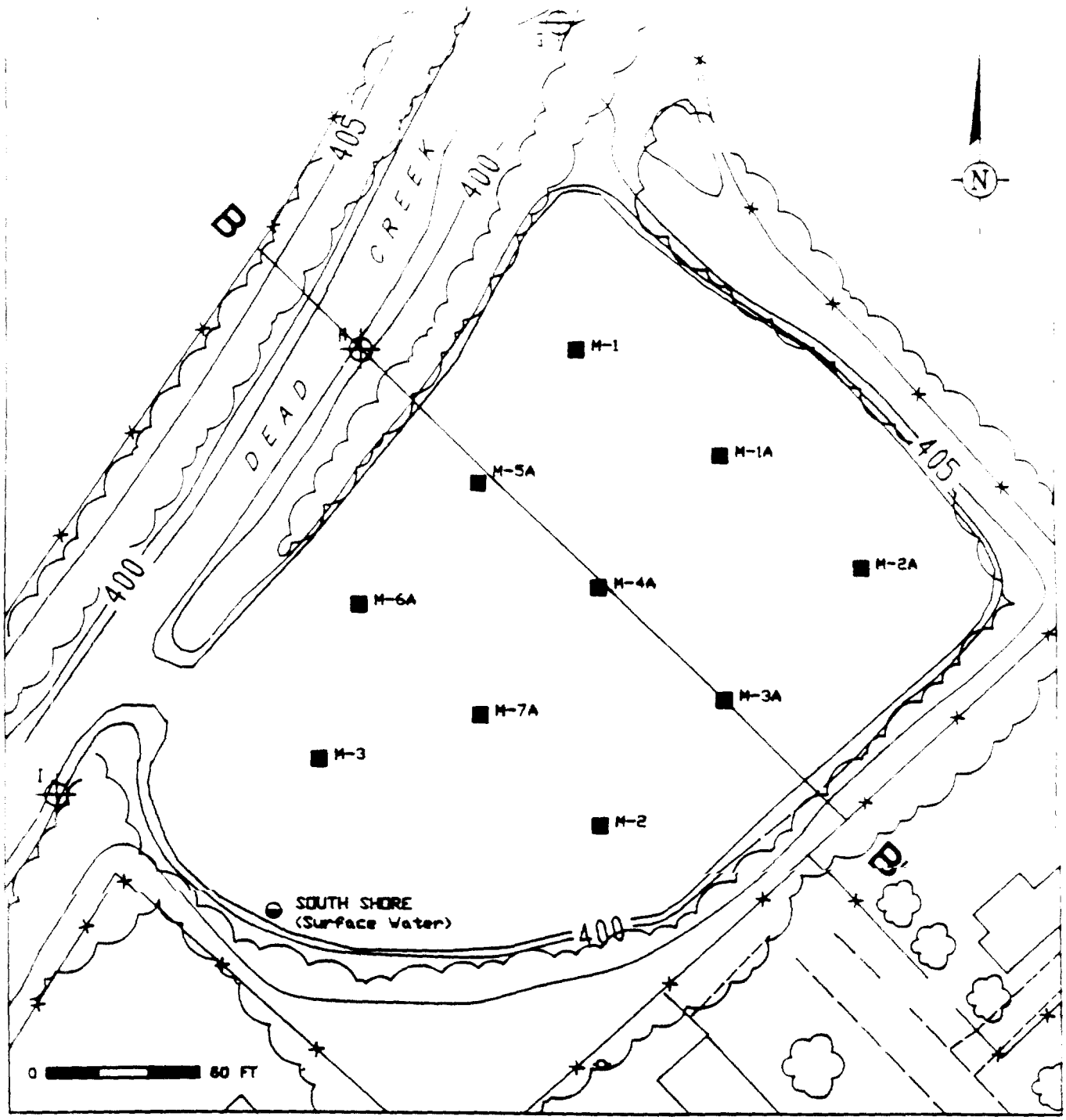
SAUGET Analytical Data
Site M

SEDIMENT SAMPLES
RCRA Hazardous Characteristic Parameters
Collected by Geraghty & Miller, Inc.

Sample Number		M1, M2, M3	Composite M3	Maximum
Sample Depth (ft)	Regulatory	0-8	0-5	Concentration
Date Collected	Limit	11/05/91	12/04/91	Detected
TCLP PESTICIDES (mg/L)				
Chlorodane	0.03	<0.0050	NA	<0.0050
Endrin	0.02	<0.0010	NA	<0.0010
Heptachlor	0.008	<0.00050	NA	<0.00050
Heptchlor epoxide	0.008	<0.00050	NA	<0.00050
Lindane (g-BHC)	0.4	<0.00050	NA	<0.00050
Methoxychlor	10	<0.025	NA	<0.025
Toxaphene	0.5	<0.050	NA	<0.050
TCLP HERBICIDES (mg/L)				
2,4-D	10	<0.050	NA	<0.050
Silvex (2,4,5-TP)	1	<0.010	NA	<0.010
TCLP METALS (mg/L)				
Arsenic	5	<0.20	NA	<0.20
Barium	100	**3.7 (3.5) ***	NA	**3.7 ***
Cadmium	1	**0.037 (0.031) ***	NA	**0.037 ***
Chromium	5	<0.050	NA	ND
Lead	5	**0.52 (0.44) ***	NA	**0.52 ***
Mercury	0.2	<0.020	NA	<0.020
Selenium	1	<0.50	NA	<0.50
Silver	5	<0.010	NA	<0.010

NA - Parameter not analyzed

* Methods SW-846-1311 - Toxicity characteristic leaching procedure (TCLP) results which are above the quantitation limit have been correcte by analytical bias per instructions in Section 8.2.5 of Method 1311 (Federal Register, June 29, 1990). The first number reported is the corrected TCLP value (used to determine if the sample is hazardous) and the value in parenthesis () is the uncorrected analytical results



EXPLANATION

B–B' LINE OF CROSS SECTION

—400— ELEVATION (MEAN SEA LEVEL)

M-3 SEDIMENT SAMPLING/ANALYSIS LOCATION AND DESIGNATION

SURFACE-WATER SAMPLE LOCATION

I DEAD CREEK BORING PROFILE LOCATION AND DESIGNATION

GERAGHTY & MILLER, INC.
Environmental Services

SAMPLING NETWORK
SITE M, CAHOKIA, ILLINOIS

MONSANTO COMPANY ST. LOUIS, MISSOURI

FIGURE 2-3

DRAFTER: W.H. CICIO | APPROVED: B.A. BLUM | CHECKED: B.A. BLUM | DRAWING: SMPNET-M | FILE NO.: 1444 | PRJCT NO.: NY60508 | DWG DATE: 28JAN92

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SAUGET Analytical Data
Site M

WATER SAMPLES (mg/L)/SEDIMENT SAMPLES (mg/kg)

Collected by IEPA (9/15/80)

	Sample Number	S 501	S 502	Maximum	x123	x124	Maximum
	Date Collected	9/15/80	9/15/80	Water	9/15/80	9/15/80	Sediment
	Sample Matrix	Water	Water	Concentration	Sediment	Sediment	Concentration
Alkalinity		80	85	85	NA	NA	NA
Arsenic		0.006	0.01	0.01	NA	NA	NA
Barium		0.2	0.5	0.5	4400	350	4400
Berylium		NA	NA	NA	3	1	3
BOD-5		4	33	33	NA	NA	NA
Boron		0.2	0.2	0.2	ND	25	25
Cadmium		ND	ND	ND	40	4	40
Calcium		NA	NA	NA	12500	4500	12500
COD		58	85	85	NA	NA	NA
Chloride		27	28	28	NA	NA	NA
Chromium		ND	ND	ND	150	50	150
Copper		0.035	0.33	0.33	18700	4500	18700
Cyanide		0.02	ND	0.4	NA	NA	NA
Fluoride		0.4	0.4	0.4	NA	NA	NA
Iron		0.8	1.8	1.8	49000	13500	49000
Lead		ND	0.01	0.01	1400	130	1400
Magnesium		6	6	6	3400	3500	3500
Manganese		0.06	0.82	0.82	200	80	200
Mercury		ND	ND	ND	NA	NA	NA
Nickel		0.02	0.05	0.05	1600	590	1600
Phenol		0.01	0.01	0.01	NA	NA	NA
Phosphorus		0.17	0.31	0.31	NA	NA	NA
Potassium		5.9	6.2	6.2	950	1000	1000
Silver		ND	ND	ND	30	6	30
Sodium		24	25	25	650	100	650
Strontium		NA	NA	NA	175	27	175
Vanadium		NA	NA	NA	42	19	42
Zinc		0.1	0.7	0.7	17700	2600	17700
PCB		0.0009	0.0044	0.0044	1100	24	1100
Dichlorobenzene		NA	NA	NA	NA	NA	NA

mg/L - Milligrams per liter
mg/kg - Milligrams per kilogram
NA - parameter not analyzed
ND - below detection limits

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SAUGET Analytical Data
Site M

SURFACE WATER SAMPLE
Volatile Organic Compounds (μg/L)
Collected BY IEPA (3/11/94)

	Sample Number	S501	Maximum
	Date Collected	3/11/94	Concentration
VOC			Detected
Chloromethane		ND	ND
Bromomethane		ND	ND
Vinyl chloride		ND	ND
Chloroethane		ND	ND
Methylene chloride		ND	ND
2-Propenal		ND	ND
Acrylonitrile		ND	ND
Trichlorofluoromethane		ND	ND
1,1-Dichloroethene		ND	ND
1,1-Dichloroethane		ND	ND
1,2-Dichloroethene (total)		ND	ND
Chloroform		ND	ND
1,2-Dichloroethane		ND	ND
1,1,1-Trichloroethane		ND	ND
Carbon Tetrachloride		ND	ND
Bromodichloromethane		ND	ND
1,2-Dichloropropane		ND	ND
cis-1,3-dichloropropene		ND	ND
Trichloroethene		ND	ND
Dibromochloromethane		ND	ND
1,1,2-Trichloroethane		ND	ND
Chloroethylvinylether		ND	ND
Benzene		2 J	2
trans-1,3-Dichloropropene		ND	ND
Bromoform		ND	ND
Tetrachloroethene		ND	ND
1,1,2,2-Tetrachloroethane		ND	ND
Toluene		19	19
Chlorobenzene		33	33
Ethylbenzene		ND	ND

μg/L - Micrograms per liter.
J - Estimated value.
ND - Not detected.

SAUGET Analytical Data
Site M

SURFACE WATER SAMPLE
Base Neutrals/Acids (μg/L)
Collected BY IEPA (3/11/94)

Sample Number	S 501	Maximum
Date Collected	3/11/94	Concentration
BNAs		Detected
Phenol	28	28
bis(2-chloroethyl)ether	ND	ND
2-Chlorophenol	14	14
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	5 J	5 J
1,2-Dichlorobenzene	ND	ND
bis(2-chloroisopropyl)ether	ND	ND
N-nitroso-Di-propylamine	ND	ND
Hexachloroethane	ND	ND
Nitrobenzene	ND	ND
Isophorone	ND	ND
2-Nitrophenol	ND	ND
2,4-Dimethylphenol	13	13
bis(-2-Chloroethoxy)Methane	ND	ND
2,4-Dichlorophenol	150	150
1,2,4-Trichlorobenzene	2 J	2 J
Naphthalene	ND	ND
Hexachlorobutadiene	ND	ND
4-Chloro-3-Methylphenol	ND	ND
Hexachlorocyclopentadiene	ND	ND
2,4,6-Trichlorophenol	6 J	6 J
2,4,5-Trichlorophenol	6 J	6 J
2-Chloronaphthalene	ND	ND
Dimethyl Phthalate	ND	ND
Acenaphthylene	ND	ND
2,6-Dinitrotoluene	ND	ND
Acenaphthene	ND	ND
2,4-Dinitrophenol	ND	ND
4-Nitrophenol	ND	ND
2,4-Dinitrotoluene	ND	ND
Diethyphthalate	3 J	3 J
4-Chlorophenyl-phenylether	ND	ND
Fluorene	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND
N-Nitrosodiphenylamine	ND	ND
4-Bromophenyl-phenylether	ND	ND

μg/L - Micrograms per liter.
J - Estimated value.
ND - Not detected.

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SAUGET Analytical Data
Site M

SURFACE WATER SAMPLE
Base Neutrals/Acids (µg/L)
Collected BY IEPA (3/11/94)

	Sample Number	S 501	Maximum
	Date Collected	3/11/94	Concentration
BNAs			Detected
Hexachlorobenzene		ND	ND
Pentachlorophenol		120	120
Phenanthrene		ND	ND
Anthracene		ND	ND
Di-N-Butylphthalate		ND	ND
Fluoranthene		ND	ND
Pyrene		ND	ND
Butylbenzylphthalate		ND	ND
3,3'-Dichlorobenzidine		ND	ND
Benzo(a)Anthracene		ND	ND
Chrysene		ND	ND
bis(2-Ethylhexl)Phthalate		ND	ND
Di-n-Octyl Phthalate		ND	ND
Benzo(b)Fluoranthene		ND	ND
Benzo(k)Fluoranthene		ND	ND
Benzo(a)Pyrene		ND	ND
Indeno(1,2,3-cd)Pyrene		ND	ND
Dibenzo(a,h)Anthracene		ND	ND
Benzo(g,h,i)Perylene		ND	ND

µg/L - Micrograms per liter.
J - Estimated value.
ND - Not detected.

SAUGET Analytical Data
Site M

SURFACE WATER SAMPLE
Pesticides/PCBs (μg/L)
Collected BY IEPA (3/11/94)

Sample Number	S 501	Maximum
Date Collected	3/11/94	Concentration
Pesticides/PCBs		Detected
alpha-BHC	ND	ND
beta-BHC	ND	ND
delta-BHC	ND	ND
gamma-BHC (Lindane)	ND	ND
Heptachlor	ND	ND
Aldrin	ND	ND
Heptachlor epoxide	ND	ND
Endosulfan I	ND	ND
Dieldrin	0.18	0.18
4,4'-DDE	ND	ND
Endrin	ND	ND
Endosulfan II	0.06	0.06
4,4'-DDD	ND	ND
Endosulfan sulfate	ND	ND
4,4'-DDT	0.24	0.24
Methoxychlor	ND	ND
Endrin Ketone	ND	ND
Chlorodane	ND	ND
Toxaphene	ND	ND
Endrin Aldehyde	ND	ND
Aroclor 1016	ND	ND
Aroclor 1221	ND	ND
Aroclor 1232	ND	ND
Aroclor 1242	ND	ND
Aroclor 1248	ND	ND
Aroclor 1254	ND	ND
Aroclor 1260	ND	ND

μg/L - Micrograms per liter.
ND - Not detected.

SAUGET Analytical Data
Site M

SURFACE WATER SAMPLE
Total Metals (μg/L)
Collected BY IEPA (3/11/94)

	Sample Number	S 501	Maximum
	Date Collected	3/11/94	Concentration
Metals			Detected
Aluminum		NA	ND
Antimony		ND	ND
Arsenic		3.7 BW	3.7 BW
Barium		NA	ND
Beryllium		ND	ND
Cadmium		5.1	5.1
Calcium		NA	ND
Chromium		5.6 B	5.6 B
Cobalt		NA	ND
Copper		224	224
Iron		NA	ND
Lead		24.4 S	24.4 S
Magnesium		NA	ND
Manganese		NA	ND
Mercury		ND	ND
Nickel		ND	ND
Potassium		NA	ND
Selenium		ND W	ND W
Silver		ND	ND
Sodium		NA	ND
Thallium		ND W	ND W
Vanadium		NA	ND
Zinc		193	193
Cyanide		ND	ND

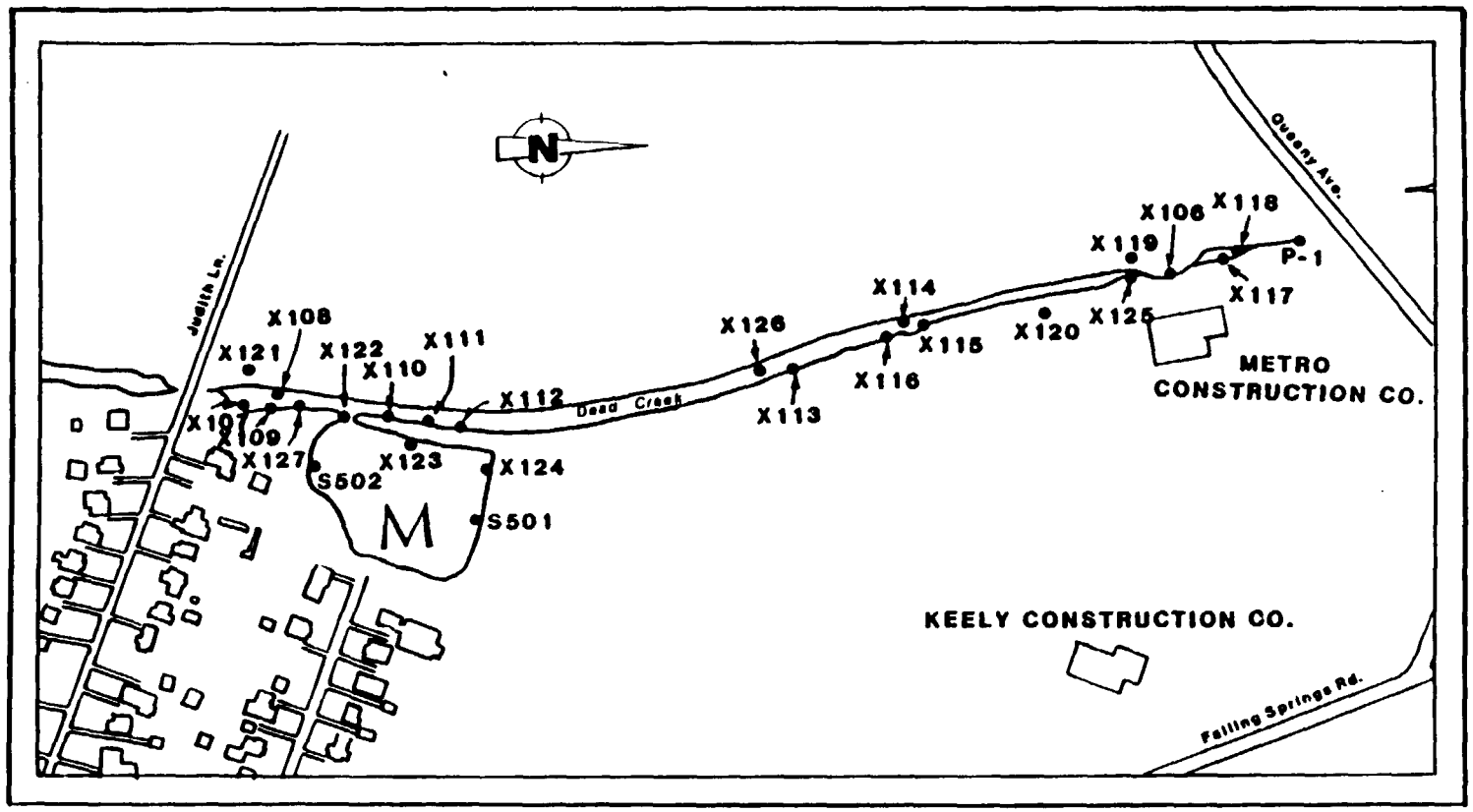
μg/L - Micrograms per liter.
B - Estimated value. The value is less than the CRDL, but greater than the instrument detection limit.
NA - Not analyzed.
ND - Not detected
S - Analysis performed using the method of standard additions.
W - Laboratory post-digestion spike for furnace AA analysis exceeds QC limits

SAUGET Analytical Data
Site M

SURFACE WATER SAMPLES
Herbicides (µg/L)
Collected by IEPA (3/11/94)

	Sample Number	S501	S501DL	Maximum
	Date Collected	03/11/94	03/11/94	Concetration
Herbicides				Detected
2,4-D		26 E	47	47
2,4,5-TP (Silvex)		3.4	ND	3.4

µg/L - Micrograms per liter.
E - Estimated value. Concentration detected exceeds the calibrated range.
ND - Not detected.



LEGEND

X106	SEDIMENT SAMPLING LOCATION
S502	SURFACE WATER SAMPLING LOCATION
P-1	SUBSURFACE SOIL SAMPLING LOCATION

SCALE

0 150 600 900 FEET

FIGURE B-1
IEPA SAMPLING LOCATIONS AT CREEK SECTOR B AND SITE M

SAUGET Analytical Data
Site M

SOIL/SEDIMENT SAMPLES
Metals (mg/kg)
Collected by IEPA (09/25/80)

	Sample Number	6	Maximum Concentration
Metals			
Iron		13500	13500
Manganese		80	80
Calcium		4500	4500
Magnesium		3500	3500
Sodium		100	100
Potassium		1000	1000
Barium		350	350
Boron		25	25
Cadmium		4	4
Chromium		50	50
Copper		4500	4500
Lead		130	130
Nickel		590	590
Silver		6	6
Zinc		2600	2600
Beryllium		1	1
Cobalt		7	7
Strontium		27	27
Vanadium		19	19
Phosphorus		560	560

mg/kg - Milligrams per kilogram.

September 26, 1980

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SEP 30 1980
IEPA-DAPC-SPFLD

Division File

Tom Powell - Southern Region

St. Clair County - General - Cahokia/Dead Creek

On Thursday September 25, 1980, this writer, along with Ken Mensing, were in Cahokia, Illinois to obtain soil and water samples from Dead Creek and its peripheries. Sample points included both the east and west sides of the most heavily contaminated area, between Judith Lane and Queeny Avenue, and randomly selected points downstream within the ditch. We arrived at the site approximately 9:50 a.m. and collected a total of twelve (12) samples. A minimal amount of precipitation had fallen the evening before we visited the site for sampling. The ground surface was damp with no blowing dust when we procured the samples. The following is a listing of the sample points:

Sample Number	Location	Depth of Sample
1	Soil sample obtained 96 yards south of Queeny Avenue and 6 yards west of snowfence on west side of Dead Creek. Sample was collected from northeast corner of bean field.	12 inches (composite)
2	Soil sample obtained 120 yards south of Queeny Avenue and 1 yard east of snowfence on the east side of Dead Creek.	12 inches (composite)
3	Soil sample obtained 30 yards north of Judith Lane and 1 yard west of snowfence on the west side of Dead Creek.	12 inches (composite)
4	Soil sample obtained from drainage cut, midway between Dead Creek and the pond near Judith Lane.	9 inches (composite)
5	Pond sediment sample obtained at the north side of the confluence of the drainage cut with pond, one (1) yard east into the pond.	12 inches (composite)

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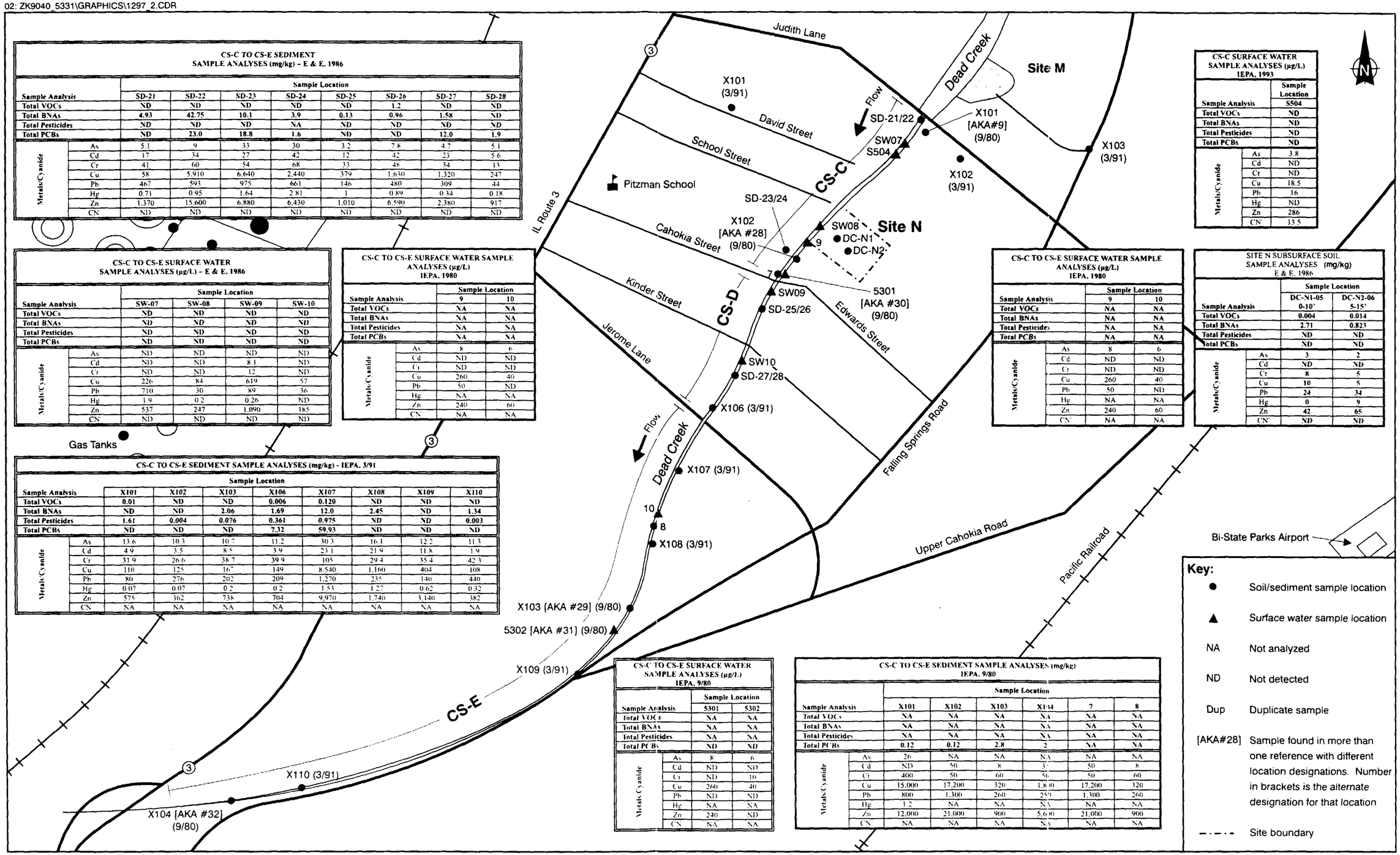
6	Pond sediment sample obtained at the northwest corner of pond, one (1) yard south into the pond.	9 inches (composite)
7	Sediment sample obtained from Dead Creek, 16 yards north of Cahokia Street. Sample obtained adjacent to standing water in Dead Creek.	12 inches (composite)
8	Sediment sample obtained from Dead Creek, immediately north of Edgar Street in front of concrete culvert. Sediment obtained from an area of standing water in the creek.	6 inches (composite)
9	Water sample obtained from standing water in Dead Creek, 45 yards north of Cahokia Street.	
10	Water sample obtained from standing water in Dead Creek immediately north of Edgar Street in front of concrete culvert.	
11	Sediment sample obtained from Dead Creek just south of the intersection of routes #3 and #157. Sample obtained from an area of standing water, adjacent to the pedestrian walk bridge.	6 inches (composite)
12	Soil sample obtained from the dry bed of Dead Creek, northwest of the sewage treatment plant, and just north of the concrete culvert under the rock road. Surface sediment appeared to be sewage treatment plant sludge (dried).	12 inches (composite)

cc: Southern Region
Bill Child
Jim Kelty
Attorney General

recycled paper

CS-B Data

02: ZK9040_5331\GRAPHICS\1297_2.CDR



CS-C TO CS-E SEDIMENT SAMPLE ANALYSES (mg/kg) – E & E, 1986

Sample Analysis		Sample Location							
		SD-21	SD-22	SD-23	SD-24	SD-25	SD-26	SD-27	SD-28
Total VOCs		ND	ND	ND	ND	ND	1.2	ND	ND
Total BNAs		4.93	42.75	10.1	3.9	0.13	0.96	1.58	ND
Total Pesticides		ND	ND	ND	NA	ND	ND	ND	ND
Total PCBs		ND	23.0	18.8	1.6	ND	ND	12.0	1.9
Metals/Cyanide	As	5.1	9	33	30	3.2	7.8	4.7	5.1
	Cd	17	34	27	42	12	42	23	5.6
	Cr	41	60	54	68	33	48	34	13
	Cu	58	5,910	6,640	2,440	379	1,630	1,320	247
	Pb	467	593	975	661	146	480	309	44
	Hg	0.71	0.95	1.64	2.81	1	0.89	0.34	0.18
	Zn	1,370	15,600	6,880	6,430	1,010	6,590	2,380	917
	CN-	ND	ND	ND	ND	ND	ND	ND	ND

CS-C TO CS-E SURFACE WATER SAMPLE ANALYSES (µg/L) – E & E, 1986

Sample Analysis		Sample Location			
		SW-07	SW-08	SW-09	SW-10
Total VOCs		ND	ND	ND	ND
Total BNAs		ND	ND	ND	ND
Total Pesticides		ND	ND	ND	ND
Total PCBs		ND	ND	ND	ND
Metals/Cyanide	As	ND	ND	ND	ND
	Cd	ND	ND	8.1	ND
	Cr	ND	ND	12	ND
	Cu	226	84	619	57
	Pb	710	30	89	36
	Hg	1.9	0.2	0.26	ND
	Zn	537	247	1,090	185
	CN-	ND	ND	ND	ND

CS-C TO CS-E SURFACE WATER SAMPLE ANALYSES (µg/L) IEPA, 1980

Sample Analysis		Sample Location	
		9	10
Total VOCs		NA	NA
Total BNAs		NA	NA
Total Pesticides		NA	NA
Total PCBs		NA	NA
Metals/Cyanide	As	8	6
	Cd	ND	ND
	Cr	ND	ND
	Cu	260	40
	Pb	50	ND
	Hg	NA	NA
	Zn	240	60
	CN-	NA	NA

CS-C TO CS-E SEDIMENT SAMPLE ANALYSES (mg/kg) - IEPA, 3/91

Sample Analysis		Sample Location							
		X101	X102	X103	X106	X107	X108	X109	X110
Total VOCs		0.01	ND	ND	0.006	0.120	ND	ND	ND
Total BNAs		ND	ND	2.06	1.69	12.0	2.45	ND	1.34
Total Pesticides		1.61	0.004	0.076	0.361	0.975	ND	ND	0.003
Total PCBs		ND	ND	ND	7.32	59.93	ND	ND	ND
Metals/Cyanide	As	13.6	10.3	10.7	11.2	30.3	16.1	12.2	11.3
	Cd	4.9	3.5	8.5	3.9	23.1	21.9	11.8	1.9
	Cr	31.9	26.6	38.7	39.9	105	29.4	35.4	42.3
	Cu	110	125	167	149	8,540	1,160	404	108
	Pb	80	276	202	209	1,270	235	140	440
	Hg	0.07	0.07	0.2	0.2	1.53	1.27	0.62	0.32
	Zn	575	362	738	704	9,970	1,740	3,140	382
	CN-	NA	NA	NA	NA	NA	NA	NA	NA

CS-C SURFACE WATER SAMPLE ANALYSES (µg/L) IEPA, 1993

Sample Analysis		Sample Location
		S504
Total VOCs		ND
Total BNAs		ND
Total Pesticides		ND
Total PCBs		ND
Metals/Cyanide	As	3.8
	Cd	ND
	Cr	ND
	Cu	18.5
	Pb	16
	Hg	ND
	Zn	286
	CN-	13.5

CS-C TO CS-E SURFACE WATER SAMPLE ANALYSES (µg/L) IEPA, 1980

Sample Analysis		Sample Location	
		9	10
Total VOCs		NA	NA
Total BNAs		NA	NA
Total Pesticides		NA	NA
Total PCBs		NA	NA
Metals/Cyanide	As	8	6
	Cd	ND	ND
	Cr	ND	ND
	Cu	260	40
	Pb	50	ND
	Hg	NA	NA
	Zn	240	60
	CN-	NA	NA

SITE N SUBSURFACE SOIL SAMPLE ANALYSES (mg/kg) E & E, 1986

Sample Analysis		Sample Location	
		DC-N1-05 0-10'	DC-N2-06 5-15'
Total VOCs		0.004	0.014
Total BNAs		2.71	0.823
Total Pesticides		ND	ND
Total PCBs		ND	ND
Metals/Cyanide	As	3	2
	Cd	ND	ND
	Cr	8	5
	Cu	10	5
	Pb	24	34
	Hg	0	9
	Zn	42	65
	CN-	ND	ND

CS-C TO CS-E SURFACE WATER SAMPLE ANALYSES (µg/L) IEPA, 9/80

Sample Analysis		Sample Location	
		5301	5302
Total VOCs		NA	NA
Total BNAs		NA	NA
Total Pesticides		NA	NA
Total PCBs		ND	ND
Metals/Cyanide	As	8	6
	Cd	ND	ND
	Cr	ND	10
	Cu	260	40
	Pb	ND	ND
	Hg	NA	NA
	Zn	240	ND
	CN-	NA	NA

CS-C TO CS-E SEDIMENT SAMPLE ANALYSES (mg/kg) IEPA, 9/80

Sample Analysis		Sample Location					
		X101	X102	X103	X104	7	8
Total VOCs		NA	NA	NA	NA	NA	NA
Total BNAs		NA	NA	NA	NA	NA	NA
Total Pesticides		NA	NA	NA	NA	NA	NA
Total PCBs		0.12	0.12	2.8	2	NA	NA
Metals/Cyanide	As	26	NA	NA	NA	NA	NA
	Cd	ND	50	8	3[illegible]	50	8
	Cr	400	50	60	5[illegible]	50	60
	Cu	15,000	17,200	320	1,8[illegible]0	17,200	320
	Pb	800	1,300	260	250	1,300	260
	Hg	1.2	NA	NA	NA	NA	NA
	Zn	12,000	21,000	900	5,6[illegible]0	21,000	900
	CN-	NA	NA	NA	NA	NA	NA

SOURCE: Ecology and Environment, Inc. 1998.

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APPROXIMATE SCALE

0 ¼ ½ Mile

SAUGET AREA 1
CREEK SEGMENTS C, D, E AND SITE N
SAMPLING LOCATIONS/DATA

Site N and CS-C, D, E

SAUGET Analytical Data
Dead Creek - Segment B

SEDIMENT SAMPLES
Pesticides/PCBs (μg/kg)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SD-13	DC-SD-14	DC-SD-18	DC-SD-19	DC-SD-20	DC-SD-29	Maximum
	Sample Depth (ft)	0-0.5	2-3	0-0.5	0-0.5	1.5-2	NA	Concentration
	Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
Pesticides/PCBs							BLANK	
Alpha-BHC		ND	ND	ND	ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND	ND	ND
Aldrin		ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND	ND	ND	ND
Endrin		ND	ND	ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND	ND	ND
Chlordane		ND	ND	ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND	ND	ND
Aroclor-1248		ND	**480000 C**	ND	ND	ND	ND	**480000 C**
Aroclor-1254		ND	ND	ND	**141000 C**	**16000 C**	ND	**141000 C**
Aroclor-1260		**10300 J**	**66000 C**	**7700**	**54000 JC**	**5600 JC**	ND	**66000 C**

μg/kg - Micrograms per kilogram
C - Result confirmed by GC/MS
J - Estimated value
NA - Not applicable
ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment B

SEDIMENT SAMPLES
Volatile Organic Compounds (μg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SD-13	DC-SD-14	DC-SD-18	DC-SD-19	DC-SD-20	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	2-3	0-0.5	0-0.5	1.5-2	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	11/5/86	Detected
VOC						BLANK	
Chloromethane	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	**11000 B**	**2200 B**	**12000 B**	**13000 B**	**14000 B**	**15000 B**	**15000 B**
Acetone	**15000 B**	**820**	**4100 JB**	**10000 B**	**6100 B**	**6200 B**	**15000 B**
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	**21000 B**	**510**	**14000**	**14000**	**10000 B**	**11000 B**	**21000 B**
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	**87 J**	ND	ND	ND	ND	**87**
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	**220 J**	ND	ND	ND	ND	**220 J**
2-Hexanone	ND	ND	ND	**52000 B**	ND	ND	**52000 B**
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	**810**	ND	ND	ND	ND	**810**
Chlorobenzene	ND	**5200**	ND	ND	ND	ND	**5200**
Ethylbenzene	ND	**3600**	ND	ND	ND	ND	**3600**
Styrene	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	**990**	ND	ND	ND	ND	**990**

μg/kg - Micrograms per kilogram
B - Compound detected in blank
J - Estimated value
NA- Not applicable
ND- Not detected

SAUGET Analytical Data
Dead Creek - Segment B

SEDIMENT SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SD-13	DC-SD-14	DC-SD-18	DC-SD-19	DC-SD-20	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	2-3	0-0.5	0-0.5	1.5-2	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
BNAs						BLANK	
Phenol	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	**220000**	ND	**130 J**	ND	ND	**220000**
Benzyl Alcohol	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	**17000 J**	ND	ND	ND	ND	**17000 J**
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	**5400 J**	ND	**390 J**	**76 J**	ND	**5400 J**
Naphthalene	**400 J**	**9500 J**	**190 J**	**120 J**	ND	ND	**9500 J**
4-Chloroaniline	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphathalene	ND	**8400 J**	ND	ND	ND	ND	**8400 J**
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND

(μg/kg) - Micrograms per kilogram
J - Estimated value
NA - Not applicable
ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment B

SEDIMENT SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SD-13	DC-SD-14	DC-SD-18	DC-SD-19	DC-SD-20	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	2-3	0-0.5	0-0.5	1.5-2	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
BNAs						BLANK	
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	2600 J	ND	ND	ND	ND	2600 J
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	3900 J	ND	ND	ND	ND	3900 J
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	1900	210 J	ND	1900
Pentachlorophenol	ND	ND	ND	940 J	370 J	ND	940 J
Phenanthrene	ND	15000 J	ND	ND	ND	ND	15000 J
Anthracene	ND	ND	ND	ND	ND	ND	ND
Di-n-butly phthalate	ND	ND	300 J	ND	280 J	ND	300 J
Fluoranthene	ND	11000 J	ND	ND	ND	ND	11000 J
Pyrene	ND	13000 J	1400 J	ND	91 J	ND	13000 J
Butyl Benzyl phthalate	ND	ND	830 J	ND	ND	ND	830 J
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	430 J	ND	ND	ND	430 J
bis(2-ethylhexyl)phthalate	9900 J	9500 J	5300	ND	95 J	ND	9900 J
Chrysene	ND		1200 J	ND	180 J	ND	1200 J
Di-n-octyl phthalate	ND	2600 J	940 J	ND	96 J	ND	2600 J
Benzo(b)fluoranthene	ND	3400 J	ND	2400	ND	ND	3400 J
Benzo(k)fluoranthene	720 J		1500 J	ND	410 J	ND	1500 J
Benzo (a)pyrene	1100 J	1800 J	490 J	310 J	95 J	ND	1800 J
Indeno(1,2,3-cd)pyrene	ND	ND	850 J	1400 J	200 J	ND	1400 J
Benzo(g,h,i)perylene	ND	ND	ND	390 J	ND	ND	390 J
Dibenzo(a,h)anthracene	ND	ND	1400 J	1800	210 J	ND	1800

(μg/kg) - Micrograms per kilogram
J - Estimated value
NA - Not applicable
ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment B

SEDIMENT SAMPLES
Total Metals (mg/kg)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SD-13	DC-SD-14	DC-SD-18	DC-SD-19	DC-SD-20	DC-SD-29	Maximum
	Sample Depth (ft)	0-0.5	2-3	0-0.5	0-0.5	1.5-2	NA	Concentration
	Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
Total Metals							BLANK	
Aluminum		4800	6380	5380	9750	12900	11800	12900
Antimony		ND	ND	ND	ND	ND	ND	ND
Arsenic		14 R	20 R	16 R	21	13 R	5.6 R	21
Barium		410	1110	467	17300	3120	362	17300
Beryllium		ND	ND	ND	ND	ND	ND	ND
Boron		ND	ND	ND	ND	ND	ND	ND
Cadmium		22	36	24	30	8.2	2.5	36
Chromium		62	153	79	118	113	15	153
Cobalt		6.6	9.2	6	11	6.9	5.8	11
Copper		8740 *	6700 *	8640	15300	2610	35 *	15300
Iron		16400	19500	16300	58200	21300	16600	58200
Lead		853	931	983	1460	330	47	1460
Manganese		197	153	218	82	70	412	412
Mercury		0.73	1.3	0.9	1.68	0.89		1.68
Nickel		56 R	502 R	82	1520 R	867 R	18 R	1520 R
Selenium		3.3	4.1	4	2	ND	ND	4.1
Silver		10	11	14	15	ND	ND	15
Thallium		ND	ND	ND	4	ND	ND	4
Tin		32	28	ND	16	ND	ND	32
Vanadium		23	27	24	48	25	27	48
Zinc		3310	6650	3410	11900	6610	197	11900
Cyanide		ND	3.8	ND	ND	ND	ND	3.8

mg/kg - Milligrams per kilogram
NA - Not applicable
ND - Not detected
R - Spike sample recovery not within control limits
* - Duplicate analysis not within control limits

6	Pond sediment sample obtained at the northwest corner of pond, one (1) yard south into the pond.	9 inches (composite)
7	Sediment sample obtained from Dead Creek, 16 yards north of Cahokia Street. Sample obtained adjacent to standing water in Dead Creek.	12 inches (composite)
8	Sediment sample obtained from Dead Creek, immediately north of Edgar Street in front of concrete culvert. Sediment obtained from an area of standing water in the creek.	6 inches (composite)
9	Water sample obtained from standing water in Dead Creek, 45 yards north of Cahokia Street.	
10	Water sample obtained from standing water in Dead Creek immediately north of Edgar Street in front of concrete culvert.	
11	Sediment sample obtained from Dead Creek just south of the intersection of routes #3 and #157. Sample obtained from an area of standing water, adjacent to the pedestrian walk bridge.	6 inches (composite)
12	Soil sample obtained from the dry bed of Dead Creek, northwest of the sewage treatment plant, and just north of the concrete culvert under the rock road. Surface sediment appeared to be sewage treatment plant sludge (dried).	12 inches (composite)

cc: Southern Region
Bill Child
Jim Kelty
Attorney General

September 26, 1980

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SEP 30 1980
IEPA-DAPC-SPFLD

Division File

Tom Powell - Southern Region

St. Clair County - General - Cahokia/Dead Creek

On Thursday September 25, 1980, this writer, along with Ken Mensing, were in Cahokia, Illinois to obtain soil and water samples from Dead Creek and its peripheries. Sample points included both the east and west sides of the most heavily contaminated area, between Judith Lane and Queeny Avenue, and randomly selected points downstream within the ditch. We arrived at the site approximately 9:50 a.m. and collected a total of twelve (12) samples. A minimal amount of precipitation had fallen the evening before we visited the site for sampling. The ground surface was damp with no blowing dust when we procured the samples. The following is a listing of the sample points:

Sample Number	Location	Depth of Sample
1	Soil sample obtained 96 yards south of Queeny Avenue and 6 yards west of snowfence on west side of Dead Creek. Sample was collected from northeast corner of bean field.	12 inches (composite)
2	Soil sample obtained 120 yards south of Queeny Avenue and 1 yard east of snowfence on the east side of Dead Creek.	12 inches (composite)
3	Soil sample obtained 30 yards north of Judith Lane and 1 yard west of snowfence on the west side of Dead Creek.	12 inches (composite)
4	Soil sample obtained from drainage cut, midway between Dead Creek and the pond near Judith Lane.	9 inches (composite)
5	Pond sediment sample obtained at the north side of the confluence of the drainage cut with pond, one (1) yard east into the pond.	12 inches (composite)

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SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES
Metals (mg/kg)
Collected by IEPA (09/25/80)

	Sample Number	1	2	3	4	5	Maximum Concentration
Metals							
Iron		17500	16200	16500	50000	49000	50000
Manganese		260	350	370	190	200	370
Calcium		7300	72000	11000	15000	12500	72000
Magnesium		4500	4300	5900	3800	3400	5900
Sodium		110	225	80	630	650	650
Potassium		1800	1200	1500	960	950	1800
Barium		510	1200	230	5500	4400	5500
Boron		ND	ND	ND	ND	ND	ND
Cadmium		7	3	ND	35	40	40
Chromium		36	38	ND	150	150	150
Copper		100	150	100	21900	18700	21900
Lead		43	60	ND	1700	1400	1700
Nickel		ND	80	12	1700	1600	1700
Silver		ND	ND	ND	30	30	30
Zinc		2000	700	230	19900	17700	19900
Beryllium		1	1	ND	2	3	3
Cobalt		9	10	9	15	15	15
Strontium		42	140	32	190	175	190
Vanadium		27	27	25	45	42	45
Phosphorus		630	2800	5300	520	4800	5300

mg/kg - Milligrams per kilogram
ND - Not detected

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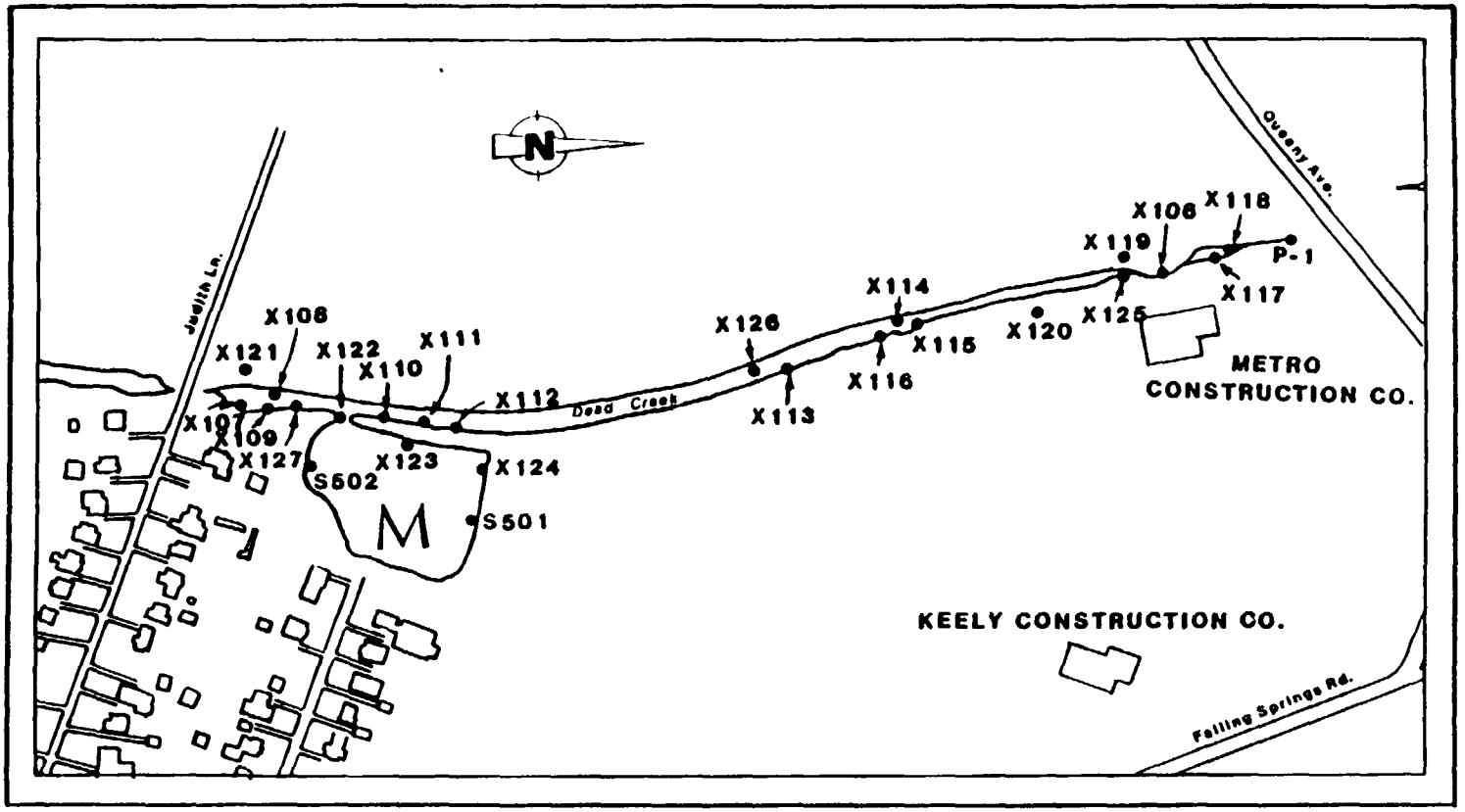
and environment



LEGEND

X106	SEDIMENT SAMPLING LOCATION
S502	SURFACE WATER SAMPLING LOCATION
P-1	SUBSURFACE SOIL SAMPLING LOCATION

SCALE

0 150 600 900 FEET

FIGURE B-1
IEPA SAMPLING LOCATIONS AT CREEK SECTOR B AND SITE M

SOURCE: "Description of Current Situation at the Dead Creek Project Sites", E&E 1986

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ecology and environment

SAUGET Analytical Data
Dead Creek - Segment B

SUBSURFACE SOIL SAMPLES
Organic Compounds (mg/kg)
Collected by IEPA

	Sample Number	P-1	P-1	P-1	P-1	P-1	P-1	P-1	Maximum
	Sample Depth (ft)	0-1	1-2	2-3	3-4	4-5	5-6	6-7	Concentration
	Date Collected	9/8/80	9/8/80	9/8/80	9/8/80	9/8/80	9/8/80	9/8/80	Detected
ORGANICS									
Biphenyl		**6000**	**9000**	**1100**	ND	ND	ND	ND	**9000**
Chloronitrobenzene		**200**	**240**	ND	ND	ND	ND	ND	**240**
Dichlorobenzene		**12000**	**8900**	**240**	ND	ND	ND	ND	**12000**
PCBs		**9200**	**2600**	**92B-6**	**240**	**53**	**53**	**54**	**9200**
Trichlorobenzene		**380**	**3700**	**590**	ND	ND	ND	ND	**3700**
Xylene		**540**	**250**	**ND**	ND	ND	ND	ND	**540**

mg/kg - Milligrams per kilogram
ND - Not detected.

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ecology and environment

SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES
Total Metals/Organics (mg/kg)
Collected by IEPA (09/80- 10/80)

Sample Number	x106	x113	x114	x115	x116	x117	x118	x119	x120	x125	x126
TOTAL METALS											
Aluminum	NA	10000	6400	9000	9000	1300	1200	NA	NA	NA	NA
Arsenic	NA	300	23	18	9	16	15	NA	NA	NA	NA
Barium	NA	2400	1600	3400	300	400	1600	510	1200	2500	5000
Beryllium	NA	ND	ND	ND	ND	ND	ND	1	1	ND	2
Boron	NA	ND	ND	ND	ND	ND	6	ND	ND	ND	76
Cadmium	NA	400	ND	120	ND	ND	ND	7	3	6	70
Calcium	NA	11000	14000	11000	5000	1600	6000	7300	72000	6900	19000
Chromium	NA	250	400	120	130	ND	ND	36	38	50	100
Cobalt	NA	100	ND	40	ND	ND	ND	9	10	9	50
Copper	NA	3800	4800	22000	270	160	1000	100	150	1000	44800
Iron	NA	365000	55000	40000	12000	2400	4300	17500	16200	7000	107000
Lead	NA	3600	2000	3200	80	ND	100	43	60	260	2000
Magnesium	NA	4000	2800	5000	2600	1200	1000	4500	4300	380	3700
Manganese	NA	120	130	150	60	40	50	260	350	45	280
Mercury	NA	30	1.7	4	0.2	2	2	NA	NA	NA	NA
Nickel	NA	2500	1700	2400	140	ND	ND	ND	80	130	3000
Phosphorus	NA	NA	NA	NA	NA	NA	NA	NA	NA	2000	8900
Potassium	NA	1400	1300	1500	2300	850	1200	1800	1200	770	860
Silver	NA	ND	ND	ND	ND	50	ND	ND	ND	ND	100
Sodium	NA	2800	700	1100	360	150	180	110	225	80	1400
Strontium	NA	180	140	200	40	ND	ND	42	140	50	300
Vanadium	NA	ND	ND	150	ND	ND	ND	27	27	13	85
Zinc	NA	61000	20000	71000	2500	ND	300	2000	700	1500	62000
ORGANICS											
PCBs	5200	NA	NA	NA	NA	NA	NA	1.1	80	10000	350
Alkylbenzenes	ND	NA	NA	NA	NA	NA	NA	ND	ND	370	ND
Dichlorobenzene	ND	NA	NA	NA	NA	NA	NA	ND	ND	660	ND
Dichlorophenol	ND	NA	NA	NA	NA	NA	NA	ND	ND	170	ND
Hydrocarbons	ND	NA	NA	NA	NA	NA	NA	ND	ND	21000	ND
Naphthalenes	ND	NA	NA	NA	NA	NA	NA	ND	ND	650	ND
Trichlorobenzene	ND	NA	NA	NA	NA	NA	NA	ND	ND	78	ND

mg/kg - Milligrams per kilogram.

ND - Not detected

NA - Not analyzed

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SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES
Total Metals/Organics (mg/kg)
Collected by IEPA (09/80 - 10/80)

	Sample Number	x107	x108	x109	x110	x111	x112	x121	x122	x127	Maximum Concentration Detected
TOTAL METALS											
Aluminum		NA	8000	9100	7000	8000	6600	NA	NA	NA	10000
Arsenic		6000	44	25	67	80	50	NA	NA	NA	6000
Barium		4800	3800	1600	4300	1800	8000	230	5500	2500	8000
Beryllium		ND	ND	ND	ND	ND	ND	ND	2	2	2
Boron		ND	ND	ND	ND	ND	ND	ND	ND	ND	76
Cadmium		70	ND	200	40	100	100	1	35	50	400
Calcium		11000	10000	24000	16000	13000	30000	11000	15000	8000	72000
Chromium		360	300	ND	140	50	50	ND	50	340	400
Cobalt		30	30	20	ND	ND	30	9	15	30	100
Copper		32000	31000	7700	22000	15000	41000	100	21900	28000	44800
Iron		70000	58000	75000	67000	68000	52000	16500	50000	63000	365000
Lead		24000	2000	1700	2000	2000	5100	ND	1700	1700	24000
Magnesium		2900	3900	3600	4100	4000	4000	5900	3800	2700	5900
Manganese		150	150	300	200	160	300	370	190	150	370
Mercury		ND	1.7	3	3.3	3.2	6	ND	ND	ND	30
Nickel		3500	3000	900	1900	2000	2700	120	1700	NA	3500
Phosphorus		7040	ND	ND	ND	ND	ND	ND	ND	4700	8[illegible]
Potassium		1200	1500	1700	1300	1600	1200	1500	960	1000	2[illegible]
Silver		40	ND	ND	ND	ND	ND	ND	30	40	100
Sodium		1700	900	900	700	1000	1600	80	630	700	2800
Strontium		180	200	130	160	160	430	32	190	130	430
Vanadium		60	ND	ND	70	100	ND	25	45	45	150
Zinc		25000	22000	27000	25000	47000	52000	230	19900	28000	71000
ORGANICS											
PCBs		120	ND	ND	ND	ND	ND	ND	540	73	10000
Alkylbenzenes		NA	NA	NA	NA	NA	NA	NA	NA	NA	370
Dichlorobenzene		ND	ND	ND	ND	ND	ND	ND	0.35	ND	660
Dichlorophenol		NA	NA	NA	NA	NA	NA	NA	NA	NA	170
Hydrocarbons		NA	NA	NA	NA	NA	NA	NA	NA	NA	21000
Naphthalenes		NA	NA	NA	NA	NA	NA	NA	NA	NA	650
Trichlorobenzene		NA	NA	NA	NA	NA	NA	NA	NA	NA	78

mg/kg - Milligrams per kilogram
ND - Not detected
NA - Not analyz[illegible]

SAUGET Analytical Data
Dead Creek - Segment B

SURFACE WATER SAMPLES
Pesticides/PCBs/Herbicides (μg/L)
Collected by IEPA

Sample Number	S501	S502	S503	S501	Maximum
Date Collected	09/23/93	09/23/93	09/23/93	03/11/94	Concentration
Pesticides/PCBs					**Detected**
Alpha-BHC	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	**0.18**	**0.18**
4,4'-DDE	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	**0.06**	**0.06**
4,4'-DDD	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	**0.24**	**0.24**
Methoxychlor	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND
Aroclor-1254	ND	ND	ND	ND	ND
Aroclor-1260	ND	ND	ND	ND	ND
Herbicides					
2,4-D	NA	NA	NA	**47**	**47**
Silvex	NA	NA	NA	**3.4**	**3.4**

μg/L - Micrograms per liter
NA - Not analyzed
ND - Not detected

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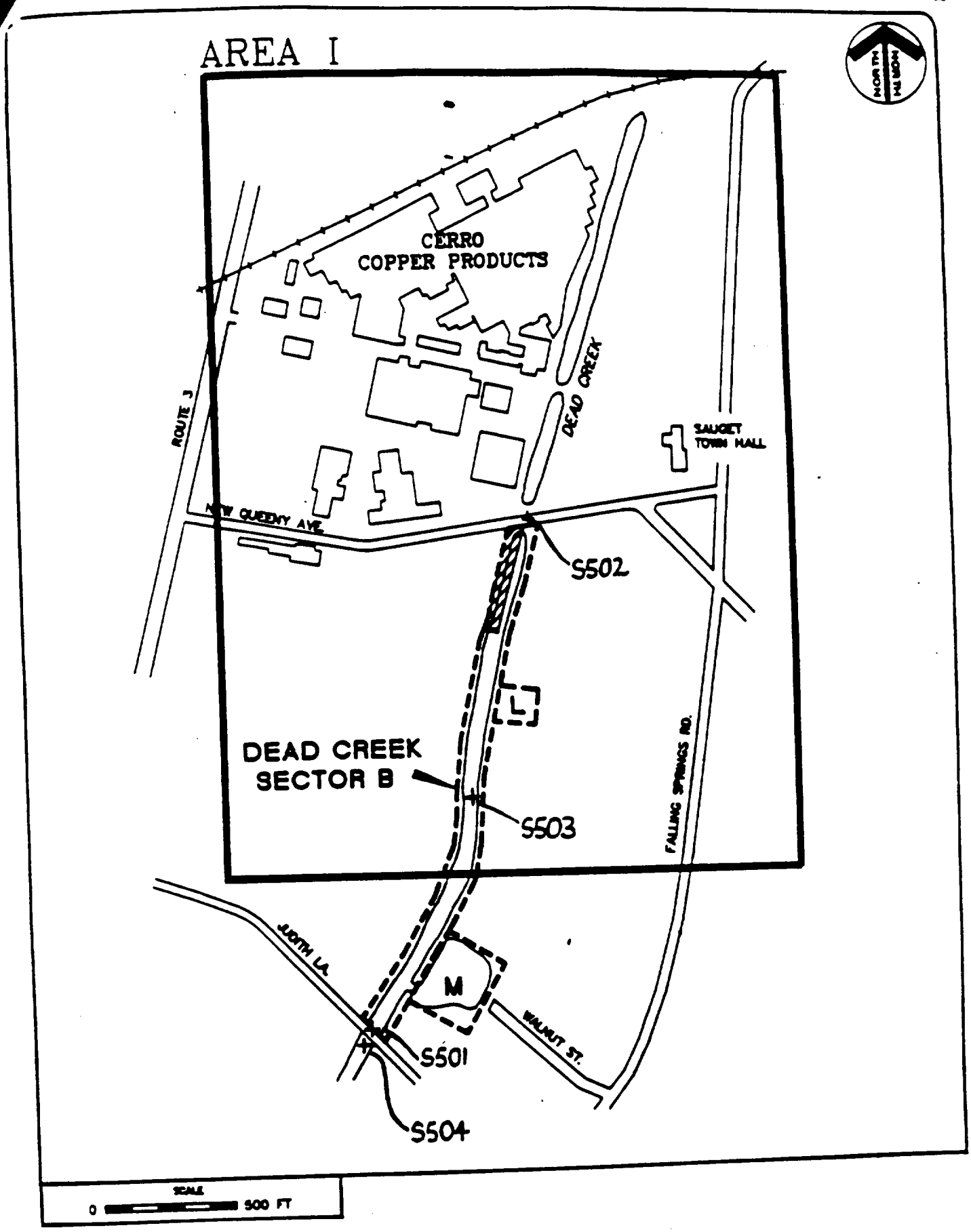

SOURCE: Ltr. to A. Altur (USEPA) from P. Takacs (IEPA) dated Nov. 2, 1993

SAUGET Analytical Data
Dead Creek - Segment B

SURFACE WATER SAMPLES
Base Neutrals/Acids (µg/L)
Collected by IEPA

Sample Number	S501	S502	S503	S501	Maximum
Date Collected	09/23/93	09/23/93	09/23/93	03/11/94	Concentration
BNAs					**Detected**
Phenol	ND	ND	25	28	28
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	7 J	14	14
1,3-Dichlorobenzene	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	5 J	5 J
Benzyl Alcohol	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	ND	ND	ND	ND	ND
2-Methylphenol	2 J	ND	4 J	ND	4 J
bis(2-Chloroisopropyl)ether	NA	NA	NA	NA	NA
4-Methylphenol	10 J	7 J	35	ND	35
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	5 J	ND	5 J
Benzoic Acid	NA	NA	NA	NA	NA
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND
2,4-Dichlorophenol	2 J	5 J	10 J	150	150
1,2,4-Trichlorobenzene	ND	ND	ND	2 J	2 J
Naphthalene	2 J	ND	8 J	ND	8 J
4-Chloroaniline	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	6 J	6 J
2,4,5-Trichlorophenol	ND	ND	ND	6 J	6 J
2-Chloronaphthalene	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND
Dimethylphthalate	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND

µg/L - Micrograms per liter
B - Compound detected in blank sample
J - Estimated value
ND - Not Detected
NA - Not Analyzed

SAUGET Analytical Data
Dead Creek - Segment B

SURFACE WATER SAMPLES
Volatile Organic Compounds (μg/L)
Collected by IEPA

Sample Number	S501	S502	S503	S501	Maximum
Date Collected	09/23/93	09/23/93	09/23/93	03/11/94	Concentration
VOCS					Detected
Chloromethane	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND	ND
Acetone	ND	51	34	ND	51
Carbon Disulfide	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	3 J	ND	3 J
1,1-Dichloroethane	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	19	ND	ND	19
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	2 J	2 J
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND
Toluene	3 J	6 J	20	19	20
Chlorobenzene	ND	ND	21	33	33
Ethylbenzene	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	NA	ND
Total Xylenes	ND	ND	ND	NA	ND

μg/L - Micrograms per liter
J - Estimated value
ND - Not Detected
NA - Not Analyzed

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SAUGET Analytical Data
Dead Creek - Segment B

SURFACE WATER SAMPLES
Total Metals (μg/L)
Collected by IEPA

	Sample Number	S501	S502	S503	S501	Maximum
	Date Collected	09/23/93	09/23/93	09/23/93	03/11/94	Concentration
Total Metals						Detected
Aluminum		952	630	ND	NA	952
Antimony		ND	ND	ND	ND	ND
Arsenic		NA	5.6 BNW	2.6 BNW	3.7 BW	5.6 BNW
Barium		273	259	192 B	NA	273
Beryllium		ND	ND	ND	ND	ND
Cadmium		ND	4.8 B	ND	5.1	5.1
Calcium		83800	121000	103000	NA	121000
Chromium		ND	8.3 B	5.3 B	5.6 B	8.3 B
Cobalt		ND	ND	ND	NA	ND
Copper		141	1150	96.4	224	1150
Iron		2450	3310	5800	NA	5800
Lead		NA	120 N	9.2 *	24.4 S	120 N
Magnesium		7530	11800	10700	NA	11800
Manganese		519	589	796	NA	796
Mercury		NA	0.2	ND	ND	0.2
Nickel		ND	ND	ND	ND	ND
Potassium		6560	4570 B	8440	NA	8440
Selenium		NA	ND	ND	ND	ND
Silver		ND	ND	ND	ND	ND
Sodium		14900	16100	27300	NA	27300
Thallium		NA	ND	ND	ND	ND
Vanadium		6.6 B	8.1 B	5.1 B	NA	8.1 B
Zinc		412	432	71.4	193	432
Cyanide		ND	NA	ND	ND	ND

μg/L - Micrograms per liter.
B - Estimated value. The value is less than the CRDL, but greater than the instrument detection limit.
N - Laboratory spike recoveries were outside QC protocols.
S - Analysis performed using the method of standard additions.
W - Laboratory post-digestion spike for furnace AA analysis exceeds QC limits.
* - Duplicate analysis not within control limits.
ND - Not Detected
NA - Not Analyzed

SAUGET Analytical Data
Dead Creek - Segment B

SURFACE WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by IEPA

Sample Number	S501	S502	S503	S501	Maximum
Date Collected	09/23/93	09/23/93	09/23/93	03/11/94	Concentration
BNAs					Detected
2,4-Dinitrophenol	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	NA	NA	NA	NA	NA
Diethylphthalate	ND	ND	ND	3 J	3 J
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND
Pentachlorophenol	ND	4 J	ND	120	120
Phenanthrene	ND	ND	ND	ND	ND
Carbazole	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND
Di-n-butly phthalate	20 B	3 J	6 JB	ND	20 B
Fluoranthene	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND

μg/L - Micrograms per liter
B - Compound detected in blank sample
J - Estimated value
ND - Not Detected
NA - Not Analyzed

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(50) ILLINOIS ENVIRONMENTAL PROTECTION AGENCY--DIVISION OF WATER POLLUTION CONTROL

SPECIAL ANALYSIS FORM

SW-1

Time Collected 3:00 PM

Sub-Basin Region IV

Date Collected MAY 15, 1975

Collector EASTEP

Facility Name: CERRO Copper & Brass / MONSANTO

Facility Number:

File Town

Stream Name(s) DEAD CREEK

Stream Code:

Source of Sample: (Exact Location) DEAD CK on So. Side of Queeny Rd.

Physical Observations, Remarks: Yellow-ORANGE Color — Bottom Deposits Chemical odor

Flow	Field Dissolved Oxygen	Field pH 7.0	Field Temp.

	Arsenic		Coliform/100ml		BOD
	Barium		Fecal Coliform 100 ml	36	COD
	Boron		Fecal Strep 100 ml	570	TS/EC
	Cadmium		Algae (Total) /ml	25	Susp.Solids
0.30	Copper	2.0	Ammonia (N)		Vol.Susp.Solids
	Chromium (tri)		Organic Nitrogen (N)	7.5	pH (units)
0.00	Chromium ~~(hex)~~ Total		Nitrate + Nitrite(N)		Turbidity (JTU)
3.2	Iron (Total)		Phosphorus (P)		Hardness
	Iron (Dissolved)	150	Chloride		Alkalinity
	Lead		Fluoride		Total Acidity
	Manganese		Sulfate		Free Acidity
0.1	Mercury (ppb)	0.000	Cyanide		Oil
	Nickel		MBAS		Other (Specify)
	Selenium		Phenol (ppb)		
	Silver				
	Zinc				

Results in mg/l unless otherwise noted.

100% Recycled Sample Meets IEPA Preservation Standards

☐ Yes

☐ No

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Transported by:

Received by:

FOR LAB USE ONLY

Lab Number: A19840

Rec'd by:

Date sample rec'd: MAY 6 1975 Time:

Date analysis completed: MAY 26 1975

Date results forwarded: MAY 29 1975

Total Tests requested: 11 Tests run: 11

Lab Section: Metals Supervisor

3/73

SAUGET Analytical Data
Dead Creek - Segment B

SURFACE WATER SAMPLE
Units (mg/l unless otherwise noted)
Collected by EASTEP

	Sample Number	SW1	Maximum
	Date Collected	05/15/75	Concentration
Heavy Metals			Detected
Copper		0.3	0.3
Chromium, Total		0	ND
Iron, Total		3.2	3.2
Mercury (ppb)		0.1	0.1
Ammonia (as N)		2.0	2
Chloride		150	150
Cyanide		0	ND
COD		36	36
TDS		890	890
Suspended Solids		25	25
pH (units)		7.5	7.5

mg/L - Milligrams per liter.
ND - Not detected.
ppb - Parts per billion.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

MEMORANDUM

DATE: November 19, 1980

TO: FILE

FROM: Jim Kelty

SUBJECT: COOPERATIVE SAMPLING BETWEEN IEPA AND MONSANTO CHEMICAL COMPANY AT DEAD CREEK, CAHOKIA, ILLINOIS, ON OCTOBER 2, 1980

On October 2, 1980 Jim Kelty and Geoff Langley of the Illinois Environmental Protection Agency and Paul Heisler and Dick Sinise of Monsanto Chemical Company jointly sampled three soil areas in Dead Creek between Queeny Road and Judith Lane. Also sampled was the private well at Theresa's Greenhouse, 101 Walnut Street, Cahokia, Illinois. It was agreed to analyze the three soil samples for PCB's and total phosphorous, and the well sample for PCB's only.

The following are the analytical results as reported by the Illinois EPA laboratories and Monsanto Chemical Co.

SAMPLE SITE	PCB's		TOTAL PHOSPHOROUS	
	IEPA	MONSANTO	IEPA	MONSANTO
1) Soil 40 yards south of Queeny Road labeled "N"	10,000	13,000	2000	2500
2) Soil Sample labeled "C" taken 268 steps south of sample "N"	350	240	8900	13,000
3) Soil Sample labeled "S" taken 270 steps south of sample "C"	73	45	4700	9400
4) Water Sample taken from private well at 101 Walnut Street, Cahokia, Illinois	N.D.*	N.D.*	N.A.**	N.A.

*None Detected (lower detectable limit for PCB's in water is 0.1 PPB).

** Sample not analyzed for phosphorous.

JK:jks

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SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES
Pesticides/PCBs (mg/kg) dry weight
Collected by Geraghty & Miller, Inc. (10/91)

	Sample Number	A-B1	A-B2	A-B3	B-B1	B-B3	B-B2	C-B1	C-B2	C-B3	D-B1
	Sample Depth (ft)	0-2	2-4	5-6	0-2	2-4	4-6	0-1.5	1.5-3.5	3.5-5.5	0-1.5
	Date Collected	10/18/91	10/18/91	10/18/91	10/18/91	10/18/91	10/18/91	10/21/91	10/21/91	10/21/91	10/21/91
Pesticides/PCBs											
Aroclor-1248		<150 J	**0.250 J**	<0.110 J	**250 J**	**0.140 J**	<0.110 J	**440 J**	**0.420**	<0.120	**85 J**
Aroclor-1254		**180 J**	**0.126 J**	**0.130 J**	<230 J	<0.[illegible]	<0.220 J	<120 J	<0.250	**0.220 J**	**53 J**
Aroclor-1260		**130 J**	<0.230 J	<0.210 J	<230 J	<0.200 J	<0.220 J	<120 J	<0.250	<0.240	<63 J
Total PCBs		**310**	**0.376**	**0.130**	**250**	**0.140**	0	**440**	**0.420**	**0.220**	**138**

	Sample Number	D-B2	D-B3	E-B1	E-B3	E-B2	F-B1	F-B2	F-B3	G-B1	G-B2
	Sample Depth (ft)	2-4	4-6	0-2	2-4	4-6	0-2	2-4	4-6	0-2	2-4
	Date Collected	10/21/91	10/21/91	10/21/91	10/21/91	10/21/91	10/22/91	10/22/91	10/22/91	10/22/91	10/23/91
Pesticides/PCBs											
Aroclor-1248		<0.120	<0.110	**68 J**	<0.110	<0.110	**92 J**	<0.120	<0.110	**20 J**	<0.110
Aroclor-1254		<0.240	<0.210	**46 J**	<0.230	<0.230	**55 J**	<0.250	<0.210	**30 J**	**0.400**
Aroclor-1260		<0.240	<0.210	<82 J	<0.230	<0.230	<78 J	<0.250	<0.210	**42 J**	<0.230
Total PCBs		0	0	**114**	0	0	**147**	0	0	**92**	**0.400**

	Sample Number	G-B3	H-B1	H-B2	H-B3	I-B2	I-B3	I-B1	J-B2	J-B3	J-B1
	Sample Depth (ft)	4-6	0-2	2-4	4-6	0-2	1.5-3	3-5	0-1.5	1.5-3	3-5
	Date Collected	10/23/91	10/23/91	10/23/91	10/23/91	10/24/91	10/24/91	10/24/91	10/24/91	10/24/91	10/24/91
Pesticides/PCBs											
Aroclor-1248		**0.120**	**54 J**	**0.120**	<0.120	**12 J**	**0.330 J**	**0.390**	**93 J**	**0.230**	<0.120
Aroclor-1254		**0.910**	**13 J**	<0.220	<0.240	**18 J**	**0.680 X**	**0.230 X**	**110 J**	**0.350 X**	<0.230
Aroclor-1260		**0.250**	<32 J	<0.220	<0.240	**23 J**	**0.210 J**	**0.210 J**	**98 J**	**0.200 J**	<0.230
Total PCBs		**1.280**	**67**	**0.120**	0	**53**	**0.830**	**0.830**	**301**	**0.780**	0

	Sample Number	BLANK									**Maximum**
	Sample Depth (ft)	NA									**Concentration**
	Date Collected	10/21/91									**Detected**
Pesticides/PCBs		(UG/L)									
Aroclor-1248		<0.50 J									**440 J**
Aroclor-1254		<1.0 J									**180 J**
Aroclor-1260		<1.0 J									**130 J**

MG/KG - Milligrams per kilogram

J - Estimated value

X - Due to the presence of Aroclor 1248, 1254, and 1260, the quantitation is based on one peak only

SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLE RINSATE BLANKS
Total Metals
Collected by Geraghty & Miller, Inc. (10/91)

	Sample Number	BLANK	BLANK	BLANK	Maximum
	Sample Depth (ft)	NA	NA	NA	Concentration
	Date Collected	10/21/91	10/21/91	10/21/91	Detected
Total Metals		(µg/L)	(µg/L)	(µg/L)	
Aluminum		<200	<200	<200	49200
Antimony		<50.0	<50.0	<50.0	44.5 J
Barium		40.8 B	<10	<10	9510
Cadmium		<5.0	<5.0	<5.0	243 J
Calcium		844 B	462 B	497 B	23600
Chromium		<10.0	<10.0	<10.0	296
Cobalt		<10.0	<10.0	<10.0	29.9
Copper		68.9	<25.0	<25.0	30100
Iron		435	98.4 B	171	86400
Magnesium		168 B	<50.0	<50.0	8920
Manganese		<10.0	<10.0	<10.0	702 J
Nickel		<40.0	<40.0	<40.0	2670 J
Potassium		<1000	<1000	<1000	3100
Silver		<10.0	<10.0	<10.0	50.4
Sodium		8140	665 B	<500	1464
Vanadium		<10.0	<10.0	<10.0	59.6
Zinc		140	375	29.7	42800
Mercury		<0.20	<0.20	<0.20	5
Lead		5.5	<3.0	<5.0	2660
Selenium		<5.0 J	<5.0 J	<10	9.45 J
Arsenic		<10.0	<10.0	<10	198 J
Cyanide		NA	NA	NA	17.4

MG/KG - Milligrams per kilogram
B - Concentration was less than the contract required detection limit but greater than or equal to the instrument detection limit
J - Estimated value
R - Unusable data
NA - Not analyzed

SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES (mg/kg unless noted otherwise)

Collected by IEPA (10/31/80)

Sample Number		1	2	10	11	12	13	14
Sample Location		50 yd S of Queeny Ave	40 yd N of Judith Lane	125 ft N of Judith Lane	125 ft N of Judith Lane	100 yd N of #11	100 yd N of #11	100 yd N of #12
Sample Type	Normal Soil	Soil	Soil	Soil	Soil - 12 inch bgs	Soil - 12 inch bgs	Soil - Surface	Soil - Surface
Barium	250	NA	4800	1800	900	2300	650	2300
Copper	70	NA	32000	19500	4100	13000	5700	15000
Lead	16	NA	2400	1500	1000	1200	900	2000
Nickel	80	NA	3500	2000	500	1150	820	1000
Phosphorous	1180	NA	7040	NA	NA	NA	NA	NA
Zinc	132	NA	25000	14000	15000	14000	18000	19000
PCB's (µg/kg)	* 28	5200	120	160	0.6	110	8	59
Chlordane (µg/kg)	* 50	NA	NA	ND	ND	ND	ND	ND
Alkylbenzenes	* 10-100	NA	NA	ND	ND	ND	ND	ND
Biphenyl	* NA	NA	NA	ND	ND	ND	ND	ND
Toluene	* 118	NA	NA	ND	ND	ND	ND	ND
Xylene	* 3	NA	NA	ND	ND	ND	ND	ND
Dichlorobenzene	* 5	NA	NA	ND	ND	ND	ND	ND
Trichlorobenzene	* 1-10	NA	NA	ND	ND	ND	ND	ND
Chloro-Nitrobenzene	* 10-100	NA	NA	ND	ND	ND	ND	ND
Dichlorophenol	* 500	NA	NA	ND	ND	ND	ND	ND

Sample Number		15	16	17	18	19	20	25
Sample Location		100 yd N of #12	100 yd N of #14	100 yd N of #14	100 yd N of #14	135 yd N of #16	135 yd N of #16, 5 yd W of #1	Drainage Cut
Sample Type	Normal Soil	Soil - 9 inch bgs	Soil	Soil - 9 inch bgs	Soil - 18 inch bgs	Soil	Soil	Soil
Barium	250	950	1050	880	240	370	1400	5500
Copper	70	1400	3200	5700	180	140	840	21900
Lead	16	2500	1600	1000	< 25	< 25	< 100	1700
Nickel	80	1100	1300	700	100	< 10	< 10	1700
Phosphorous	1180	NA	NA	NA	NA	NA	NA	NA
Zinc	132	24000	14000	19000	1750	< 50	260	19900
PCB's (µg/kg)	* 28	3	220	32	0.05	1600	17000	540
Chlordane (µg/kg)	* 50	NA	ND	ND	ND	ND	ND	ND
Alkylbenzenes	* 10-100	NA	ND	ND	ND	ND	ND	ND
Biphenyl	* NA	NA	ND	ND	ND	ND	ND	ND
Toluene	* 118	NA	ND	ND	ND	ND	ND	ND
Xylene	* 3	NA	ND	ND	ND	ND	ND	ND
Dichlorobenzene	* 5	NA	ND	ND	ND	ND	ND	0.4
Trichlorobenzene	* 1-10	NA	ND	ND	ND	ND	ND	ND
Chloro-Nitrobenzene	* 10-100	NA	ND	ND	ND	ND	ND	ND
Dichlorophenol	* 500	NA	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram

µg/kg - Micrograms per kilogram

NA - parameter not analyzed

ND - below detection limits

* Maximum allowable concentration in units of mg/kg unless noted as otherwise

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SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES (mg/kg unless noted otherwise)

Collected by IEPA (10/31/80)

Sample Number		35	36	37	49	49A	49B	49C
Sample Location		40 yd S of Queeny Ave	268 Steps [illegible]5	270 Steps S of #36	200 ft S of Queeny Ave	200 ft S of Queeny Ave	200 ft S of Queeny Ave	200 ft S of Queeny Ave
Sample Type	Normal Soil	Soil	Soil	Soil	Soil - 0 -12 inch bgs	Soil - 1-2 ft bgs	Soil - 2-3 ft bgs	Soil - 3-4 ft bgs
Barium	250	**2500**	**5000**	**2500**	NA	NA	NA	NA
Copper	70	**1000**	**44500**	**28000**	NA	NA	NA	NA
Lead	16	**260**	**2000**	**1700**	NA	NA	NA	NA
Nickel	80	**130**	**3000**	NA	NA	NA	NA	NA
Phosphorous	1180	**2000**	**8900**	**4700**	NA	NA	NA	NA
Zinc	132	**1500**	**62900**	**28000**	NA	NA	NA	NA
PCB's (µg/kg)	* 28	**1000**	**350**	**73**	**9200**	**2600**	**920**	**240**
Chlordane (µg/kg)	* 50	ND	ND	ND	ND	ND	ND	ND
Alkylbenzenes	* 10-100	**370**	ND	ND	ND	ND	ND	ND
Biphenyl	* NA	ND	ND	ND	**6000**	**9000**	**1100**	ND
Toluene	* 118	ND	ND	ND	ND	ND	ND	ND
Xylene	* 3	ND	ND	ND	**540**	**250**	ND	ND
Dichlorobenzene	* 5	**660**	ND	ND	**12000**	**8900**	**240**	ND
Trichlorobenzene	* 1-10	**78**	ND	ND	**380**	**3700**	**590**	ND
Chloro-Nitrobenzene	* 10-100	**170**	ND	ND	**200**	**240**	ND	ND
Dichlorophenol	* 500	ND	ND	ND	ND	ND	ND	ND

Sample Number		49D	49E	49F	24	Maximum
Sample Location		200 ft S of Queeny Ave	200 ft S of Queeny Ave	200 ft S of Queeny Ave	30 yds N of Judith	Concentration
Sample Type	Normal Soil	Soil - 4-5 ft bgs	Soil - 5-6 ft bgs	Soil - 6-7 ft bgs	Soil	Detected
Barium	250	NA	NA	NA	**230**	**5500**
Copper	70	NA	NA	NA	**100**	**44500**
Lead	16	NA	NA	NA	ND	**2500**
Nickel	80	NA	NA	NA	**12**	**3500**
Phosphorous	1180	NA	NA	NA	NA	**8900**
Zinc	132	NA	NA	NA	**230**	**62900**
PCB's (µg/kg)	* 28	**53**	**53**	**54**	ND	**17000**
Chlordane (µg/kg)	* 50	ND	ND	ND	ND	ND
Alkylbenzenes	* 10-100	ND	ND	ND	ND	**370**
Biphenyl	* NA	ND	ND	ND	ND	**9000**
Toluene	* 118	ND	ND	ND	ND	ND
Xylene	* 3	ND	ND	ND	ND	**540**
Dichlorobenzene	* 5	ND	ND	ND	ND	**12000**
Trichlorobenzene	* 1-10	ND	ND	ND	ND	**3700**
Chloro-Nitrobenzene	* 10-100	ND	ND	ND	ND	**240**
Dichlorophenol	* 500	ND	ND	ND	ND	ND

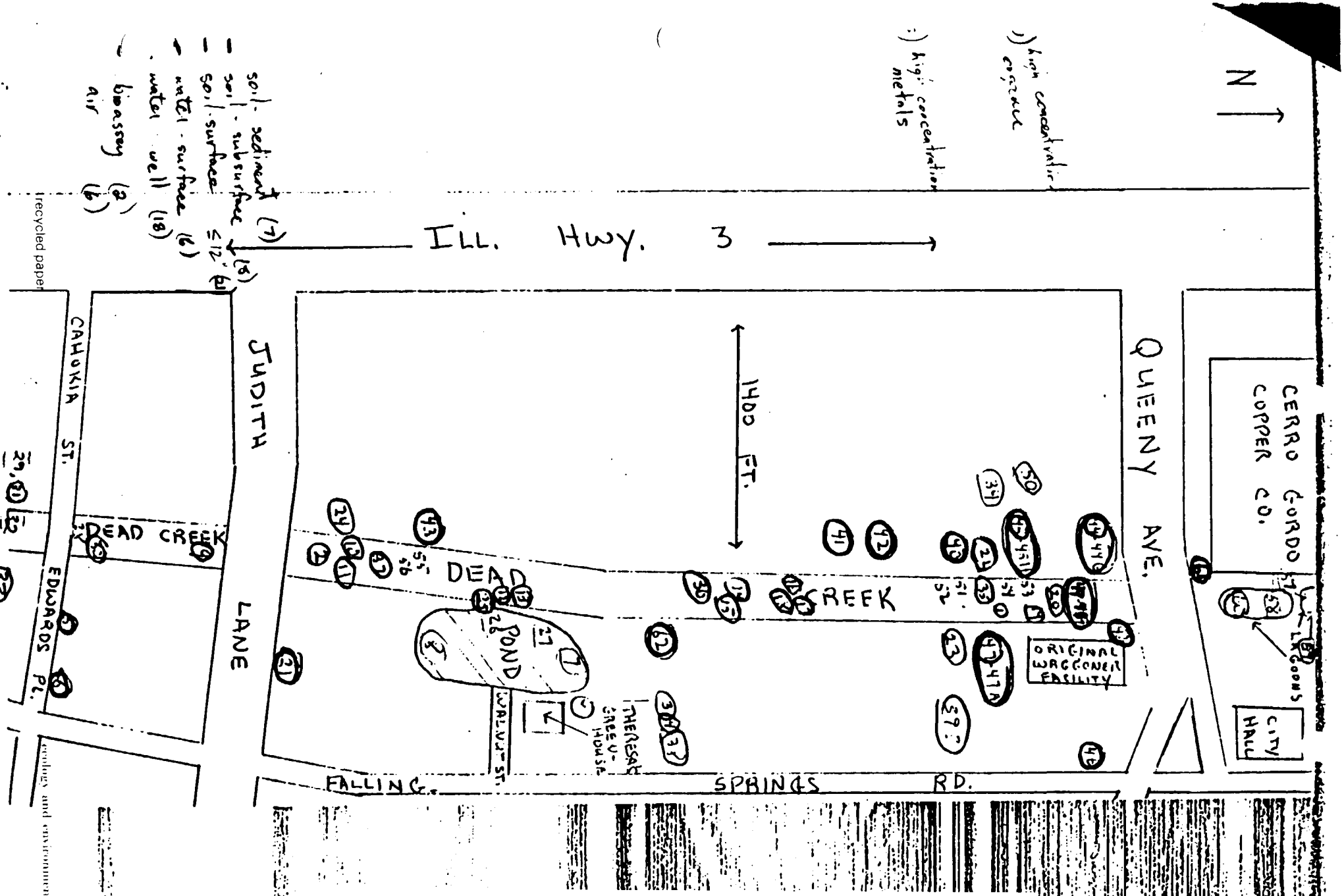
mg/kg - Milligrams per kilogram

µg/kg - Micrograms per kilogram

NA - parameter not analyzed

ND - below detection limits

* Maximum allowable concentration in units of mg/kg unless noted as otherwise



LOCATION MAP FRP IEPA SAMPLES (1,2,10-20,24,25,35,36,37,43,AND 49 FROM 1980)

SOURCE: "Sumary of the Phase Two Investigation at Dead Creek" Author Unknown and Date Unknown

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SAUGET Analytical Data
Dead Creek - Sector B

SURFACE WATER SAMPLES
Volatile Organic Compounds (µg/L)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SW-04	DC-SW-05	DC-SW-06	DC-SW-01	Maximum
Date Collected	11/05/86	11/05/86	11/05/86	11/5/86	Concentration
VOC				BLANK	Detected
Chloromethane	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND
Methylene chloride	3 BJ	3 BJ	3 BJ	6 B	6 B
Acetone	9 BJ	12 B	11 B	12 B	12 B
Carbon Disulfide	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	27	27
1,2-Dichloroethane	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND

µg/L - Micrograms per liter
B - Compound detected in blank
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Dead Creek - Sector B

SURFACE WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-04	DC-SW-05	DC-SW-06	DC-SW-01	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	Concentration
BNAs					BLANK	Detected
Phenol		ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether		ND	ND	ND	ND	ND
2-Chlorophenol		ND	ND	ND	ND	ND
1,3-Dichlorobenzene		ND	ND	ND	ND	ND
1,4-Dichlorobenzene		ND	ND	ND	ND	ND
Benzyl Alcohol		ND	ND	ND	ND	ND
1,2-Dichlorobenzene		ND	ND	ND	ND	ND
2-Methylphenol		ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether		ND	ND	ND	ND	ND
4-Methylphenol		ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine		ND	ND	ND	ND	ND
Hexachloroethane		ND	ND	ND	ND	ND
Nitrobenzene		ND	ND	ND	ND	ND
Isophorone		ND	ND	ND	ND	ND
2-Nitrophenol		ND	ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND	ND
Benzoic Acid		ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane		ND	ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND	ND
1,2,4-Trichlorophenol		ND	ND	ND	ND	ND
Naphthalene		ND	ND	ND	ND	ND
4-Chloroaniline		ND	ND	ND	ND	ND
Hexachlorobutadiene		ND	ND	ND	ND	ND
4-Chloro-3-methylphenol		ND	ND	ND	ND	ND
2-Methylnaphathalene		ND	ND	ND	ND	ND
Hexachlorocyclopentadiene		ND	ND	ND	ND	ND
2,4,6-Trichlorophenol		ND	ND	ND	ND	ND
2,4,5-Trichlorophenol		ND	ND	ND	ND	ND
2-Chloronaphthalene		ND	ND	ND	ND	ND
2-Nitroaniline		ND	ND	ND	ND	ND
Dimethyl Phthalate		ND	ND	ND	ND	ND
Acenaphthylene		ND	ND	ND	ND	ND
3-Nitroaniline		9 J	ND	ND	ND	9 J
Acenaphthene		ND	ND	ND	ND	ND

μg/L - Micrograms per liter
B - Compound detected in blank
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Dead Creek - Sector B

SURFACE WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SW-04	DC-SW-05	DC-SW-06	DC-SW-01	Maximum
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	Concentration
BNAs				BLANK	Detected
2,4-Dinitrophenol	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND
Di-n-butly phthalate	18 B	15 B	16 B	15 B	18 B
Fluoranthene	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND

μg/L - Micrograms per liter
B - Compound detected in blank
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Dead Creek - Sector B

SURFACE WATER SAMPLES
Total Metals (μg/L)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SW-04	DC-SW-05	DC-SW-06	DC-SW-01	Maximum
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	Concentration
Total Metals				BLANK	Detected
Aluminum	**1090**	**204**	**9080**	ND	**9080**
Antimony	ND	ND	ND	ND	ND
Arsenic	ND	ND	**31**	ND	**31**
Barium	ND	ND	**7130**	ND	**7130**
Beryllium	ND	ND	ND	ND	ND
Boron	ND	ND	ND	ND	ND
Cadmium	ND	ND	**25**	ND	**25**
Chromium	ND	ND	**99**	ND	**99**
Cobalt	ND	ND	ND	ND	ND
Copper	**660**	**239**	**17900**	ND	**17900**
Iron	**1510**	**495**	**24500**	**255**	**24500**
Lead	**77**	**17**	**1300**	ND	**1300**
Manganese	**188**	**66**	**222**	ND	**222**
Mercury	**8.6**	ND	ND	ND	**8.6**
Nickel	ND	ND	**1500**	ND	**1500**
Selenium	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND
Thallium	ND	ND	ND	ND	ND
Tin	ND	ND	**60**	ND	**60**
Vanadium	ND	ND	ND	ND	ND
Zinc	**404**	**302**	**10300**	ND	**10300**
Cyanide	ND	ND	ND	ND	ND

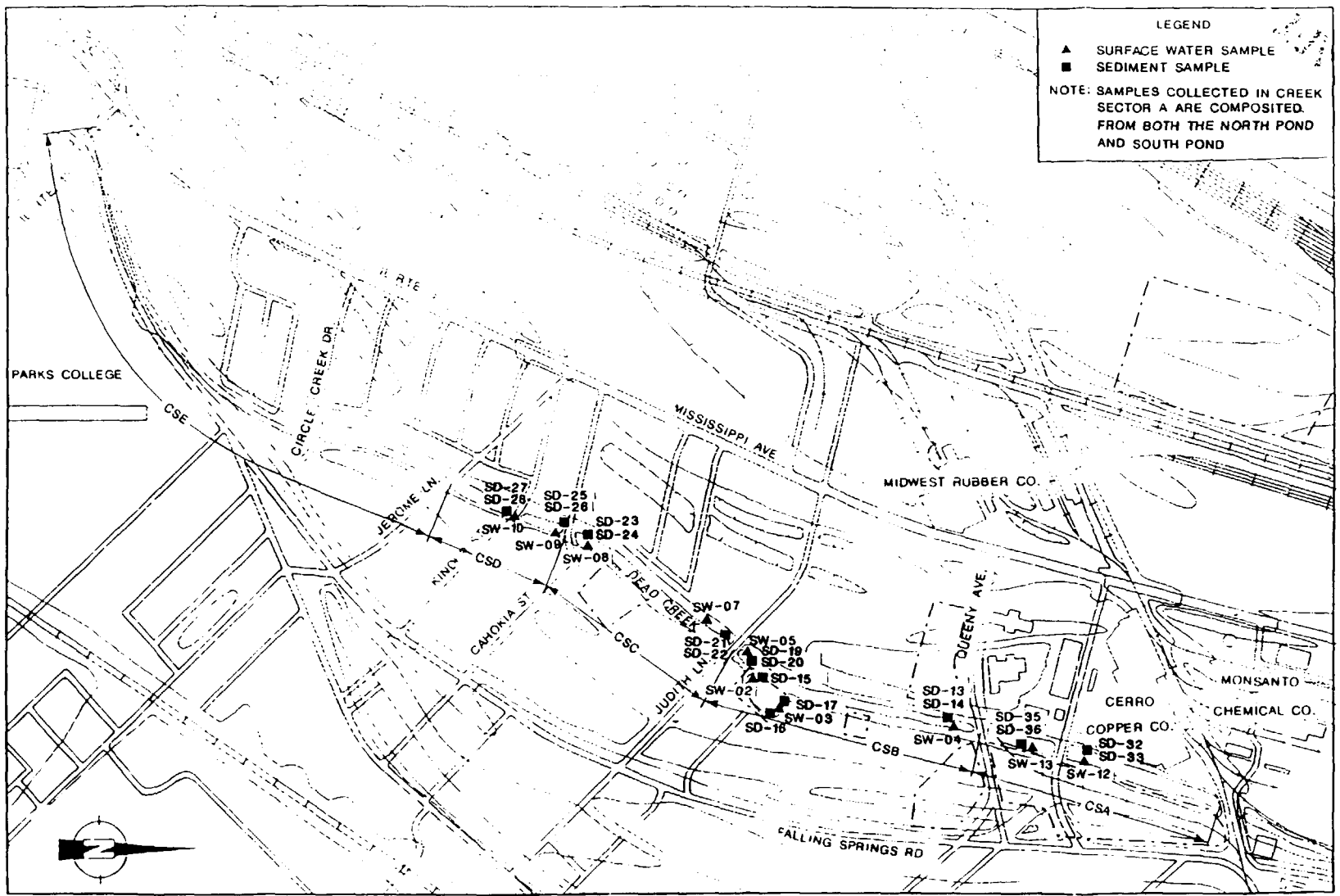
μg/L - Micrograms per liter
ND - Not detected

SAUGET Analytical Data
Dead Creek - Sector B

SURFACE WATER SAMPLES
Pesticides/PCBs (µg/L)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-04	DC-SW-05	DC-SW-06	DC-SW-01	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	Concentration
Pesticides/PCBs					BLANK	Detected
Alpha-BHC		ND	ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND
Aldrin		ND	ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND	ND
Endrin		ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND
Chlordane		ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND	ND
Aroclor-1260		**3.6**	**34**	**44**	ND	**44**

µg/L - Micrograms per liter
ND - Not detected



SOURCE: Ecology and Environment, Inc., 1988.

SCALE

0 1000 2000 3000 4000 5000 FEET

FIGURE 3-5 SURFACE WATER AND SEDIMENT SAMPLING LOCATIONS IN DEAD CREEK AND SITE M

SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES
Volatile Organic Compounds (mg/kg) dry weight
Collected by Geraghty & Miller, Inc. (10/91)

Sample Number	A-B1	C-B1	D-B1	E-B1	F-B1	G-B1	H-B1	I-B2	J-B2	BLANK	Maximum
Sample Depth (ft)	0-2	0-1.5	0-1.5	0-2	0-2	0-2	0-2	0-2	0-1.5	NA	Concentration
Date Collected	10/18/91	10/21/91	10/21/91	10/21/91	10/22/91	10/22/91	10/23/91	10/24/91	10/24/91	10/21/91	Detected
VOC										(µg/L)	
Methylene chloride	<0.028 J	<0.047 J	<0.094 J	<0.064	<0.061	<0.019	<0.050	<0.037	<0.016 J	**10**	**10**
Acetone	<0.056 J	<0.43 J	**1.7 J**	<0.89	<0.35	<0.14	<0.27	**0.29**	**0.24 J**	<10	**1.7 J**
Carbon disulfide	**0.063 J**	**0.008 J**	**0.027 J**	**0.019 J**	**0.013 J**	**0.013 J**	**0.01 J**	**0.011 J**	**0.035 J**	<5.0	**0.063 J**
2-Butanone	<0.056 J	<0.094 J	<0.23 J	<0.13	<0.18	<0.081	<0.20	**0.2**	<0.031 J	<10	ND
Benzene	<0.028 J	<0.047 J	<0.049 J	<0.064	<0.061	<0.013	<0.050	<0.030	<0.016 J	<5.0 J	ND
Tetrachloroethene	<0.028 J	<0.047 J	<0.049 J	<0.064	**0.03 J**	<0.013	<0.050	<0.030	<0.016 J	<5.0 J	**0.03 J**
Toluene	<0.028 J	<0.047 J	<0.049 J	**0.035 J**	**0.025 J**	<0.013	**0.069**	<0.030	<0.016 J	<5.0 J	**0.069**
Chlorobenzene	**0.99 DJ**	**0.99 J**	**1.8 J**	**0.44**	**1.1**	**0.092**	**0.71**	**0.65**	**13 DJ**	<5.0 J	**13 DJ**
Ethylbenzene	<0.028 J	<0.047 J	<0.049 J	<0.064	**0.044 J**	**0.008 J**	**0.015 J**	<0.030	<0.016 J	<5.0 J	**0.044 J**
Xylenes	<0.028 J	<0.047 J	**0.04 J**	<0.064	<0.061	<0.013	<0.050	<0.030	**0.044 J**	<5.0 J	**0.044 J**
Chloroform	<0.028 J	<0.047 J	<0.049 J	<0.064	<0.061	<0.013	<0.050	<0.030	<0.016 J	<5.0 J	ND
1,1,1-Trichloroethane	<0.028 J	<0.047 J	<0.049 J	<0.064	<0.061	<0.013	<0.050	<0.030	<0.016 J	<5.0 J	ND

mg/kg - milligrams per kilogram

J - Estimated value

D - Compound concentration determined at a secondary dilution factor

SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES
Base Neutrals/Acids (mg/kg) dry weight
Collected by Geraghty & Miller, Inc. (10/91)

Sample Number	A-B1	C-B1	D-B1	E-B1	F-B1	G-B1	H-B1	I-B2	J-B2	BLANK	Maximum
Sample Depth (ft)	0-2	0-1.5	0-1.5	0-2	0-2	0-2	0-2	0-2	0-1.5	NA	Concentration
Date Collected	10/18/91	10/21/91	10/21/91	10/21/91	10/22/91	10/22/91	10/23/91	10/24/91	10/24/91	10/21/91	Detected
BNAs	*								*	(µg/L)	
Phenol	<6.2	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
2-Chlorophenol	<6.2	<12	0.150 J	0.120 J	0.110 J	<0.860	<0.660	<0.660	<1	<10	0.15 J
1,3-Dichlorobenzene	0.650 J/0.690 J	<12	0.350 J	0.760 J	1.1	<0.860	0.410 J	<0.660	2	<10	2
1,4-Dichlorobenzene	1.9 J/2.0 J	1.8 J	1.7	1.6	5.7	0.110 J	1.3	1.1	12	<10	12
1,2-Dichlorobenzene	0.850 J/0.960 J	<12	1.2	1.7	11	<0.860	2.5	<0.660	<1	<10	11
4-Methylphenol	<6.2	<12	<0.650	<0.850	<0.810	<0.860	0.120 J	<0.660	<1	<10	0.12 J
Isophorone	<6.2	<12	<0.650	<0.850	0.270 J	<0.860	<0.660	<0.660	<1	<10	0.27 J
2,4-Dimethylphenol	<6.2	<12	<0.650	<0.850	0.140 J	<0.860	0.087 J	<0.660	<1	<10	0.14 J
2,4-Dichlorophenol	<6.2	<12	<0.650	0.340 J	0.250 J	<0.860	0.096 J	<0.660	<1	<10	0.34 J
1,2,4-Trichlorobenzene	<6.2/3.4 J	3.8 J	3.4	4.4	12	<0.860	2.3	0.380 J	<1	<10	12
Naphthalene	<5.4/5.1 J	<12	0.350 J	0.300 J	0.500 J	<0.860	0.210 J	0.190 J	2.1	<10	5.1 J
4-Chloroaniline	<6.2	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<660	<1	<10	ND
2-Methylnaphthalene	1.8 J/1.7 J	<12	0.240 J	0.100 J	0.320 J	<0.860	0.140 J	<0.660	7	<10	7
2,4,6-Trichlorophenol	<6.2	<12	<0.650	0.350 J	<0.810	<0.860	<0.660	<0.660	<1	<10	0.35 J
2,4,5-Trichlorophenol	<31	<62	<3.300	0.096 J	<4.1	<4.3	<3.3	<3.3	<5.1	<50	0.096 J
Acenaphthylene	0.720 J/0.960 J	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
Acenaphthene	0.530 J/0.440 J	<12	0.430 J	<0.850	0.480 J	<0.860	<0.660	0.098 J	2.6	<10	2.6
Dibenzofuran	1.2 J/1.3 J	<12	0.350 J	<0.850	0.280 J	<0.860	<0.660	0.070 J	2	<10	2
Diethylphthalate	<6.2	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
Fluorene	1.5 J/1.6 J	<12	0.950	0.170 J	0.880	<0.860	0.120 J	0.150 J	4.6	<10	4.6
N-Nitrosodiphenylamine	<6.2	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
Hexachlorobenzene	<6.2	<12	<0.650	0.110 J	<0.810	<0.860	<0.660	<0.660	<1	<10	0.11 J
Pentachlorophenol	<31	<62	1.5 J	1.6 J	1.6 J	<4.3	0.390 J	0.320 J	<5.1	<50	1.6 J
Phenanthrene	6.4/6.4	1.6 J	0.900	0.410 J	1.7	<0.860	0.350 J	0.320 J	2.9	<10	2.9
Anthracene	1.7 J/1.8 J	<12	0.370 J	0.130 J	1.3	<0.860	<0.660	<0.660	2.7	<10	2.7
Di-n-butyl phthalate	<6.2	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
Fluoranthene	5.4 J/5.4 J	3.2 J	0.840	0.880	5.2	<0.860	0.430 J	0.580 J	4.7	<10	5.2
Pyrene	7.5/7.3	5.6 J	3.4	2.5	16 E	<0.860	1.2	1.9	17 E/12 D	<10	17 E
Butyl Benzyl phthalate	<6.2	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
Benzo(a)anthracene	3.7 J/3.6 J	1.6 J	0.950	0.480 J	5.4	<0.860	0.360 J	0.700	5	<10	5.4
bis(2-ethylhexyl)phthalate	12 B/10 B	7.1 J	1.3	1.2	0.820	0.086 J	0.910	<0.660	<1	<10	7.1 J
Chrysene	9.4/8.1	2.5 J	1.3	0.840 J	4.7	<0.860	0.510 J	1.2	7	<10	9.4
Benzo(b)fluoranthene	30/23	2.7 J	2.1	1.1	5.6	<0.860	0.770	1.6	6.1	<10	30
Benzo(k)fluoranthene	15/13	3.2 J	1.1	0.670 J	5.2	<0.860	0.780	0.980	5	<10	15
Benzo(a)pyrene	10/8.7	2.3 J	1.2	0.550 J	5.3	0.170 J	0.680	0.900	4.4	<10	10
Indeno(1,2,3-cd)pyrene	9/8.6	<12	0.730	0.270 J	2.1	<0.860	0.460 J	0.700	2.8	<10	9
Dibenzo(a,h)anthracene	3.9 J/3.3 J	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	3.9 J
Benzo(g,h,i)perylene	12/13	1.5 J	1.1	0.380 J	2.1	<0.860	0.330 J	0.880	3.2	<10	13

* - Sample analyzed twice
J - Estimated concentration
B - Compound also detected in blank sample
E - Compound concentration is outside of instrument calibration limits

SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES
Total Metals (mg/kg) dry weight
Collected by Geraghty & Miller, Inc. (10/91)

Sample Number	A-B1	A-B2	A-B3	C-B1	C-B2	C-B3	D-B1	D-B2	D-B3	E-B1
Sample Depth (ft)	0-2	2-4	5-6	0-1.5	1.5-3.5	3.5-5.5	0-1.5	2-4	4-6	0-2
Date Collected	10/18/91	10/18/91	10/18/91	10/21/91	10/21/91	10/21/91	10/21/91	10/21/91	10/21/91	10/21/91
Total Metals										
Aluminum	5780	9310	9290	11800	21000	7010	6590	21500	11000	12300
Antimony	20.3 BJ	<14.2 J	<13.3 J	20.5 BJ	<14.2 J	<14.2 J	41.9 J	<13.7 J	<12.8 J	33.3 J
Barium	2970	240	230	4480	241	724	8640	294	252	8020
Cadmium	51.7 J	R	R	37.5 J	12.5 J	R	69.6 J	36.6 J	R	38.8 J
Calcium	12500	9650	16000	12500	5150	12000	20400	5870	17200	16100
Chromium	134	12.3	12	187	47.3	12.6	104	50.5	16.6	296
Cobalt	17.2 BJ	7.4 B	11 B	12.3 BJ	10.1 B	11.1 B	12.4 B	11 B	8.1 B	10.7 B
Copper	12100 J	<28.3	<29.9	10300 J	<66.1	321 J	25100 J	<46.8 J	<28.8	19400 J
Iron	39000	19500	15800	27300	18600	18700	48700	19100	16200	46600
Magnesium	3130	6860	7680	3660	4930	6540	3380	4830	7770	3440
Manganese	108 J	226 J	305 J	106 J	110 J	582 J	153 J	117 J	337 J	96.4 J
Nickel	1170 J	18.5 J	23.6 J	417 J	127 J	41.4 J	1260 J	105 J	18.8 J	686 J
Potassium	830 BJ	2940	1800	2030	3100	1460	1010 B	2910	2180	1260 B
Silver	11.7 J	<2.8 J	<2.7 J	12.1 J	<2.8 J	<2.8 J	21 J	<2.7 J	<2.6 J	19 J
Sodium	<225	<251	<269	<300	<254	<221	<362	<231	<211	<446
Vanadium	23.3	23.5	24.9	39.4	50	22.4	30.8	58.2	30.6	54.8
Zinc	13600	<106	1010	11700	3500	1090	26100	5280	<94.9	18500
Mercury	1.2	0.03	0.03	3.6	0.08	0.04	5	0.08	0.06	3.3
Lead	1520	14.6	12.5	1550	38.2	15.2	2660	53.4	10.8	1810
Selenium	6.2 J	R	R	5.8 J	R	R	9.45 J	R	R	6.2 J
Arsenic	100 J	4.5 J	12.2 J	198 J	13.2 J	4.2 J	63.1 J	15.1 J	6.7 J	107 J
Cyanide	17.4	<0.36	<0.33	<0.48	NA	NA	<0.49	NA	NA	0.78

MG/KG - Milligrams per kilogram

B - Concentration was less than the contract required detection limit but greater than or equal to the instrument detection limit

J - Estimated value

R - Unusable data

NA - Not analyzed

SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES
Total Metals (mg/kg) dry weight
Collected by Geraghty & Miller, Inc. (10/91)

	Sample Number	E-B3	E-B2	F-B1	F-B2	F-B3	G-B1	G-B2	G-B3	H-B1	H-B2
	Sample Depth (ft)	2-4	4-6	0-2	2-4	4-6	0-2	2-4	4-6	0-2	2-4
	Date Collected	10/21/91	10/21/91	10/22/91	10/22/91	10/22/91	10/22/91	10/23/91	10/23/91	10/23/91	10/23/91
Total Metals											
Aluminum		9910	16300	9890	20200	10600	6970	8300	13300	12100	9180
Antimony		<13.4 J	<14.2 J	42.6 J	<14.2 J	<12.1 J	44.5 J	<13.3 J	<12.9 J	20.7 BJ	<12.8 J
Barium		241	272	4110	312	259	8850	172	248	2040	204
Cadmium		3.6 J	1.5 J	243 J	7.7 J	R	112 J	R	11.8 J	80.7 J	5.8 J
Calcium		7430	18200	11100	6520	20600	9360	11300	3880	11200	6190
Chromium		20.7	21.4	107	49.2	15.5	104	13.3	32	63.1	84.5
Cobalt		17.2	8.2 B	29.9	11.6 B	7.3 B	24.9 B	17.5	24.4	12.2 B	8.9 B
Copper		<33	<29.0	12300 J	174 J	<26.7	17500 J	<16.9	<72.5	3560 J	<26.5
Iron		15800	24000	86400	21800	16200	62900	12600	12900	36100	9480
Magnesium		5100	7670	3730	5200	8290	2570	7050	3660	3670	4240
Manganese		101 J	702 J	557 J	132 J	493 J	132 J	207 J	72.3 J	141 J	82.2 J
Nickel		104 J	21.2 J	2020 J	181 J	18.7 J	1440 J	37.6 J	444 J	597 J	127 J
Potassium		1900 B	2980	1610 B	2970	2200	796 B	1680	1930	1900 B	1510 B
Silver		<2.7 J	<2.8 J	16.1 J	<2.8 J	<2.4 J	17.4 J	<2.7 J	<2.6 J	6 J	<2.6 J
Sodium		<177	<276	<355	<178	<186	<307	<137	<149	<203	<131
Vanadium		30.4	43.6	54.9	59.6	29.4	54.4	23.1	35.5	47.6	23.7
Zinc		2770	<84.2	42800	4100	<69.4	31000	<412	6340	13100	2180
Mercury		0.05	0.03	3.9	0.09	0.03	0.29	0.04	0.03	1.7	0.04
Lead		18.6	13.7	2310	34.3	12.5	1810	11.5	22.6	1340	15.4
Selenium		R	R	8.7 J	R	R	3.7 J	R	R	4.3 J	R
Arsenic		12.9 J	3.9 J	83.2 J	13.1 J	4.4 J	95.7 J	19.1 J	12.1 J	52.9 J	6.4 J
Cyanide		NA	NA	1.5	NA	NA	0.72	NA	NA	0.7	NA

MG/KG - Milligrams per kilogram

B - Concentration was less than the contract required detection limit but greater than or equal to the instrument detection limit

J - Estimated value

R - Unusable data

NA - Not analyzed

SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES
Total Metals (mg/kg) dry weight
Collected by Geraghty & Miller, Inc. (10/91)

Sample Number	H-B3	I-B2	I-B3	I-B1	J-B2	J-B3	J-B1	BLANK	BLANK	BLANK
Sample Depth (ft)	4-6	0-2	1 5-3	3-5	0-1.5	1 5-3	3-5	NA	NA	NA
Date Collected	10/23/91	10/24/91	10/24/91	10/24/91	10/24/91	10/24/91	10/24/91	10/21/91	10/21/91	10/21/91
Total Metals								(µg/L)	(µg/L)	(µg/L)
Aluminum	8450	15400 J	13300 J	9750 J	5640 J	13700 J	7280 J	<200	<200	<200
Antimony	<14 5 J	<19 0	<13.5	<14 0	44	<14 6	<13 9	<50 0	<50 0	<50.0
Barium	175	1890 J	294 J	189 J	9510 J	279 J	258 J	40.8 B	<10	<10
Cadmium	5.3 J	71.8 J	<19.3	<1 4	82.7 J	16.9 J	1.6 J	<5 0	<5 0	<5 0
Calcium	6310	7760	4860	14900	23600	3940	18000	844 B	462 B	497 B
Chromium	14.8	100 J	25.1 J	15 J	125 J	150 J	15.9 J	<10.0	<10 0	<10.0
Cobalt	12 B	17.2 B	6 B	8.6 B	26.8 B	7.9 B	8 B	<10 0	<10 0	<10 0
Copper	<19 3	4070	232 J	24.3	30100	276	90.5	68.9	<25 0	<25.0
Iron	11400	31700	17400	19900	54900	14000	15800	435	98.4 B	171
Magnesium	4960	4040	4120	7420	2860 B	3110	7420	168 B	<50 0	<50 0
Manganese	83.2 J	128 J	85.8	534 J	240	74	488	<10 0	<10 0	<10.0
Nickel	231 J	548 J	222 J	19.8 J	2670 J	377 J	34.3 J	<40.0	<40.0	<40.0
Potassium	1790	2420	2200	1940	<595	2070	1650	<1000	<1000	<1000
Silver	<2 9 J	4.2	<2.7	<2 7	50.4	<2.9	<2 7	<10.0	<10.0	<10 0
Sodium	<149	215 B	162 B	180 B	452 B	1464	187 B	8140	665 B	<500
Vanadium	27.5	44.1	35.2	25.6	58.9	34.7	21.6	<10 0	<10 0	<10 0
Zinc	2390	9950	3280	83.3	4500	4300	524	140	375	29.7
Mercury	0.03	0.25	0.09	0.07	0.14	0.1	0.1	<0 20	<0 20	<0 20
Lead	11.3	1360	44.5	14.1	1820	76.8	26.2	5.5	<3 0	<5 0
Selenium	R	3.9 J	<2 7 J	<1 4 J	<6 0 J	<2 9 J	<2.7 J	<5 0 J	<5 0 J	<10
Arsenic	15.5 J	89.5 J	7.3 J	11.1 J	70.5 J	8.4	4.4	<10 0	<10 0	<10
Cyanide	NA	0.53 J	NA	NA	< 0 79	NA	NA	NA	NA	NA

MG/KG - Milligrams per kilogram

B - Concentration was less than the contract required detection limit, but greater than or equal to the instrument detection limit

J - Estimated value

R - Unusable data

NA - Not analyzed

SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES
Total Metals (mg/kg)
Collected by Geraghty & Miller, Inc. (10/91)

	Sample Number Sample Depth (ft) Date Collected	Maximum Concentration Detected
Total Metals		
Aluminum		21500
Antimony		44.5 J
Barium		9510
Cadmium		243 J
Calcium		23600
Chromium		296
Cobalt		29.9
Copper		30100
Iron		86400
Magnesium		8920
Manganese		702 J
Nickel		2670 J
Potassium		3100
Silver		50.4
Sodium		1464
Vanadium		59.6
Zinc		42800
Mercury		5
Lead		2660
Selenium		9.45 J
Arsenic		198 J
Cyanide		17.4

MG/KG - Milligrams per kilogram
B - Concentration was less than the contract required detection limit, but greater than or equal to the instrument detection limit
J - Estimated value
R - Unusable data
NA - Not analyzed

SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES
Pesticides/PCBs (mg/kg) dry weight
Collected by Geraghty & Miller, Inc. (10/91)

	Sample Number	A-B1	A-B2	A-B3	C-B1	C-B2	C-B3	D-B1	D-B2	D-B3	E-B1
	Sample Depth (ft)	0-2	2-4	5-6	0-1.5	1.5-3.5	3.5-5.5	0-1.5	2-4	4-6	0-2
	Date Collected	10/18/91	10/18/91	10/18/91	10/21/91	10/21/91	10/21/91	10/21/91	10/21/91	10/21/91	10/21/91
Pesticides/PCBs											
Aroclor-1248		<150 J	**0.250 J**	<0.110 J	**440 J**	**0.420**	<0.120	**85 J**	<0.120	<0.110	**68 J**
Aroclor-1254		**180 J**	**0.126 J**	**0.130 J**	<120 J	<0.250	**0.220 J**	**53 J**	<0.240	<0.210	**46 J**
Aroclor-1260		**130 J**	<0.230 J	<0.210 J	<120 J	<0.250	<0.240	<63 J	<0.240	<0.210	<82 J
Total PCBs		**310**	**0.376**	**0.130**	**440**	**0.420**	**0.220**	**138**	0	0	**114**

	Sample Number	E-B3	E-B2	F-B1	F-B2	F-B3	G-B1	G-B2	G-B3	H-B1	H-B2
	Sample Depth (ft)	2-4	4-6	0-2	2-4	4-6	0-2	2-4	4-6	0-2	2-4
	Date Collected	10/21/91	10/21/91	10/22/91	10/22/91	10/22/91	10/22/91	10/23/91	10/23/91	10/23/91	10/23/91
Pesticides/PCBs											
Aroclor-1248		<0.110	<0.110	**92 J**	<0.120	<0.110	**20 J**	<0.110	**0.120**	**54 J**	**0.120**
Aroclor-1254		<0.230	<0.230	**55 J**	<0.250	<0.210	**30 J**	**0.400**	**0.910**	**13 J**	<0.220
Aroclor-1260		<0.230	<0.230	<78 J	<0.250	<0.210	**42 J**	<0.230	**0.250**	<32 J	<0.220
Total PCBs		0	0	**147**	0	0	**92**	**0.400**	**1.280**	**67**	**0.120**

	Sample Number	H-B3	I-B2	I-B3	I-B1	J-B2	J-B3	J-B1	BLANK	**Maximum**
	Sample Depth (ft)	4-6	0-2	1.5-3	3-5	0-1.5	1.5-3	3-5	NA	**Concentration**
	Date Collected	10/23/91	10/24/91	10/24/91	10/24/91	10/24/91	10/24/91	10/24/91	10/21/91	**Detected**
Pesticides/PCBs									(UG/L)	
Aroclor-1248		<0.120	**12 J**	**0.330 J**	**0.390**	**93 J**	**0.230**	<0.120	<0.50 J	**440 J**
Aroclor-1254		<0.240	**18 J**	**0.680 X**	**0.230 X**	**110 J**	**0.350 X**	<0.230	<1.0 J	**180 J**
Aroclor-1260		<0.240	**23 J**	**0.210 J**	**0.210 J**	**98 J**	**0.200 J**	<0.230	<1.0 J	**130 J**
Total PCBs		0	**53**	**0.830**	**0.830**	**301**	**0.780**	0	--	--

mg/kg - Milligrams per kilogram

J - Estimated value

X - Due to the presence of Aroclor 1248, 1254, and 1260, the quantitation is based on one peak only

SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES
Volatile Organic Compounds (mg/kg) dry weight
Collected by Geraghty & Miller, Inc. (10/91)

	Sample Number	A-B1	B-B1	C-B1	D-B1	E-B1	F-B1	G-B1	H-B1	I-B2	J-B2	BLANK	Maximum
	Sample Depth (ft)	0-2	0-2	0-1.5	0-1.5	0-2	0-2	0-2	0-2	0-2	0-1.5	NA	Concentration
	Date Collected	10/18/91	10/18/91	10/21/91	10/21/91	10/21/91	10/22/91	10/22/91	10/23/91	10/24/91	10/24/91	10/21/91	Detected
VOC												(µg/L)	
Methylene chloride		<0.028 J	<1.3 J	<0.047 J	<0.094 J	<0.064	<0.061	<0.019	<0.050	<0.037	<0.016 J	**10**	**10**
Acetone		<0.056 J	<1.8 J	<0.43 J	**1.7 J**	<0.89	<0.35	<0.14	<0.27	**0.29**	**0.24 J**	<10	**1.7 J**
Carbon disulfide		**0.063 J**	<0.92 J	**0.008 J**	**0.027 J**	**0.019 J**	**0.013 J**	**0.013 J**	**0.01 J**	**0.011 J**	**0.035 J**	<5.0	**0.063 J**
2-Butanone		<0.056 J	<3.7 J	<0.094 J	<0.23 J	<0.13	<0.18	<0.081	<0.20	**0.2**	<0.031 J	<10	**0.2**
Benzene		<0.028 J	<0.92 J	<0.047 J	<0.049 J	<0.064	<0.061	<0.013	<0.050	<0.030	<0.016 J	<5.0 J	ND
Tetrachloroethene		<0.028 J	<0.92 J	<0.047 J	<0.049 J	<0.064	**0.03 J**	<0.013	<0.050	<0.030	<0.016 J	<5.0 J	**0.03 J**
Toluene		<0.028 J	**5.3 J**	<0.047 J	<0.049 J	**0.035 J**	**0.025 J**	<0.013	**0.089**	<0.030	<0.016 J	<5.0 J	**5.3 J**
Chlorobenzene		**0.99 DJ**	**2 J**	**0.99 J**	**1.8 J**	**0.44**	**1.1**	**0.092**	**0.71**	**0.65**	**13 DJ**	<5.0 J	**13 DJ**
Ethylbenzene		<0.028 J	<0.92 J	<0.047 J	<0.049 J	<0.064	**0.044 J**	**0.008 J**	**0.015 J**	<0.030	<0.016 J	<5.0 J	**0.044 J**
Xylenes		<0.028 J	**0.36 J**	<0.047 J	**0.04 J**	<0.064	<0.061	<0.013	<0.050	<0.030	**0.044 J**	<5.0 J	**0.36 J**
Chloroform		<0.028 J	<0.92 J	<0.047 J	<0.049 J	<0.064	<0.061	<0.013	<0.050	<0.030	<0.016 J	<5.0 J	ND
1,1,1-Trichloroethane		<0.028 J	<0.92 J	<0.047 J	<0.049 J	<0.064	<0.061	<0.013	<0.050	<0.030	<0.016 J	<5.0 J	ND

mg/kg - milligrams per kilogram

J - Estimated value

D - Compound concentration determined at a secondary dilution factor

SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES
Base Neutrals/Acids (mg/kg) dry weight
Collected by Geraghty & Miller, Inc. (10/91)

Sample Number	A-B1	B-B1	C-B1	D-B1	E-B1	F-B1	G-B1	H-B1	I-B2	J-B2	BLANK	Maximum
Sample Depth (ft)	0-2	0-2	0-1.5	0-1.5	0-2	0-2	0-2	0-2	0-2	0-1.5	NA	Concentration
Date Collected	10/18/91	10/18/91	10/21/91	10/21/91	10/21/91	10/22/91	10/22/91	10/23/91	10/24/91	10/24/91	10/21/91	Detected
BNAs	*	*								*	(µg/L)	
Phenol	<6.2	<0.490	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
2-Chlorophenol	<6.2	0.460 J/<0.490	<12	0.150 J	0.120 J	0.110 J	<0.860	<0.660	<0.660	<1	<10	0.46 J
1,3-Dichlorobenzene	0.650 J/0.690 J	0.180 J/0.180 J	<12	0.350 J	0.760 J	1.1	<0.860	0.410 J	<0.660	2	<10	2
1,4-Dichlorobenzene	1.9 J/2.0 J	2.3/2.0	1.8 J	1.7	1.6	5.7	0.110 J	1.3	1.1	12	<10	12
1,2-Dichlorobenzene	0.850 J/0.960 J	<0.490	<12	1.2	1.7	11	<0.860	2.5	<0.660	<1	<10	11
4-Methylphenol	<6.2	<0.490	<12	<0.650	<0.850	<0.810	<0.860	0.120 J	<0.660	<1	<10	0.12 J
Isophorone	<6.2	<0.490	<12	<0.650	<0.850	0.270 J	<0.860	<0.660	<0.660	<1	<10	0.27 J
2,4-Dimethylphenol	<6.2	<0.490	<12	<0.650	<0.850	0.140 J	<0.860	0.087 J	<0.660	<1	<10	0.14 J
2,4-Dichlorophenol	<6.2	0.840/0.880	<12	<0.650	0.340 J	0.250 J	<0.860	0.096 J	<0.660	<1	<10	0.88 J
1,2,4-Trichlorobenzene	<6.2/3.4 J	1.6/1.6	3.8 J	3.4	4.4	12	<0.860	2.3	0.380 J	<1	<10	12
Naphthalene	<5.4/5.1 J	1.1/1.0	<12	0.350 J	0.300 J	0.500 J	<0.860	0.210 J	0.190 J	2.1	<10	5.1 J
4-Chloroaniline	<6.2	<0.490	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<660	<1	<10	ND
2-Methylnaphthalene	1.8 J/1.7 J	<0.490	<12	0.240 J	0.100 J	0.320 J	<0.860	0.140 J	<0.660	7	<10	7
2,4,6-Trichlorophenol	<6.2	1.3/1.4	<12	<0.650	0.350 J	<0.810	<0.860	<0.660	<0.660	<1	<10	1.4
2,4,5-Trichlorophenol	<31	<2.5	<62	<3.300	0.096 J	<4.1	<4.3	<3.3	<3.3	<5.1	<50	0.096 J
Acenaphthylene	0.720 J/0.960 J	<0.490	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
Acenaphthene	0.530 J/0.440 J	0.230 J/0.270 J	<12	0.430 J	<0.850	0.480 J	<0.860	<0.660	0.098 J	2.6	<10	2.6
Dibenzofuran	1.2 J/1.3 J	0.160 J/0.170 J	<12	0.350 J	<0.850	0.280 J	<0.860	<0.660	0.070 J	2	<10	2
Diethylphthalate	<6.2	<0.490	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
Fluorene	1.5 J/1.6 J	0.340 J/0.310 J	<12	0.950	0.170 J	0.880	<0.860	0.120 J	0.150 J	4.6	<10	4.6
N-Nitrosodiphenylamine	<6.2	0.520/0.760	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	0.76
Hexachlorobenzene	<6.2	<0.490	<12	<0.650	0.110 J	<0.810	<0.860	<0.660	<0.660	<1	<10	0.11 J
Pentachlorophenol	<31	1.4 J/2.9	<62	1.5 J	1.6 J	1.6 J	<4.3	0.390 J	0.320 J	<5.1	<50	2.9
Phenanthrene	6.4/6.4	0.870/<0.490	1.6 J	0.900	0.410 J	1.7	<0.860	0.350 J	0.320 J	2.9	<10	2.9
Anthracene	1.7 J/1.8 J	0.430 J/<0.490	<12	0.370 J	0.130 J	1.3	<0.860	<0.660	<0.660	2.7	<10	2.7
Di-n-butyl phthalate	<6.2	<0.490	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
Fluoranthene	5.4 J/5.4 J	1.8/<0.490	3.2 J	0.840	0.880	5.2	<0.860	0.430 J	0.580 J	4.7	<10	5.2
Pyrene	7.5/7.3	6.6/4.3	5.6 J	3.4	2.5	16 E	<0.860	1.2	1.9	17 E/12 D	<10	17 E
Butyl Benzyl phthalate	<6.2	<0.490	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	ND
Benzo(a)anthracene	3.7 J/3.6 J	1.6/1.8	1.6 J	0.950	0.480 J	5.4	<0.860	0.360 J	0.700	5	<10	5.4
bis(2-ethylhexyl)phthalate	12 B/10 B	2.4 B/1.9 B	7.1 J	1.3	1.2	0.820	0.086 J	0.910	<0.660	<1	<10	7.1 J
Chrysene	9.4/8.1	1.7/1.2	2.5 J	1.3	0.840 J	4.7	<0.860	0.510 J	1.2	7	<10	9.4
Benzo(b)fluoranthene	30/23	2.7/4.0	2.7 J	2.1	1.1	5.6	<0.860	0.770	1.6	6.1	<10	30
Benzo(k)fluoranthene	15/13	1.9/<0.490	3.2 J	1.1	0.670 J	5.2	<0.860	0.780	0.980	5	<10	15
Benzo(a)pyrene	10/8.7	1.9/1.9	2.3 J	1.2	0.550 J	5.3	0.170 J	0.680	0.900	4.4	<10	10
Indeno(1,2,3-cd)pyrene	9/8.6	0.7/1.0	<12	0.730	0.270 J	2.1	<0.860	0.460 J	0.700	2.8	<10	9
Dibenzo(a,h)anthracene	3.9 J/3.3 J	<0.490	<12	<0.650	<0.850	<0.810	<0.860	<0.660	<0.660	<1	<10	3.9 J
Benzo(g,h,i)perylene	12/13	0.650/1.0	1.5 J	1.1	0.380 J	2.1	<0.860	0.330 J	0.880	3.2	<10	13

* - Sample analyzed twice
J - Estimated concentration
B - Compound also detected in blank sample
E - Compound concentration is outside of instrument calibration limits

SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES
Total Metals (mg/kg) dry weight
Collected by Geraghty & Miller, Inc. (10/91)

	Sample Number	A-B1	A-B2	A-B3	B-B1	B-B2	B-B3	C-B1	C-B2	C-B3	D-B1
	Sample Depth (ft)	0-2	2-4	5-6	0-2	4-6	2-4	0-1.5	1.5-3.5	3.5-5.5	0-1.5
	Date Collected	10/18/91	10/18/91	10/18/91	10/18/91	10/18/91	10/18/91	10/21/91	10/21/91	10/21/91	10/21/91
Total Metals											
Aluminum		5780	9310	9290	49200	7170	7460	11800	21000	7010	6590
Antimony		20.3 BJ	<14.2 J	<13.3 J	<14.6 J	<13.5 J	<12.6 J	20.5 BJ	<14.2 J	<14.2 J	41.9 J
Barium		2970	240	230	1980	202	274	4480	241	724	8640
Cadmium		51.7 J	R	R	22 J	R	R	37.5 J	12.5 J	R	69.6 J
Calcium		12500	9650	16000	17300	16100	18500	12500	5150	12000	20400
Chromium		134	12.3	12	71.1	10.4	10.9	187	47.3	12.6	104
Cobalt		17.2 BJ	7.4 B	11 B	10.3 B	8.7 B	10.5 B	12.3 BJ	10.1 B	11.1 B	12.4 B
Copper		12100 J	<28.3	<29.9	3160 J	<21.8	23.6 J	10300 J	<66.1	321 J	25100 J
Iron		39000	19500	15800	24200	17600	14400	27300	18600	18700	48700
Magnesium		3130	6860	7680	3030	7160	7460	3660	4930	6540	3380
Manganese		108 J	226 J	305 J	119 J	177 J	252 J	106 J	110 J	582 J	153 J
Nickel		1170 J	18.5 J	23.6 J	292 J	19.3 J	22.6 J	417 J	127 J	41.4 J	1260 J
Potassium		830 BJ	2940	1800	1070 B	1470	1700	2030	3100	1460	1010 B
Silver		11.7 J	<2.8 J	<2.7 J	5.1 J	<2.7 J	<2.5 J	12.1 J	<2.8 J	<2.8 J	21 J
Sodium		<225	<251	<269	<259	<281	<304	<300	<254	<221	<362
Vanadium		23.3	23.5	24.9	16.4	20.2	22.2	39.4	50	22.4	30.8
Zinc		13600	<106	1010	5140	<65.0	<133	11700	3500	1090	26100
Mercury		1.2	0.03	0.03	1.1	0.03	0.02	3.6	0.08	0.04	5
Lead		1520	14.6	12.5	696	10	11.7	1550	38.2	15.2	2660
Selenium		6.2 J	R	R	4.4 J	R	R	5.8 J	R	R	9.45 J
Arsenic		100 J	4.5 J	12.2 J	72.2 J	11.1 J	2.5 J	198 J	13.2 J	4.2 J	63.1 J
Cyanide		17.4	<0.36	<0.33	2.5	<0.34	<0.31	<0.48	NA	NA	<0.49

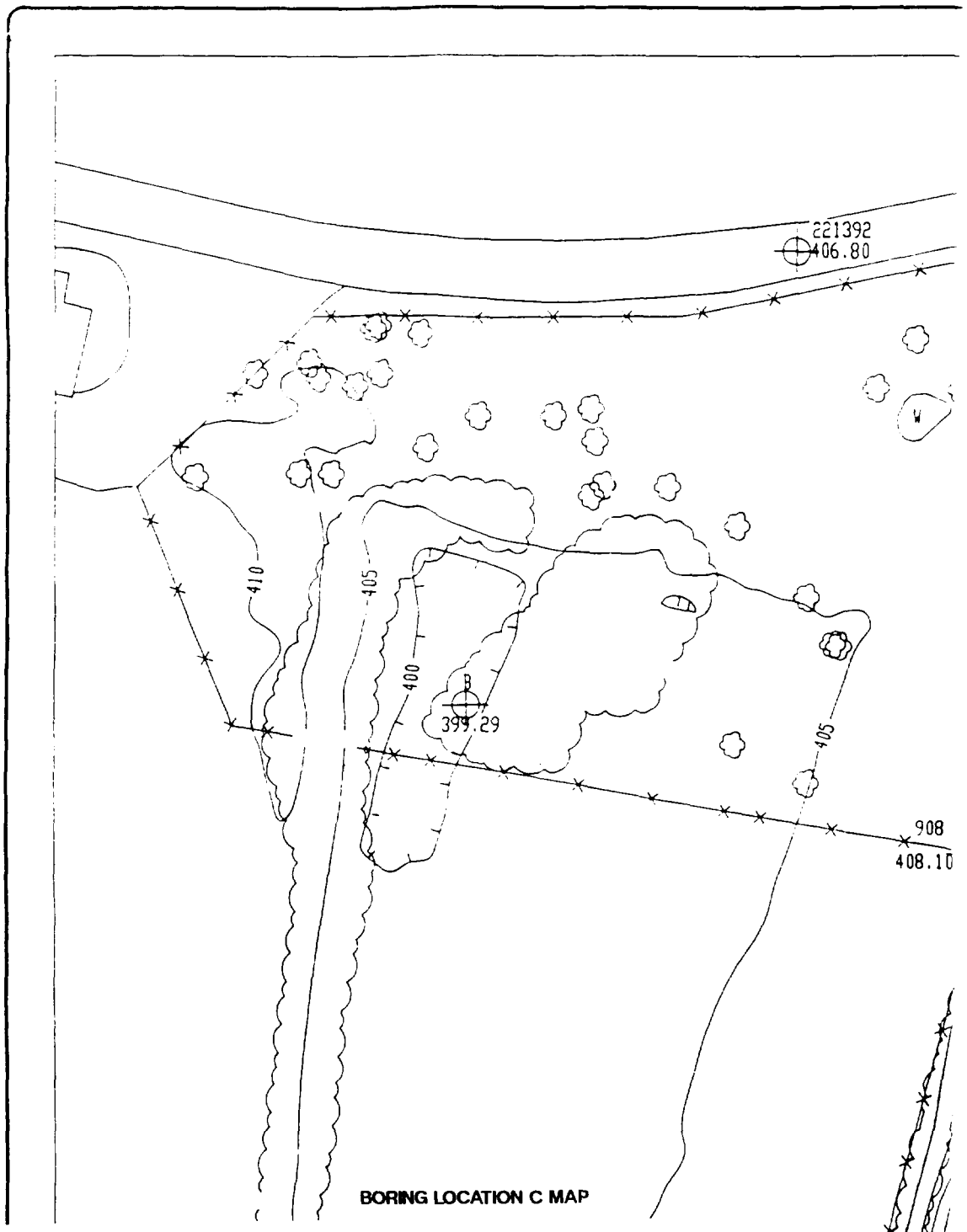
MG/KG - Milligrams per kilogram

B - Concentration was less than the contract required detection limit but greater than or equal to the instrument detection limit

J - Estimated value

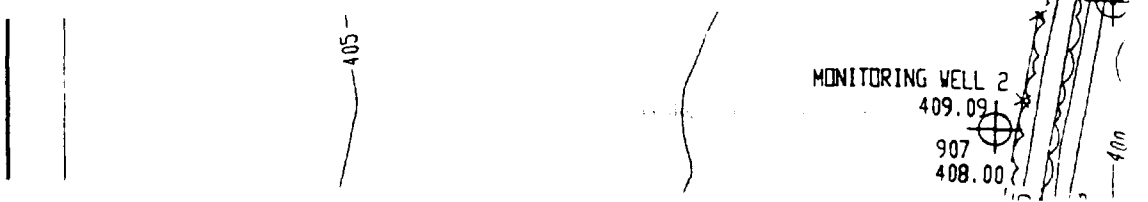
R - Unusable data

NA - Not analyzed



BORING LOCATION C MAP

Source: "Site Investigation for Dead Creek Sector B and Sites L and M" Geraghty & Miller, 1992



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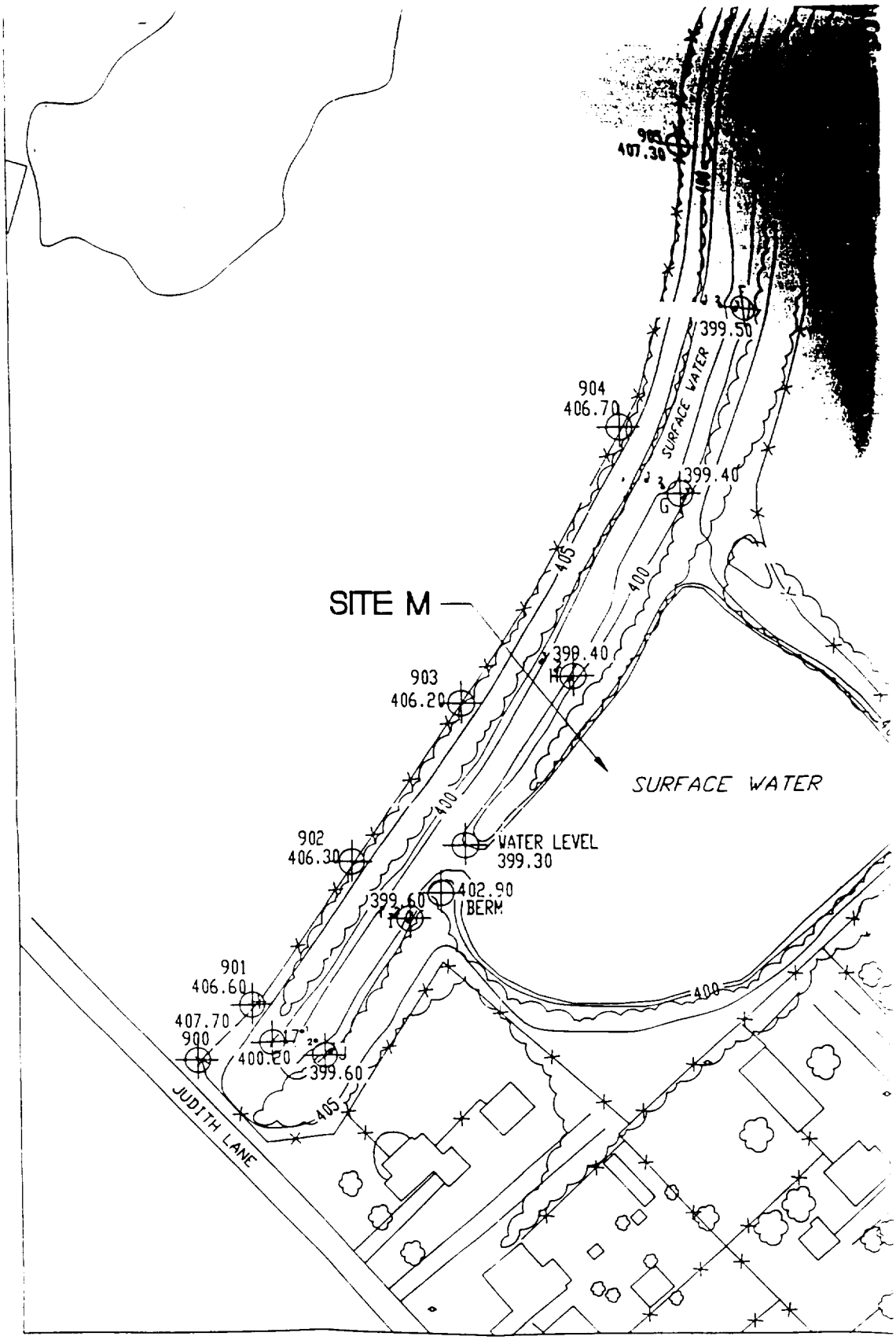

GERAGHTY & MILLER, INC.
Enviro

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CHECKED BY:	BAB
APPROVED BY:	DC

LOCATION MAP - BORING LOCATIONS D thru J

Source: "Site Investigation for Dead Creek Sector B and Sites L and M" Geraghty & Miller, 1992

SITE NARRATIVE

SITE N

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SITE NARRATIVE - SAUGET AREA 1 / Site N

Sample Locations	Sampling Entity	Date Sampled	Data Source
DC-N1, DC-N2	E & E	12/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988

Nature and Extent of Contamination:

Two VOC's were detected at a maximum concentration of 0.014 mg/kg in the two subsurface soil samples collected at Site N. BNAs were detected at a maximum concentration of 2.28 mg/kg in the two samples collected, and pesticides/PCBs were not detected in either of the samples. No other known sampling has been conducted at Site N, which was identified by IEPA as a potential disposal site through review of historical aerial photos.

The extent of contamination is poorly defined for Site N. This assessment is based on the fact that only two borings were conducted at the site and there is no groundwater data for the site. The samples collected, though, do appear to show only low level contamination may exist at the site.

Containment and Integrity (if known):

There is no known surface or subsurface containment in place at Site N. Access to the site is restricted by fencing.

Other Comments: See the attached "Site Description" for more site details.

SITE DESCRIPTION - Sauget Area 1/Site N

Site N consists of an excavated area in the southwest corner of an inactive construction yard owned by the H.H. Hall Construction Company. The excavated area has been filled, and the fill area encompasses approximately 4 to 5 acres to the east of Dead Creek. Historical aerial photos indicate that excavation began in the 1940's. According to company officials, only concrete rubble and demolition debris was dumped into the pit. Two borings conducted at the site did not encounter waste materials, however, staining was noted on silt and sand samples from the six to ten foot interval in one boring. The site is currently inactive and fenced.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report prepared by IEPA)

SITE NARRATIVE

CREEK SEGMENT C

SITE NARRATIVE - SAUGET AREA 1 / Creek Segment C

Sample Locations	Sampling Entity	Date Sampled	Data Source
SD-21 thru SD-24	E & E	11/05/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
SW-07, SW08	E & E	11/05/86	"Expanded Site Inspection Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
X101, X102, 5301 (#9), (#28), (#30)	IEPA	9/80	Data for #9, #28, #30 comes from a "Summary of the Phase II Investigation of Dead Creek, Sauget/Cahokia, Illinois" author unknown, date unknown Data for X101, X102, and 5301, are identical to the data for #9, #28, and #30. The source for these samples is unknown
X101, X102, X103	IEPA	3/91	Untitled map with data tables of Microfiche/CERCLA SSIR Sauget Sites Area 1
#7, #9	IEPA	9/25/8?	Memo to Division file from T. Powell (southern region) dated September 26, 1980
S504	IEPA	9/23/93	Letter to Alan Altur (USEPA) from P. Takacs (IEPA) dated November 2, 1993 Re: Sample data

Nature and Extent of Contamination:

VOC's and Pesticides were not detected in any of the four sediment samples (SD-21 thru SD-24) collected which were analyzed for these parameters. BNA concentrations in sediments ranged from 3.9 to 42.75 mg/kg for 4 of the 4 sediment samples collected. PCB concentrations in sediments ranged from 1.6 to 23 mg/kg for 3 of the 4 samples collected. Most of the metals analyzed for were elevated throughout this segment, particularly copper, with a maximum detected concentration of 50,900 mg/kg. In addition to the creek sediment samples, three soil samples (X101-X103) were collected in 1991 at background locations. VOC's were detected in one background soil sample at a concentration of 0.01 mg/kg. BNAs were detected in one background soil sample at a concentration of 2.06 mg/kg. Pestides were detected in all of the background soils at concentrations ranging from 0.004 to 1.61 mg/kg. PCB's were not detected in any of the three background soils. Some of the metals analyzed for were slightly elevated in the background soils.

There were no organic compounds detected in the 3 surface water samples analyzed. Metals, specifically copper, were elevated in the waters.

The extent of contamination is fairly well defined throughout the creek segment. The thickness of the contamination appears to br the only thing lacking in defining the contamination better.

Containment and Integrity (if known):

There is no known containment in CS-C. The creek bed and banks in this segment are heavily vegetated, and flow in the segment is intermittent. Access to CS-C is unrestricted.

Other Comments: See the attached "Site Description" for more site details.

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SITE DESCRIPTION - Sauget Area 1/Creek Segments C through F

Creek segments C through F (CS-C, CS-D, CS-E, and CS-F) includes the entire length of Dead Creek south of Judith Lane. This portion of the creek flows south-southwest through the village of Cahokia prior to discharging into the Prairie Dupont Creek. CS-C through CS-F are delineated as follows: CS-C extends from Judith Lane at the north end to Cahokia Street to the south; CS-D extends from Cahokia Street to Jerome Street; CS-E extends from Jerome Street to the intersection of Illinois Routes 3 and 157; and CS-F extends from this intersection to the discharge point at Prairie Dupont creek. In the southern portion of CS-E near Parks College, Dead Creek temporarily passes through corrugated pipe, and downstream of this point the creek passes through a series of culverts prior to draining into a large wetland area (part of CS-F) west of Illinois Route 3. Dead Creek is wider in segment CS-F than in the upgradient segments. Segments C, D, and E are dominated by intermittent flow. Segements C and D and are located adjacent to residential areas. Segment E runs through mostly commercial developments. Segments C through F have been impacted by the draining of upgradient contaminated segments of Dead Creek. Access to Dead Creek Segments C through F is unrestricted.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report and from a Site Summary for Sauget Area 1 Sites, both prepared by IEPA)

SITE NARRATIVE

CREEK SEGMENT D

SITE NARRATIVE - SAUGET AREA 1 / Creek Segment D

Sample Locations	Sampling Entity	Date Sampled	Data Source
SD-25 thru SD-28	E & E	11/5/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
SW09, SW10	E & E	11/5/86	"Expanded Site Investigation Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., May 1988
X106	IEPA	3/28/91	Untitled Map with data Tables off Microfiche

Nature and Extent of Contamination:

VOCs were detected at concentrations ranging from 0.006 to 1.2 mg/kg in 2 of the 4 sediment samples collected in CS-D. BNA's in the sediments ranged from 0.13 to 1.69 mg/kg for 4 of 5 samples. Pesticides were detected in one sediment sample at a concentration of 0.361 mg/kg. PCBs were detected in sediments at concentrations ranging from 1.9 to 12 mg/kg for 3 of 5 samples analyzed. Most of the metals analyzed were elevated throughout the segment, particularly copper and zinc.

No organics were detected in the 2 surface water samples collected. Few metals were noted in the water samples, although copper and zinc were detected at slightly elevated concentartions.

The extent of contamination in segment CS-D is only fairly well defined. This assessment is based upon the fact that only 5 sediment samples were collected from three locations. additional samples would be required to quantify a volume for contaminated sediments.

Containment and Integrity (if known):

There is no known containment for CS-D. Access to this segment of the creek is unrestricted.

Other Comments: See "Site Description" for Creek Segment C for more site details.

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SITE NARRATIVE

CREEK SEGMENT E

SITE NARRATIVE - SAUGET AREA 1 / Creek Segment E

Sample Locations	Sampling Entity	Date Sampled	Data Source
X107 thru X110	IEPA	3/28/91	Untitled map with data tables off Microfich
X103, 5302, X104 (#29), (#31), (#32)	IEPA	11/31/80	Data for #29, #31, #32 from "Summary of the Phase II Investigation of Dead Creek, Sauget?Cahokia, Illinois" author unknown, date unknown
#8, #10	IEPA	9/25/80	Memo to Division File from T. Powell (southern region) dated September 26, 1980

Nature and Extent of Contamination:

VOCs were detected in only one sediment sample at a concentration of 0.12 mg/kg. BNAs were detected at concentrations ranging from 1.34 to 12 mg/kg for 3 of 4 sediment samples analyzed. Pesticides were detected at concentrations ranging from 0.003 to 0.975 mg/kg for 2 of 4 sediment samples analyzed. PCBs were detected at concentrations ranging from 2.8 to 59.93 mg/kg for 2 of 7 sediment samples analyzed. Metals concentrations, particularly Cd, Cr, and Cu, were elevated throughout this segment. Sample X107, the northernmost sediment sample collected inCS-E, contained significantly higher concentrations of organic and inorganic contaminants than did the other samples from this segment.

No organics were detected in any surface water samples collected. Copper was most notably elevated within the surface water samples collected.

The extent of contamination is fairly well defined for segment CS-E. Contamination depth information is lacking for the segment.

Containment and Integrity (if known):

There is no known containment in place in CS-E. A portion of the creek in this segment passes through a corrogated pipe below grade. Access to this creek segment is unrestricted.

Other Comments: See "Site Description" for Creek Segment C for more site details.

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Site N Data

SAUGET Analytical Data
Site N

SUBSURFACE SOIL SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by Ecology & Environment, Inc. (12/86)

Sample Number	DC-N1-05	DC-N2-06	DC-NB-07	Maximum
Sample Depth (ft)	0-10	5-15	NA	Concentration
Date Collected	12/15/86	12/15/86	12/16/86	Detected
VOC			BLANK	
Chloromethane	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Methylene chloride	4 BJ	6 J	4 BJ	6 J
Acetone	45 B	11 BJ	23 B	45 B
Carbon Disulfide	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
2-Butanone (MEK)	ND	14 J	ND	14 J
1,1,1-Trichloroethane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	4 J	ND	ND	4 J
2-Hexanone	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Styrene	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND

µg/kg - Micrograms per kilogram.
B - Compound detected in blank sample.
J - Estimated value
ND - Not detected

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SAUGET Analytical Data
Site N

SUBSURFACE SOIL SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (12/86)

Sample Number	DC-N1-05	DC-N2-06	DC-NB-07	Maximum
Sample Depth (ft)	0-10	5-15	NA	Concentration
Date Collected	12/15/86	12/15/86	12/16/86	Detected
BNAs			BLANK	
Phenol	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
Benzyl Alcohol	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND
4-Chloroaniline	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND
2-Methylnaphathalene	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND

μg/kg - Micrograms per kilogram.
J - Estimated value.
ND - Not detected.

SAUGET Analytical Data
Site N

SUBSURFACE SOIL SAMPLES
Base Neutrals/Acids (μg/kg)
Collected by Ecology & Environment, Inc. (12/86)

Sample Number	DC-N1-05	DC-N2-06	DC-NB-07	Maximum
Sample Depth (ft)	0-10	5-15	NA	Concentration
Date Collected	12/15/86	12/15/86	12/16/86	Detected
BNAs			BLANK	
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	434	203 J	ND	434
Anthracene	ND	ND	ND	ND
Di-n-butly phthalate	ND	ND	ND	ND
Fluoranthene	684	253 J	ND	684
Pyrene	553	215 J	ND	553
Butyl Benzyl phthalate	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND
Benzo (a)anthracene	263 J	ND	ND	263 J
bis(2-ethylhexyl)phthalate	934	1266	ND	1266
Chrysene	276 J	ND	ND	276 J
Di-n-octyl phthalate	ND	ND	ND	ND
Benzo(b)fluoranthene	289 J	152 J	ND	289 J
Benzo(k)fluoranthene	ND	ND	ND	ND
Benzo (a)pyrene	211 J	ND	ND	211 J
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND

μg/kg - Micrograms per kilogram.
J - Estimated value
ND - Not detected.

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SAUGET Analytical Data
Site N

SUBSURFACE SOIL SAMPLES
Pesticides/PCBs (μg/kg)
Collected by Ecology & Environment, Inc. (12/86)

	Sample Number	DC-N1-05	DC-N2-06	DC-NB-07	Maximum
	Sample Depth (ft)	0-10	5-15	NA	Concentration
	Date Collected	12/15/86	12/15/86	12/16/86	Detected
Pesticides/PCBs				BLANK	
Alpha-BHC		ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND
Aldrin		ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND
Endrin		ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND
Chlordane		ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND
Aroclor-1260		ND	ND	ND	ND

μg/kg - Micrograms per kilogram
ND - Not detected

SAUGET Analytical Data
Site N

SUBSURFACE SOIL SAMPLES
Total Metals (mg/kg)
Collected by Ecology & Environment, Inc. (12/86)

	Sample Number	DC-N1-05	DC-N2-06	DC-NB-07	Maximum
	Sample Depth (ft)	0-10	5-15	NA	Concentration
	Date Collected	12/15/86	12/15/86	12/16/86	Detected
Total Metals				BLANK	
Aluminum		**4763**	**1924**	**9385**	**9385**
Antimony		ND	ND	ND	ND
Arsenic		**3 ***	**2 ***	**6 ***	**6 ***
Barium		**130**	**46**	**358**	**358**
Beryllium		ND	ND	ND	ND
Boron		ND	ND	ND	ND
Cadmium		ND	ND	**2**	**2**
Chromium		**8**	**5**	**13**	**13**
Cobalt		**4**	**3**	**7**	**7**
Copper		**10**	**5**	**33**	**33**
Iron		**820**	**6253**	**16026**	**16026**
Lead		**24**	**34 ***	**78 ***	**78 ***
Manganese		**164**	**82**	**429**	**429**
Mercury		ND	**9**	ND	**9**
Nickel		**11**	ND	**18**	**18**
Selenium		ND	ND	ND	ND
Silver		ND	ND	ND	ND
Thallium		ND	ND	ND	ND
Tin		ND	ND	ND	ND
Vanadium		ND	ND	**21**	**21**
Zinc		**42**	**65**	**182**	**182**
Cyanide		ND	ND	ND	ND

mg/kg - Milligrams per kilogram.
ND - Not detected.
* - Duplicate analysis not within control limits

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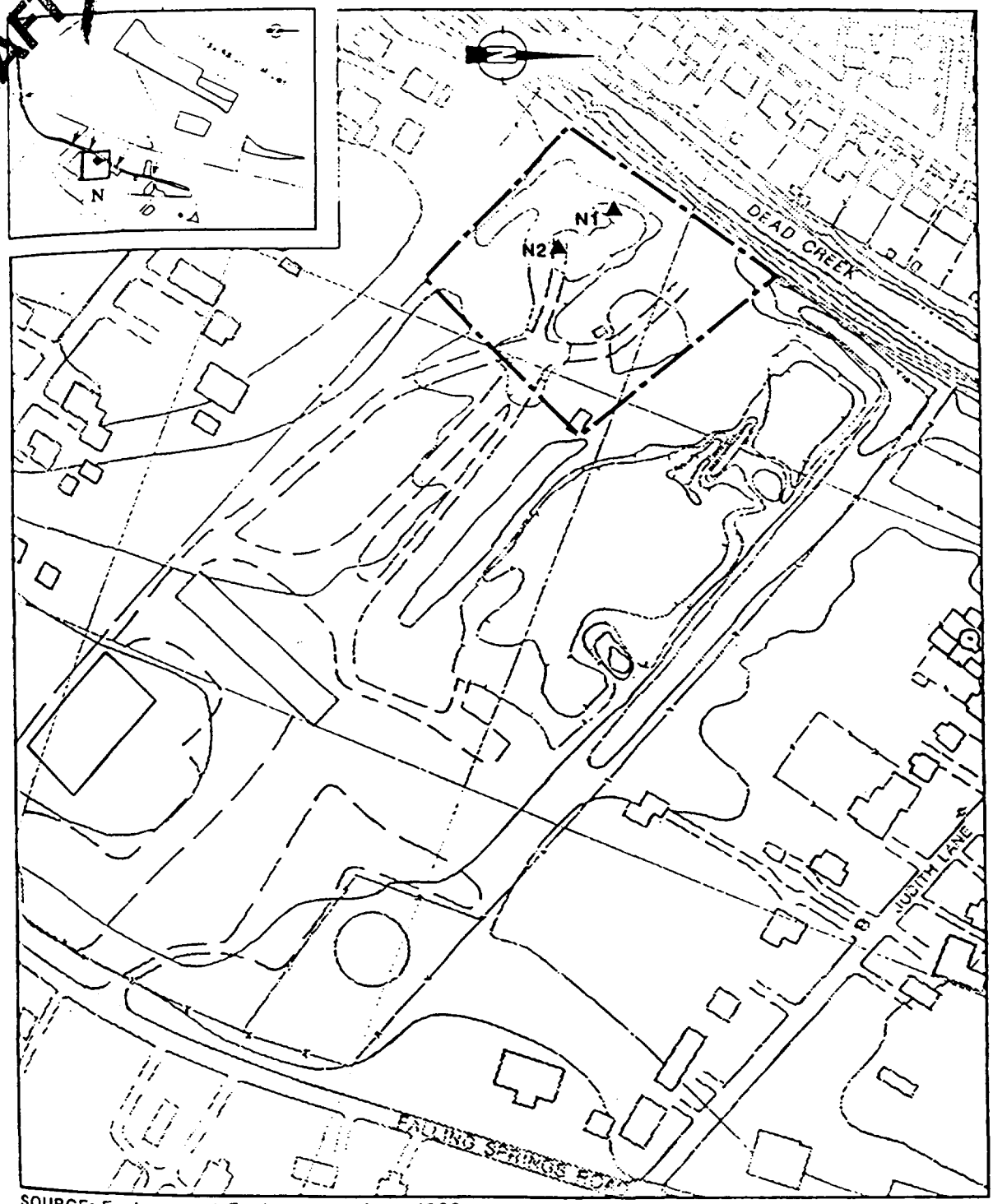

SOURCE: Ecology and Environment, Inc., 1988.

SCALE
0 100 200 300 400 500 FEET

FIGURE 3-11 BORING LOCATIONS AT SITE N

SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES
Total Metals (mg/kg) dry weight
Collected by Geraghty & Miller, Inc. (10/91)

Sample Number	D-B2	D-B3	E-B1	E-B3	E-B2	F-B1	F-B2	F-B3	G-B1	G-B2
Sample Depth (ft)	2-4	4-6	0-2	2-4	4-6	0-2	2-4	4-6	0-2	2-4
Date Collected	10/21/91	10/21/91	10/21/91	10/21/91	10/21/91	10/22/91	10/22/91	10/22/91	10/22/91	10/23/91
Total Metals										
Aluminum	21500	11000	12300	9910	16300	9890	20200	10600	6970	8300
Antimony	<13.7 J	<12.8 J	33.3 J	<13.4 J	<14.2 J	42.6 J	<14.2 J	<12.1 J	44.5 J	<13.3 J
Barium	294	252	8020	241	272	4110	312	259	8850	172
Cadmium	36.6 J	R	38.8 J	3.6 J	1.5 J	243 J	7.7 J	R	112 J	R
Calcium	5870	17200	16100	7430	18200	11100	6520	20600	9360	11300
Chromium	50.5	16.6	296	20.7	21.4	107	49.2	15.5	104	13.3
Cobalt	11 B	8.1 B	10.7 B	17.2	8.2 B	29.9	11.6 B	7.3 B	24.9 B	17.5
Copper	<46.8 J	<28.8	19400 J	<33	<29.0	12300 J	174 J	<26.7	17500 J	<16.9
Iron	19100	16200	46600	15800	24000	86400	21800	16200	62900	12600
Magnesium	4830	7770	3440	5100	7670	3730	5200	8290	2570	7050
Manganese	117 J	337 J	96.4 J	101 J	702 J	557 J	132 J	493 J	132 J	207 J
Nickel	105 J	18.8 J	686 J	104 J	21.2 J	2020 J	181 J	18.7 J	1440 J	37.6 J
Potassium	2910	2180	1260 B	1900 B	2980	1610 B	2970	2200	796 B	1680
Silver	<2.7 J	<2.6 J	19 J	<2.7 J	<2.8 J	16.1 J	<2.8 J	<2.4 J	17.4 J	<2.7 J
Sodium	<231	<211	<446	<177	<276	<355	<178	<186	<307	<137
Vanadium	58.2	30.6	54.8	30.4	43.6	54.9	59.6	29.4	54.4	23.1
Zinc	5280	<94.9	18500	2770	<84.2	42800	4100	<69.4	31000	<412
Mercury	0.08	0.06	3.3	0.05	0.03	3.9	0.09	0.03	0.29	0.04
Lead	53.4	10.8	1810	18.6	13.7	2310	34.3	12.5	1810	11.5
Selenium	R	R	6.2 J	R	R	8.7 J	R	R	3.7 J	R
Arsenic	15.1 J	6.7 J	107 J	12.9 J	3.9 J	83.2 J	13.1 J	4.4 J	95.7 J	19.1 J
Cyanide	NA	NA	0.78	NA	NA	1.5	NA	NA	0.72	NA

MG/KG - Milligrams per kilogram

B - Concentration was less than the contract required detection limit but greater than or equal to the instrument detection limit

J Estimated value

R - Unusable data

NA - Not analyzed

SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES
Total Metals (mg/kg) dry weight
Collected by Geraghty & Miller, Inc. (10/91)

	Sample Number	G-B3	H-B1	H-B2	H-B3	I-B2	I-B3	I-B1	J-B2	J-B3	J-B1
	Sample Depth (ft)	4-6	0-2	2-4	4-6	0-2	1.5-3	3-5	0-1.5	1.5-3	3-5
	Date Collected	10/23/91	10/23/91	10/23/91	10/23/91	10/24/91	10/24/91	10/24/91	10/24/91	10/24/91	10/24/91
Total Metals											
Aluminum		13300	12100	9180	8450	15400 J	13300 J	9750 J	5640 J	13700 J	7280 J
Antimony		<12.9 J	20.7 BJ	<12.8 J	<14.5 J	<19.0	<13.5	<14.0	44	<14.6	<13.9
Barium		248	2040	204	175	1890 J	294 J	189 J	9510 J	279 J	258 J
Cadmium		11.8 J	80.7 J	5.8 J	5.3 J	71.8 J	<19.3	<1.4	82.7 J	16.9 J	1.6 J
Calcium		3880	11200	6190	6310	7760	4860	14900	23600	3940	18000
Chromium		32	63.1	84.5	14.8	100 J	25.1 J	15 J	125 J	150 J	15.9 J
Cobalt		24.4	12.2 B	8.9 B	12 B	17.2 B	6 B	8.6 B	26.8 B	7.9 B	8 B
Copper		<72.5	3560 J	<26.5	<19.3	4070	232 J	24.3	30100	276	90.5
Iron		12900	36100	9480	11400	31700	17400	19900	54900	14000	15800
Magnesium		3660	3670	4240	4960	4040	4120	7420	2860 B	3110	7420
Manganese		72.3 J	141 J	82.2 J	83.2 J	128 J	85.8	534 J	240	74	488
Nickel		444 J	597 J	127 J	231 J	548 J	222 J	19.8 J	2670 J	377 J	34.3 J
Potassium		1930	1900 B	1510 B	1790	2420	2200	1940	<595	2070	1650
Silver		<2.6 J	6 J	<2.6 J	<2.9 J	4.2	<2.7	<2.7	50.4	<2.9	<2.7
Sodium		<149	<203	<131	<149	215 B	162 B	180 B	452 B	1464	187 B
Vanadium		35.5	47.6	23.7	27.5	44.1	35.2	25.6	58.9	34.7	21.6
Zinc		6340	13100	2180	2390	9950	3280	83.3	4500	4300	524
Mercury		0.03	1.7	0.04	0.03	0.25	0.09	0.07	0.14	0.1	0.1
Lead		22.6	1340	15.4	11.3	1360	44.5	14.1	1820	76.8	26.2
Selenium		R	4.3 J	R	R	3.9 J	<2.7 J	<1.4 J	<6.0 J	<2.9 J	<2.7 J
Arsenic		12.1 J	52.9 J	6.4 J	15.5 J	89.5 J	7.3 J	11.1 J	70.5 J	8.4	4.4
Cyanide		NA	0.7	NA	NA	0.53 J	NA	NA	<0.79	NA	NA

MG/KG - Milligrams per kilogram

B - Concentration was less than the contract required detection limit, but greater than or equal to the instrument detection limit

J - Estimated value

R - Unusable data

NA - Not analyzed

SAUGET Analytical Data

Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES

Collected by IEPA and Monsanto Chemical Co. (10/80)

Sample Number	0100301	0100303	0100305	0041701	Maximum
Date Collected	10/2/80	10/2/80	10/02/80	4/16/80	Concentration
Location	40 yds S. of Queeny	268 paces S	270 paces S	[illegible] ank	Detected
PCBs and Elemental Phosphorus (mg/kg)	Ave. Center of Creek	of 0100301	of 0100303	Mo. bottoms	
PCB's (Cl_2 to Cl_6 Homologs)	13000	240	45	ND<1	13000
P_4	ND<1	ND<1	ND<1	ND<1	ND
CHLOROBENZENES (mg/kg)					
Monochlorobenzene	(0.9)	ND<1	(0.3)	ND<1	ND
p-Dichlorobenzene	370	(0.3)	(0.4)	ND<1	370
o-Dichlorobenzene	80	(0.6)	1	ND<1	80
Trichlorobenzenes (3)	85	1.6	(0.7)	ND<1	85
Tetrachlorobenzenes (3)	6.1	2.4	(0.4)	ND<1	6.1
Pentachlorobenzene	ND<1	ND<1	ND<1	ND<1	ND
Hexachlorobenzene	ND<1	1.2	ND<1	ND<1	1.2
Nitrochlorobenzenes (o-,p-)	120	ND<1	ND<1	ND<1	120
CHLOROPHENOLS (mg/kg)					
o-Chlorophenol	3.7	ND<1	ND<1	ND<1	3.7
p-Chlorophenol	6.6	ND<1	(0.9)	ND<1	6.6
2,4-Dichlorophenol	1.2	ND<1	ND<1	ND<1	1.2
Pentachlorophenol	130	ND<1	1.8	ND<1	130
PHOSPHATE ESTERS (mg/kg)					
Dibutylphenyl phosphate	330	ND<1	(0.8)	ND<1	330
Butyldiphenyl phosphate	ND<1	ND<1	(0.8)	ND<1	ND
Triphenyl phosphate	2600	ND<1	ND<1	ND<1	2600
2-Ethylhexyldiphenyl phosphate	ND<1	ND<1	2.2	ND<1	2.2
Isodecyldiphenyl phosphate	ND<1	ND<1	ND<1	ND<1	ND
T-Butylphenyldiphenyl phosphate	28	ND<1	ND<1	ND<1	28
Di-T-Butylphenyldiphenyl phosphate	ND<1	ND<1	ND<1	ND<1	ND
Nonylphenyldiphenyl phosphate	ND<1	ND<1	ND<1	ND<1	ND
Cumylphenyldiphenyl phosphate	3.7	ND<1	ND<1	ND<1	3.7
PHOSPHORUS CONTENT (mg/kg)					
P-Elemental, by GC/MS	ND<1	ND<1	ND<1	ND<1	ND
P-Inorganic, by ICP	2500	13000	9400	610	13000
Total Phosphate Esters, by GC/MS	3000	ND<10	4	ND<10	3000

( ) - Below Detection Limit

ND - Not Detected

SAUGET Analytical Data
Dead Creek - Segment B

SOIL/SEDIMENT SAMPLES
Metals (mg/kg)
Collected by IEPA and Monsanto Chemical Co. (10/80)

	Sample Number	0100301	0100303	0100305	0041701	Maximum
	Date Collected	10/2/80	10/2/80	10/02/80	4/16/80	Concentration
	Location	40 yds S. of Queeny	268 paces S.	270 paces S	Soil Blank	Detected
Metals						
Silver		ND<1	42	29	ND<1	42
Aluminum		1400	5100	5300	5600	5600
Barium		770	1200	1300	130	1300
Beryllium		ND<1	ND<1	ND<1	ND<1	ND
Boron		28	160	100	27	160
Calcium		8500	9200	6200	4600	9200
Cadmium		5.1	60	55	3.9	60
Cobalt		15	180	120	33	180
Chromium		25	110	240	19	240
Copper		460	28000	18000	19	28000
Iron		4700	53000	30000	9900	53000
Magnesium		460	2200	2000	2300	2300
Manganese		29	170	110	510	510
Molybdenum		6.1	92	68	11	92
Sodium		400	540	410	320	540
Nickel		110	2000	1700	39	2000
Lead		180	2000	1600	50	2000
Phosphorus		2500	13000	9400	610	13000
Antimony		13	240	160	29	240
Silicon		73	150	89	110	150
Tin		18	260	220	18	260
Strontium		35	230	110	[illegible]	230
Titanium		32	110	80	37	110
Vanadium		34	140	130	130	140
Zinc		280	32000	18000	56	32000
Arsenic (by AA)		210	40	55	5	210

mg/kg - Milligrams per kilogram
AA - Atomic Absorption Spectrophotometry
ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment B

SEDIMENT SAMPLES
RCRA Hazardous Characteristic Parameters
Collected by Geraghty & Miller, Inc. (10/91)

Sample Number		AB	CDE	FGH	IJ						Maximum
Sample Depth (ft)	Regulatory	0-6	0-6	0-6	0-5						Concentration
Date Collected	Limit	10/18/91	10/18/91	10/23/91	10/24/91						Detected
Ignitability - Flash point	<140 deg. F	non-ignitable	non-ignitable	non-ignitable	non-ignitable						
Corrosivity (pH units)	< 2 or > 12.5	6.3	6.6	6.8	6.5						**6.8**
Reactivity (mg/kg)dry wt.											*ND*
Sulfide	500	16	<3.8	<3.8	<4.5						**16**
Cyanide	250	<1.5	<1.5	<1.5	<1.8						ND
VOLATILES (mg/L)											
Benzene	0.5	<0.020	<0.020	<0.020	<0.020						ND
Carbon tetrachloride	0.5	<0.020	<0.020	<0.020	**0.035**						**0.035**
Chlorobenzene	100	**0.053 (0.053) ***	<0.020	<0.020	**0.45 (0.039) ***						ND
Chloroform	6	<0.020	<0.020	<0.020	<0.020						ND
1,2-Dichloroethane	0.5	<0.020	<0.020	<0.020	**0.027**						**0.027**
1,1-Dichloroethylene	0.7	<0.020	<0.020	<0.020	**0.41 (0.15) ***						ND
2-Butanone (MEK)	200	<0.40	<0.40	<0.40	<0.40						ND
Tetrachloroethylene	0.7	<0.020	<0.020	<0.020	<0.020						ND
Trichloroethylene	0.5	<0.020	<0.020	<0.020	<0.020						ND
Vinyl chloride	0.2	<0.040	<0.040	<0.040	<0.040						ND
SEMIVOLATILES (mg/L)											
Cresol (o)	200	<0.050	<0.050	<0.050	<0.050						ND
Cresol (m,p)	200	<0.050	<0.050	<0.050	<0.050						ND
1,4-Dichlorobenzene	7.5	<0.050	<0.050	<0.050	<0.050						ND
2,4-Dinotrotoluene	0.13	<0.050	<0.050	<0.050	<0.050						ND
Hexachlorobenzene	0.13	<0.050	<0.050	<0.050	<0.050						ND
Hexachlorobutadiene	0.5	<0.050	<0.050	<0.050	<0.050						ND
Hexachloroethane	3	<0.050	<0.050	<0.050	<0.050						ND
Nitrobenzene	2	<0.050	<0.050	<0.050	<0.050						ND
Pentachlorophenol	100	<0.25	<0.25	<0.25	<0.25						ND
2,4,5-Trichlorophenol	400	<0.25	<0.25	<0.25	<0.25						ND
2,4,6-Trichlorophenol	2	<0.050	<0.050	<0.050	<0.050						ND
Pyridine	5	<0.25	<0.25	<0.25	<0.25						ND

* Methods SW-846-1311 - Toxicity characteristic leaching procedure (TCLP) results which are above the quantitation limit have been correcte by analytical bias per instructions in Section 8.2.5 of Method 1311 (Federal Register, June 29, 1990). The first number reported is the corrected TCLP value (used to determine if the sample is hazardous) and the value in parenthesis () is the uncorrected analytical results

SAUGET Analytical Data
Dead Creek - Segment B

SEDIMENT SAMPLES
RCRA Hazardous Characteristic Parameters
Collected by Geraghty & Miller, Inc. (10/91)

Sample Number		AB	CDE	FGH	IJ						Maximum
Sample Depth (ft)	Regulatory	0-6	0-6	0-6	0-5						Concentration
Date Collected	Limit	10/18/91	10/18/91	10/23/91	10/24/91						Detect
PESTICIDES (mg/L)											
Chlorodane	0.03	<0.0050	<0.0050	<0.0050	<0.0050						ND
Endrin	0.02	<0.0010	<0.0010	<0.0010	<0.0010						ND
Heptachlor	0.008	<0.0050	<0.0050	<0.0050	<0.0050						ND
Heptchlor epoxide	0.008	<0.0050	<0.0050	<0.0050	<0.0050						ND
Lindane (g-BHC)	0.4	<0.0050	<0.0050	<0.0050	<0.0050						ND
Methoxychlor	10	<0.025	<0.025	<0.025	<0.025						ND
Toxaphene	0.5	<0.050	<0.050	<0.050	<0.050						ND
HERBICIDES (mg/L)											
2,4-D	10	<0.050	<0.050	<0.050	<0.050						ND
Silvex (2,4,5-TP)	1	<0.010	<0.010	<0.010	<0.010						ND
METALS (mg/L)											
Arsenic	5	<0.20	<0.20	<0.20	<0.20						ND
Barium	100	**1.9 (1.8) ***	**1.9 (1.8) ***	**2.5 (2.4) ***	**2.5 (2.5) ***						ND
Cadmium	1	**0.083 (0.074) ***	**0.13 (0.12) ***	**0.34 (0.29) ***	**0.51 (0.43) ***						ND
Chromium	5	<0.050	<0.050	<0.050	<0.050						ND
Lead	5	<0.20	<0.20	**0.29 (0.26) ***	**0.23 (0.21) ***						ND
Mercury	0.2	<0.020	<0.020	<0.020	<0.020						ND
Selenium	1	<0.50	<0.50	<0.50	<0.50						ND
Silver	5	<0.010	<0.010	<0.010	<0.010						ND

* Methods SW-846-1311 - Toxicity characteristic leaching procedure (TCLP) results which are above the quantitation limit have been correcte by analytical bias per instructions in Section 8 2 5 of Method 1311 (Federal Register, June 29, 1990). The first number reported is the corrected TCLP value (used to determine if the sample is hazardous) and the value in parenthesis () is the uncorrected analytical results.

SAUGET Analytical Data
Dead Creek - Segment C

SEDIMENT SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SD-21	DC-SD-22	DC-SD-23	DC-SD-24	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	2-2.5	0-0.5	2-2.5	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/5/86	Detected
VOC					BLANK	
Chloromethane	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND
Methylene chloride	19000 B	18000 B	27000 B	17000 B	15000 B	27000 B
Acetone	6400 B	9900 B	15000 B	7300 B	6200 B	15000 B
Carbon Disulfide	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	11000 B	14000 B	22000 B	12000 B	11000 B	22000 B
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	1200 J	ND	ND	ND	1200 J
2-Hexanone	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram
B - Compound detected in blank
J - Estimated value
ND - Not detected

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SAUGET Analytical Data
Dead Creek - Segment C

SEDIMENT SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SD-21	DC-SD-22	DC-SD-23	DC-SD-24	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	2-2.5	0-0.5	2-2.5	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
BNAs						
Phenol	ND	ND	580 J	81 J	ND	580 J
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	110 J	ND	ND	ND	110 J
1,4-Dichlorobenzene	ND	690 J	ND	ND	ND	690 J
Benzyl Alcohol	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorophenol	ND	260 J	130 J	64 J	ND	260 J
Naphthalene	ND	330 J	100 J	ND	ND	330 J
4-Chloroaniline	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND
2-Methylnaphathalene	ND	100 J	ND	ND	ND	100 J
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	130 J	ND	ND	ND	130 J

µg/kg - Micrograms per kilogram
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment C

SEDIMENT SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SD-21	DC-SD-22	DC-SD-23	DC-SD-24	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	2-2.5	0-0.5	2-2.5	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
BNAs						
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND
Fluorene	ND	370 J	ND	ND	ND	370 J
4-Nitroaniline	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	ND	ND
Phenanthrene	280 J	810 J	ND	220 J	ND	810 J
Anthracene	ND	500 J	ND	ND	ND	500
Di-n-butly phthalate	ND	ND	ND	120 J	ND	120 J
Fluoranthene	ND	4600	ND	370 J	ND	4600
Pyrene	440 J	4500	ND	290 J	ND	4500
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	380 J	3300	650 J	230 J	ND	3300
bis(2-ethylhexyl)phthalate	740 J	ND	660 J	ND	ND	740 J
Chrysene	550 J	4400	1000	300 J	ND	4400
Di-n-octyl phthalate	ND	190 J	ND	ND	ND	190 J
Benzo(b)fluoranthene	ND	7500	2000	1000	ND	7500
Benzo(k)fluoranthene	920	660 J	ND	ND	ND	920
Benzo (a)pyrene	480 J	4500 J	940	350 J	ND	4500 J
Indeno(1,2,3-cd)pyrene	590 J	4300	1700	530 J	ND	4300
Benzo(g,h,i)perylene	ND	1500 J	640 J	110 J	ND	1500 J
Dibenzo(a,h)anthracene	550 J	4000	1700	470 J	ND	4000

µg/kg - Micrograms per kilogram
J - Estimated value
ND - Not detected

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SAUGET Analytical Data
Dead Creek - Segment C

SEDIMENT SAMPLES
Total Metals (mg/kg)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SD-21	DC-SD-22	DC-SD-23	DC-SD-24	DC-SD-29	Maximum
	Sample Depth (ft)	0-0.5	2-2.5	0-0.5	2-2.5	NA	Concentration
	Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
Total Metals							
Aluminum		12600	7530	8450	12600	11800	12600
Antimony		ND	ND	ND	ND	ND	ND
Arsenic		5.1 R	9 R	33 R	30 R	5.6 R	33 R
Barium		376	570	1700	1010	362	1700
Beryllium		ND	ND	ND	ND	ND	ND
Boron		ND	ND	ND	ND	ND	ND
Cadmium		17	34	27	42	2.5	42
Chromium		41	60	54	68	15	68
Cobalt		7.5	10	6.6	7.2	5.8	10
Copper		580 *	5910 *	6640 *	2440 *	35 *	6640 *
Iron		18400	18000	35800	50900	16600	50900
Lead		467	593	975	661	47	975
Manganese		18400	98	161	151	412	18400
Mercury		0.71	0.95	1.64	2.81	ND	467
Nickel		177	838 R*	1290 R*	748 R*	18 R*	1290 R*
Selenium		0.71	ND	ND	2.5	ND	2.5
Silver		116 R*	ND	ND	ND	ND	116 R*
Thallium		ND	ND	ND	ND	ND	ND
Tin		ND	ND	ND	ND	ND	ND
Vanadium		32	22	27	36	27	36
Zinc		1370	15600	6880	6430	197	15600
Cyanide		ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram
ND - Not detected
NA - Not applicable
R - Spike sample recovery not within control limits
* - Duplicate analysis not within control limits

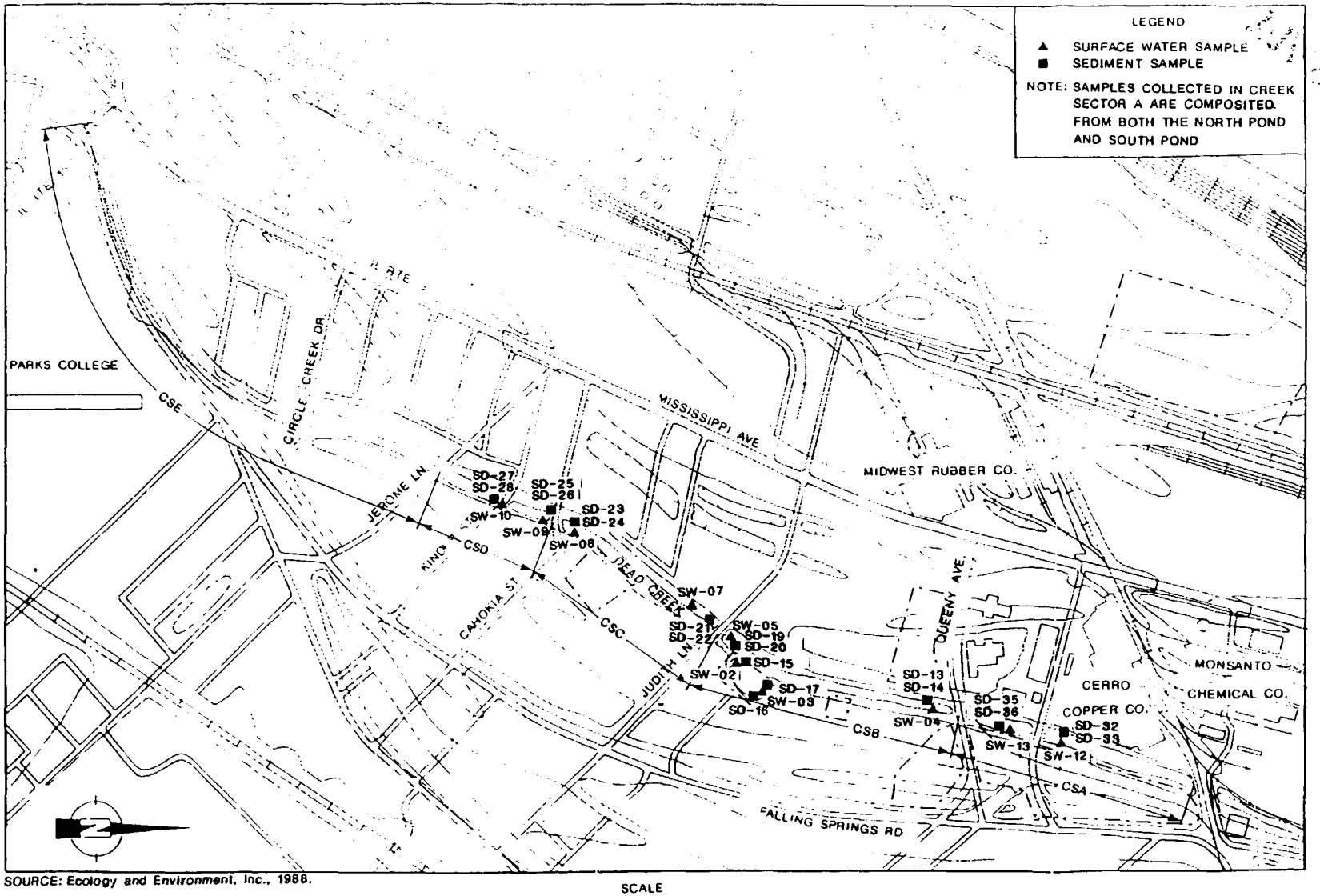
SAUGET Analytical Data
Dead Creek - Segment C

SEDIMENT SAMPLES
Pesticides/PCBs (μg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SD-21	DC-SD-22	DC-SD-23	DC-SD-24	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	2-2.5	0-0.5	2-2.5	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
Pesticides/PCBs						
Alpha-BHC	ND	ND	ND	ND	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	ND
Delta-BHC	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND
Aldrin	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND
Endosulfan I	ND	ND	ND	ND	ND	ND
Dieldrin	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND
4,4'-DDD	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	ND	ND	ND	ND	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	ND	ND
Endrin Ketone	ND	ND	ND	ND	ND	ND
Chlordane	ND	ND	ND	ND	ND	ND
Toxaphene	ND	ND	ND	ND	ND	ND
Aroclor-1016	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	**8700**	ND	ND	ND	**8700**
Aroclor-1254	ND	**9300**	**11000**	**1600 J**	ND	**11000**
Aroclor-1260	ND	**5000 J**	**7800 J**	ND	ND	**7800 J**

μg/kg - Micrograms per kilogram
J - Estimated value
NA - Not applicable
ND - Not detected

recycled paper



SOURCE: Ecology and Environment, Inc., 1988.

SCALE

0 1000 2000 3000 4000 5000 FEET

FIGURE 3-5 SURFACE WATER AND SEDIMENT SAMPLING LOCATIONS IN DEAD CREEK AND SITE M

recycled paper

SAUGET Analytical Data
Dead Creek - Sector C

SURFACE WATER SAMPLES
Volatile Organic Compounds (μg/L)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SW-07	DC-SW-08	DC-SW-01	Maximum
Date Collected	11/05/86	11/05/86	11/5/86	Concentration
VOC			BLANK	Detected
Chloromethane	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
Methylene chloride	3 BJ	6 B	6 B	6 B
Acetone	13 B	13 B	12 B	13 B
Carbon Disulfide	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
Chloroform	ND	ND	27	27
1,2-Dichloroethane	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Styrene	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND

μg/L - Micrograms per liter.
B - Compound detected in blank
J - Estimated value
ND - Not detected

recycled paper

SAUGET Analytical Data
Dead Creek - Sector C

SURFACE WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-07	DC-SW-08	DC-SW-01	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	Concentration
BNAs				BLANK	Detected
Phenol		ND	ND	ND	ND
bis(2-Chloroethyl)ether		ND	ND	ND	ND
2-Chlorophenol		ND	ND	ND	ND
1,3-Dichlorobenzene		ND	ND	ND	ND
1,4-Dichlorobenzene		ND	ND	ND	ND
Benzyl Alcohol		ND	ND	ND	ND
1,2-Dichlorobenzene		ND	ND	ND	ND
2-Methylphenol		ND	ND	ND	ND
bis(2-Chloroisopropyl)ether		ND	ND	ND	ND
4-Methylphenol		ND	ND	ND	ND
N-Nitroso-n-Dipropylamine		ND	ND	ND	ND
Hexachloroethane		ND	ND	ND	ND
Nitrobenzene		ND	ND	ND	ND
Isophorone		ND	ND	ND	ND
2-Nitrophenol		ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND
Benzoic Acid		ND	ND	ND	ND
bis-(2-Chloroethoxy)methane		ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND
1,2,4-Trichlorophenol		ND	ND	ND	ND
Naphthalene		ND	ND	ND	ND
4-Chloroaniline		ND	ND	ND	ND
Hexachlorobutadiene		ND	ND	ND	ND
4-Chloro-3-methylphenol		ND	ND	ND	ND
2-Methylnaphathalene		ND	ND	ND	ND
Hexachlorocyclopentadiene		ND	ND	ND	ND
2,4,6-Trichlorophenol		ND	ND	ND	ND
2,4,5-Trichlorophenol		ND	ND	ND	ND
2-Chloronaphthalene		ND	ND	ND	ND
2-Nitroaniline		ND	ND	ND	ND
Dimethyl Phthalate		ND	ND	ND	ND
Acenaphthylene		ND	ND	ND	ND
3-Nitroaniline		ND	ND	ND	ND
Acenaphthene		ND	ND	ND	ND

μg/L - Micrograms per liter.
B - Compound detected in blank
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Dead Creek - Sector C

SURFACE WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number		DC-SW-07	DC-SW-08	DC-SW-01	Maximum
Date Collected		11/05/86	11/05/86	11/05/86	Concentration
BNAs				BLANK	Detected
2,4-Dinitrophenol		ND	ND	ND	ND
4-Nitrophenol		ND	ND	ND	ND
Dibenzofuran		ND	ND	ND	ND
2,4-Dinitrotoluene		ND	ND	ND	ND
2,6-Dinitrotoluene		ND	ND	ND	ND
Diethylphthalate		1 J	ND	ND	1
4-Chlorophenyl-Phenylether		ND	ND	ND	ND
Fluorene		ND	ND	ND	ND
4-Nitroaniline		ND	ND	ND	ND
4,6-Dinitro-2-methylphenol		ND	ND	ND	ND
N-Nitrosodiphenylamine		ND	ND	ND	ND
4-Bromophenyl-phenylether		ND	ND	ND	ND
Hexachlorobenzene		ND	ND	ND	ND
Pentachlorophenol		ND	ND	ND	ND
Phenanthrene		ND	ND	ND	ND
Anthracene		ND	ND	ND	ND
Di-n-butly phthalate		19 B	19 B	15 B	19
Fluoranthene		ND	ND	ND	ND
Pyrene		ND	ND	ND	ND
Butyl Benzyl phthalate		ND	ND	ND	ND
3,3'-Dichlorobenzidine		ND	ND	ND	ND
Benzo (a)anthracene		ND	ND	ND	ND
bis(2-ethylhexyl)phthalate		ND	ND	ND	ND
Chrysene		ND	ND	ND	ND
Di-n-octyl phthalate		ND	ND	ND	ND
Benzo(b)fluoranthene		ND	ND	ND	ND
Benzo(k)fluoranthene		ND	ND	ND	ND
Benzo (a)pyrene		ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene		ND	ND	ND	ND
Benzo(g,h,I)perylene		ND	ND	ND	ND
Dibenzo(a,h)anthracene		ND	ND	ND	ND

μg/L - Micrograms per liter
B - Compound detected in blank
J - Estimated value
ND - Not detected

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SAUGET Analytical Data
Dead Creek - Sector C

SURFACE WATER SAMPLES
Pesticides/PCBs (μg/L)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-07	DC-SW-08	DC-SW-01	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	Concentration
Pesticides/PCBs				BLANK	Detected
Alpha-BHC		ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND
Aldrin		ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND
Endrin		ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND
Chlordane		ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND
Aroclor-1260		ND	ND	ND	ND

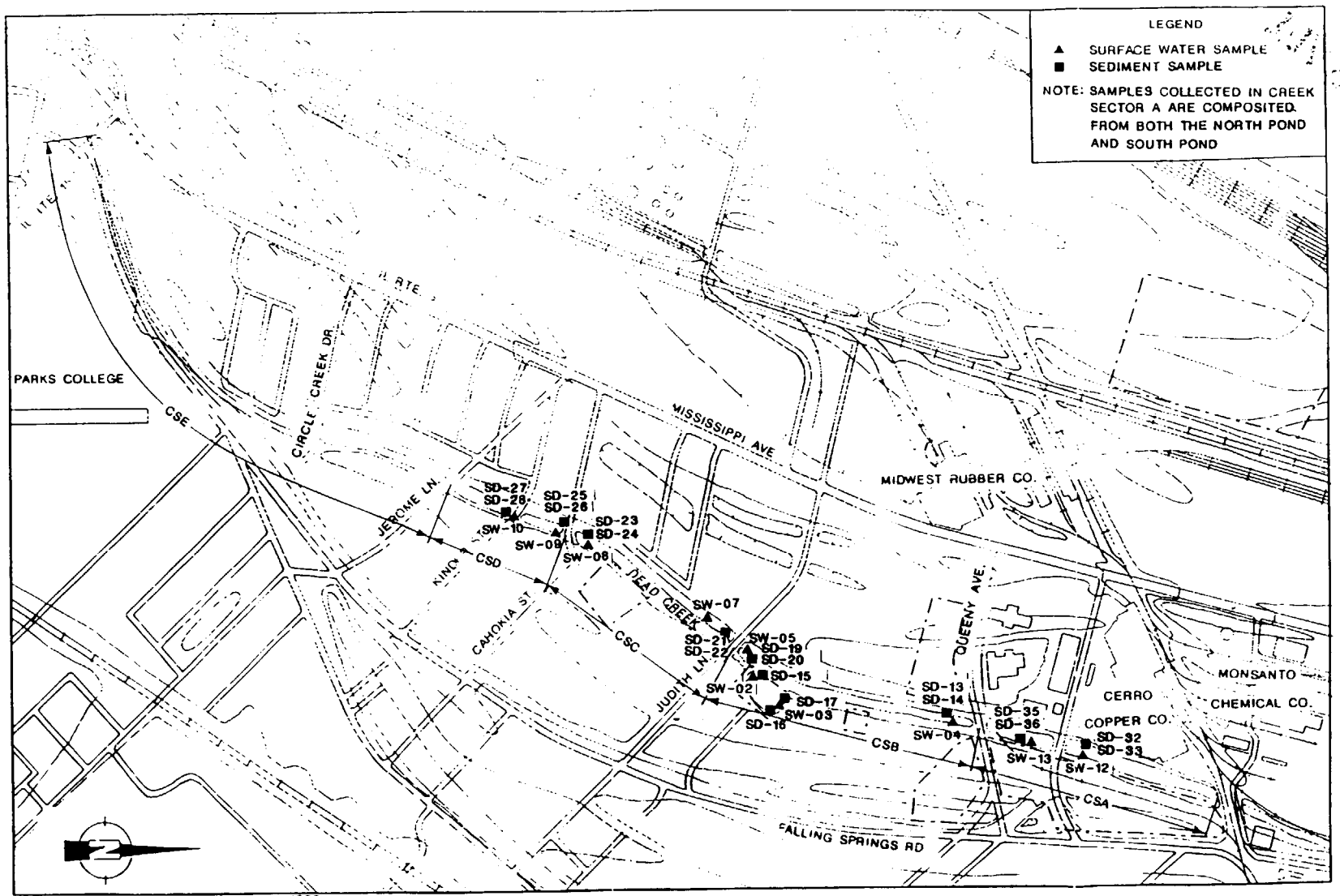
μg/L - Micrograms per liter.
ND - Not detected

SAUGET Analytical Data
Dead Creek - Sector C

SURFACE WATER SAMPLES
Total Metals (µg/L)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-07	DC-SW-08	DC-SW-01	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	Concentration
Total Metals					Detected
Aluminum		ND	767	ND	767
Antimony		ND	ND	ND	ND
Arsenic		ND	ND	ND	ND
Barium		ND	ND	ND	ND
Beryllium		ND	ND	ND	ND
Boron		ND	ND	ND	ND
Cadmium		ND	ND	ND	ND
Chromium		ND	ND	ND	ND
Cobalt		ND	ND	ND	ND
Copper		226	84	ND	226
Iron		528	2790	255	2790
Lead		710	30	ND	710
Manganese		141	234	ND	234
Mercury		1.9	0.2	ND	1.9
Nickel		83	ND	ND	83
Selenium		ND	ND	ND	ND
Silver		ND	ND	ND	ND
Thallium		ND	ND	ND	ND
Tin		ND	40	ND	40
Vanadium		ND	ND	ND	ND
Zinc		537	247	ND	537
Cyanide		ND	ND	ND	ND

µg/L - Micrograms per liter.
ND - Not detected



SOURCE: Ecology and Environment, Inc., 1988.

SCALE

0 1000 2000 3000 4000 5000 FEET

FIGURE 3-5 SURFACE WATER AND SEDIMENT SAMPLING LOCATIONS IN DEAD CREEK AND SITE M

SAUGET Analytical Data
Dead Creek - Segment C

SEDIMENT AND SOIL SAMPLES (mg/kg)

Collected by IEPA (11/31/80)

	Sample Number	9		28		Maximum
	Sample Location	25 ft. South Judith Lane		16 yds. North of Cahokia St.		Concentration
	Sample Type	Soil - 6 in depth		Sediment		Detected
Parameter						
Barium		1300		4700		4700
Copper		15000		17200		17200
Lead		800		1300		1300
Nickel		2000		2300		2300
Phosphorous		NA		NA		ND
Zinc		12000		21000		21000
PCB's (ug/kg)		120	* 28	120	* 28	120
Chlordane (ug/kg)		ND	* 50	ND	* 50	ND
Alkylbenzenes		ND	* 10-100	ND	* 10-100	ND
Biphenyl		ND		ND		ND
Toluene		ND	* 118	ND	* 118	ND
Xylene		ND	* 3	ND	* 3	ND
Dichlorobenzene		ND	* 5	ND	* 5	ND
Trichlorobenzene		ND	* 1-10	ND	* 1-10	ND
Chloronitrobenzene		ND	* 10-100	ND	* 10-100	ND
Dichlorophenol		ND	* 500	ND	* 500	ND

mg/kg - Milligrams per kilogram.
NA - parameter not analyzed
ND - below detection limits
* Maximum allowable concentration in units of mg/kg unless noted as otherwise

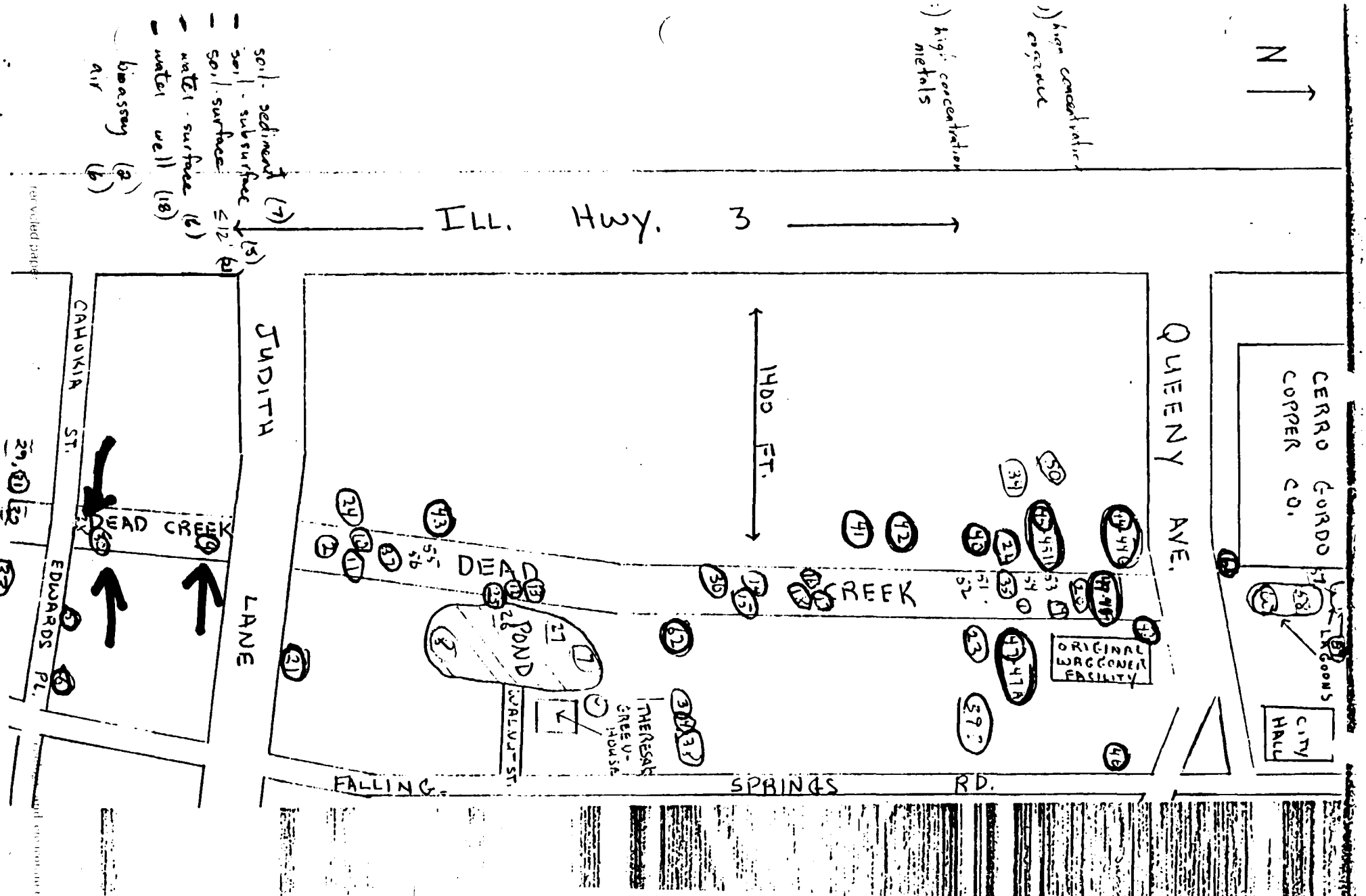
SAUGET Analytical Data
Dead Creek - Segment C

WATER SAMPLES (mg/L unless otherwise noted)

Collected by IEPA (11/31/80)

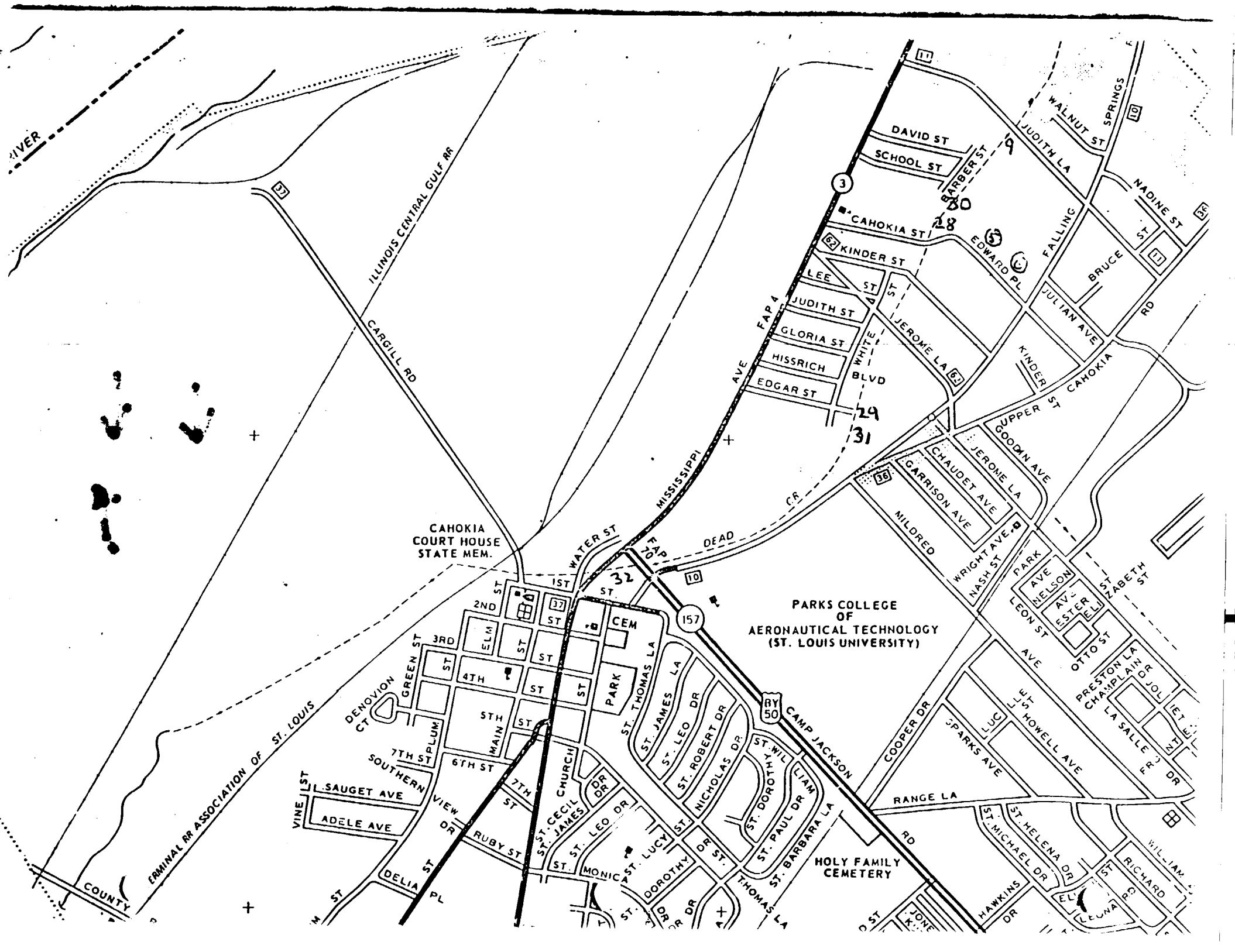
	Sample Number	30		Maximum
	Sample Location	45 yds. North of Cahokia St		Concentration
	Sample Type	Water		Detected
Parameter				
Barium		0.12		0.12
Copper		0.26		0.26
Lead		< 0.05		ND
Nickel		0.19		0.19
Phosphorous		0.24		0.24
Zinc		1	* 132	1
~~PCB's (µg/L)~~		~~ND~~	~~* 28~~	~~ND~~
Chlordane (µg/L)		ND	* 50	ND
Alkylbenzenes		ND	* 10-100	ND
Biphenyl		ND	--	ND
Toluene		ND	* 118	ND
Xylene		ND	* 3	ND
Dichlorobenzene		ND	* 5	ND
Trichlorobenzene		ND	* 1-10	ND
Chloronitrobenzene		ND	* 10-100	ND
Dichlorophenol		ND	* 500	ND

mg/L - Milligrams per liter.
NA - parameter not analyzed
ND - below detection limits
* Maximum allowable concentration in units of mg/L unless noted as otherwise
µg/L - Micrograms per liter



LOCATION MAP - SAMPLES 9, 28, AND 30

Source: "Summary of the Phase II Investigation of Dead Creek", Author unknown, date unknown


RIVER
ILLINOIS CENTRAL GULF RR
CARGILL RD
TERMINAL RR ASSOCIATION OF ST. LOUIS
COUNTY
CAHOKIA COURT HOUSE STATE MEM.
WATER ST
1ST ST
2ND ST
3RD ST
4TH ST
5TH ST
6TH ST
7TH ST
ELM ST
GREEN ST
PLUM ST
MAIN ST
DENOVION CT
SOUTHERN VIEW DR
VINE ST
L. SAUGET AVE
ADELE AVE
RUBY ST
DELIA PL
CEM
PARK
CHURCH
ST. CECIL
ST. JAMES
ST. LEO DR
ST. MONICA
ST. LUCY
DOROTHY DR
ST. THOMAS LA
ST. JAMES LA
ST. ROBERT DR
NICHOLAS DR
ST. DOROTHY
ST. WILLIAM
ST. PAUL DR
ST. BARBARA LA
HOLY FAMILY CEMETERY
MISSISSIPPI AVE
FAP 4
FAP 70
DEAD CR
CAMP JACKSON RD
BY 50
157
PARKS COLLEGE OF AERONAUTICAL TECHNOLOGY (ST. LOUIS UNIVERSITY)
DAVID ST
SCHOOL ST
BARBER ST
CAHOKIA ST
KINDER ST
LEE ST
JUDITH ST
GLORIA ST
HISSRICH
EDGAR ST
WHITE BLVD
JEROME LA
EDWARD PL
JUDITH LA
WALNUT ST
SPRINGS
NADINE ST
FALLING
BRUCE ST
JULIAN AVE
KINDER
UPPER ST CAHOKIA
GOODAN AVE
JEROME LA
CHAUDET AVE
GARRISON AVE
NILDRED
WRIGHT AVE
NASH ST
PARK AVE
NELSON AVE
ESTER
LEON ST
OTTO ST
ST ZABETH ST
PRESTON LA
CHAMPLAIN DR
LA SALLE DR
COOPER DR
SPARKS AVE
LUCLE ST
HOWELL AVE
RANGE LA
ST. MICHAEL DR
ST. HELENA DR
HAWKINS DR
RICHARD ST
WILLIAM
LEONA RD
9
80
28
29
31
32

SAUGET Analytical Data
Dead Creek - Segment C

SEDIMENT SAMPLES
Metals (mg/kg)
Collected by IEPA (09/25/80)

	Sample Number	7	Maximum Concentration
Metals			
Iron		110000	110000
Manganese		170	170
Calcium		5300	5300
Magnesium		2000	2000
Sodium		1100	1100
Potassium		900	900
Barium		4700	4700
Boron		76	76
Cadmium		50	50
Chromium		50	50
Copper		17200	17200
Lead		1300	1300
Nickel		2300	2300
Silver		45	45
Zinc		21000	21000
Beryllium		3	3
Cobalt		32	32
Strontium		140	140
Vanadium		50	50
Phosphorus		6200	6200

mg/kg - Milligrams per kilogram

September 26, 1980

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SEP 30 1980
IEPA-DAPC-SPFLD

Division File

Tom Powell - Southern Region

St. Clair County - General - Cahokia/Dead Creek

On Thursday September 25, 1980, this writer, along with Ken Mensing, were in Cahokia, Illinois to obtain soil and water samples from Dead Creek and its peripheries. Sample points included both the east and west sides of the most heavily contaminated area, between Judith Lane and Queeny Avenue, and randomly selected points downstream within the ditch. We arrived at the site approximately 9:50 a.m. and collected a total of twelve (12) samples. A minimal amount of precipitation had fallen the evening before we visited the site for sampling. The ground surface was damp with no blowing dust when we procured the samples. The following is a listing of the sample points:

Sample Number	Location	Depth of Sample
1	Soil sample obtained 96 yards south of Queeny Avenue and 6 yards west of snowfence on west side of Dead Creek. Sample was collected from northeast corner of bean field.	12 inches (composite)
2	Soil sample obtained 120 yards south of Queeny Avenue and 1 yard east of snowfence on the east side of Dead Creek.	12 inches (composite)
3	Soil sample obtained 30 yards north of Judith Lane and 1 yard west of snowfence on the west side of Dead Creek.	12 inches (composite)
4	Soil sample obtained from drainage cut, midway between Dead Creek and the pond near Judith Lane.	9 inches (composite)
5	Pond sediment sample obtained at the north side of the confluence of the drainage cut with pond, one (1) yard east into the pond.	12 inches (composite)

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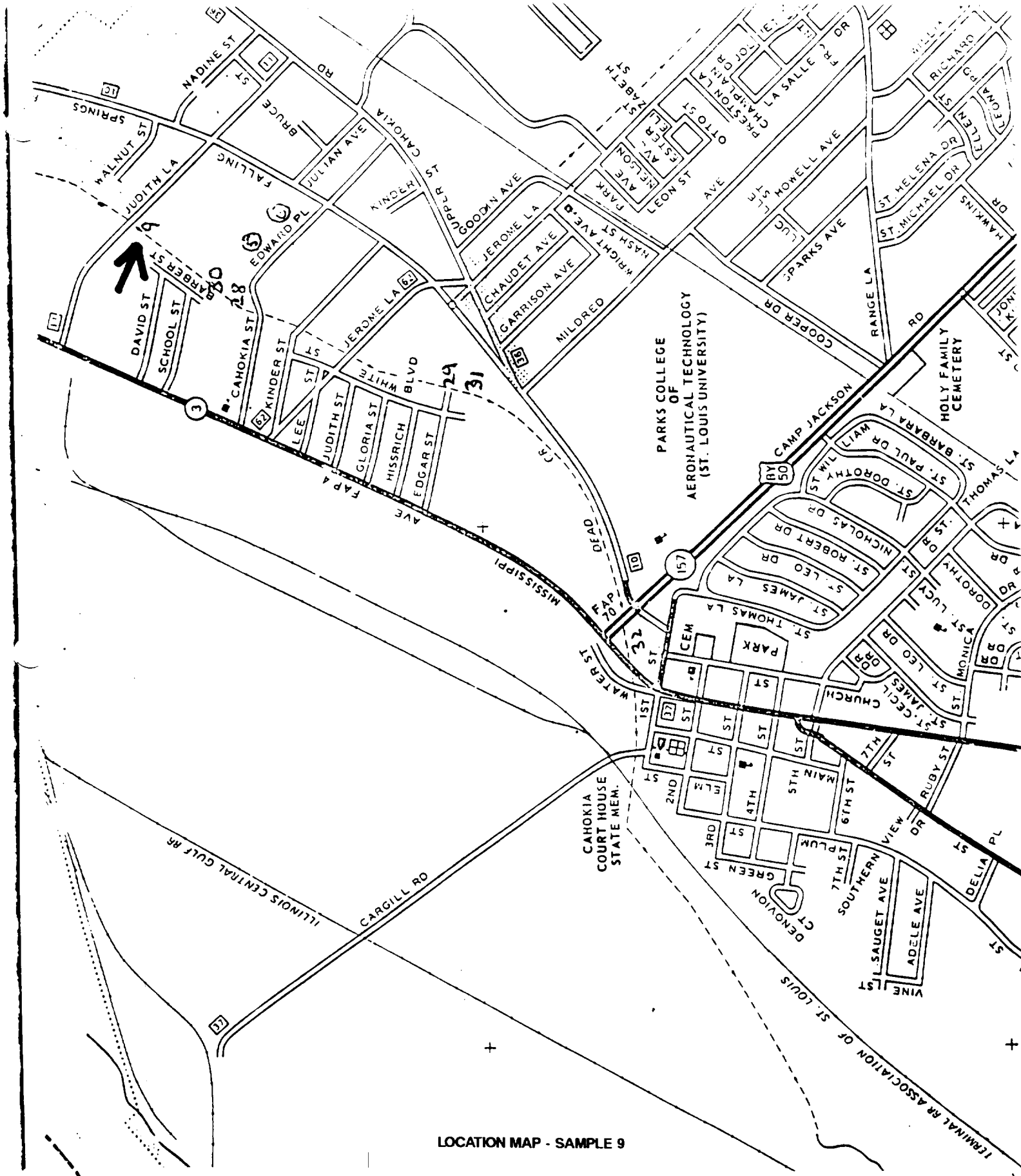
ecology and environment

6	Pond sediment sample obtained at the northwest corner of pond, one (1) yard south into the pond.	9 inches (composite)
7	Sediment sample obtained from Dead Creek, 16 yards north of Cahokia Street. Sample obtained adjacent to standing water in Dead Creek.	12 inches (composite)
8	Sediment sample obtained from Dead Creek, immediately north of Edgar Street in front of concrete culvert. Sediment obtained from an area of standing water in the creek.	6 inches (composite)
9	Water sample obtained from standing water in Dead Creek, 45 yards north of Cahokia Street.	
10	Water sample obtained from standing water in Dead Creek immediately north of Edgar Street in front of concrete culvert.	
11	Sediment sample obtained from Dead Creek just south of the intersection of routes #3 and #157. Sample obtained from an area of standing water, adjacent to the pedestrian walk bridge.	6 inches (composite)
12	Soil sample obtained from the dry bed of Dead Creek, northwest of the sewage treatment plant, and just north of the concrete culvert under the rock road. Surface sediment appeared to be sewage treatment plant sludge (dried).	12 inches (composite)

cc: Southern Region
Bill Child
Jim Kelty
Attorney General



LOCATION MAP - SAMPLE 9

Source: "Summary of the Phase II Investigation of Dead Creek", Author unknown, Date unknown

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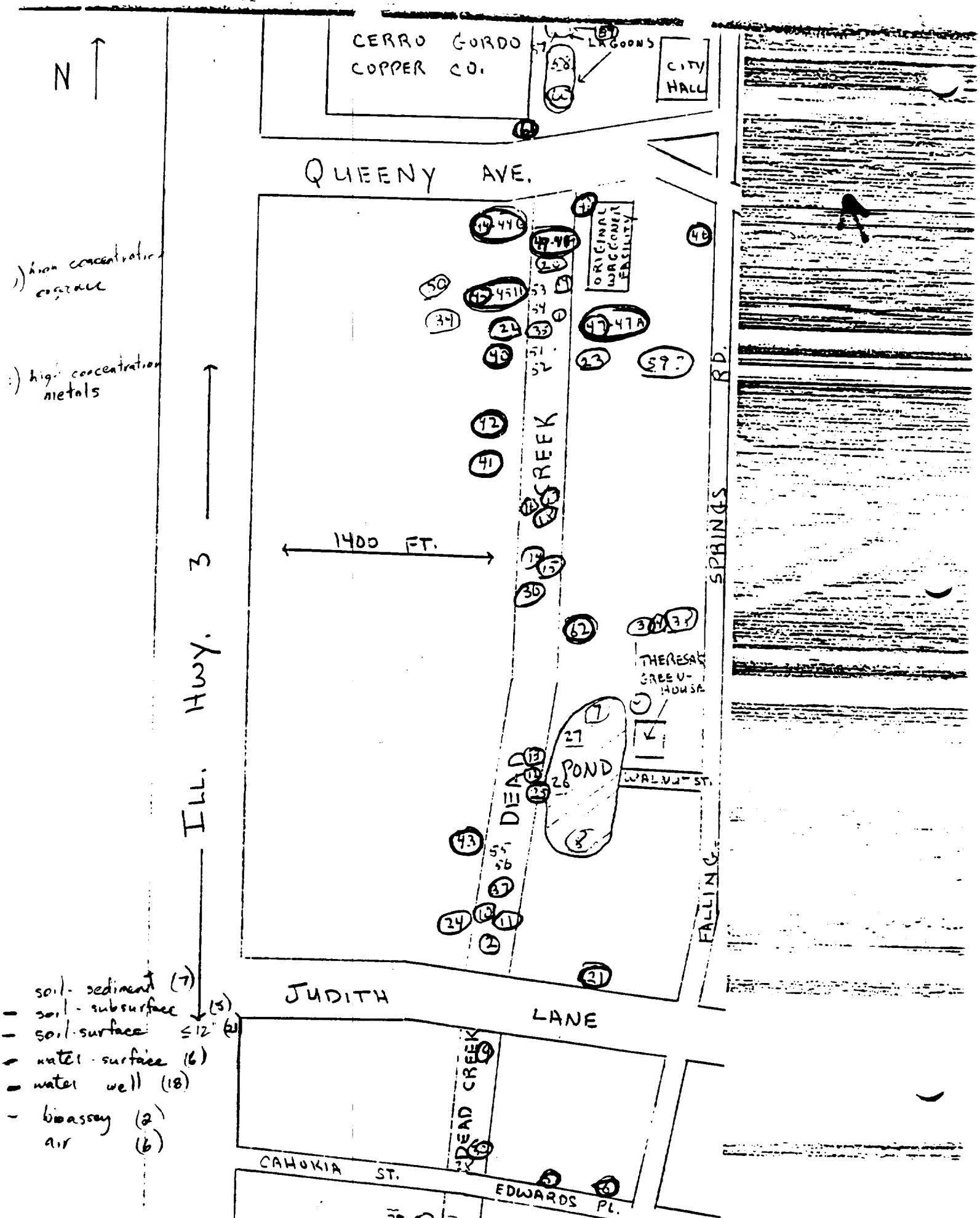
recycled paper

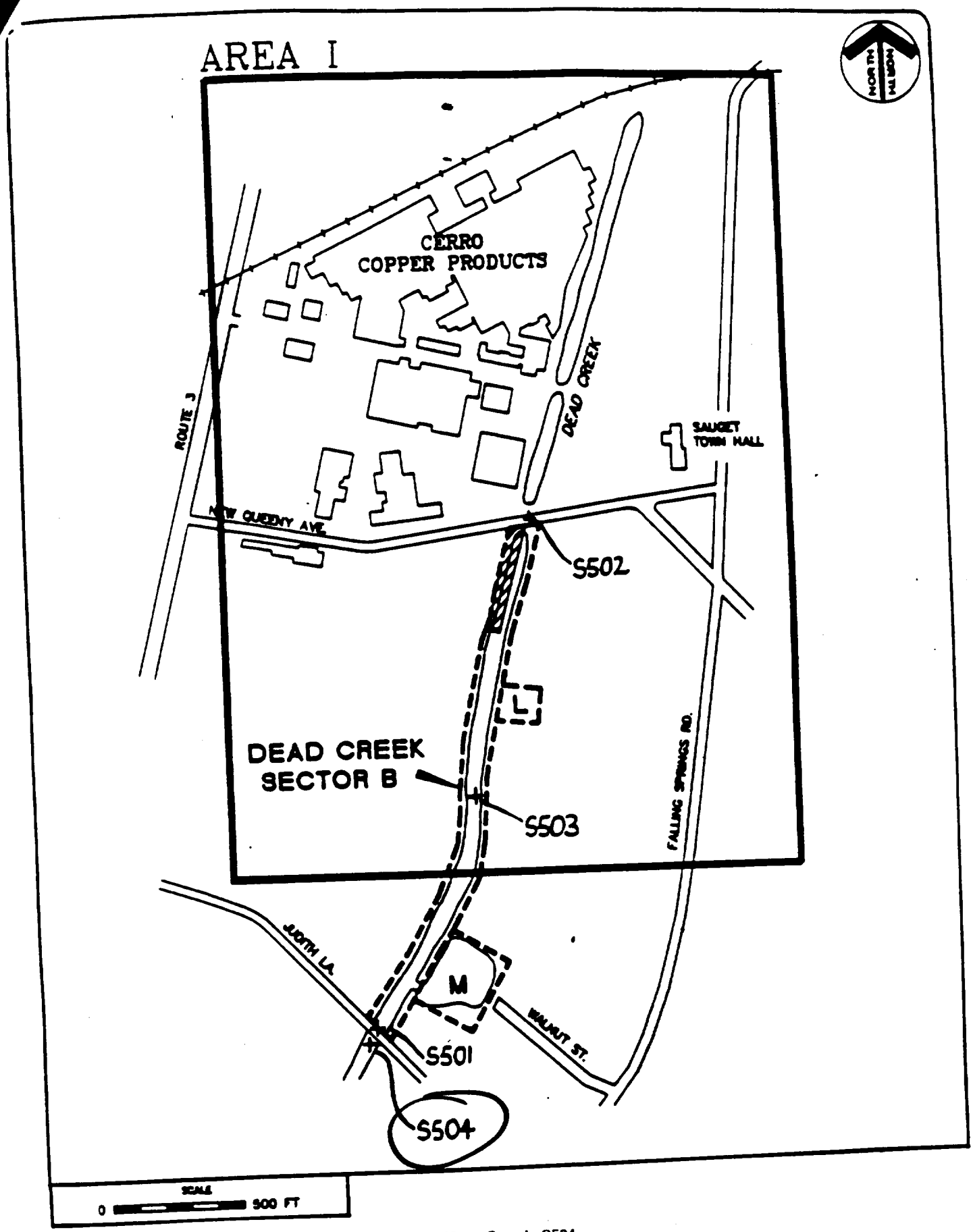

N
CERRO GORDO COPPER CO.
LAGOONS
CITY HALL
QUEENY AVE.
ORIGINAL WAGGONER FACILITY
DEAD CREEK
1400 FT.
ILL. HWY. 3
SPRINGS RD.
THERESA'S GREEN-HOUSE
POND
WALNUT ST.
FALLING
JUDITH LANE
DEAD CREEK
CAHOKIA ST.
EDWARDS PL.
soil - sediment (7)
soil - subsurface (5)
soil - surface ≤12" (21)
water - surface (6)
water well (18)
bioassay (2)
air (6)

SAUGET Analytical Data
Dead Creek - Segment C

WATER SAMPLES
Metals (mg/l)
Collected by IEPA (09/25/80)

	Sample Number	9	Maximum Concentration
Metals			
Arsenic		0.008	0.008
Selenium		ND	ND
Iron		0.66	0.66
Manganese		0.03	0.03
Calcium		34	34
Magnesium		3	3
Sodium		3	3
Potassium		6.6	6.6
Barium		0.12	0.12
Boron		0.06	0.06
Cadmium		ND	ND
Chromium		ND	ND
Copper		0.26	0.26
Lead		ND	ND
Nickel		0.05	0.05
Silver		ND	ND
Zinc		0.24	0.24
Beryllium		ND	ND
Cobalt		ND	ND
Strontium		0.08	0.08
Vanadium		ND	ND
Phosphorus		0.19	0.19

mg/L - Milligrams per liter
ND - Not detected



Location Map - Sample S504

Source: Ltr. to A. Altur (USEPA) from P.Takacs (IEPA) dated Nov. 2, 1993

SAUGET Analytical Data
Dead Creek - Segment C

SURFACE WATER SAMPLES
Pesticides/PCBs/Herbicides (μg/L)
Collected by IEPA

	Sample Number	S504	Maximum
	Date Collected	09/23/93	Concentration
Pesticides/PCBs			Detected
Alpha-BHC		ND	ND
Beta-BHC		ND	ND
Delta-BHC		ND	ND
Gamma-BHC (Lindane)		ND	ND
Heptachlor		ND	ND
Aldrin		ND	ND
Heptachlor Epoxide		ND	ND
Endosulfan I		ND	ND
Dieldrin		ND	ND
4,4'-DDE		ND	ND
Endrin		ND	ND
Endosulfan II		ND	ND
4,4'-DDD		ND	ND
Endosulfan sulfate		ND	ND
4,4'-DDT		ND	ND
Methoxychlor		ND	ND
Endrin Ketone		ND	ND
Chlordane		ND	ND
Toxaphene		ND	ND
Aroclor-1016		ND	ND
Aroclor-1221		ND	ND
Aroclor-1232		ND	ND
Aroclor-1242		ND	ND
Aroclor-1248		ND	ND
Aroclor-1254		ND	ND
Aroclor-1260		ND	ND
Herbicides			
2,4-D		NA	NA
Silvex		NA	NA

μg/L - Micrograms per liter
NA - Not analyzed
ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment C

SURFACE WATER SAMPLES
Volatile Organic Compounds (μg/L)
Collected by IEPA

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	Sample Number	S504	Maximum
	Date Collected	09/23/93	Concentration
VOCS			Detected
Chloromethane		ND	ND
Bromomethane		ND	ND
Vinyl chloride		ND	ND
Chloroethane		ND	ND
Methylene chloride		ND	ND
Acetone		ND	ND
Carbon Disulfide		ND	ND
1,1-Dichloroethene		ND	ND
1,1-Dichloroethane		ND	ND
trans-1,2-Dichloroethene		ND	ND
Chloroform		ND	ND
1,2-Dichloroethane		ND	ND
2-Butanone (MEK)		ND	ND
1,1,1-Trichloroethane		ND	ND
Carbon Tetrachloride		ND	ND
Vinyl Acetate		ND	ND
Bromodichloromethane		ND	ND
1,2-Dichloropropane		ND	ND
trans-1,3-Dichloropropene		ND	ND
Trichloroethene		ND	ND
Dibromochloromethane		ND	ND
1,1,2-Trichloroethane		ND	ND
Benzene		ND	ND
cis-1,3-Dichloropropene		ND	ND
2-Chloroethyl Vinyl Ether		ND	ND
Bromoform		ND	ND
4-Methyl-2-pentanone		ND	ND
2-Hexanone		ND	ND
Tetrachloroethene		ND	ND
1,1,2,2-Tetrachloroethane		ND	ND
Toluene		ND	ND
Chlorobenzene		ND	ND
Ethylbenzene		ND	ND
Styrene		ND	ND
Total Xylenes		ND	ND

μg/L - Micrograms per liter.
ND - Not detected.

SAUGET Analytical Data
Dead Creek - Segment C

SURFACE WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by IEPA

	Sample Number	S504	Maximum
	Date Collected	09/23/93	Concentration
BNAs			Detected
Phenol		ND	ND
bis(2-Chloroethyl)ether		ND	ND
2-Chlorophenol		ND	ND
1,3-Dichlorobenzene		ND	ND
1,4-Dichlorobenzene		ND	ND
Benzyl Alcohol		NA	NA
1,2-Dichlorobenzene		ND	ND
2-Methylphenol		ND	ND
bis(2-Chloroisopropyl)ether		NA	NA
4-Methylphenol		ND	ND
N-Nitroso-n-Dipropylamine		ND	ND
Hexachloroethane		ND	ND
Nitrobenzene		ND	ND
Isophorone		ND	ND
2-Nitrophenol		ND	ND
2,4-Dimethylphenol		ND	ND
Benzoic Acid		NA	NA
bis-(2-Chloroethoxy)methane		ND	ND
2,4-Dichlorophenol		ND	ND
1,2,4-Trichlorobenzene		ND	ND
Naphthalene		ND	ND
4-Chloroaniline		ND	ND
Hexachlorobutadiene		ND	ND
4-Chloro-3-methylphenol		ND	ND
2-Methylnaphthalene		ND	ND
Hexachlorocyclopentadiene		ND	ND
2,4,6-Trichlorophenol		ND	ND
2,4,5-Trichlorophenol		ND	ND
2-Chloronaphthalene		ND	ND
2-Nitroaniline		ND	ND
Dime[illegible]thalate		ND	ND
Acenap[illegible]thylene		ND	ND
3-Nitroaniline		ND	ND
Acenaphthene		ND	ND

μg/L - Micrograms per liter.
B - Compound detected in blank sample
J - Estimated value.
ND - Not Detected
NA - Not Analyzed

SAUGET Analytical Data
Dead Creek - Segment C

SURFACE WATER SAMPLES
Total Metals (μg/L)
Collected by IEPA

	Sample Number	S504	Maximum
	Date Collected	09/23/93	Concentration
Total Metals			Detected
Aluminum		733	733
Antimony		ND	ND
Arsenic		3.8 BNW	3.8 BNW
Barium		355	355
Beryllium		ND	ND
Cadmium		ND	ND
Calcium		153000	153000
Chromium		ND	ND
Cobalt		ND	ND
Copper		18.5 B	18.5 B
Iron		1460	1460
Lead		16 *S	16 *S
Magnesium		32800	32800
Manganese		97.1	97.1
Mercury		ND	ND
Nickel		15.9 B	15.9 B
Potassium		5490	5490
Selenium		ND	ND
Silver		ND	ND
Sodium		22000	22000
Thallium		ND	ND
Vanadium		ND	ND
Zinc		286	286
Cyanide		13.5 B	13.5 B

μg/L - Micrograms per liter
B - Estimated value. The value is less than the CRDL, but greater than the instrument detection limit
N - Laboratory spike recoveries were outside QC protocols
S - Analysis performed using the method of standard additions
W - Laboratory post-digestion spike for furnace AA analysis exceeds QC limits
* - Duplicate analysis not within control limits.
ND - Not Detected
NA - Not Analyzed

SAUGET Analytical Data
Dead Creek - Segment C

SURFACE WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by IEPA

	Sample Number	S504	Maximum
	Date Collected	09/23/93	Concentration
BNAs			Detected
2,4-Dinitrophenol		ND	ND
4-Nitrophenol		ND	ND
Dibenzofuran		ND	ND
2,4-Dinitrotoluene		ND	ND
2,6-Dinitrotoluene		NA	NA
Diethylphthalate		ND	ND
4-Chlorophenyl-Phenylether		ND	ND
Fluorene		ND	ND
4-Nitroaniline		ND	ND
4,6-Dinitro-2-methylphenol		ND	ND
N-Nitrosodiphenylamine		ND	ND
4-Bromophenyl-phenylether		ND	ND
Hexachlorobenzene		ND	ND
Pentachlorophenol		ND	ND
Phenanthrene		ND	ND
Carbazole		ND	ND
Anthracene		ND	ND
Di-n-butly phthalate		5 JB	5 JB
Fluoranthene		ND	ND
Pyrene		ND	ND
Butyl Benzyl phthalate		ND	ND
3,3'-Dichlorobenzidine		ND	ND
Benzo (a)anthracene		ND	ND
bis(2-ethylhexyl)phthalate		ND	ND
Chrysene		ND	ND
Di-n-octyl phthalate		ND	ND
Benzo(b)fluoranthene		ND	ND
Benzo(k)fluoranthene		ND	ND
Benzo (a)pyrene		ND	ND
Indeno(1,2,3-cd)pyrene		ND	ND
Benzo(g,h,i)perylene		ND	ND
Dibenzo(a,h)anthracene		ND	ND

μg/L - Micrograms per liter
B - Compound detected in blank sample
J - Estimated value
ND - Not Detected
NA - Not Analyzed

SAUGET Analytical Data

Sauget Sites Area 1

SOIL SAMPLES (µg/kg unless otherwise noted)

Collected by IEPA

Sample Number	X104	X101	X102	X103	Maximum
Property Owner	H KEARBY	V SHEPARD	W. SCHMIDT	J. BALLETT	Concentration
Date Collected	3/91	3/91	3/91	3/91	Detected
VOLATILES					
Chlorobenzene	ND	ND	ND	ND	ND
SEMIVOLATILES					
Pyrene	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND
PESTICIDES/PCB's					
4,4'-DDE	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND
Gamma-Chlorodane	**200**	**706**	ND	ND	**706**
Aroclor-1254	ND	ND	ND	ND	ND
Aroclor-1260	ND	ND	ND	ND	ND
INORGANICS (mg/kg)					
Arsenic	ND	ND	ND	ND	ND
Barium	ND	ND	ND	ND	ND
Cadmium	**0.8 B**	**4.9**	ND	**8.5**	**8.5**
Calcium	ND	ND	ND	ND	ND
Chromium	**19.5**	**31.9**	**26.6**	**38.7**	**38.7**
Cobalt	ND	ND	ND	ND	ND
Copper	**18.7**	**110**	**125**	**167**	**167**
Lead	**51**	ND	**276**	**202**	**276**
Magnesium	ND	ND	ND	ND	ND
Mercury	ND	**0.07**	**0.07**	**0.2**	**0.2**
Nickel	ND	ND	ND	ND	ND
Zinc	**161**	**575**	ND	**738**	**738**

µg/kg - Micrograms per kilogram.
mg/kg - Milligrams per kilogram.
B - Estimated value The value is less than the CRDL, but greater than the instrument detection limit.
ND - Not detected

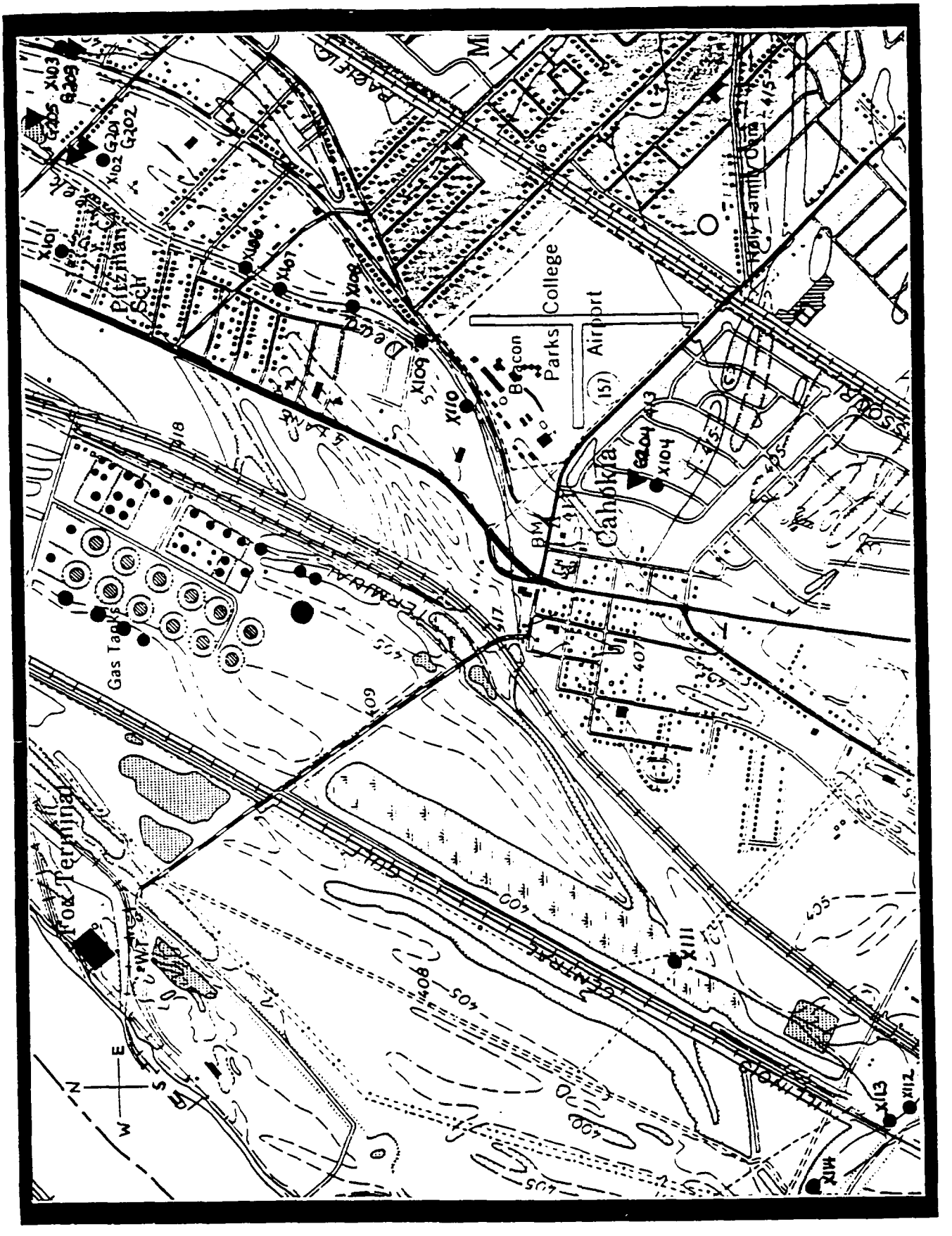
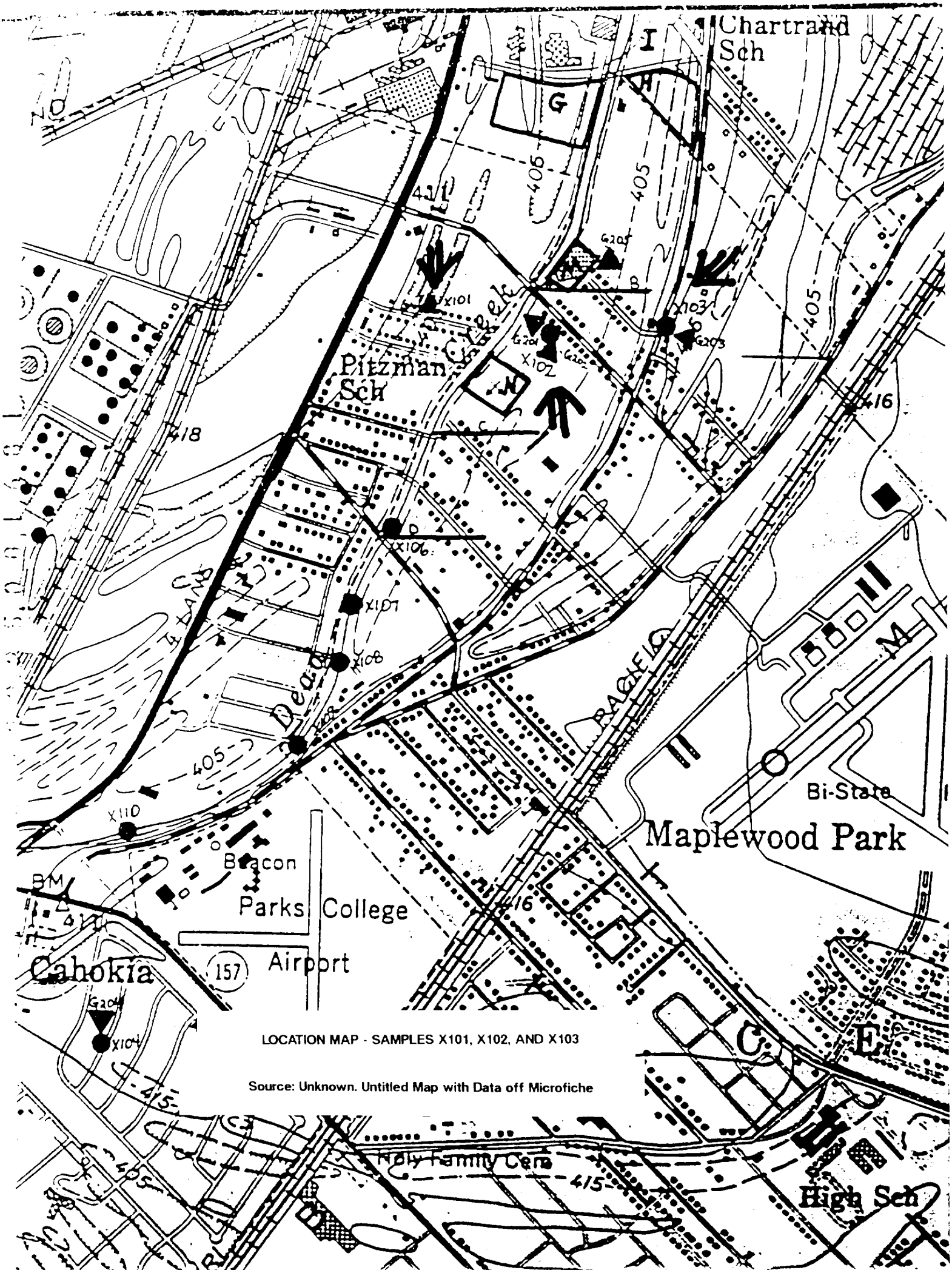


Figure 3-2
Soil/Groundwater Sample Location Map

Sauget Sites Area 1
See CERCLIS for ILD #s

TABLE 4-1
SUMMARY

SAMPLING POINT	26' well Bill Settle 102 Judith Ln Cahokia	49' well W. Schmidt 104 Judith Ln Cahokia	~20' well J. Ballett 3300 Falling Springs Rd Cahokia	30' well H.E. Kearby (Elvin) 1 rd St. James Cahokia	17' well W. Allen 101 Walnut Cahokia	brown soil 0-6" Vernon Shepard 25 David St. Cahokia	black soil 0-6" W. Schmidt 104 Judith Ln Cahokia	soil 0-6" J. Ballett 3300 Falling Springs Rd Cahokia	soil 0-6" H.E. Kearby (Elvin) 1 rd St. James Cahokia
	G201	G202	G203	G204	G205	X101	X102	X103	X104
	03-27-91	03-27-91	03-27-91	03-28-91	03-27-91	03-28-91	03-28-91	03-28-91	03-28-91
VOLATILES (ppb)									
Methylene Chloride	--	--	--	--	--	3 J	3 J	--	--
Acetone	--	--	--	--	--	--	--	1600 DJ	--
1,1,1-Trichloroethane	--	--	--	--	--	5 J	--	--	--
Trichloroethene	--	--	--	--	--	5 J	--	--	--
Toluene	--	--	--	--	--	--	--	--	--
Chlorobenzene	--	--	--	--	--	--	--	--	--
# of TIC's	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(0)
SEMIVOLATILES (ppb)									
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	--
4-Methylphenol	--	--	--	--	--	--	--	270 J	--
Phenanthrene	--	--	--	--	--	--	--	260 J	--
Fluoranthene	--	--	--	--	--	--	--	540 J	230 J
Pyrene	--	--	--	--	--	--	--	450 J	210 J
Benzo(a)anthracene	--	--	--	--	--	--	--	230 J	--
Chrysene	--	--	--	--	--	--	--	310 J	190 J
Benzo(b)fluoranthene	--	--	--	--	--	--	--	--	--
# of TIC's	(5)	(5)	(9)	(6)	(20)	(14)	(19)	(20)	(19)
PESTICIDES/PCB's (ppb)									
beta-BHC	--	--	--	--	--	--	--	--	55
Heptachlor	--	--	--	--	--	--	--	--	280
Heptachlor epoxide	--	--	--	--	--	81	--	--	--
4,4'-DDE	--	--	--	--	--	--	4 J	32 J	--
Endrin	--	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	13 J	--
Methoxychlor (Marlate)	--	--	--	--	0.07J	--	--	31 J	--
alpha-Chlordane	--	--	--	--	3.76	821	--	--	410
gamma-Chlordane	--	--	--	--	5.02	706	--	--	200
Aroclor-1254	--	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--	--



LOCATION MAP - SAMPLES X101, X102, AND X103

Source: Unknown. Untitled Map with Data off Microfiche

SAUGET Analytical Data
Dead Creek - Segment D

SEDIMENT SAMPLES
Volatile Organic Compounds (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SD-25	DC-SD-26	DC-SD-27	DC-SD-28	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	1.5-2	0-0.5	1.5-2	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/5/86	Detected
VOC					BLANK	
Chloromethane	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND
Methylene chloride	***23000 B***	***19000 B***	***43000 B***	***20000 B***	***15000 B***	***43000 B***
Acetone	**18000 B**	**9800 B**	**36000 B**	**7400 B**	**6200 B**	**36000 B**
Carbon Disulfide	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	**21000 B**	**16000 B**	**35000 B**	**15000 B**	**11000 B**	**35000 B**
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	**1200 J**	ND	ND	ND	**1200 J**
2-Hexanone	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram
B - Compound detected in blank
J - Estimated value
ND - Not detected

recycled paper

SAUGET Analytical Data
Dead Creek - Segment D

SEDIMENT SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SD-25	DC-SD-26	DC-SD-27	DC-SD-28	DC-SD-29	Maximum
	Sample Depth (ft)	0-0.5	1.5-2	0-0.5	1.5-2	NA	Concentration
	Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
BNAs						BLANK	
Phenol		ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether		ND	ND	ND	ND	ND	ND
2-Chlorophenol		ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene		ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene		ND	ND	ND	ND	ND	ND
Benzyl Alcohol		ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene		ND	ND	ND	ND	ND	ND
2-Methylphenol		ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether		ND	ND	ND	ND	ND	ND
4-Methylphenol		ND	ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine		ND	ND	ND	ND	ND	ND
Hexachloroethane		ND	ND	ND	ND	ND	ND
Nitrobenzene		ND	ND	ND	ND	ND	ND
Isophorone		ND	ND	ND	ND	ND	ND
2-Nitrophenol		ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND	ND	ND
Benzoic Acid		ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane		ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND	ND	ND
1,2,4-Trichlorophenol		ND	ND	ND	ND	ND	ND
Naphthalene		ND	ND	ND	ND	ND	ND
4-Chloroaniline		ND	ND	ND	ND	ND	ND
Hexachlorobutadiene		ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol		ND	ND	ND	ND	ND	ND
2-Methylnaphthalene		ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene		ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol		ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol		ND	ND	ND	ND	ND	ND
2-Chloronaphthalene		ND	ND	ND	ND	ND	ND
2-Nitroaniline		ND	ND	ND	ND	ND	ND
Dimethyl Phthalate		ND	ND	ND	ND	ND	ND
Acenaphthylene		ND	ND	ND	ND	ND	ND
3-Nitroaniline		ND	ND	ND	ND	ND	ND
Acenaphthene		ND	ND	ND	ND	ND	ND

µg/kg - Micrograms per kilogram
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment D

SEDIMENT SAMPLES
Base Neutrals/Acids (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SD-25	DC-SD-26	DC-SD-27	DC-SD-28	DC-SD-29	Maximum
Sample Depth (ft)	0-0.5	1.5-2	0-0.5	1.5-2	NA	Concentration
Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
BNAs					BLANK	
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND
Di-n-butly phthalate	130 J	79 J	ND	ND	ND	130 J
Fluoranthene	ND	130 J	ND	ND	ND	130 J
Pyrene	ND	120 J	ND	ND	ND	120 J
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	72 J	ND	ND	ND	72 J
Chrysene	ND	83 J	ND	ND	ND	83 J
Di-n-octyl phthalate	ND	ND	170 J	ND	ND	170 J
Benzo(b)fluoranthene	ND	200 J	500 J	ND	ND	500 J
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	86 J	240 J	ND	ND	240 J
Indeno(1,2,3-cd)pyrene	ND	100 J	310 J	ND	ND	310 J
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	91 J	360 J	ND	ND	360 J

µg/kg - Micrograms per kilogram
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Dead Creek - Segment D

SEDIMENT SAMPLES
Total Metals (mg/kg)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SD-25	DC-SD-26	DC-SD-27	DC-SD-28	DC-SD-29	Maximum
	Sample Depth (ft)	0-0.5	1.5-2	0-0.5	1.5-2	NA	Concentration
	Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
Total Metals						BLANK	
Aluminum		11250	12500	6400	5870	11800	12500
Antimony		ND	ND	ND	ND	ND	ND
Arsenic		3.2 R*	7.8 *	4.7 R*	5.1 R	5.6 R	7.8 *
Barium		239	622	214	199	362	622
Beryllium		ND	ND	ND	ND	ND	ND
Boron		ND	ND	ND	ND	ND	ND
Cadmium		12	42	23	5.6	2.5	42
Chromium		33	48	34	13	15	48
Cobalt		5	12	ND	6.4	5.8	12
Copper		379 *	1630 *	1320 *	247 *	35 *	1630 *
Iron		22800	40200	31300	15000	16600	40200
Lead		146	480	309	44	47	480
Manganese		190	273	178	191	412	412
Mercury		1	0.89	0.34	0.18	ND	1
Nickel		174 R*	665 R*	537 R*	236 R*	18 R*	665 R*
Selenium		ND	ND	ND	ND	ND	ND
Silver		ND	ND	ND	ND	ND	ND
Thallium		ND	ND	ND	ND	ND	ND
Tin		ND	ND	ND	ND	ND	ND
Vanadium		37	32	ND	17	27	37
Zinc		1010	6590	2380	917	197	6590
Cyanide		ND	ND	ND	ND	ND	ND

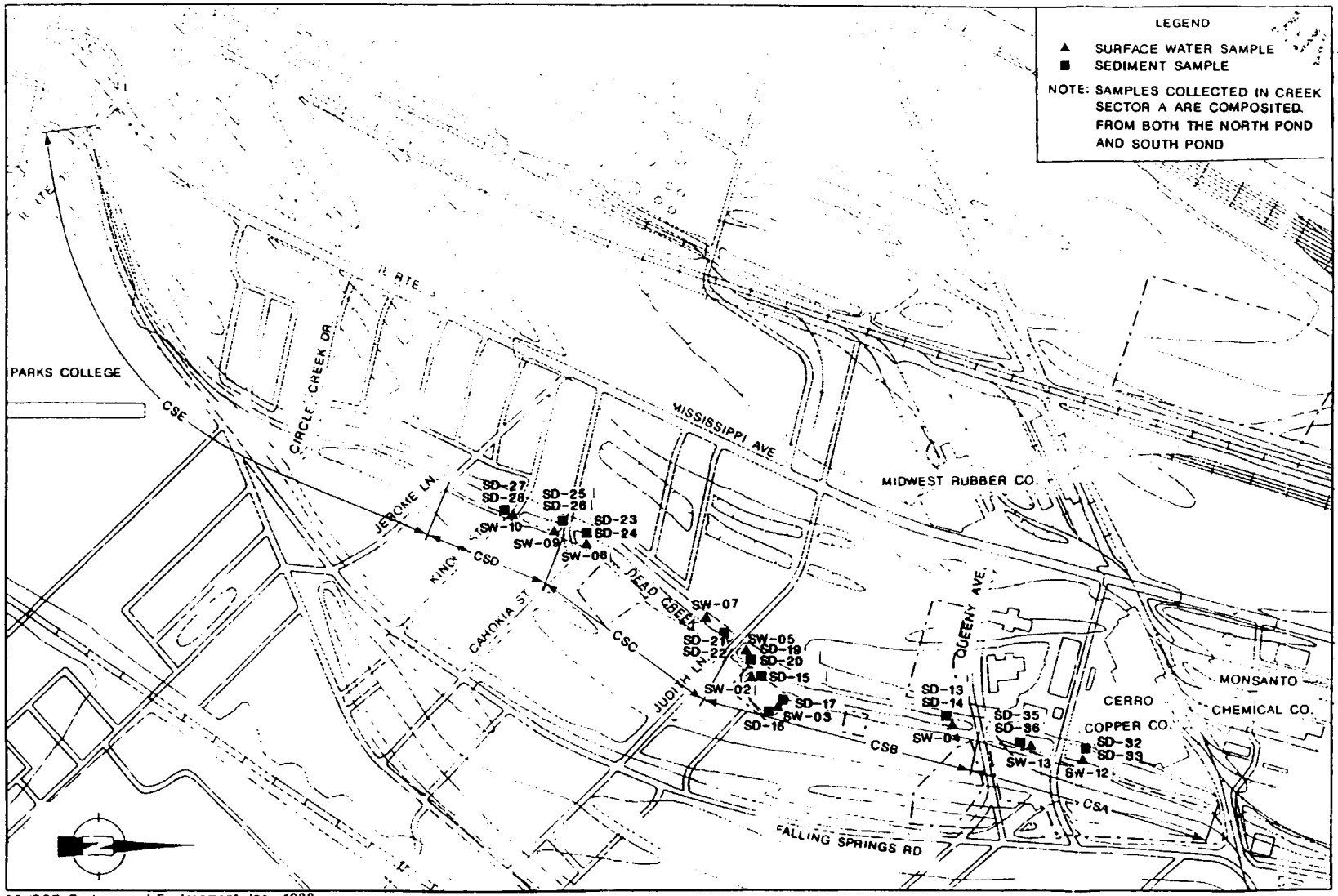
mg/kg - Milligrams per kilogram
ND - Not detected
R - Spike sample recovery not within control limits.
* - Duplicate analysis not within control limits.

SAUGET Analytical Data
Dead Creek - Segment D

SEDIMENT SAMPLES
Pesticides/PCBs (µg/kg)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SD-25	DC-SD-26	DC-SD-27	DC-SD-28	DC-SD-29	Maximum
	Sample Depth (ft)	0-0.5	1.5-2	0-0.5	1.5-2	NA	Concentration
	Date Collected	11/05/86	11/05/86	11/05/86	11/05/86	11/05/86	Detected
Pesticides/PCBs						BLANK	
Alpha-BHC		ND	ND	ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND	ND
Aldrin		ND	ND	ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND	ND	ND
Endrin		**580**	ND	ND	ND	ND	**580**
Endosulfan II		ND	ND	ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND	ND
Chlordane		ND	ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	ND	ND
Aroclor-1254		ND	ND	**7500**	**1900**	ND	**7500**
Aroclor-1260		ND	ND	**4500**	ND	ND	**4500**

µg/kg - Micrograms per kilogram
NA - Not applicable
ND - Not detected



SOURCE: Ecology and Environment, Inc., 1988.

SCALE

0 1000 2000 3000 4000 5000 FEET

FIGURE 3-5 SURFACE WATER AND SEDIMENT SAMPLING LOCATIONS IN DEAD CREEK AND SITE M

SAUGET Analytical Data
Dead Creek - Sector D

SURFACE WATER SAMPLES
Volatile Organic Compounds (μg/L)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number		DC-SW-09	DC-SW-10	DC-SW-01	Maximum
Date Collected		11/05/86	11/05/86	11/5/86	Concentration
VOC				BLANK	Detected
Chloromethane		ND	ND	ND	ND
Bromomethane		ND	ND	ND	ND
Vinyl chloride		ND	ND	ND	ND
Chloroethane		ND	ND	ND	ND
Methylene chloride		**5 B**	**7 B**	**6 B**	**7 B**
Acetone		**11 B**	**11 B**	**12 B**	**12 B**
Carbon Disulfide		ND	ND	ND	ND
1,1-Dichloroethene		ND	ND	ND	ND
1,1-Dichloroethane		ND	ND	ND	ND
trans-1,2-Dichloroethene		ND	ND	ND	ND
Chloroform		ND	ND	**27**	**27**
1,2-Dichloroethane		ND	ND	ND	ND
2-Butanone (MEK)		ND	ND	ND	ND
1,1,1-Trichloroethane		ND	ND	ND	ND
Carbon Tetrachloride		ND	ND	ND	ND
Vinyl Acetate		ND	ND	ND	ND
Bromodichloromethane		ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND
trans-1,3-Dichloropropene		ND	ND	ND	ND
Trichloroethene		ND	ND	ND	ND
Dibromochloromethane		ND	ND	ND	ND
1,1,2-Trichloroethane		ND	ND	ND	ND
Benzene		ND	ND	ND	ND
cis-1,3-Dichloropropene		ND	ND	ND	ND
2-Chloroethyl Vinyl Ether		ND	ND	ND	ND
Bromoform		ND	ND	ND	ND
4-Methyl-2-pentanone		ND	ND	ND	ND
2-Hexanone		ND	ND	ND	ND
Tetrachloroethene		ND	ND	ND	ND
1,1,2,2-Tetrachloroethane		ND	ND	ND	ND
Toluene		ND	ND	ND	ND
Chlorobenzene		ND	ND	ND	ND
Ethylbenzene		ND	ND	ND	ND
Styrene		ND	ND	ND	ND
Total Xylenes		ND	ND	ND	ND

μg/L - Micrograms per liter
B - Compound detected in blank
ND - Not detected

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SAUGET Analytical Data
Dead Creek - Sector D

SURFACE WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-09	DC-SW-10	DC-SW-01	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	Concentration
BNAs				BLANK	Detected
Phenol		ND	ND	ND	ND
bis(2-Chloroethyl)ether		ND	ND	ND	ND
2-Chlorophenol		ND	ND	ND	ND
1,3-Dichlorobenzene		ND	ND	ND	ND
1,4-Dichlorobenzene		ND	ND	ND	ND
Benzyl Alcohol		ND	ND	ND	ND
1,2-Dichlorobenzene		ND	ND	ND	ND
2-Methylphenol		ND	ND	ND	ND
bis(2-Chloroisopropyl)ether		ND	ND	ND	ND
4-Methylphenol		ND	ND	ND	ND
N-Nitroso-n-Dipropylamine		ND	ND	ND	ND
Hexachloroethane		ND	ND	ND	ND
Nitrobenzene		ND	ND	ND	ND
Isophorone		ND	ND	ND	ND
2-Nitrophenol		ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND
Benzoic Acid		ND	ND	ND	ND
bis-(2-Chloroethoxy)methane		ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND
1,2,4-Trichlorophenol		ND	ND	ND	ND
Naphthalene		ND	ND	ND	ND
4-Chloroaniline		ND	ND	ND	ND
Hexachlorobutadiene		ND	ND	ND	ND
4-Chloro-3-methylphenol		ND	ND	ND	ND
2-Methylnaphathalene		ND	ND	ND	ND
Hexachlorocyclopentadiene		ND	ND	ND	ND
2,4,6-Trichlorophenol		ND	ND	ND	ND
2,4,5-Trichlorophenol		ND	ND	ND	ND
2-Chloronaphthalene		ND	ND	ND	ND
2-Nitroaniline		ND	ND	ND	ND
Dimethyl Phthalate		ND	ND	ND	ND
Acenaphthylene		ND	ND	ND	ND
3-Nitroaniline		ND	ND	ND	ND
Acenaphthene		ND	ND	ND	ND

μg/L - Micrograms per liter.
B - Compound detected in blank
J - Estimated va
ND - Not detecte

SAUGET Analytical Data
Dead Creek - Sector D

SURFACE WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by Ecology & Environment, Inc. (11/86)

Sample Number	DC-SW-09	DC-SW-10	DC-SW-01	Maximum
Date Collected	11/05/86	11/05/86	11/05/86	Concentration
BNAs			BLANK	Detected
2,4-Dinitrophenol	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND
Di-n-butly phthalate	19 B	20 B	15 B	20 B
Fluoranthene	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND
Di-n-octyl phthalate	ND	1 J	ND	1 J
Benzo(b)fluoranthene	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND

μg/L - Micrograms per liter
B - Compound detected in blank
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Dead Creek - Sector D

SURFACE WATER SAMPLES
Pesticides/PCBs (µg/L)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-09	DC-SW-10	DC-SW-01	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	Concentration
Pesticides/PCBs				BLANK	Detected
Alpha-BHC		ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND
Aldrin		ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND
Endrin		ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND
Chlordane		ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND
Aroclor-1260		ND	ND	ND	ND

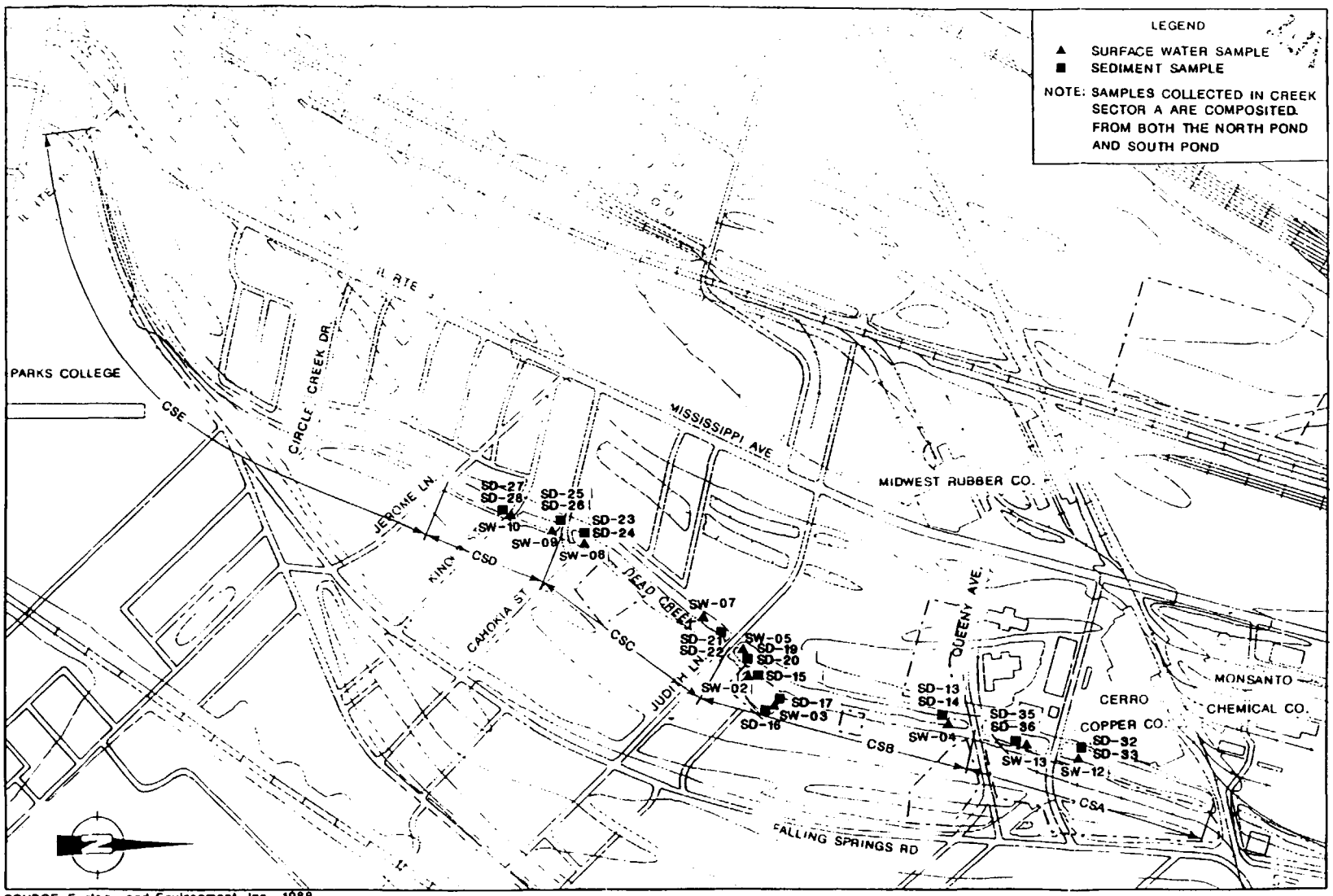
µg/L - Micrograms per liter.
ND - Not detected

SAUGET Analytical Data
Dead Creek - Sector D

SURFACE WATER SAMPLES
Total Metals (μg/L)
Collected by Ecology & Environment, Inc. (11/86)

	Sample Number	DC-SW-09	DC-SW-10	DC-SW-01	Maximum
	Date Collected	11/05/86	11/05/86	11/05/86	Concentration
Total Metals				BLANK	Detected
Aluminum		5000	1190	ND	5000
Antimony		ND	ND	ND	ND
Arsenic		ND	ND	ND	ND
Barium		274	ND	ND	274
Beryllium		ND	ND	ND	ND
Boron		ND	ND	ND	ND
Cadmium		8.1	ND	ND	8.1
Chromium		12	ND	ND	12
Cobalt		ND	ND	ND	ND
Copper		619	57	ND	619
Iron		7470	1570	255	7470
Lead		89	36	ND	89
Manganese		196	28	ND	196
Mercury		0.26	ND	ND	0.26
Nickel		189	ND	ND	189
Selenium		ND	ND	ND	ND
Silver		ND	ND	ND	ND
Thallium		ND	ND	ND	ND
Tin		ND	ND	ND	ND
Vanadium		ND	ND	ND	ND
Zinc		1090	185	ND	1090
Cyanide		ND	ND	ND	ND

μg/L - Micrograms per liter.
ND - Not detected



SOURCE: Ecology and Environment, Inc., 1988.

SCALE

0 1000 2000 3000 4000 5000 FEET

FIGURE 3-5 SURFACE WATER AND SEDIMENT SAMPLING LOCATIONS IN DEAD CREEK AND SITE M

SAUGET Analytical Data
Creek Segment D

SEDIMENT SAMPLES (μg/kg)

Collected by IEPA

	Sample Number	X106	Maximum
	Property Owner	CSD	Concentration
	Date Collected	3/91	Detected
VOLATILES			
Chlorobenzene		ND	ND
SEMIVOLATILES			
Pyrene		ND	ND
Benzo(b)fluoranthene		ND	ND
Chrysene		ND	ND
PESTICIDES/PCB's			
4,4'-DDE		ND	ND
Endrin		151	151
Endosulfan II		210	210
Gamma-Chlorodane		ND	ND
Aroclor-1254		6955	6955
Aroclor-1260		ND	ND
INORGANICS			
Arsenic		11.2	11.2
Barium		ND	ND
Cadmium		3.9	3.9
Calcium		22200	22200
Chromium		ND	ND
Cobalt		ND	ND
Copper		149	149
Lead		209	209
Magnesium		ND	ND
Mercury		0.2	0.2
Nickel		78.5	78.5
Zinc		704	704

μg/kg - Micrograms per kilogram.
ND - Not detected.

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SAUGET Analytical Data
Creek Segment D

SEDIMENT SAMPLES (μg/kg)

Collected by IEPA

	Sample Number	X106	Maximum
	Date Collected	3/28/91	Detected
VOLATILES			
Methylene Chloride		ND	ND
Acetone		130	130
1,1,1-Trichloroethane		ND	ND
Trichloroethene		ND	ND
Toluene		ND	ND
Chlorobenzene		6 J	6 J
# of TICs		(0)	0
SEMIVOLATILES			
1,4-Dichlorobenzene		ND	ND
1,2-Dichlorobenzene		ND	ND
4-Methlyphenol		ND	ND
Phenanthrene		220 J	220 J
Fluroanthene		510 J	510 J
Pyrene		480 J	480 J
Benzo(a)anthracene		ND	ND
Chrysene		ND	ND
Benzo(b)fluoranthene		480 J	480 J
# of TICs		(15)	15
PESTICIDES/PCB's			
beta-BHC		10 J	10 J
Heptachlor		ND	ND
Heptachlor epoxide		ND	ND
4,4'-DDE		ND	ND
Endrin		151	151
Endosulfan II		210	210
Methoxychlor		ND	ND
alpha-Chlorodane		ND	ND
gamma-Chlorodane		ND	ND
Aroclor-1254		6955	6955
Aroclor-1260		364 J	364 J

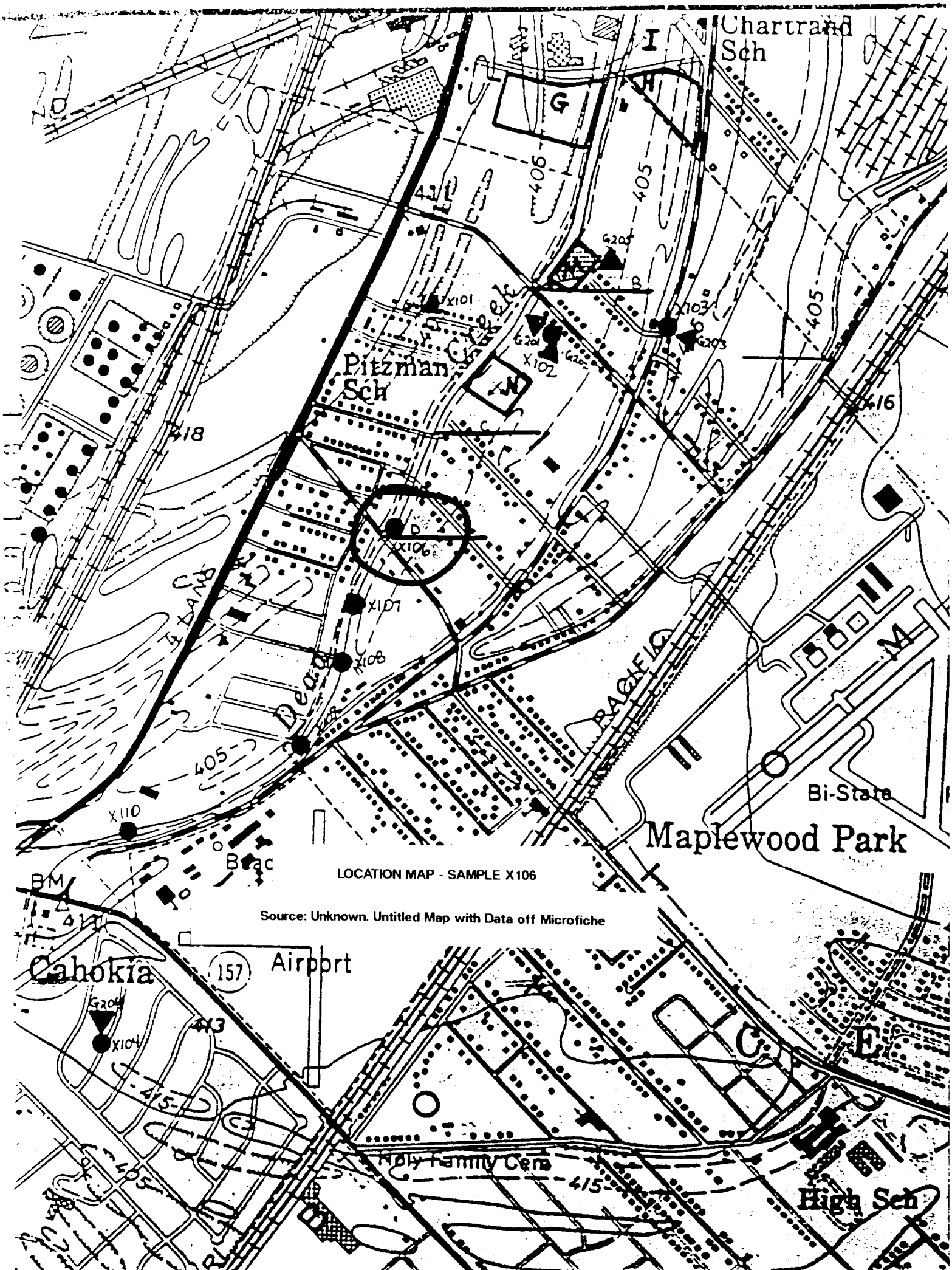
μg/kg - Micrograms per kilogram.
J - Estimated value
ND - Not detected.
TICs - Tentatively identified compounds

SAUGET Analytical Data
Creek Segment D

SEDIMENT SAMPLES
Total Metals (mg/kg)
Collected by IEPA

	Sample Number		X106	Maximum
	Date Collected		03/28/91	Detected
Total Metals				
Aluminum			**14800**	**14800**
Antimony			**16.7 B**	**16.7 B**
Arsenic			**11.2**	**11.2**
Barium			**337**	**337**
Beryllium			ND	ND
Cadmium			**3.9**	**3.9**
Calcium			**22200**	**22200**
Chromium			**39.9**	**39.9**
Cobalt			**6.3 B**	**6.3 B**
Copper			**149**	**149**
Iron			**20100**	**20100**
Lead			**209**	**209**
Magnesium			**6590**	**6590**
Manganese			**258**	**258**
Mercury			**0.2**	**0.2**
Nickel			**78.5**	**78.5**
Potassium			**3220**	**3220**
Selenium			**0.7 B**	**0.7 B**
Silver			ND	ND
Sodium			**556 B**	**556 B**
Thallium			ND	ND
Vanadium			**41.2**	**41.2**
Zinc			**704**	**704**
Sulfate			ND	ND

mg/kg - Milligrams per kilogram.
B - Estimated value. The value is less than the CRDL, but greater than the instrument detection limit.
ND - Not detected.



LOCATION MAP - SAMPLE X106

Source: Unknown. Untitled Map with Data off Microfiche

CS-E Data

SAUGET Analytical Data
Creek Segment E

SEDIMENT SAMPLES (μg/kg)

Collected by IEPA

	Sample Number	X107	X108	X109	X110	Maximum
	Property Owner	CSE	CSE	CSE	CSE	Concentration
	Date Collected	3/28/91	3/28/91	3/28/91	3/28/91	Detected
VOLATILES						
Chlorobenzene		120	ND	ND	ND	120
SEMIVOLATILES						
Pyrene		5300	ND	ND	ND	5300
Benzo(b)fluoranthene		2400	ND	ND	ND	2400
Chrysene		2800	ND	ND	ND	2800
PESTICIDES/PCB's						
4,4'-DDE		ND	ND	ND	ND	ND
Endrin		975	ND	ND	ND	975
Endosulfan II		ND	ND	ND	ND	ND
Gamma-Chlorodane		ND	ND	ND	ND	ND
Aroclor-1254		45653	ND	ND	ND	45653
Aroclor-1260		14273	ND	ND	ND	14273
INORGANICS						
Arsenic		30.3	10.1	12.2	11.3	30.3
Barium		3690	ND	ND	ND	3690
Cadmium		23.1	21.9	11.8	1.9	23.1
Calcium		83400	66200	ND	55300	83400
Chromium		105	ND	ND	ND	105
Cobalt		ND	ND	ND	ND	ND
Copper		8540	1160	404	108	8540
Lead		1270	235	140	440	1270
Magnesium		7890	7750	7750	ND	7890
Mercury		1.53	1.27	0.62	0.32	1.53
Nickel		2130	134	391	56	2130
Zinc		9970	1740	3140	382	9970

μg/kg - Micrograms per kilogram.
ND - Not detected.

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SAUGET Analytical Data
Creek Segment E

SEDIMENT SAMPLES (μg/kg)

Collected by IEPA

	Sample Number	X107	X108	X109	X110	Maximum
	Date Collected	3/28/91	3/28/91	3/28/91	3/28/91	Detected
VOLATILES						
Methylene Chloride		18 J	ND	ND	ND	18 J
Acetone		410	11 J	5 J	18	410
1,1,1-Trichloroethane		ND	ND	ND	ND	ND
Trichloroethene		ND	ND	ND	ND	ND
Toluene		ND	ND	ND	ND	ND
Chlorobenzene		120	ND	ND	ND	120
# of TICs		(0)	(0)	(0)	(0)	0
SEMIVOLATILES						
1,4-Dichlorobenzene		1500 J	490 J	ND	ND	1500 J
1,2-Dichlorobenzene		ND	320 J	ND	ND	320
4-Methlyphenol		ND	ND	ND	ND	ND
Phenanthrene		ND	320 J	ND	190 J	320 J
Fluroanthene		ND	470 J	ND	470 J	470 J
Pyrene		5300	450 J	ND	390 J	5300
Benzo(a)anthracene		ND	ND	ND	ND	ND
Chrysene		2800	400 J	ND	290 J	2800
Benzo(b)fluoranthene		2400	ND	ND	ND	2400
# of TICs		(18)	(18)	(18)	(18)	18
PESTICIDES/PCB's						
beta-BHC		ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND
Heptachlor epoxide		ND	ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	3 J	3 J
Endrin		975	ND	ND	ND	975
Endosulfan II		ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND
alpha-Chlorodane		ND	ND	ND	ND	ND
gamma-Chlorodane		ND	ND	ND	ND	ND
Aroclor-1254		45653	ND	ND	ND	45653
Aroclor-1260		14273	ND	ND	ND	14[illegible]

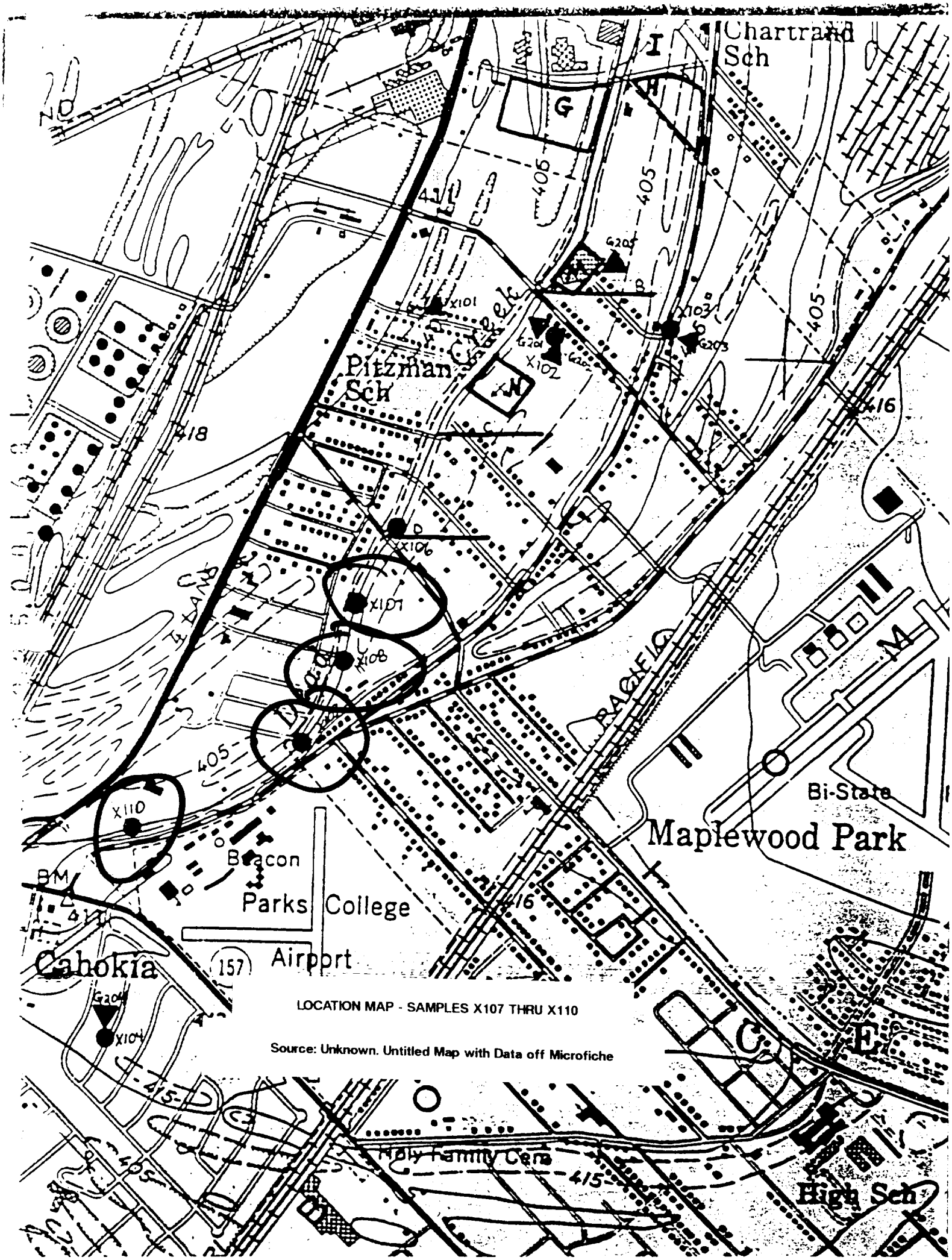
μg/kg - Micrograms per kilogram
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Creek Segment E

SOIL SAMPLES
Total Metals (mg/kg)
Collected by IEPA

Sample Number	X107	X108	X109	X110	Maximum
Date Collected	03/28/91	03/28/91	03/28/91	03/28/91	Detected
Total Metals					
Aluminum	15500	15600	14600	12000	15600
Antimony	32 B	14.5 B	ND	ND	32 B
Arsenic	30.3	10.1	12.2	11.3	30.3
Barium	3690	365	285	174	3690
Beryllium	ND	0.3 B	ND	ND	0.3 B
Cadmium	23.1	21.9	11.8	1.9	23.1
Calcium	83400	66200	10500	55300	83400
Chromium	105	29.4	35.4	42.3	105
Cobalt	12.7 B	ND	ND	ND	12.7 B
Copper	8540	1160	404	108	8540
Iron	39900	14500	24100	15800	39900
Lead	1270	235	140	440	1270
Magnesium	7890	7750	4980	5390	7890
Manganese	269	1360	386	268	1360
Mercury	1.53	1.27	0.62	0.32	1.53
Nickel	2130	134	391	56	2130
Potassium	2960	3320	3250	2700	3320
Selenium	1.4 B	ND	ND	ND	1.4 B
Silver	8.3	ND	ND	ND	8.3
Sodium	ND	461 B	312 B	ND	461 B
Thallium	ND	ND	ND	ND	ND
Vanadium	53.3	29.3	38.2	31.9	53.3
Zinc	9970	1740	3140	382	9970
Sulfate	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram.
B - Estimated value. The value is less than the CRDL, but greater than the instrument detection limit.
ND - Not detected.



LOCATION MAP - SAMPLES X107 THRU X110

Source: Unknown. Untitled Map with Data off Microfiche

SAUGET Analytical Data

Dead Creek - Segment E

SEDIMENT SAMPLES (mg/kg unless otherwise noted)

Collected by IEPA (11/31/80)

	Sample Number		29	32	Maximum
	Sample Location		Jct. Dead Creek & Edgar St	S of Jct Hwys 3 & 157	Concentration
	Sample Type	Normal Soil	Sediment	Sediment	Detected
Parameter					
Barium		250	**210**	**390**	**390**
Copper		70	**320**	**1800**	**1800**
Lead		16	**260**	**250**	**260**
Nickel		80	**45**	**600**	**600**
Phosphorous		1180	NA	NA	NA
Zinc		132	**900**	**5600**	**5600**
PCB's (µg/kg)		* 28	**2.8**	**2**	**2.8**
Chlordane (µg/kg)		* 50	ND	ND	ND
Alkylbenzenes		* 10-100	ND	ND	ND
Biphenyl		* NA	ND	ND	ND
Toluene		* 118	ND	ND	ND
Xylene		* 3	ND	ND	ND
Dichlorobenzene		* 5	ND	ND	ND
Trichlorobenzene		* 1-10	ND	ND	ND
Chloronitrobenzene		* 10-100	ND	ND	ND
Dichlorophenol		* 500	ND	ND	ND

mg/kg - Milligrams per kilogram
NA - parameter not analyzed
ND - *below detection limits*
* Maximum allowable concentration in units of mg/kg unless noted as otherwise
µg/kg - Micrograms per kilogram

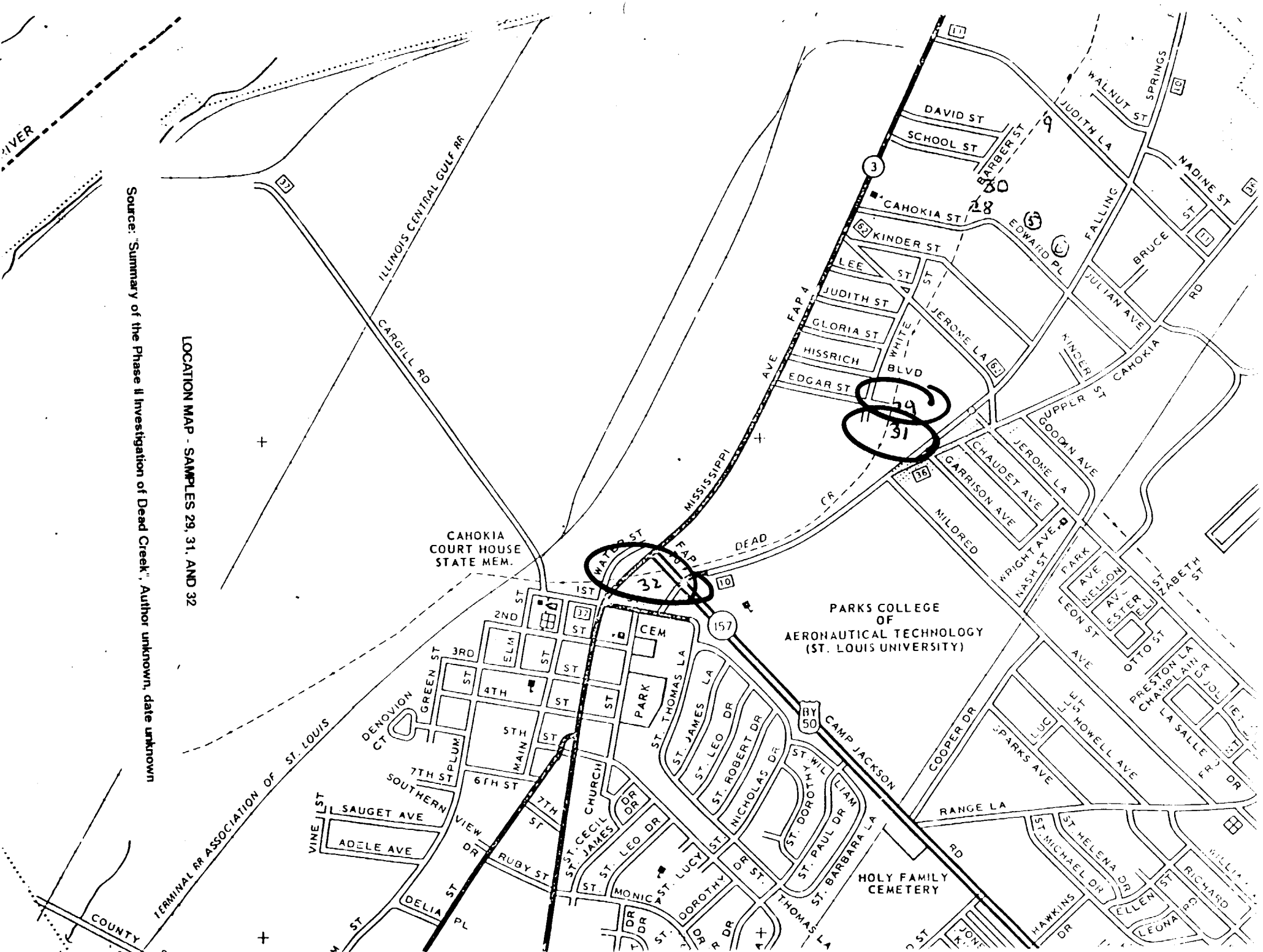
SAUGET Analytical Data
Dead Creek - Segment E

WATER SAMPLES (mg/L unless otherwise noted)

Collected by IEPA (11/31/80)

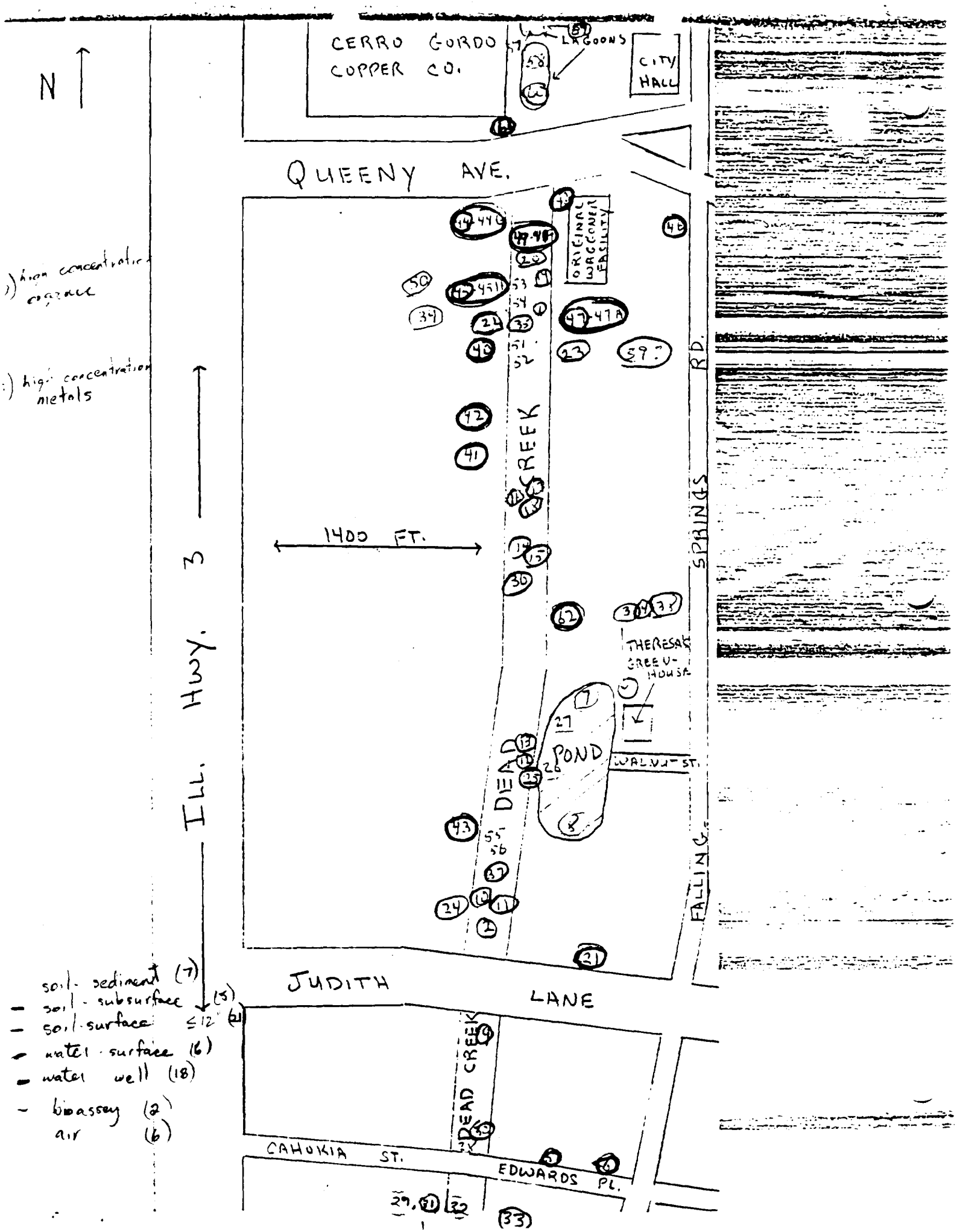
	Sample Number	31	Maximum
	Sample Location	Jct. Dead Creek & Edgar St	Concentration
	Sample Type	Water	Detected
Parameter			
Barium		**0.08**	**0.08**
Copper		**0.04**	**0.04**
Lead		**< 0.05**	ND
Nickel		**0.01**	**0.01**
Phosphorous		**0.2**	**0.2**
Zinc		**0.06**	**0.06**
PCB's (µg/L)		**< 0.1**	ND
Chlordane (µg/L)		ND	ND
Alkylbenzenes		ND	ND
Biphenyl		ND	ND
Toluene		ND	ND
Xylene		ND	ND
Dichlorobenzene		ND	ND
Trichlorobenzene		ND	ND
Chloronitrobenzene		ND	ND
Dichlorophenol		ND	ND

mg/L - Milligrams per liter.
NA - parameter not analyzed
ND - below detection limits
µg/L - Micrograms per liter.
* Maximum allowable concentration in units of mg/kg unless noted as otherwise



LOCATION MAP - SAMPLES 29, 31, AND 32

Source: "Summary of the Phase II Investigation of Dead Creek", Author unknown, date unknown


N
CERRO GORDO COPPER CO.
LAGOONS
CITY HALL
QUEENY AVE.
ORIGINAL WAGGONER FACILITY
high concentration organic
high concentration metals
1400 FT.
ILL. HWY. 3
DEAD CREEK
SPRINGS RD.
THERESA'S GREEN-HOUSE
POND
WALNUT ST.
FALLING
JUDITH LANE
DEAD CREEK
CAHOKIA ST.
EDWARDS PL.
soil - sediment (7)
soil - subsurface (5)
soil - surface ≤12" (21)
water - surface (6)
water well (18)
bioassay (2)
air (6)

SAUGET Analytical Data
Dead Creek - Segment E

SEDIMENT SAMPLES
Metals (mg/kg)
Collected by IEPA (09/25/80)

	Sample Number	8	Maximum Concentration
Metals			
Iron		11000	11000
Manganese		210	210
Calcium		210000	210000
Magnesium		10000	10000
Sodium		100	100
Potassium		1400	1400
Barium		210	210
Boron		ND	ND
Cadmium		8	8
Chromium		60	60
Copper		320	320
Lead		260	260
Nickel		45	45
Silver		ND	ND
Zinc		900	900
Beryllium		ND	ND
Cobalt		6	6
Strontium		210	210
Vanadium		22	22
Phosphorus		720	720

mg/kg - Milligrams per kilogram
ND - Not detected

September 26, 1980

RECEIVED
SEP 30 1980
IEPA-DAPC-SPFLD

Division File

Tom Powell - Southern Region

St. Clair County - General - Cahokia/Dead Creek

On Thursday September 25, 1980, this writer, along with Ken Mensing, were in Cahokia, Illinois to obtain soil and water samples from Dead Creek and its peripheries. Sample points included both the east and west sides of the most heavily contaminated area, between Judith Lane and Queeny Avenue, and randomly selected points downstream within the ditch. We arrived at the site approximately 9:50 a.m. and collected a total of twelve (12) samples. A minimal amount of precipitation had fallen the evening before we visited the site for sampling. The ground surface was damp with no blowing dust when we procured the samples. The following is a listing of the sample points:

Sample Number	Location	Depth of Sample
1	Soil sample obtained 96 yards south of Queeny Avenue and 6 yards west of snowfence on west side of Dead Creek. Sample was collected from northeast corner of bean field.	12 inches (composite)
2	Soil sample obtained 120 yards south of Queeny Avenue and 1 yard east of snowfence on the east side of Dead Creek.	12 inches (composite)
3	Soil sample obtained 30 yards north of Judith Lane and 1 yard west of snowfence on the west side of Dead Creek.	12 inches (composite)
4	Soil sample obtained from drainage cut, midway between Dead Creek and the pond near Judith Lane.	9 inches (composite)
5	Pond sediment sample obtained at the north side of the confluence of the drainage cut with pond, one (1) yard east into the pond.	12 inches (composite)

6	Pond sediment sample obtained at the northwest corner of pond, one (1) yard south into the pond.	9 inches (composite)
7	Sediment sample obtained from Dead Creek, 16 yards north of Cahokia Street. Sample obtained adjacent to standing water in Dead Creek.	12 inches (composite)
8	Sediment sample obtained from Dead Creek, immediately north of Edgar Street in front of concrete culvert. Sediment obtained from an area of standing water in the creek.	6 inches (composite)
9	Water sample obtained from standing water in Dead Creek, 45 yards north of Cahokia Street.	
10	Water sample obtained from standing water in Dead Creek immediately north of Edgar Street in front of concrete culvert.	
11	Sediment sample obtained from Dead Creek just south of the intersection of routes #3 and #157. Sample obtained from an area of standing water, adjacent to the pedestrian walk bridge.	6 inches (composite)
12	Soil sample obtained from the dry bed of Dead Creek, northwest of the sewage treatment plant, and just north of the concrete culvert under the rock road. Surface sediment appeared to be sewage treatment plant sludge (dried).	12 inches (composite)

cc: Southern Region
Bill Child
Jim Kelty
Attorney General

SAUGET Analytical Data
Dead Creek - Segment E

WATER SAMPLES
Metals (mg/l)
Collected by IEPA (09/25/80)

	Sample Number	10	Maximum Concentration
Metals			
Arsenic		0.006	0.006
Selenium		ND	ND
Iron		0.87	0.87
Manganese		0.12	0.12
Calcium		35	35
Magnesium		2	2
Sodium		3	3
Potassium		3.3	3.3
Barium		0.08	0.08
Boron		0.04	0.04
Cadmium		ND	ND
Chromium		ND	ND
Copper		0.04	0.04
Lead		ND	ND
Nickel		0.01	0.01
Silver		ND	ND
Zinc		0.06	0.06
Beryllium		ND	ND
Cobalt		ND	ND
Strontium		0.07	0.07
Vanadium		ND	ND
Phosphorus		0.20	0.2

mg/l - Milligrams per liter
ND - Not detected

SITE NARRATIVE

CREEK SEGMENT F

SITE NARRATIVE - SAUGET AREA 1 / Creek Segment F

Sample Locations	Sampling Entity	Date Sampled	Data Source
F101 thru F109	E & E	1997	Memo to P. Takacs (IEPA) from L. Evison (USEPA) dated June 4, 1997. (7 pages)
X105	IEPA	9/25/80	"Description of Current Situation at the Dead Creek Project Sites " prepared for IEPA by Ecology and Environment, Inc., July 1986
X111 thru X114	IEPA	3/27/91	Report Source not known or recorded
11,12	IEPA	9/25/80	Memo to Division File from T. Powell (southern region) dated December 26, 1980 (2 pages plus data sheets)

Nature and Extent of Contamination:

VOCs were not detected in any tof the four samples (X111 - X114). BNA concentrations in sediments from CS-F ranged from 0.65 to 1.1 mg/kg in two of the four samples (X111-X114). Pesticides were detected also in two of the four samples (X111-X114) at concentrations ranging from 0.008 to 0.366 mg/kg. PCBs were detected in four of the thirteen samples at concentrations ranging from 0.5 to 5.3 mg/kg. Most metals were found at elevated concentrations throughout the creek sector. Contaminants are most likely contanied within the creek sediments and possibly the surface water.

The extent of contamination in CS-F is only moderately well defined, due to the number of sampling locations and the large area covered by segment CS-F.

Containment and Integrity (if known):

There is no known containment for this CS-F. To the west of Route 3, CS-F drains into a large wetland area prior to discharging into the Prairie DuPont Creek. Access to this segment of the creek is unrestricted

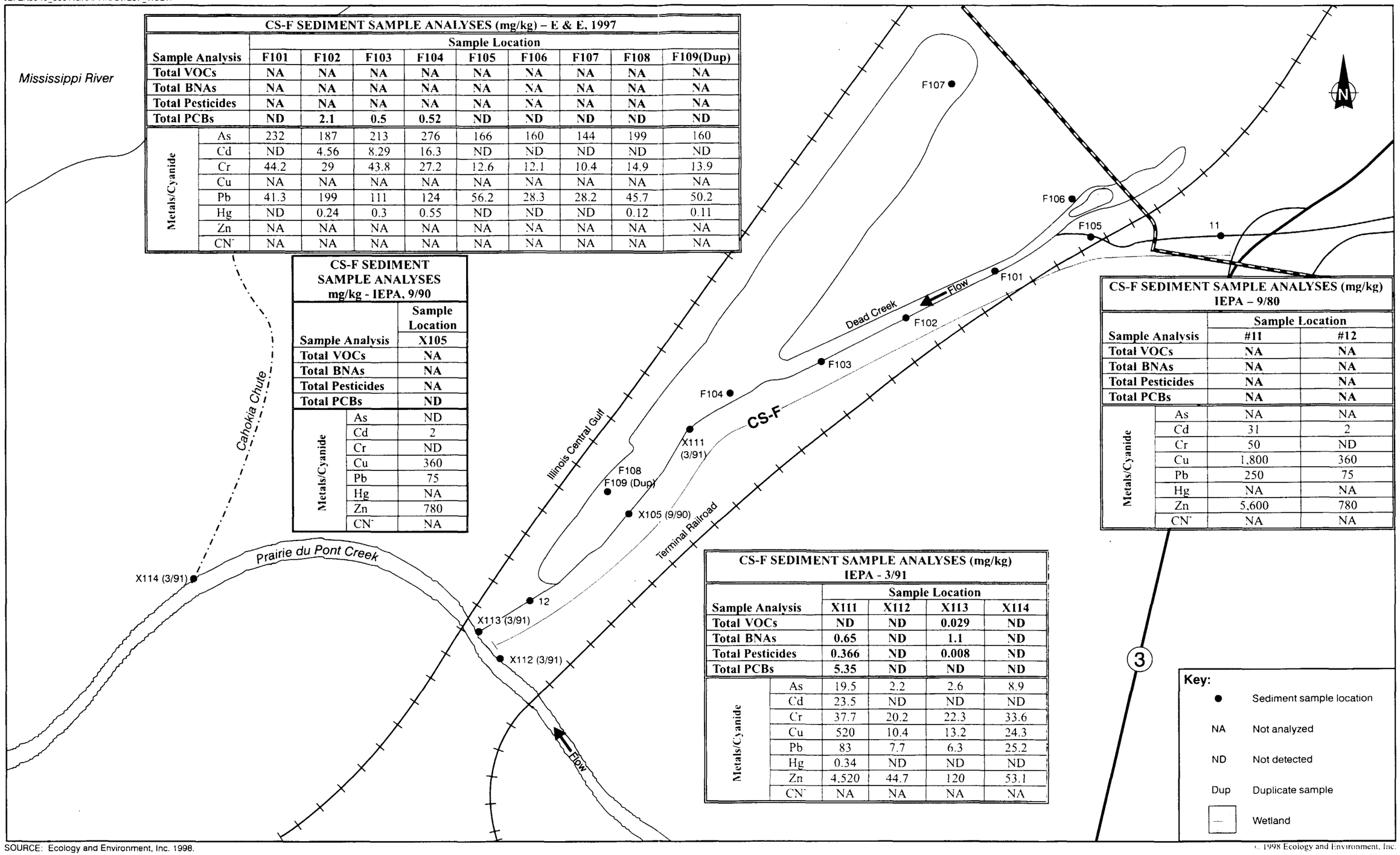
Other Comments: See the attached "Site Description" for more site details.

SITE DESCRIPTION - Sauget Area 1/Creek Segments C through F

Creek segments C through F (CS-C, CS-D, CS-E, and CS-F) includes the entire length of Dead Creek south of Judith Lane. This portion of the creek flows south-southwest through the village of Cahokia prior to discharging into the Prairie Dupont Creek. CS-C through CS-F are delineated as follows: CS-C extends from Judith Lane at the north end to Cahokia Street to the south; CS-D extends from Cahokia Street to Jerome Street; CS-E extends from Jerome Street to the intersection of Illinois Routes 3 and 157; and CS-F extends from this intersection to the discharge point at Prairie Dupont creek. In the southern portion of CS-E near Parks College, Dead Creek temporarily passes through corrugated pipe, and downstream of this point the creek passes through a series of culverts prior to draining into a large wetland area (part of CS-F) west of Illinois Route 3. Dead Creek is wider in segment CS-F than in the upgradient segments. Segments C, D, and E are dominated by intermittent flow. Segements C and D and are located adjacent to residential areas. Segment E runs through mostly commercial developments. Segments C through F have been impacted by the draining of upgradient contaminated segments of Dead Creek. Access to Dead Creek Segments C through F is unrestricted.

(Note: All information above was excerpted from the Sauget Sites Area #1 - CERCLA Screening Site Inspection Report and from a Site Summary for Sauget Area 1 Sites, both prepared by IEPA)

02: ZK9040_5331\GRAPHICS\1297_1.CDR



CS-F SEDIMENT SAMPLE ANALYSES (mg/kg) – E & E, 1997

	Sample Analysis	F101	F102	F103	F104	F105	F106	F107	F108	F109(Dup)
	Total VOCs	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total BNAs	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total Pesticides	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total PCBs	ND	2.1	0.5	0.52	ND	ND	ND	ND	ND
Metals/Cyanide	As	232	187	213	276	166	160	144	199	160
	Cd	ND	4.56	8.29	16.3	ND	ND	ND	ND	ND
	Cr	44.2	29	43.8	27.2	12.6	12.1	10.4	14.9	13.9
	Cu	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pb	41.3	199	111	124	56.2	28.3	28.2	45.7	50.2
	Hg	ND	0.24	0.3	0.55	ND	ND	ND	0.12	0.11
	Zn	NA	NA	NA	NA	NA	NA	NA	NA	NA
	CN^-	NA	NA	NA	NA	NA	NA	NA	NA	NA

CS-F SEDIMENT SAMPLE ANALYSES mg/kg - IEPA, 9/90

	Sample Analysis	Sample Location X105
	Total VOCs	NA
	Total BNAs	NA
	Total Pesticides	NA
	Total PCBs	ND
Metals/Cyanide	As	ND
	Cd	2
	Cr	ND
	Cu	360
	Pb	75
	Hg	NA
	Zn	780
	CN^-	NA

CS-F SEDIMENT SAMPLE ANALYSES (mg/kg) IEPA – 9/80

	Sample Analysis	Sample Location #11	#12
	Total VOCs	NA	NA
	Total BNAs	NA	NA
	Total Pesticides	NA	NA
	Total PCBs	NA	NA
Metals/Cyanide	As	NA	NA
	Cd	31	2
	Cr	50	ND
	Cu	1,800	360
	Pb	250	75
	Hg	NA	NA
	Zn	5,600	780
	CN^-	NA	NA

CS-F SEDIMENT SAMPLE ANALYSES (mg/kg) IEPA - 3/91

	Sample Analysis	Sample Location X111	X112	X113	X114
	Total VOCs	ND	ND	0.029	ND
	Total BNAs	0.65	ND	1.1	ND
	Total Pesticides	0.366	ND	0.008	ND
	Total PCBs	5.35	ND	ND	ND
Metals/Cyanide	As	19.5	2.2	2.6	8.9
	Cd	23.5	ND	ND	ND
	Cr	37.7	20.2	22.3	33.6
	Cu	520	10.4	13.2	24.3
	Pb	83	7.7	6.3	25.2
	Hg	0.34	ND	ND	ND
	Zn	4,520	44.7	120	53.1
	CN^-	NA	NA	NA	NA

Key:

- ● Sediment sample location
- NA Not analyzed
- ND Not detected
- Dup Duplicate sample
- Wetland

SOURCE: Ecology and Environment, Inc. 1998.

© 1998 Ecology and Environment, Inc.

APPROXIMATE SCALE

0 ¼ ½ Mile

SAUGET AREA 1
CREEK SEGMENT F (CS-F)
SAMPLING LOCATIONS/DATA

SAUGET Analytical Data
Dead Creek - Segment F

SEDIMENT SAMPLES
Metals (mg/kg)
Collected by IEPA (09/25/80)

Metals	Sample Number	11	12	Maximum Concentration Detected
Iron		19000	1800	19000
Manganese		160	200	200
Calcium		16000	13000	16000
Magnesium		5100	3300	5100
Sodium		190	125	190
Potassium		2100	1400	2100
Barium		390	475	475
Boron		ND	ND	ND
Cadmium		31	2	31
Chromium		50	ND	50
Copper		1800	360	1800
Lead		250	75	250
Nickel		600	ND	600
Silver		ND	ND	ND
Zinc		5600	780	5600
Beryllium		2	ND	2
Cobalt		8	9	9
Strontium		47	43	47
Vanadium		31	35	35
Phosphorus		1200	4200	4200

mg/kg - Milligrams per kilogram
ND - Not detected

September 26, 1980

Division File

Tom Powell - Southern Region

St. Clair County - General - Cahokia/Dead Creek

IEPA-DAPC-SPFLD

On Thursday September 25, 1980, this writer, along with Ken Mensing, were in Cahokia, Illinois to obtain soil and water samples from Dead Creek and its peripheries. Sample points included both the east and west sides of the most heavily contaminated area, between Judith Lane and Queeny Avenue, and randomly selected points downstream within the ditch. We arrived at the site approximately 9:50 a.m. and collected a total of twelve (12) samples. A minimal amount of precipitation had fallen the evening before we visited the site for sampling. The ground surface was damp with no blowing dust when we procured the samples. The following is a listing of the sample points:

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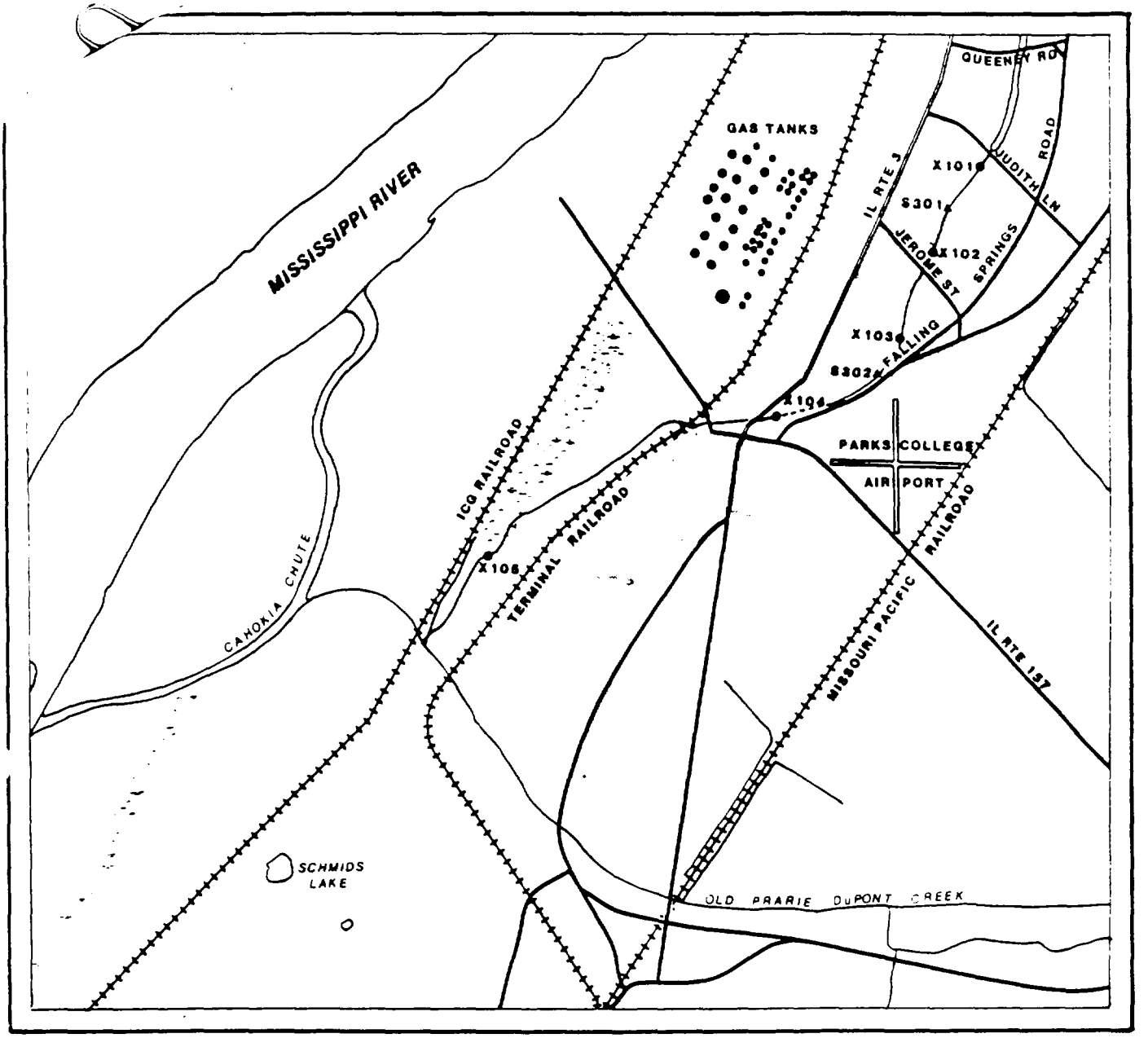
cc: Southern Region
Bill Child
Jim Kelty
Attorney General

SAUGET Analytical Data
Site F

SOIL/SEDIMENT SAMPLES
Metals/PCB (mg/kg)
Collected by IEPA (9/25/90)

	Sample Number		x105	Maximum
Metals				Concentration
Aluminum			ND	ND
Arsenic			ND	ND
Barium			475	475
Berylium			ND	ND
Boron			ND	ND
Cadmium			2	2
Calcium			13000.0	13000
Chromium			ND	ND
Cobalt			9.0	9
Copper			360.0	360
Iron			18000.0	18000
Lead			75.0	75
Magnesium			3300.0	3300
Manganese			200.0	200
Nickel			ND	ND
Phosphorus			4200.0	4200
Potassium			1400.0	1400
Silver			ND	ND
Sodium			125.0	125
Strontium			43.0	43
Vanadium			35.0	35
Zinc			780.0	780
PCB			ND	ND

mg/kg - Milligrams per kilogram
ND - Not detected



SCALE

0 0.5 1 MILE

LEGEND

X101 SEDIMENT SAMPLING LOCATION

S301 SURFACE WATER SAMPLING LOCATION

RESIDENTIAL AREA

FIGURE C-1

IEPA SAMPLING LOCATIONS CREEK SECTORS C THROUGH F

SAUGET Analytical Data
Dead Creek - Segment F

SEDIMENT SAMPLES
Metals (mg/kg)
Collected by START (1997)

Sample Number	F102	F103	BLANK	F104	F105	F106	F107	F108	F109	Maximum
Metal										Concentration
Arsenic	232	187	213	276	166	160	144	199	160	276
Barium	145	162	179	228	116	133	137	138	163	228
Cadmium	ND	4.56	8.29	16.3	ND	ND	ND	ND	ND	16.3
Chromium	44.2	29	43.8	27.2	12.6	12.1	10.4	14.9	13.9	44.2
Lead	41.2	199	111	124	56.2	28.3	28.2	45.7	50.2	199
Mercury	ND	0.24	0.3	0.55	ND	ND	ND	0.12	0.11	0.55
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

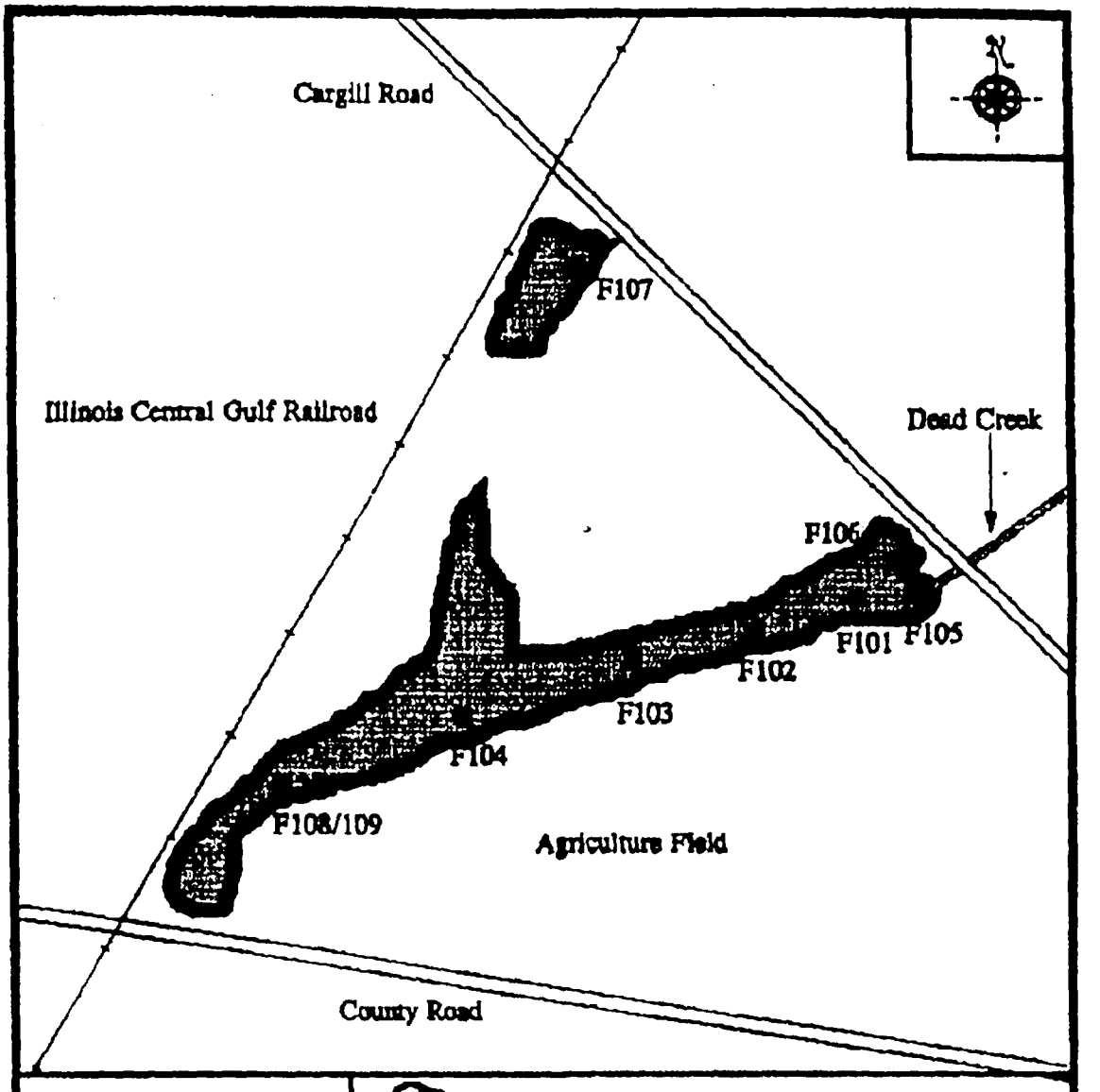
mg/kg - Milligrams per kilogram.
ND - Not detected.

SAUGET Analytical Data
Dead Creek - Segment F

SEDIMENT SAMPLES
PCB (mg/kg)
Collected by START (1997)

	Sample Number		F101	F102	F103	F104	F105	F106	F107	F108	Maximum
PCB											**Concentration**
1254			ND	**2.1**	**0.5**	**0.52**	ND	ND	ND	ND	**2.1**
1248			ND	ND	ND	ND	ND	ND	ND	ND	ND
1260			ND	ND	ND	ND	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram.
ND - below detection limits

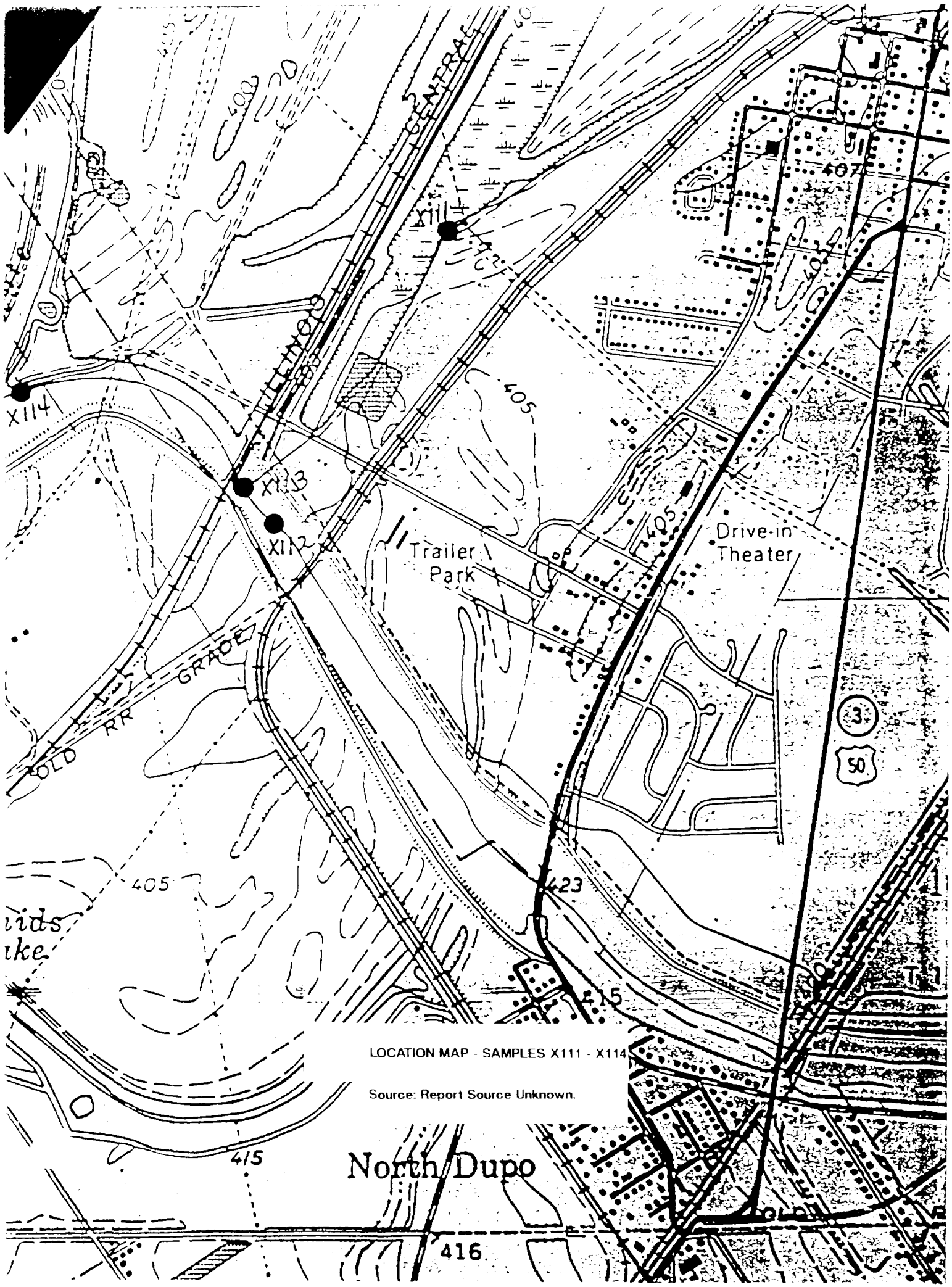


Legend

- Sample Location
- Trees and Shrubs
- Wetland

ecology and environment, inc.
Superfund Technical Assessment and Response Team
Region V
33 North Dearborn Street, Chicago, Illinois 60602

TITLE: Sample Location Map	FIGURE: 2-2
SITE: Sauget Area 1	SCALE: Not to Scale
CITY: Sauget STATE: Illinois	TDD: S05-9703-012
SOURCE: USGS Topographical Map, 7.5' Series Quadrangle: Cahokia, Illinois	DATE: 1980



LOCATION MAP - SAMPLES X111 - X114

Source: Report Source Unknown.

SAUGET Analytical Data
Creek Segment F

SOIL/SEDIMENT SAMPLES (μg/kg)

Collected by IEPA

Sample Number	X111	X112	X113	X114	Maximum
Date Collected	3/27/91	3/27/91	3/27/91	3/27/91	Detected
VOLATILES					
Methylene Chloride	ND	ND	ND	ND	ND
Acetone	12 J	3 J	22	ND	22
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND
Toluene	ND	ND	29	ND	29
Chlorobenzene	ND	ND	ND	ND	ND
# of TICs	(0)	(0)	(0)	(0)	0
SEMIVOLATILES					
1,4-Dichlorobenzene	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND
4-Methlyphenol	ND	ND	1100	ND	1100
Phenanthrene	ND	ND	ND	ND	ND
Fluroanthene	310 J	ND	ND	ND	310
Pyrene	340 J	ND	ND	ND	340
Benzo(a)anthracene	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND
# of TICs	(16)	(20)	(20)	(12)	20
PESTICIDES/PCB's					
beta-BHC	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND
Heptachlor epoxide	ND	ND	ND	ND	ND
4,4'-DDE	97	ND	ND	ND	97
Endrin	66	ND	ND	ND	66
Endosulfan II	203	ND	ND	ND	203
Methoxychlor	ND	ND	8	ND	8
alpha-Chlorodane	ND	ND	ND	ND	ND
gamma-Chlorodane	ND	ND	ND	ND	ND
Aroclor-1254	4486	ND	ND	ND	4486
Aroclor-1260	862	ND	ND	ND	862

μg/kg - Micrograms per kilogram.
J - Estimated value
ND - Not detected
TICs - Tentatively identified compounds

SAUGET Analytical Data

Creek Segment F

SEDIMENT SAMPLES (μg/kg unless otherwise noted)

Collected by IEPA

	Sample Number	X111	X112	Maximum
	Property Owner	CSF	OPDUPONT	Concentration
	Date Collected	3/91	NA	Detected
VOLATILES				
Chlorobenzene		ND	ND	ND
SEMIVOLATILES				
Pyrene		ND	ND	ND
Benzo(b)fluoranthene		ND	ND	ND
Chrysene		ND	ND	ND
PESTICIDES/PCB's				
4,4'-DDE		97	ND	97
Endrin		66	ND	66
Endosulfan II		203	ND	203
Gamma-Chlorodane		ND	ND	ND
Aroclor-1254		4486	ND	4486
Aroclor-1260		862	ND	862
INORGANICS (mg/kg)				
Arsenic		19.5	2.2 BJ	19.5
Barium		ND	135	135
Cadmium		23.5	ND	23.5
Calcium		ND	3650	3650
Chromium		ND	20.2	20.2
Cobalt		18.8	ND	18.8
Copper		520	10.4	520
Lead		83	7.7	83
Magnesium		ND	2390	2390
Mercury		0.34	ND	0.34
Nickel		772	14	772
Zinc		4520	44.7	4520

μg/kg - Micrograms per kilogram.
mg/kg - Milligrams per kilogram.
B - Estimated value. The value is less than the CRDL, but greater than the instrument detection limit.
J - Estimated val
ND - Not detec

SAUGET Analytical Data
Creek Segment F

SOIL SAMPLES
Total Metals (mg/kg)
Collected by IEPA

Sample Number	X111	X112	X113	X114	Maximun
Date Collected	03/27/91	3/27/91	3/27/91	3/27/91	Detected
Total Metals					
Aluminum	21700	9400	10100	20600	21700
Antimony	10.8 B	ND	ND	ND	10.8
Arsenic	19.5	2.2 B	2.6 B	8.9	19.5
Barium	313	135	152	227	313
Beryllium	ND	ND	ND	ND	ND
Cadmium	23.5	ND	ND	ND	23.5
Calcium	9140	3650	5560	5940	9140
Chromium	37.7	20.2	22.3	33.6	37.7
Cobalt	18.8	ND	ND	10.8 B	18.8
Copper	520	10.4	13.2	24.3	520
Iron	35300	14500	15700	28400	35300
Lead	83	7.7	6.3	25.2	83
Magnesium	5330	2390	2270	4300	5330
Manganese	635	429	680	896	896
Mercury	0.34	ND	ND	ND	0.34
Nickel	772	14	17.4	29.3	772
Potassium	3670	1260 B	1450 B	2730	3670
Selenium	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND
Sodium	ND	ND	ND	ND	ND
Thallium	ND	ND	ND	ND	ND
Vanadium	54.3	28.4	30.9	50.5	54.3
Zinc	4520	44.7	53.1	120	4520
Sulfate	ND	ND	ND	ND	ND

mg/kg - Milligrams per kilogram
B - Estimated value. The value is less than the CRDL, but greater than the instrument detection limit.
ND - Not detected.

Area 1 Groundwater

SDMS US EPA REGION V
FORMAT- OVERSIZED - 5
IMAGERY INSERT FORM

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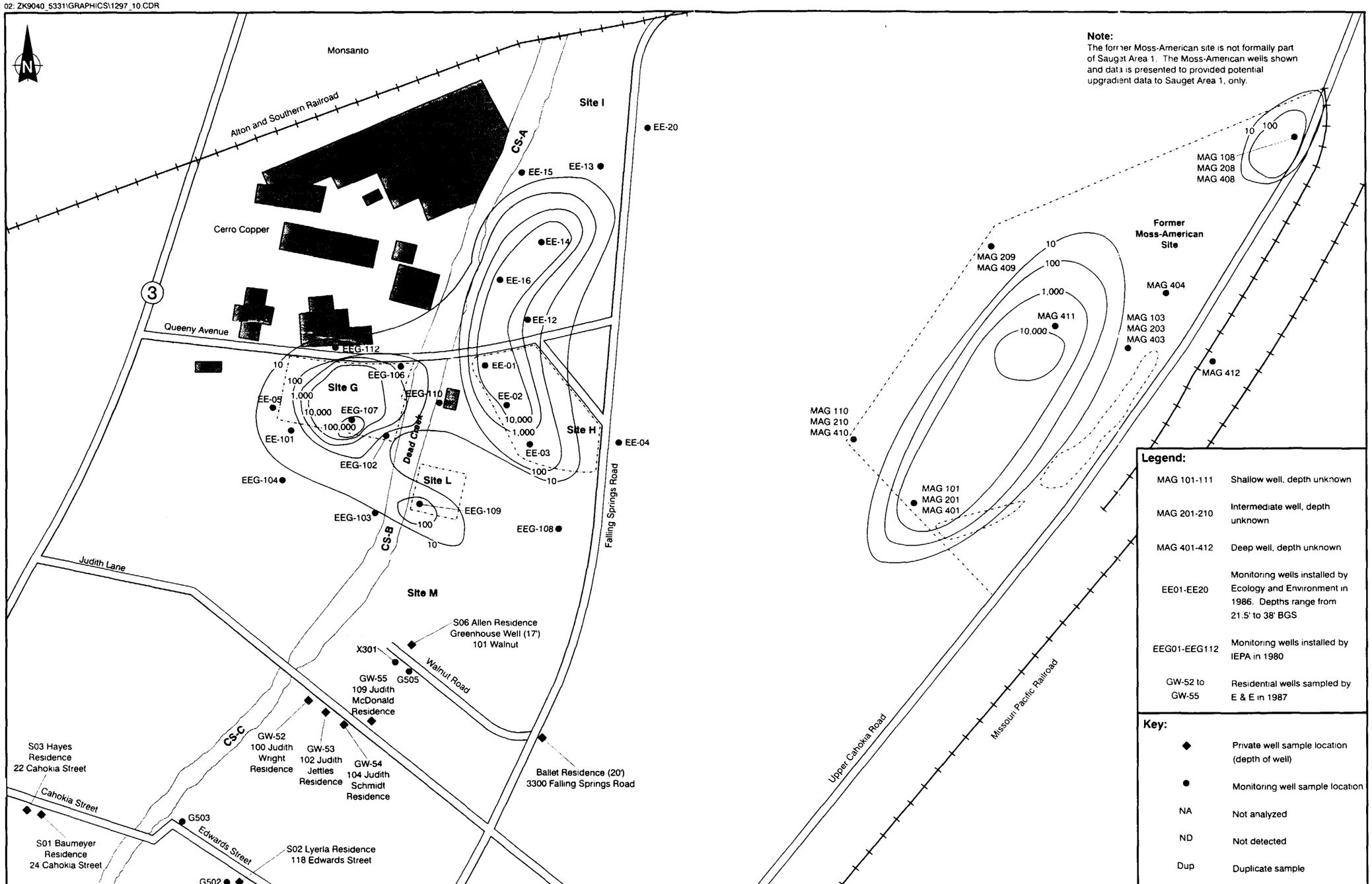
SAUGET AREA 1
SITES G, H, AND L
SAMPLING LOCATIONS/DATA

02: ZK9040_5331\GRAPHICS\1297_10.CDR



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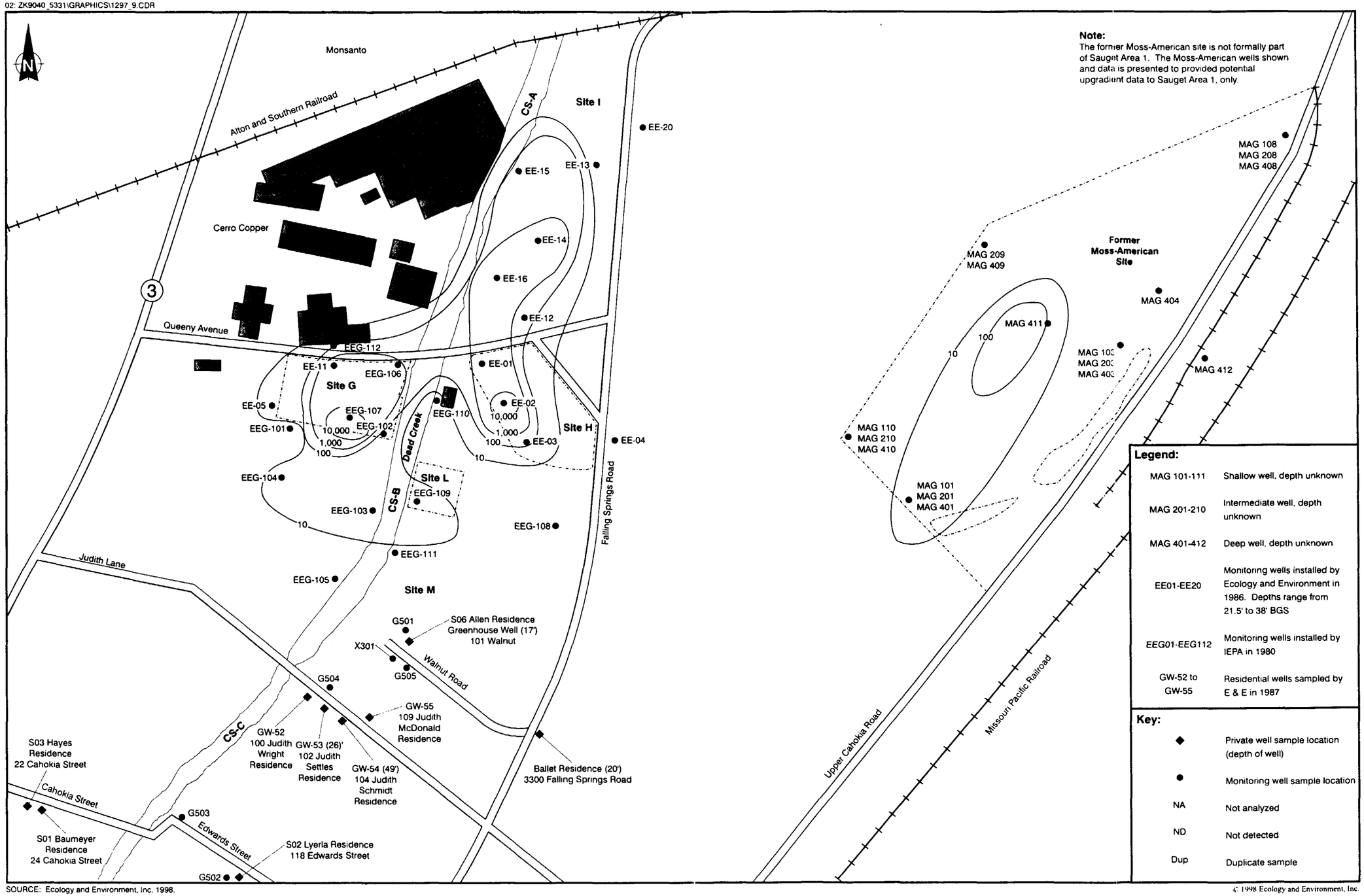
APPROXIMATE SCALE

0 ¼ ½ Mile

SAUGET AREA 1
AREA 1 GROUNDWATER
TOTAL BNA CONCENTRATION CONTOURS

02: ZK9040_5331\GRAPHICS\1297_9.CDR



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APPROXIMATE SCALE

0 ¼ ½ Mile

SAUGET AREA 1
AREA 1 GROUNDWATER
TOTAL VOC CONCENTRATION CONTOURS

SITE NARRATIVE

AREA 1 GROUNDWATER

SITE NARRATIVE - SAUGET AREA 1 / Groundwater

Site*	Sample Locations	Sampling Entity	Date Sampled	Data Source
Area 1	G101 thru G112 (wells EEG101 thru EEG112)	IEPA	10/23/80	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
Site G	EE-G101, EE-G103, EE-G104, EE-G107, EE-05, EE-11, EE-G102	E & E	3/87	"Expanded Site Investigation Dead Creek Project Sites" prepared for by IEPA by Ecology and Environment, Inc., May 1988
Site G	G102	E & E	7/87	"Expanded Site Investigation Dead Creek Project Sites" prepared for by IEPA by Ecology and Environment, Inc., May 1988
Site H	EE-01 thru EE04 EE-G110	E & E	3/87	"Expanded Site Investigation Dead Creek Project Sites" prepared for by IEPA by Ecology and Environment, Inc., May 1988
Site I	EE-12, EE-13 thru EE-16, EE-20, EE-G112	E & E	3/87	"Expanded Site Investigation Dead Creek Project Sites" prepared for by IEPA by Ecology and Environment, Inc., May 1988
Site L	EE-G108, EE-G109	E & E	3/87	"Expanded Site Investigation Dead Creek Project Sites" prepared for by IEPA by Ecology and Environment, Inc., May 1988
NA**	MAG101 - MAG110 MAG201 - MAG212 MAG401 - MAG412	Kerr-McGee	7/95	Letter to Mr. Robert O'Hara (IEPA) From K. Watson (Kerr McGee): Re: Groundwater Quality Report - July 1995 dated March 14, 1996
Area 1	McDonald, Wright, Settles, Schmidt	E & E	3/26/87	"Expanded Site Investigation Dead Creek Project Sites" prepared for by IEPA by Ecology and Environment, Inc., May 1988
Area 1	Allen (S06), Hayes (S03).Baumeyer(S01), Lyerla (S02)	IEPA	3/3/82	Individual data table and sample location sheet
Area 1	G501 - G504	IEPA	9/80	CERCLA PA Report - Dead Creek Segments C-F ILD984809285
Area 1	G505, X301	IEPA	1983	CERCLA PA Report - Dead Creek Segments C-F ILD984809285
Area 1	Allen Residence Greenhouse Well	IEPA	10/80	
Area 1	G101 thru G112	IEPA	1/81	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986

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SITE NARRATIVE - SAUGET AREA 1 / Groundwater

Area 1	G101 thru G112	IEPA	3/81	"Description of Current Situation at the Dead Creek Project Sites" prepared for IEPA by Ecology and Environment, Inc., July 1986
Area 1	G201 (Settles) G202 (Schmidt) G203 (Ballet) G204 (Kearby) G205 (Allen)	IEPA	3/27/81	CERCLA SSIR - Sauget Sites Area 1

Nature and Extent of Contamination:

Total VOC concentrations detected in samples collected from area 1 monitoring wells range from 2 μg/L to 29,320 μg/L, and total BNA concentrations ranged from 8 ug/l to 239,360 ug/l. Contamination (from the late 1980's sampling presented on the figure) is somewhat limited to areas directly beneath and adjacent to the disposal areas at Sites G, H, I, and L. The concentration ranges presented in this summary reflect only the monitoring well and private well data presented on the Area 1 Groundwater Figure. Additional data provided in the data summary tables section will reveal different concentration ranges, depending upon the wells sampled and the date.

Wells G107 on Site G, EE-02 on Site H, and EE-14/EE-16 for Site I conatin much higher organic concentrations that surrounding wells. This is probably due to the fact that these wells were installed within the waste areas. VOC and BNA concentrations were higher at Site G (G107) than at Sites H, I, and L.

The extent of shallow groundwater contamination in Area 1 is fairly well defined in areas adjacent to Sites G, H, and L. However, because there are no wells located south of Site G and west of CS-B, potential groundwater impact from CS-B and Site M cannot be determined. No data is available for intermediate or deeper aquifer zones. Residential wells were generally clean during all sampling events.

Containment and Integrity (if known):

There is no known containment for groundwater contamination beneath the Sauget Area 1 sites. All of the disposal sites in this area are unlined, and waste material was observed at depths below the water table in borings at Sites G, H, and I.

Other Comments: None

* - Corresponding Site if applicable

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Area 1 Groundwater Data

SAUGET Analytical Data
Dead Creek - Segment B

MONITORING WELL SAMPLES
Total Metals/Indicators (mg/L)/Organics (μg/L)
Collected by IEPA (10/23/80)

Sample Number	G101	G102	G103	G104	G105	G106	G107	G108	G109	G110
TOTAL METALS/INDICATORS										
Alkalinity	362	410	336	406	271	387	552	375	287	210
Ammonia	0.3	1.0	1.7	0.4	0.9	2.9	0.5	0.3	4.5	1.2
Arsenic	0.023	0.023	0.043	0.049	0.067	0.16	0.043	0.008	0.055	0.053
Barium	1.3	0.8	2.9	2.2	2.0	0.6	2.1	0.3	0.2	0.5
Boron	0.5	0.4	0.5	0.6	0.4	0.5	0.5	0.4	0.4	0.5
Cadmium	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Calcium	180	210	210	210	340	185	500	140	380	500
BOD	237	160	244	206	473	115	1070	298	275	780
Chloride	48	103	58	52	65	109	132	79	69	61
Chromium (Total)	0.04	0.02	0.09	0.04	0.12	0.01	0.07	0.0	0.0	0.38
Chromium (+6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Copper	0.46	0.13	1.1	0.31	0.73	0.44	0.68	0.04	0.13	2.3
Cyanide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoride	0.4	0.7	0.7	0.3	1.0	0.7	0.7	0.3	1.2	0.8
Hardness	501	884	549	630	528	637	777	496	1664	279
Iron	51.0	30.5	86	90	18	62	13	4.1	39	340
Lead	0.10	0.15	0.26	0.2	0.31	0.0	0.27	0.0	0.0	7.3
Magnesium	0.09	90	79	72	100	49	205	24	100	209
Manganese	5.1	3.8	4.2	3.4	4.2	1.9	9.8	0.98	4.5	8
Mercury	0.0	0.0	0.0002	0.0	0.0	0.0	0.0	0.0001	0.0	0.0
Nickel	0.1	0.1	0.9	0.1	0.8	0.1	0.3	0.0	0.5	1.9
Nitrate-Nitrite	0.1	0.1	0.1	0.4	0.0	0.1	0.1	1.1	0.0	0.4
pH	6.6	6.6	6.5	6.6	6.6	6.5	6.4	6.6	6.3	6.7
Phenolics	0.0	0.01	0.0	0.005	0.0	0.065	2.5	0.01	0.45	0.015
Phosphorus	2.9	1.2	3.3	2.7	6.0	1.8	9.4	0.18	0.72	16
Potassium	10.6	13.1	13.4	12.3	22	7.7	15.2	13.7	14.9	29
R.O.E	650	1230	765	790	824	1020	1230	704	2460	508
Selenium	0.003	0.001	0.004	0.01	0.008	0.001	0.004	0.001	0.001	0.005
Silver	0.01	0.0	0.2	[illegible]	0.0	0.0	0.0	0.01	0.0	0.0
Sodium	24	60	40	29	57	96	NA	40	40	53
Sp. Conductance	870	1500	1050	1080	1040	1340	1430	960	2470	720
Sulfate	132	434	230	204	296	281	201	103	1348	93
Zinc	0.6	0.4	6.2	0.3	3.7	0.1	0.8	0.0	0.1	8
ORGANICS (μg/L)										
PCBs	1.0	1.2	ND	ND	ND	ND	ND	ND	ND	2.7
Chlorophenol	ND	1200	ND	ND	ND	ND	630	ND	19	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	19	ND	ND	ND
Dichlorobenzene	ND	ND	ND	ND	ND	ND	25	ND	ND	ND
Dichlorophenol	ND	ND	ND	ND	ND	ND	890	ND	ND	ND
Cyclohexanone	ND	ND	ND	ND	ND	ND	ND	ND	120	5.9
Chloroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

mg/L Milligrams per liter
μg/L Micrograms per liter
ND Not detected
NA Not analyzed

SAUGET Analytical Data
Dead Creek - Segment B

MONITORING WELL SAMPLES
Total Metals/Indicators (mg/L)/Organics (µg/L)
Collected by IEPA (10/23/80)

Sample Number	G111	G112	Maximum Concentration Detected
TOTAL METALS/INDICATORS			
Alkalinity	302	699	699
Ammonia	0.1	1.5	4.5
Arsenic	0.008	0.019	0.16
Barium	0.2	0.5	2.9
Boron	0.5	5.6	5.6
Cadmium	0.0	0.06	1.5
Calcium	110	242	500
BOD	79	162	1070
Chloride	32	363	363
Chromium (Total)	0.0	0.01	0.38
Chromium (+6)	0.0	0.0	ND
Copper	0.04	1.2	2.3
Cyanide	NA	0.0	ND
Fluoride	0.3	0.5	1.2
Hardness	419	1080	1664
Iron	5.0	18	340
Lead	0.07	0.44	7.3
Magnesium	24	82.5	209
Manganese	1.1	3.9	9.8
Mercury	0.0	0.0001	0.0002
Nickel	0.0	0.3	1.9
Nitrate-Nitrite	0.5	0.0	1.1
pH	7	6.4	7
Phenolics	0.0	0.875	2.5
Phosphorus	0.24	0.69	16
Potassium	4.9	58	58
R.O.E	512	2190	2460
Selenium	0.002	0.001	0.01
Silver	0.02	0.11	0.2
Sodium	24	260	260
Sp. Conductance	490	NA	2470
Sulfate	104	518	1348
Zinc	0.0	7.8	8
ORGANICS (µg/L)			
PCBs	ND	ND	2.7
Chlorophenol	ND	ND	1200
Chlorobenzene	ND	100	100
Dichlorobenzene	ND	65	65
Dichlorophenol	ND	ND	890
Cyclohexanone	ND	ND	120
Chloroaniline	ND	3500	3500

mg/L - Milligrams per liter
µg/L - Micrograms per liter
ND - Not detected
NA - Not analyzed

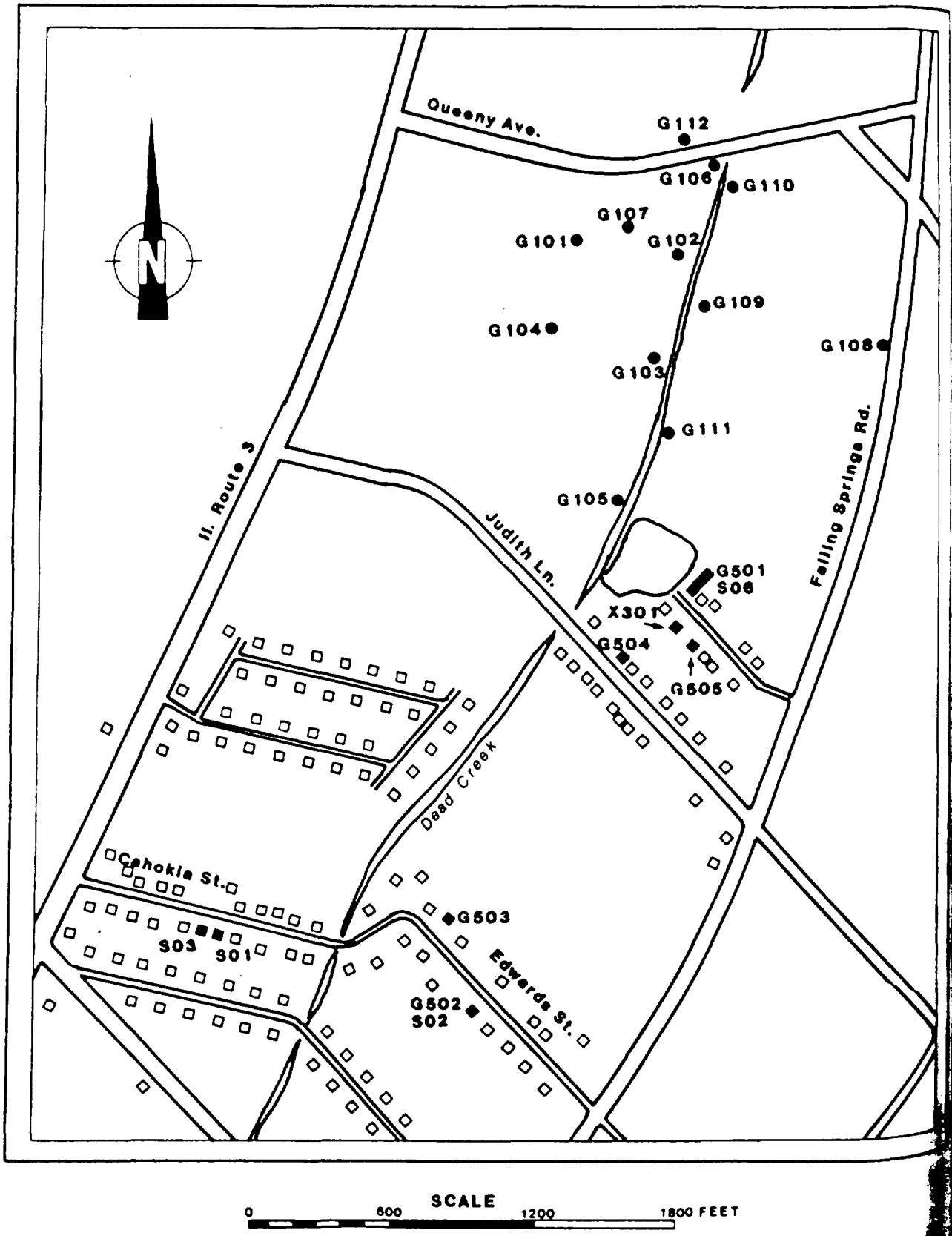

FIGURE B-2
LOCATIONS OF IEPA MONITORING WELLS AND RESIDENTIAL WELLS SAMPLED IN THE VICINITY OF DEAD CREEK

TABLE B-6: ANALYSIS OF GROUNDWATER SAMPLES FROM THE IEPA MONITORING WELLS (COLLECTED 10-23-80)

SAUGET Analytical Data
Site G

GROUND WATER SAMPLES
Volatile Organic Compounds (µg/L)
Collected by Ecology & Environment, Inc. (3/87, 7/87)

Sample Number	DC-GW-14	DC-GW-15	DC-GW-16	DC-GW-17	DC-GW-19	DC-GW-20	DC-GW 21	DC-GW 22	DC-GW 32	DC-GW 33
Well Number	EE-G101	EE-G103	EE-G104	NA	EE-G107	EE-G107	EE 05	NA	EE-11	EE-G106
Date Collected	03/17/87	03/17/87	03/17/87	03/17/87	3/18/87	3/18/87	3/18/87	3/18/87	3/24/87	03/24/87
VOC				BLANK				BLANK		
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	6 B	1 BJ	5 B	1 BJ	110 BJ	250 B	ND	2 BJ	ND	440
Acetone	ND	ND	5 BJ	14 B	620 B	550 B	ND	4 BJ	1700 B	210
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	180 J	200 J	ND	ND	ND	110
Chloroform	2 J	9	3 J	1 J	ND	ND	ND	1 J	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	480	450	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND	ND	ND	ND	ND	ND	560
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	51 J
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	1 J	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	320	300	ND	ND	ND	800
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1 J	ND	1 J	ND	4100	3700	2 J	3 J	460	1800
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	1900	2200	ND	ND	ND	150
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	4 J	ND	ND
Tetrachloroethene	ND	ND	ND	ND	420	350	14	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	2 J	ND	3 J	ND	7300	6300	2 J	4 J	100 BJ	83 J
Chlorobenzene	ND	5	5	1 J	3100	3100	1 J	2 J	2500	1200
Ethylbenzene	ND	ND	ND	ND	63 J	ND	ND	ND	840	ND
Styrene	ND	ND	ND	ND	50 J	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	280	240 J	ND	ND	400	ND

µg/L - Micrograms per liter

B - Compound detected in blank

J - Estimated value

ND - Not detected

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SAUGET Analytical Data
Site G

GROUND WATER SAMPLES
Volatile Organic Compounds (μg/L)
Collected by Ecology & Environment, Inc. (3/87, 7/87)

	Sample Number	DC-GW-34	DC-GW-34A	DC-GW-35	DC-GW-57	Maximum
	Well Number	EE-G102	EE-G102	NA	NA	Concentration
	Date Collected	03/24/87	7/14/87	03/24/87	07/14/87	Detected
VOC				BLANK	BLANK	
Chloromethane		ND	ND	ND	ND	ND
Bromomethane		ND	ND	ND	ND	ND
Vinyl chloride		ND	ND	ND	ND	ND
Chloroethane		ND	ND	ND	ND	ND
Methylene chloride		ND	ND	2 J	ND	440
Acetone		7 BJ	ND	13 B	ND	1700 B
Carbon Disulfide		ND	ND	ND	ND	ND
1,1-Dichloroethene		ND	ND	ND	ND	ND
1,1-Dichloroethane		ND	ND	ND	ND	ND
trans-1,2-Dichloroethene		ND	ND	ND	ND	200 J
Chloroform		ND	ND	1 J	ND	9
1,2-Dichloroethane		ND	ND	ND	ND	480
2-Butanone (MEK)		ND	6 BJ	ND	ND	560
1,1,1-Trichloroethane		ND	ND	ND	ND	51 J
Carbon Tetrachloride		ND	ND	ND	ND	ND
Vinyl Acetate		ND	ND	ND	ND	ND
Bromodichloromethane		ND	ND	ND	ND	1 J
1,2-Dichloropropane		ND	ND	ND	ND	ND
trans-1,3-Dichloropropene		ND	ND	ND	ND	ND
Trichloroethene		ND	ND	ND	ND	800
Dibromochloromethane		ND	ND	ND	ND	ND
1,1,2-Trichloroethane		ND	ND	ND	ND	ND
Benzene		ND	ND	ND	ND	4100
cis-1,3-Dichloropropene		ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether		ND	ND	ND	ND	ND
Bromoform		ND	ND	ND	ND	ND
4-Methyl-2-pentanone		ND	ND	ND	ND	2200
2-Hexanone		ND	ND	ND	ND	4 J
Tetrachloroethene		ND	ND	ND	ND	420
1,1,2,2-Tetrachloroethane		ND	ND	ND	ND	ND
Toluene		ND	ND	ND	ND	7300
Chlorobenzene		20	36	ND	ND	3100
Ethylbenzene		ND	ND	ND	ND	840
Styrene		ND	ND	ND	ND	50 J
Total Xylenes		ND	ND	ND	ND	400

μg/L - Micrograms per liter

B - Compound detected in blank

J - Estimated value

ND - Not detected

SAUGET Analytical Data
Site G

GROUND WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by Ecology & Environment, Inc. (3/87, 7/87)

Sample Number	DC-GW-14	DC-GW-15	DC-GW-16	DC-GW-17	DC-GW-19	DC-GW-20	DC-GW-21	DC-GW-22	DC-GW-32	DC-GW-33
Well Number	EE-G101	EE-G103	EE-G104	NA	EE-G107	EE-G107	EE-05	NA	EE-11	EE-G106
Date Collected	03/17/87	03/17/87	03/17/87	03/17/87	03/18/87	03/18/87	03/18/87	03/18/87	03/24/87	03/24/87
BNAs				BLANK						
Phenol	ND	ND	ND	ND	6600	30000	ND	ND	ND	2 J
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	690	1900	ND	ND	130	9 J
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	4 J
1,4-Dichlorobenzene	ND	ND	ND	ND	570	470 J	ND	ND	34 J	350
Benzyl Alcohol	ND	ND	ND	ND	5400	8600	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	200 J	180 J	ND	ND	ND	6 J
2-Methylphenol	ND	ND	ND	ND	280 J	810	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	2200	9000	ND	ND	37 J	ND
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	1400	4300	ND	ND	240	ND
Benzoic Acid	ND	ND	ND	ND	35000 E	150000 E	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	2400	7300	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	480 J	450 J	ND	ND	ND	11
1,2,4-Trichlorobenzene	ND	ND	ND	ND	1900	1700	ND	ND	ND	280
Naphthalene	1 J	ND	8 J	ND	21000 E	18000	ND	ND	36 J	ND
4-Chloroaniline	ND	ND	ND	ND	ND	ND	ND	ND	15000 E	110
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphathalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	350	ND	ND	ND	3 J
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	98	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

μg/L - Micrograms per liter
B - Compound detected in blank
E - Estimated value. Concentration detected exceeds the calibrated range
J - Estimated value
ND - Not detected.

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SAUGET Analytical Data
Site G

GROUND WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by Ecology & Environment, Inc. (3/87, 7/87)

	Sample Number	DC-GW-14	DC-GW-15	DC-GW-16	DC-GW-17	DC-GW-19	DC-GW-20	DC-GW-21	DC-GW-22	DC-GW-32	DC-GW-33
	Well Number	EE-G101	EE-G103	EE-G104	NA	EE-G107	EE-G107	EE-05	NA	EE-11	EE-G106
	Date Collected	03/17/87	03/17/87	03/17/87	03/17/87	03/18/87	03/18/87	03/18/87	03/18/87	03/24/87	03/24/87
BNAs					BLANK						
2,4-Dinitrophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene		ND	ND	ND	ND	ND	ND	6 J	ND	ND	ND
Pentachlorophenol		ND	ND	ND	ND	1300 J	6300	12 J	ND	ND	ND
Phenanthrene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butly phthalate		ND	2 BJ	ND	ND	ND	ND	10 B	ND	ND	12 B
Fluoranthene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butyl Benzyl phthalate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene		32	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate		ND	ND	24	ND	ND	ND	10 B	4 BJ	ND	4 BJ
Chrysene		6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate		ND	ND	ND	ND	ND	ND	ND	ND	ND	2 BJ
Benzo(b)fluoranthene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

μg/L - Micrograms per liter
B - Compound detected in blank
E - Estimated value. Concentration detected exceeds the calibrated range.
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Site G

GROUND WATER SAMPLES
Base Neutrals/Acids (µg/L)
Collected by Ecology & Environment, Inc. (3/87, 7/87)

Sample Number		DC-GW-34	DC-GW-34A	DC-GW-35	DC-GW-57	Maximum
Well Number		EE-G102	EE-G102	NA	NA	Concentration
Date Collected		03/24/87	07/14/87	03/24/87	07/14/87	Detected
BNAs					BLANK	
Phenol		ND	ND	ND	ND	30000
bis(2-Chloroethyl)ether		ND	ND	ND	ND	ND
2-Chlorophenol		ND	ND	ND	ND	1900
1,3-Dichlorobenzene		ND	ND	ND	ND	4 J
1,4-Dichlorobenzene		ND	ND	ND	ND	570
Benzyl Alcohol		ND	ND	ND	ND	8600
1,2-Dichlorobenzene		ND	ND	ND	ND	200 J
2-Methylphenol		ND	ND	ND	ND	810
bis(2-Chloroisopropyl)ether		ND	ND	ND	ND	ND
4-Methylphenol		ND	ND	ND	ND	9000
N-Nitroso-n-Dipropylamine		ND	ND	ND	ND	ND
Hexachloroethane		ND	ND	ND	ND	ND
Nitrobenzene		ND	ND	ND	ND	ND
Isophorone		ND	ND	ND	ND	ND
2-Nitrophenol		ND	ND	ND	ND	ND
2,4-Dimethylphenol		ND	ND	ND	ND	4300
Benzoic Acid		ND	ND	ND	ND	150000 E
bis-(2-Chloroethoxy)methane		ND	ND	ND	ND	7300
2,4-Dichlorophenol		ND	ND	ND	ND	480 J
1,2,4-Trichlorobenzene		ND	ND	ND	ND	1900
Naphthalene		ND	ND	ND	ND	21000 E
4-Chloroaniline		ND	ND	ND	ND	15000 E
Hexachlorobutadiene		ND	ND	ND	ND	ND
4-Chloro-3-methylphenol		ND	ND	ND	ND	ND
2-Methylnaphathalene		ND	ND	ND	ND	ND
Hexachlorocyclopentadiene		ND	ND	ND	ND	ND
2,4,6-Trichlorophenol		ND	ND	ND	ND	350
2,4,5-Trichlorophenol		ND	ND	ND	ND	ND
2-Chloronaphthalene		ND	ND	ND	ND	ND
2-Nitroaniline		ND	ND	ND	ND	ND
Dimethyl Phthalate		ND	ND	ND	ND	98
Acenaphthylene		ND	ND	ND	ND	ND
3-Nitroaniline		ND	ND	ND	ND	ND
Acenaphthene		ND	ND	ND	ND	ND

µg/L - Micrograms per liter

B - Compound detected in blank

E - Estimated value. Concentration detected exceeds the calibrated range

J - Estimated value

ND - Not detected

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SAUGET Analytical Data
Site G

GROUND WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by Ecology & Environment, Inc. (3/87, 7/87)

	Sample Number	DC-GW-34	DC-GW-34A	DC-GW-35	DC-GW-57	Maximum
	Well Number	EE-G102	EE-G102	NA	NA	Concentration
	Date Collected	03/24/87	07/14/87	03/24/87	07/14/87	Detected
BNAs					BLANK	
2,4-Dinitrophenol		ND	ND	ND	ND	ND
4-Nitrophenol		ND	ND	ND	ND	ND
Dibenzofuran		ND	ND	ND	ND	ND
2,4-Dinitrotoluene		ND	ND	ND	ND	ND
2,6-Dinitrotoluene		ND	ND	ND	ND	ND
Diethylphthalate		ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether		ND	ND	ND	ND	ND
Fluorene		ND	ND	ND	ND	ND
4-Nitroaniline		ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol		ND	ND	ND	ND	ND
N-Nitrosodiphenylamine		ND	ND	ND	ND	ND
4-Bromophenyl-phenylether		ND	ND	ND	ND	ND
Hexachlorobenzene		ND	ND	ND	ND	6 J
Pentachlorophenol		ND	ND	ND	ND	6300
Phenanthrene		ND	ND	ND	ND	ND
Anthracene		ND	ND	ND	ND	ND
Di-n-butly phthalate		ND	ND	6 BJ	ND	12 B
Fluoranthene		ND	ND	ND	ND	ND
Pyrene		ND	ND	ND	ND	ND
Butyl Benzyl phthalate		ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine		ND	ND	ND	ND	ND
Benzo (a)anthracene		ND	ND	ND	ND	32
bis(2-ethylhexyl)phthalate		ND	ND	2 BJ	ND	24
Chrysene		ND	ND	ND	ND	6
Di-n-octyl phthalate		ND	ND	3 BJ	ND	3 BJ
Benzo(b)fluoranthene		ND	ND	ND	ND	ND
Benzo(k)fluoranthene		ND	ND	ND	ND	ND
Benzo (a)pyrene		ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene		ND	ND	ND	ND	ND
Benzo(g,h,i)perylene		ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene		ND	ND	ND	ND	ND

μg/L - Micrograms per liter
B - Compound detected in blank
E - Estimated value. Concentration detected exceeds the calibrated range
J - Estimated value
ND - Not detected.

SAUGET Analytical Data
Site G

GROUND WATER SAMPLES
Total Metals (μg/L)
Collected by Ecology & Environment, Inc. (3/87, 7/87)

	Sample Number	DC-GW-14	DC-GW-15	DC-GW-16	DC-GW-17	DC-GW-19	DC-GW-20	DC-GW-21	DC-GW-22	DC-GW-32	DC-GW-33
	Sample Depth (ft)	EE-G101	EE-G103	EE-G104	NA	EE-G107	EE-G107	EE-05	NA	EE-11	EE-G106
	Date Collected	03/17/87	03/17/87	03/17/87	03/17/87	03/18/87	03/18/87	03/18/87	03/18/87	03/24/87	03/24/87
Total Metals					BLANK						
Aluminum		ND	ND	ND	ND	ND	ND	ND	ND	**85**	ND
Antimony		ND	**63 R**	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic		ND	ND	ND	ND	**14**	**12**	ND	ND	**179**	**34**
Barium		**219**	ND	ND	ND	**610**	**580**	ND	ND	ND	**192**
Beryllium		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium		ND	ND	ND	ND	**22 R**	**22 R**	ND	ND	ND	ND
Chromium		ND	ND	ND	ND	**24**	**23**	ND	ND	ND	**41**
Cobalt		ND	ND	ND	ND	**588**	**572**	ND	ND	ND	ND
Copper		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron		**1280**	**1150**	**1110**	ND	**247000**	**241000**	ND	ND	**43800**	**49500**
Lead		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese		**2230**	**242**	**103**	ND	**7240**	**6850**	**286**	ND	**2290**	**3940**
Mercury		**1.4**	**2.1**	ND	ND	ND	ND	ND	ND	ND	ND
Nickel		ND	ND	ND	ND	**349**	**328**	ND	ND	ND	**37**
Selenium		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tin		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium		ND	ND	ND	ND	**93**	**94**	ND	ND	ND	ND
Zinc		**31**	**42**	**24**	ND	**1910**	**1820**	**26**	ND	**129**	**58**
Cyanide		**157**	**101**	ND	ND	ND	ND	**350**	ND	**26**	ND

μg/L - Micrograms per liter

ND - Not detected

R - Spike sample recovery not within control limits

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SAUGET Analytical Data
Site G

GROUND WATER SAMPLES
Total Metals (µg/L)
Collected by Ecology & Environment, Inc. (3/87, 7/87)

	Sample Number	DC-GW-34	DC-GW-34A	DC-GW-35	DC-GW-57	Maximum
	Sample Depth (ft)	EE-G102	EE-G102	NA	NA	Concentration
	Date Collected	03/24/87	07/14/87	03/24/87	07/14/87	Detected
Total Metals					BLANK	
Aluminum		ND	ND	ND	ND	**85**
Antimony		ND	ND	ND	ND	**63 R**
Arsenic		**27**	ND	ND	ND	**179**
Barium		**48**	**[51]**	ND	ND	**610**
Beryllium		ND	ND	ND	ND	ND
Boron		ND	ND	ND	ND	ND
Cadmium		ND	ND	ND	ND	**22 R**
Chromium		ND	ND	ND	ND	**41**
Cobalt		ND	**[10]**	ND	ND	**588**
Copper		ND	ND	ND	ND	ND
Iron		**3850**	**2860**	**111**	**[87]**	**247000**
Lead		ND	ND	ND	ND	ND
Manganese		**1460**	**1510**	ND	ND	**7240**
Mercury		ND	ND	ND	ND	**2.1**
Nickel		**72**	ND	ND	ND	**349**
Selenium		ND	ND	ND	ND	ND
Silver		ND	ND	ND	ND	ND
Thallium		ND	ND	ND	ND	ND
Tin		ND	ND	ND	ND	ND
Vanadium		ND	ND	ND	ND	**94**
Zinc		**14**	**31**	**10**	ND	**1910**
Cyanide		ND	ND	ND	ND	**350**

µg/L - Micrograms per liter
ND - Not detected
R - Spike sample recovery not within control limits

SAUGET Analytical Data
Site Area 1 Private Wells

GROUND WATER SAMPLES
Volatile Organic Compounds (μg/L)
Collected by Ecology & Environment, Inc. (3/87)

Sample Number	DC-GW-52	DC-GW-53	DC-GW-54	DC-GW-55	Maximum
Well Number	WRIGHT	SETTLES	SCHMIDT	McDONALD	Concentration
Date Collected	03/26/87	03/26/87	03/26/87	03/26/87	Detected
VOC					
Chloromethane	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND
Methylene chloride	4 BJ	12 B	ND	37 B	37 B
Acetone	18 B	10 B	8 BJ	9 BJ	18 B
Carbon Disulfide	ND	3 J	ND	ND	3 J
1,1-Dichloroethene	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND
Chloroform	ND	2 J	ND	ND	2 J
1,2-Dichloroethane	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND
Toluene	1 BJ	1 BJ	ND	1 BJ	1 BJ
Chlorobenzene	ND	ND	ND	ND	ND
Ethylbenzene	4 J	ND	ND	ND	4 J
Styrene	ND	2 J	ND	2 J	2 J
Total Xylenes	ND	ND	ND	ND	ND

μg/L - Micrograms per liter
B - Compound also detected in blank
J - Estimated value
ND - Not detected

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SAUGET Analytical Data
Site Area 1 Private Wells

GROUND WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by Ecology & Environment, Inc. (3/87)

	Sample Number	DC-GW-52	DC-GW-53	DC-GW-54	DC-GW-55	Maximum
	Well Number	WRIGHT	SETTLES	SCHMIDT	McDONALD	Concentration
	Date Collected	03/26/87	03/26/87	03/26/87	03/26/87	Detected
BNAs						
Phenol		ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether		ND	ND	ND	ND	ND
2-Chlorophenol		ND	ND	ND	ND	ND
1,3-Dichlorobenzene		ND	ND	ND	ND	ND
1,4-Dichlorobenzene		ND	ND	ND	ND	ND
Benzyl Alcohol		ND	ND	ND	ND	ND
1,2-Dichlorobenzene		ND	ND	ND	ND	ND
2-Methylphenol		ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether		ND	ND	ND	ND	ND
4-Methylphenol		ND	ND	ND	ND	ND
N-Nitroso-n-Dipropylamine		ND	ND	ND	ND	ND
Hexachloroethane		ND	ND	ND	ND	ND
Nitrobenzene		ND	ND	ND	ND	ND
Isophorone		ND	ND	ND	ND	ND
2-Nitrophenol		ND	ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND	ND
Benzoic Acid		ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane		ND	ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND	ND
1,2,4-Trichlorophenol		ND	ND	ND	ND	ND
Naphthalene		ND	ND	ND	ND	ND
4-Chloroaniline		ND	ND	ND	ND	ND
Hexachlorobutadiene		ND	ND	ND	ND	ND
4-Chloro-3-methylphenol		ND	ND	ND	ND	ND
2-Methylnaphathalene		ND	ND	ND	ND	ND
Hexachlorocyclopentadiene		ND	ND	ND	ND	ND
2,4,6-Trichlorophenol		ND	ND	ND	ND	ND
2,4,5-Trichlorophenol		ND	ND	ND	ND	ND
2-Chloronaphthalene		ND	ND	ND	ND	ND
2-Nitroaniline		ND	ND	ND	ND	ND
Dimethyl Phthalate		ND	ND	ND	ND	ND
Acenaphthylene		ND	ND	ND	ND	ND
3-Nitroaniline		ND	ND	ND	ND	ND
Acenaphthene		ND	ND	ND	ND	ND

μg/L - Micrograms per liter
J - Estimated value
ND - Not detected

SAUGET Analytical Data
Site Area 1 Private Wells

GROUND WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by Ecology & Environment, Inc. (3/87)

Sample Number	DC-GW-52	DC-GW-53	DC-GW-54	DC-GW-55	Maximum
Well Number	WRIGHT	SETTLES	SCHMIDT	McDONALD	Concentration
Date Collected	03/26/87	03/26/87	03/26/87	03/26/87	Detected
BNAs					
2,4-Dinitrophenol	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND
Pentachlorophenol	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND
Di-n-butly phthalate	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND
Di-n-octyl phthalate	2 J	ND	2 J	4 J	4 J
Benzo(b)fluoranthene	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND
Benzo(g,h,I)perylene	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND

μg/L - Micrograms per liter
J - Estimated value
ND - Not detected

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SAUGET Analytical Data
Site Area 1 Private Wells

GROUND WATER SAMPLES
Pesticides/PCBs (μg/L)
Collected by Ecology & Environment, Inc. (3/87)

	Sample Number	DC-GW-52	DC-GW-53	DC-GW-54	DC-GW-55	Maximum
	Well Number	WRIGHT	SETTLES	SCHMIDT	McDONALD	Concentration
	Date Collected	03/26/87	03/26/87	03/26/87	03/26/87	Detected
Pesticides/PCBs						
Alpha-BHC		ND	ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND
Aldrin		ND	ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND	ND
Endrin		ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND
Chlordane		ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND	ND
Aroclor-1260		ND	ND	ND	ND	ND

μg/L - Micrograms per liter
ND - Not detected

SAUGET Analytical Data
Site H

GROUND WATER SAMPLES
Volatile Organic Compounds (µg/L)
Collected by Ecology & Environment, Inc. (3/87)

Sample Number	DC-GW-10	DC-GW-11	DC-GW-12	DC-GW-13	DC-GW-17	DC-GW-35	DC-GW-36	Maximum
Well Number	EE-01	EE-02	EE-03	EE-04	NA	NA	EE-G110	Concentration
Date Collected	03/17/87	03/17/87	03/17/87	03/17/87	03/17/87	3/24/87	3/24/87	Detected
VOC					BLANK	BLANK		
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	ND	140 J	18 J	68	1 BJ	2 J	ND	140 J
Acetone	170 BJ	910 BJ	8 J	9 BJ	14 B	13 B	ND	910 BJ
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	3000	ND	ND	1 J	1 J	ND	3000
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1900	4300	2 J	ND	ND	ND	1 J	4300
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	140 J	3600	ND	ND	ND	ND	ND	3600
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	48 J	7300	ND	ND	ND	ND	ND	7300
Chlorobenzene	1600	11000	11	ND	1 J	ND	6	11000
Ethylbenzene	210	ND	1 J	ND	ND	ND	ND	210
Styrene	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	64 J	120 J	ND	ND	ND	ND	ND	120 J

µg/L Micrograms per liter
B - Compound detected in blank sample
J - Estimated value
ND- Not detected

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SAUGET Analytical Data
Site H

GROUND WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by Ecology & Environment, Inc. (3/87)

Sample Number	DC-GW-10	DC-GW-11	DC-GW-12	DC-GW-13	DC-GW-17	DC-GW-35	DC-GW-36	Maximum
Well Number	EE-01	EE-02	EE-03	EE-04	NA	NA	EE-G110	Concentration
Date Collected	03/17/87	03/17/87	03/17/87	03/17/87	03/17/87	03/24/87	03/24/87	Detected
BNAs					BLANK	BLANK		
Phenol	66	950	ND	ND	ND	ND	ND	950
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	31 J	47 J	ND	ND	ND	ND	ND	47 J
1,3-Dichlorobenzene	120	ND	ND	ND	ND	ND	ND	120
1,4-Dichlorobenzene	2600	530	11	ND	ND	ND	ND	2600
Benzyl Alcohol	ND	740	ND	ND	ND	ND	ND	740
1,2-Dichlorobenzene	560	430	3	ND	ND	ND	ND	560
2-Methylphenol	26 J	70 J	ND	ND	ND	ND	ND	70 J
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	65	620	ND	ND	ND	ND	ND	620
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	97 J	ND	ND	ND	ND	ND	97 J
Isophorone	ND	110 J	ND	ND	ND	ND	ND	110 J
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	330	ND	ND	ND	ND	ND	330
Benzoic Acid	140 J	5800 E	ND	ND	ND	ND	ND	5800 E
bis-(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	1900	ND	ND	ND	ND	ND	1900
1,2,4-Trichlorophenol	580	720	ND	ND	ND	ND	ND	720
Naphthalene	250	240	ND	ND	ND	ND	ND	250
4-Chloroaniline	6400 E	810	200	ND	ND	ND	30	6400 E
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphathalene	21 J	47 J	ND	ND	ND	ND	ND	47 J
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	140	1200	ND	ND	ND	ND	ND	1200
2,4,5-Trichlorophenol	27 J	580 J	ND	ND	ND	ND	ND	580 J
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	8 J	ND	ND	ND	ND	ND	8 J
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND

μg/L - Micrograms per liter

B - Compound detected in blank sample

E - Estimated value. Concentration detected exceeds the calibrated range.

J - Estimated value

ND - Not detected.

SAUGET Analytical Data
Site H

GROUND WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by Ecology & Environment, Inc. (3/87)

Sample Number	DC-GW-10	DC-GW-11	DC-GW-12	DC-GW-13	DC-GW-17	DC-GW-35	DC-GW-36	Maximum
Well Number	EE-01	EE-02	EE-03	EE-04	NA	NA	EE-G110	Concentration
Date Collected	03/17/87	03/17/87	03/17/87	03/17/87	03/17/87	03/24/87	03/24/87	Detected
BNAs					BLANK			
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	6 J	ND	ND	ND	ND	ND	ND	6 J
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	22 J	ND	ND	ND	ND	ND	22 J
4-Chlorophenyl-Phenylether	20 J	ND	ND	ND	ND	ND	ND	20 J
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	800	ND	ND	ND	ND	ND	ND	800
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	650	ND	ND	ND	ND	ND	ND	650
Phenanthrene	15 J	ND	ND	ND	ND	ND	ND	15 J
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butly phthalate	ND	ND	ND	ND	ND	6 BJ	ND	6 BJ
Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND	ND	ND	ND
Butyl Benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate	ND	24 J	ND	ND	ND	2 BJ	ND	24 J
Chrysene	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ND	ND	ND	ND	ND	3 BJ	ND	3 BJ
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND

μg/L - Micrograms per liter
B - Compound detected in blank sample.
E - Estimated value. Concentration detected exceeds the calibrated range.
J - Estimated value
ND - Not detected.

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SAUGET Analytical Data
Site H

GROUND WATER SAMPLES
Pesticides/PCBs (μg/L)
Collected by Ecology & Environment, Inc. (3/87)

	Sample Number	DC-GW-10	DC-GW-11	DC-GW-12	DC-GW-13	DC-GW-17	DC-GW-35	DC-GW-36	Maximum
	Well Number	EE-01	EE-02	EE-03	EE-04	NA	NA	EE-G110	Concentration
	Date Collected	03/17/87	03/17/87	03/17/87	03/17/87	03/17/87	03/24/87	03/24/87	Detected
Pesticides/PCBs						BLANK	BLANK		
Alpha-BHC		ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND	ND	ND	ND
Aldrin		ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND	ND	ND	ND	ND
Endrin		ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND	ND	ND	ND
Chlordane		ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260		52	ND	ND	ND	ND	ND	ND	52

μg/L - Micrograms per liter
ND - Not detected

SAUGET Analytical Data
Site H

GROUND WATER SAMPLES
Total Metals (μg/L)
Collected by Ecology & Environment, Inc. (3/87)

Sample Number	DC-GW-10	DC-GW-11	DC-GW-12	DC-GW-13	DC-GW-17	DC-GW-35	DC-GW-36	Maximum
Well Number	EE-01	EE-02	EE-03	EE-04	NA	NA	EE-G110	Concentration
Date Collected	03/17/87	03/17/87	03/17/87	03/17/87	03/17/87	03/24/87	03/24/87	Detected
Total Metals					BLANK			
Aluminum	ND	**11800**	ND	ND	ND	ND	ND	**11800**
Antimony	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	ND	**8490**	**26**	ND	ND	ND	ND	**8490**
Barium	ND	ND	ND	ND	ND	ND	**173**	**173**
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND
Boron	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	ND	**70 R**	ND	ND	ND	ND	ND	**70 R**
Chromium	ND	**24**	ND	ND	ND	ND	ND	**24**
Cobalt	ND	**758**	ND	ND	ND	ND	ND	**758**
Copper	ND	**2410**	ND	ND	ND	ND	ND	**2410**
Iron	**29600**	**104000**	**34900**	ND	ND	**111**	**2160**	**104000**
Lead	ND	**28 R**	ND	ND	ND	ND	ND	**28 R**
Manganese	**907**	**8020**	**1030**	**1800**	ND	ND	**274**	**8020**
Mercury	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	**261**	**17200**	ND	ND	ND	ND	**111**	**17200**
Selenium	ND	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	ND	ND	ND	ND	ND	ND	ND	ND
Tin	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	**57**	**6840**	**25**	**24**	ND	**10**	**53**	**6840**
Cyanide	**480**	**21**	ND	ND	ND	ND	ND	**480**

μg/L - Micrograms per liter.
ND - Not Detected
R - Spike sample recovery not within control limits.

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SAUGET Analytical Data
Site Area 1 Private Wells

GROUND WATER SAMPLES
Total Metals (μg/L)
Collected by Ecology & Environment, Inc. (3/87)

	Sample Number	DC-GW-52	DC-GW-53	DC-GW-54	DC-GW-55	Maximum
	Well Number	WRIGHT	SETTLES	SCHMIDT	McDONALD	Concentration
	Date Collected	03/26/87	03/26/87	03/26/87	03/26/87	Detected
Total Metals						
Aluminum		ND	ND	ND	ND	ND
Antimony		ND	ND	ND	ND	ND
Arsenic		ND	ND	**11**	**26**	**26**
Barium		**[73]**	**[89]**	**292**	**[117]**	**117**
Beryllium		ND	ND	ND	ND	ND
Boron		ND	ND	ND	ND	ND
Cadmium		ND	ND	ND	ND	ND
Chromium		ND	ND	ND	ND	ND
Cobalt		ND	ND	ND	ND	ND
Copper		ND	**[10]**	**115**	ND	**115**
Iron		**2990**	**4600**	**21600**	**10600**	**21600**
Lead		ND	**12 R**	**18 R**	ND	**18 R**
Manganese		**1060**	**665**	**1660**	**257**	**1660**
Mercury		ND	ND	**0.2**	ND	**0.2**
Nickel		ND	ND	ND	ND	ND
Selenium		ND	ND	ND	ND	ND
Silver		ND	ND	ND	ND	ND
Thallium		ND	ND	ND	ND	ND
Tin		ND	ND	ND	ND	ND
Vanadium		ND	ND	ND	ND	ND
Zinc		**4140 R**	**2000 R**	**377 R**	**1350 R**	**4140 R**
Cyanide		ND	ND	ND	ND	ND

μg/L - Micrograms per liter
ND - Not detected
R - Spike sample recovery not within control limits.

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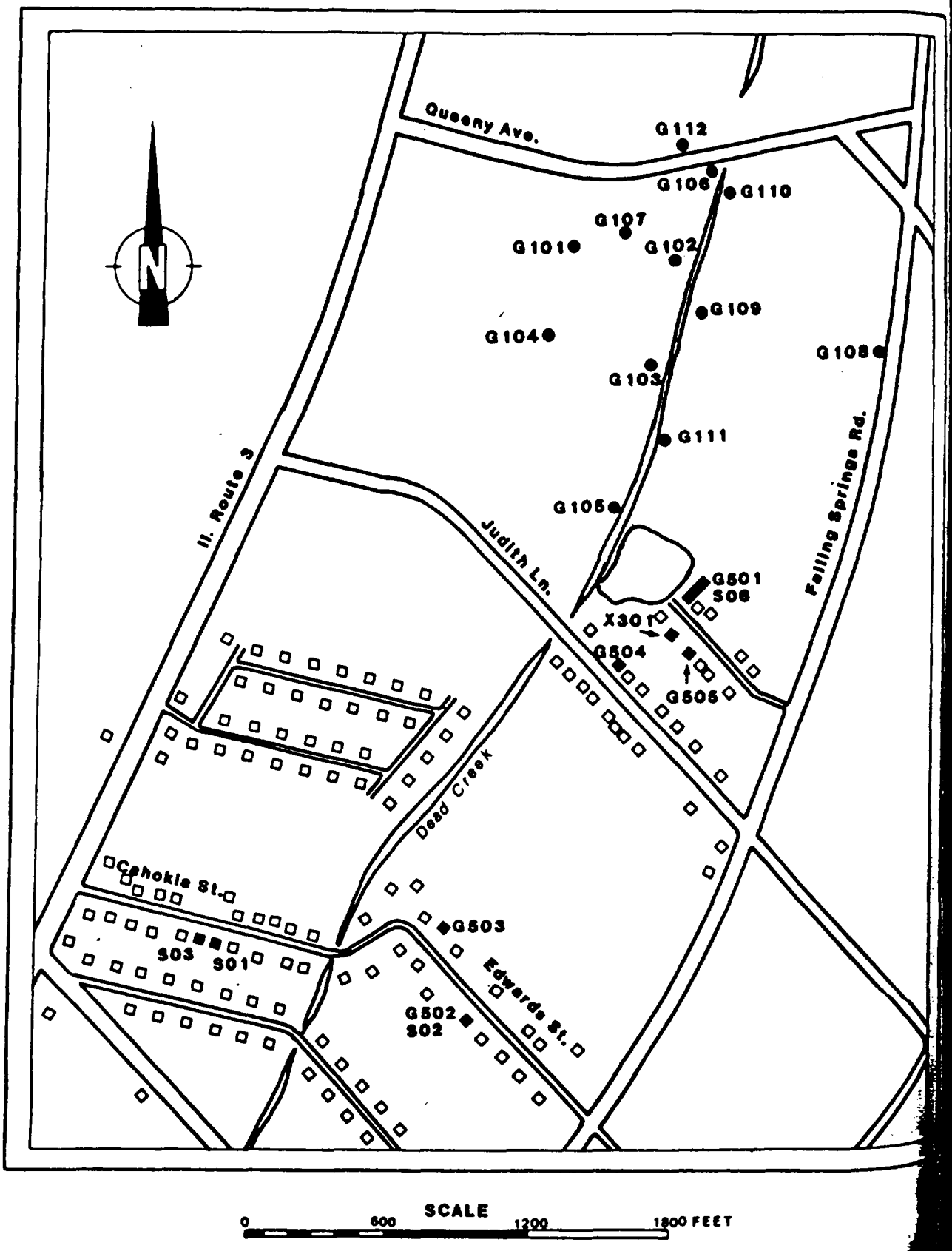

FIGURE B-2
LOCATIONS OF IEPA MONITORING WELLS AND RESIDENTIAL WELLS SAMPLED IN THE VICINITY OF DEAD CREEK

SAUGET Analytical Data
Area 1- Groundwater Monitoring Survey

GROUNDWATER SAMPLES
Organics (μg/L)
Collected by IEPA

Sample Number	S01	S02	S03	S04	S05	S06	R09	Maximum
Date Collected	3/3/82	3/3/82	3/3/82	3/3/82	3/3/82	3/3/82	3/3/82	Concentration
Organics							Blank	
bis (2ethylhexyl)phthalate	**64**	**62**			**19**	**		**64**
di-n-butylphthalate	**	**	**	**		**		ND
diethylphthalate	**	**	**	**			**	ND
3,4-benzofluoranthene*	**							ND
Benzo(k)fluoranthene*	**							ND
Methylene Chloride	**16**	**16**	**2300**	**3100**	**990**	**2000**	**19**	**3100**
di-n-octylphthalate		X	X					ND
1,2-dichlorobenzene				**				ND
1,4-dichlorobenzene				**				ND
butyl benzyl phthalate				**			**	ND
Chlorobenzene				**	**			ND
heptachlor				**0.11 *** **	**0.14 *** **			**0.14 *** **
beta-BHC				**0.18 *** **	**0.3 *** **	**4.04 *** **		**4.04 *** **
gamma-BHC				**0.16 *** **	**0.25 *** **			**0.25 *** **
aldrin				**0.17 *** **				**0.17 *** **
alpha-BHC					**0.18 *** **	**0.25 *** **		**0.25 *** **
4,4-DDE						**0.11 *** **		**0.11 *** **
heptachlor epoxide						**1.46 *** **		**1.46 *** **
delta-BHC						**0.95 *** **		**0.95 *** **

μg/L - Micrograms per liter.
ND - Not detected.
* Coelute
** Less than 10 mg/l
*** Not confirmed by GCMS
X Results unacceptable due to bad spike recovery of blind sample.

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SAUGET Analytical Data
Area 1- Groundwater Monitoring Survey

GROUNDWATER SAMPLES
Metals (μg/L)
Collected by IEPA

	Sample Number	S01	S02	S03	S04	S05	S06	R09	Maximun
	Date Collected	3/3/82	3/3/82	3/3/82	3/3/82	3/3/82	3/3/82	3/3/82	Detected
Total Metals								Blank	
Total Aluminum		<200	410	390	<200	940	1200	<200	1200
Arsenic		11	<10	<10	29	<10	<10	<10	29
Barium		<100	<100	<100	<100	<100	<100	<100	ND
Boron		10500	11000	8000	1800	140	110	<100	11000
Cadmium		4.2	14	31	5.3	<1	2.8	<1	31
Chromium		12	<10	<10	<10	<10	<10	<10	12
Cobalt		62	70	82	95	<50	<50	<50	95
Copper		65	<50	<50	<50	<50	<50	<50	65
Iron		65000	31000	38000	28000	530	250	<50	65000
Lead		570	97	74	9	11	10	<5	570
Manganese		1600	1100	1500	5100	460	80	<15	5100
Mercury*		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	ND
Nickel		<40	<40	<40	140	<40	<40	<40	140
Selenium		<2	<2	<2	<2	<2	<2	<2	ND
Silver		<10	<10	<10	<10	<10	<10	<10	ND
Tin		<20	<20	<20	<20	<20	<20	<20	ND
Vanadium		<200	<200	<200	<200	<200	<200	<200	ND
Zinc		107000	109000	40000	1900	260	350	<10	109000
Antimony		<20	<20	<20	<20	<20	<20	<20	ND
Thallium		<10	<10	<10	<10	<10	<10	<10	ND
Beryllium		<5	<5	<5	<5	<5	<5	<5	ND
Mercury**		0.1	0.4	0.4	0.2	0.1	<0.1	<0.1	0.4

μg/L - Micrograms per liter.
ND - Not detected.
* Cal Analytical Labs Test
** CRL Lab Test

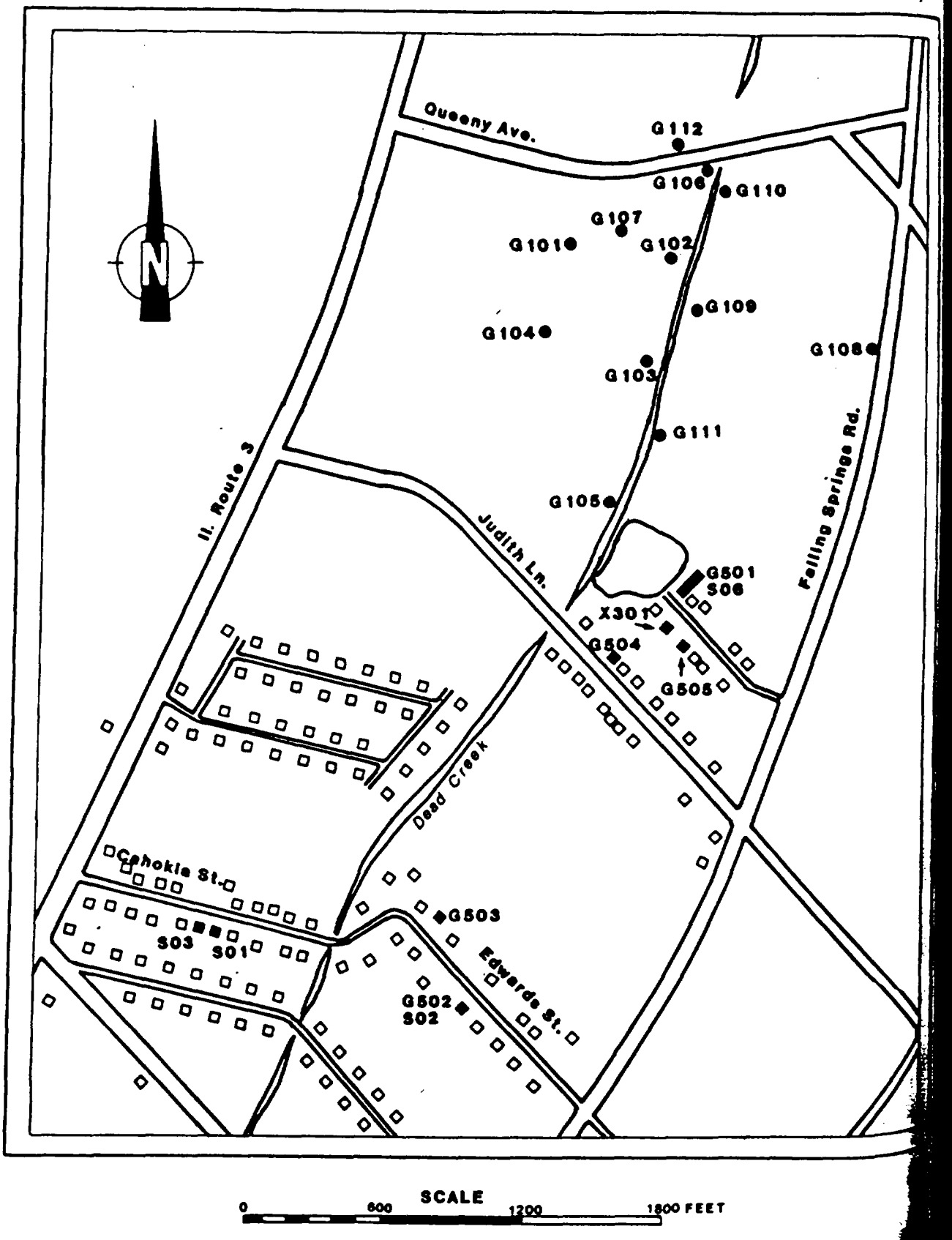

FIGURE B-2
LOCATIONS OF IEPA MONITORING WELLS AND RESIDENTIAL WELLS SAMPLED IN THE VICINITY OF DEAD CREEK

SAUGET Analytical Data
Sauget Sites Area 1

MONITORING WELL SAMPLES
Total Metals (mg/l)
Collected by IEPA

	Sample Number	G501	G502	G503	G504	G505	X301	Maximum
	Date Collected	9/16/80	9/16/80	9/16/80	9/23/80	6/8/83	1/5/83	Concentration
Metals								Detected
Arsenic		0.008	0.004	0.001	ND	0.01	0.017	0.017
Barium		0.2	0.16	0.39	0.05	0.4	1.1	1.1
Boron		0.28	0.27	0.25	0.58	0.4	0.3	0.58
Cadmium		ND	ND	ND	ND	ND	ND	ND
Chromium Total		ND	ND	ND	ND	ND	ND	ND
Copper		0.02	ND	ND	0.06	0.01	0.08	0.08
Iron		4.6	19	17.7	0.73	26	31	31
Lead		ND	ND	ND	ND	ND	0.08	0.08
Magnesium		33	39	36	30	35.3	54	54
Manganese		1.02	1.26	0.79	0.65	1.3	1.49	1.49
Mercury		ND	ND	ND	0.0001	ND	ND	0.0001
Nickel		ND	ND	ND	0.02	ND	0.1	0.1
Phosphorus		ND	ND	ND	0.02	0.62	1.2	1.2
Potassium		6.6	5.7	4.5	6	6.2	6.4	6.6
Silver		ND	ND	ND	ND	ND	ND	ND
Sodium		21	24	12	26	15.2	19	26
Zinc		0.85	ND	0.18	0.8	ND	0.7	0.85

mg/kg - Milligrams per kilogram.

ND - Not detected.

Sample X301 was collected from basement seepage

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SAUGET Analytical Data
Sauget Sites Area 1

MONITORING WELL SAMPLES
Pesticides/PCBs (mg/l)
Collected by IEPA

	Sample Number	G501	G502	G503	G504	G505	X301	Maximum
	Date Collected	9/16/80	9/16/80	9/16/80	9/23/80	6/8/83	1/5/83	Concentration
Pesticides/PCBs								Detected
PCBs		NA	NA	NA	ND	ND	ND	ND
Chlordane (ppb)		NA	NA	NA	NA	ND	**0.13**	**0.13**

mg/kg - Milligrams per kilogram.

NA - Parameter not analyzed.

ND - Not detected.

ppb - Parts per billion

Sample X301 was collected from basement seepage

SAUGET Analytical Data

Sauget Sites Area 1

GROUNDWATER SAMPLES (μg/L)

Collected by IEPA

Sample Number	G204	G201	G205	Maximum
Well Number	H KEARBY	B. SETTLE	W ALLEN	Concentration
Date Collected	3/91	3/91	3/91	Detected
VOLATILES				
Chlorobenzene	ND	ND	ND	ND
SEMIVOLATILES				
Pyrene	ND	ND	ND	ND
Benzo(b)fluoranthene	*ND*	*ND*	*ND*	*ND*
Chrysene	ND	ND	ND	ND
PESTICIDES/PCB's				
4,4'-DDE	ND	ND	ND	ND
Endrin	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND
Gamma-Chlorodane	ND	ND	**5.02**	**5.02**
Aroclor-1254	ND	ND	ND	ND
Aroclor-1260	ND	ND	ND	ND
INORGANICS				
Arsenic	ND	ND	ND	ND
Barium	ND	ND	ND	ND
Cadmium	ND	ND	ND	ND
Calcium	ND	ND	**11900**	**11900**
Chromium	ND	ND	ND	ND
Cobalt	ND	**6.2**	ND	**6.2**
Copper	ND	ND	**75**	**75**
Lead	**3.3**	ND	**11**	**11**
Magnesium	ND	ND	ND	ND
Mercury	*ND*	*ND*	*ND*	*ND*
Nickel	ND	ND	ND	ND
Zinc	**38**	**580**	**658**	**658**

μg/L - Micrograms per liter.
ND - Not detected.

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SAUGET Analytical Data

Dead Creek - Segment B

WATER SAMPLES

Collected by IEPA and Monsanto Chemical Co. (10/80)

	Sample Number	0100307				Maximum
	Date Collected	10/2/80				Concentration
	Location	Well at Threasa's				Detected
PCBs and Elemental Phosphorus (µg/L)		Greenhouse 101 Walnut				
PCB's (Cl_2 to Cl_6 Homologs)		ND<1				ND
P_4		NA				NA

µg/L - Micrograms per liter

NA - *Not Analyzed*

ND - Not detected

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SAUGET Analytical Data
Site Area 1

GROUNDWATER SAMPLES

Collected by IEPA

Sample Number	G101	G102	G103	G104	G105	G106	G107	G108	G109	G110
Date Collected	01/28/81	01/28/81	01/28/81	01/28/81	01/28/81	01/28/81	01/28/81	01/28/81	01/28/81	01/28/81
Analysis										
Alkalinity	447	421	266	520	363	556	NR	448	18	NR
Ammonia as N	0.3	0	1.4	0.2	0.7	3.3	NR	0	17	0.2
Arsenic	0.015	0.016	0.018	0.002	0.037	0.11	0.021	0.004	7.5	0.013
Barium	0.9	1.2	0.9	0.3	1.8	1	3.2	0.5	0.2	1
BOD	1	3	0	2	0	41	52	1	390	0
Boron	0.3	0.4	0.4	0.7	0.4	0.5	0.5	0.2	0.8	0
Cadmium	0	0	0	0	0	0	0	0	0.14	0
Calcium	220	328.9	176.3	218	319.2	225.5	1169.5	205.5	466.7	169.4
COD	45	93	56	9	143	212	635	8	1315	37
Chloride	20	128	64	29	59	156	201	76	NR	NR
Chromium (total)	0.02	0.02	0.02	0	0.03	0	0.09	0	0.04	0.02
Copper	0.59	0.79	0.36	0.14	0.43	0.29	0.97	0	94.1	0.11
Cyanide	0	0	0	0	0.01	0	0	0	0	0
Hardness	554	1072	490	717	164	617	960	564	2144	447
Iron	30.4	16.5	20.8	1.4	60.8	67.5	172	0.3	198	19.1
Lead	0.17	0.08	0	0	0.07	0	0.32	0	0	0
Magnesium	48.2	78	46.3	49.1	73.6	49.1	288.1	34.3	184.4	43.5
Manganese	3.02	3.15	3.07	1.41	4.1	2.13	9.64	0.34	8.3	0.77
Mercury	0	0	0	0	0	0	0	0	0.0004	0
Nickel	0.1	0.1	0.4	0	0.2	0	0.5	0	176	0.9
Nitrate-Nitrite	0	2.5	0.1	0.5	0	0	0.2	3.5	0.3	18
pH (units)	7	7	7.1	7.2	7	6.9	6.9	7.1	4.1	6.9
Phenolics	0	0	0	0	0	1.46	0.5	0.01	1.86	0.02
Phosphorus	0.91	0.88	0.41	0.06	3.6	2.1	10	0.03	3.7	1
Potassium	6.4	12	8.8	6	13	6.2	20	16	18	7.5
R.O.E	697	1560	782	940	1170	1080	1450	786	5610	587
Selenium	0.002	0.002	0.002	0.002	0.003	0.002	0.011	0.004	0.006	0.016
Silver	0	0	0	0	0	0	0	0	0	0
Sodium	13	63	48	15	50	94	60	30	37	13
Sulfate SO4	129	583	256	265	468	143	276	86	3371	57
Zinc	0.3	1.2	1.8	0.1	1.5	0.1	1.5	0	10.1	2
PCB (µg/L)	0.22	3.9	<0.1	0.3	<0.1	<0.1	0.4	<0.1	<0.1	<0.1
Chlorobenzene (µg/L)	NA	NA	NA	NA	NA	NA	63	NA	ND	NA
Chloroaniline (µg/L)	NA	NA	NA	NA	NA	NA	90	NA	NA	NA
Dichlorophenol (µg/L)	NA	NA	NA	NA	NA	NA	560	NA	NA	NA

µg/L - Micrograms per liter.
NA - Parameter not analyzed
ND - Not detected.
NR - Not readable on original data
Units were not provided with original data

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SAUGET Analytical Data
Site Area 1

GROUNDWATER SAMPLES

Collected by IEPA

Sample Number	G111	G112	Maximum
Date Collected	01/28/81	01/28/81	Concentration
Analysis			Detected
Alkalinity	394	619	619
Ammonia as N	0.1	0.5	17
Arsenic	0.014	0.027	7.5
Barium	0.7	0.5	3.2
BOD	2	10	390
Boron	0.6	1.9	1.9
Cadmium	0	0	0.14
Calcium	181.4	198.3	1169.5
COD	28	47	1315
Chloride	18	210	210
Chromium (total)	0.02	0	0.09
Copper	0.04	0.28	94.1
Cyanide	0	0.01	0.01
Hardness	530	486	2144
Iron	10.7	18.9	198
Lead	0	0	0.32
Magnesium	37.9	54	288.1
Manganese	1.76	2.78	9.64
Mercury	0	0	0.0004
Nickel	0	0	176
Nitrate-Nitrite	0.5	0	18
pH (units)	7	6.9	7.2
Phenolics	0.015	0.05	1.86
Phosphorus	0.51	0.53	10
Potassium	4.2	20	20
R.O.E	416	1340	5610
Selenium	0.002	0	0.016
Silver	0	0	ND
Sodium	14	18	94
Sulfate SO4	153	212	3371
Zinc	0.1	2.8	10.1
PCB (µg/L)	<0.1	<0.1	3.9
Chlorobenzene (µg/L)	NA	25	63
Chloroaniline (µg/L)	NA	21	90
Dichlorophenol (µg/L)	NA	NA	560

µg/L - Micrograms per liter.
NA - Parameter not analyzed.
ND - Not detected.
NR - Not readable on original data
Units were not provided with original data

SAUGET Analytical Data
Site Area 1

GROUNDWATER SAMPLES

Collected by IEPA

Sample Number	G101	G102	G103	G104	G105	G106	G107	G108	G109	G110
Date Collected	03/11/81	03/10/81	03/10/81	03/10/81	03/10/81	03/11/81	03/11/81	03/10/81	03/11/81	03/10/81
Analysis										
Alkalinity	463	464	319	568	393	594	657	464	58	331
Ammonia as N	0.2	0	0.5	0	0.1	NR	0.2	0	15	0
Arsenic	0.001	0	0.003	0.001	0.01	0.085	0.004	0.001	3.9	0.001
Barium	0	0.2	0.1	0.2	0.2	0.3	0.1	0.2	0.1	0.1
BOD	1	1	1	1	2	19	39	1	335	1
Boron	0.2	0.4	0.3	0.7	0.3	0.5	0.5	0.2	0.5	0.1
Cadmium	0	0.01	0.01	0	0	0	0.01	0	0.07	0.01
Calcium	154	333	161	205	218	175	186	148	431	121
COD	10	24	47	9	23	146	47	12	930	10
Chloride	16	124	46	28	57	150	235	51	24	27
Chromium (total)	0	0	0	0.01	0	0	0	0	0.01	0
Copper	0.04	0.06	0.08	0.02	0.02	0.01	0.01	0.03	67	0.02
Cyanide	0	0	0	0.01	0	0	0	0	0	0
Fluoride	0.5	0.9	0.8	0.3	0.6	0.7	0.7	0.3	7.7	2.7
Hardness	542	1062	620	839	796	675	1096	474	1651	424
Iron	0.3	0.3	1.6	0	9.4	4.9	2.4	0	1.4	0
Lead	0	0	0	0	0	0.06	0	0	0	0
Magnesium	34.2	77.9	41.9	56.8	47	44.8	44.8	22.3	138	28.7
Manganese	2	2.98	3.51	0.61	2.32	1.62	2.12	0.23	6.22	0.14
Mercury	0.0001	0.0001	0.0001	0.0001	0.0001	0	0.0002	0.0001	0.0003	0.0001
Nickel	0	0.3	1.1	0	0.2	0	0	0.1	123	1.2
Nitrate-Nitrite	0	1.1	0	2.3	0	0	0	0.3	0.3	15
Oil & Grease	1	1	0	2	2	2	1	1	1	1
pH (units)	6.7	6.8	6.8	6.9	6.8	6.7	6.7	7	4.6	6.6
Phenolics	0	0	0.005	0	0	0	1.7	0.1	1.4	0
Phosphorus	0	0	0.03	0.02	0.1	1.5	0.03	0.02	2.2	0.01
Potassium	4	10.8	10.4	5.9	8.9	5.7	2.8	18.2	6.4	6.3
R.O.E	676	1660	1070	1200	1090	1100	1610	650	3880	558
Selenium	0	0	0.001	0.003	0	0	0	0.001	0.003	0.018
Silver	0.01	0.02	0	0	0.02	0.01	0.01	0	0	0.01
Sodium	11	64	65.6	17.4	51.2	92.6	39.2	25.2	12	14.2
SC (µmhos/cm)	1050	2150	1470	1550	1620	1820	2290	1060	3440	920
Sulfate SO4	118	617	407	303	466	146	31.3	55	2629	61
Zinc	0.1	0.8	2.8	0.1	0.3	0.1	0.1	0.3	6.3	1.8
Sulfide	0	0	0	0	0	0	0	0	0	0
PCB (µg/L)	0.13	0.46	<0.1	0.1	<0.1	3.4	0.37	<0.1	<0.1	0.9

µg/L - Micrograms per liter
NR - Not Readable on original data
Units were not provided with original data

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SAUGET Analytical Data
Site Area 1

GROUNDWATER SAMPLES

Collected by IEPA

Sample Number	G111	G112	G112	Maximum
Date Collected	03/10/81	03/10/81	03/31/81	Concentration
Analysis				Detected
Alkalinity	387	400	489	657
Ammonia as N	0.1	0.7	0.7	15
Arsenic	0.001	0.003	0.004	3.9
Barium	0.1	0	0.2	0.3
BOD	1	10	3	335
Boron	0.4	3.4	3.7	3.7
Cadmium	0	0.17	0.19	0.19
Calcium	164	207	270	431
COD	9	52	55	930
Chloride	16	133	227	235
Chromium (total)	0	0	0	0.01
Copper	0.07	0.48	0.44	67
Cyanide	0	0	0	0.01
Fluoride	0.5	0.8	0.7	7.7
Hardness	485	789	880	1651
Iron	0.2	0.5	1.2	9.4
Lead	0.07	0	0	0.07
Magnesium	31.8	72	81	138
Manganese	1.02	2.1	2.74	6.22
Mercury	0.0001	0.0001	0	0.0003
Nickel	0	0.4	0.3	123
Nitrate-Nitrite	2.7	0.2	0.1	15
Oil & Grease	1	1	0	2
pH (units)	6.8	6.6	6.3	7
Phenolics	0	0.005	0.01	1.7
Phosphorus	0.01	0.03	0.03	2.2
Potassium	2.9	40.2	480	480
R.O.E	656	1530	NTA*	3880
Selenium	0.001	0	0.001	0.018
Silver	0.01	0.01	0	0.02
Sodium	15.5	966	164	966
SC (µmhos/cm)	990	2040	2490	3440
Sulfate SO4	147	544	554	2629
Zinc	0.1	11.8	14.7	14.7
Sulfide	0	0.07	0	0.07
PCB (µg/L)	<0.1	2	NA	3.4

µg/L - Micrograms per liter
NTA* - Sample Discarded Prematurely
Units were not provided with original data

SAUGET Analytical Data
Site L

GROUND WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by Ecology & Environment, Inc. (3/87)

	Sample Number	DC-GW-18	DC-GW-22	DC-GW-35	DC-GW-37	Maximum
	Well Number	EE-G108	NA	NA	EE-G109	Concentration
	Date Collected	03/18/87	03/18/87	03/24/87	03/24/87	Detected
BNAs			BLANK	BLANK		
2,4-Dinitrophenol		ND	ND	ND	ND	ND
4-Nitrophenol		ND	ND	ND	ND	ND
Dibenzofuran		ND	ND	ND	ND	ND
2,4-Dinitrotoluene		ND	ND	ND	ND	ND
2,6-Dinitrotoluene		ND	ND	ND	ND	ND
Diethylphthalate		ND	ND	ND	ND	ND
4-Chlorophenyl-Phenylether		ND	ND	ND	ND	ND
Fluorene		ND	ND	ND	ND	ND
4-Nitroaniline		ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol		ND	ND	ND	ND	ND
N-Nitrosodiphenylamine		ND	ND	ND	ND	ND
4-Bromophenyl-phenylether		ND	ND	ND	ND	ND
Hexachlorobenzene		ND	ND	ND	ND	ND
Pentachlorophenol		ND	ND	ND	ND	ND
Phenanthrene		ND	ND	ND	ND	ND
Anthracene		ND	ND	ND	ND	ND
Di-n-butly phthalate		**9 BJ**	ND	**6 BJ**	**6 BJ**	**9 BJ**
Fluoranthene		ND	ND	ND	ND	ND
Pyrene		ND	ND	ND	ND	ND
Butyl Benzyl phthalate		ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine		ND	ND	ND	ND	ND
Benzo (a)anthracene		ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate		**18 B**	**4 BJ**	**2 BJ**	ND	**18 B**
Chrysene		ND	ND	ND	ND	ND
Di-n-octyl phthalate		ND	ND	**3 BJ**	ND	**3 BJ**
Benzo(b)fluoranthene		ND	ND	ND	ND	ND
Benzo(k)fluoranthene		ND	ND	ND	ND	ND
Benzo (a)pyrene		ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene		ND	ND	ND	ND	ND
Benzo(g,h,i)perylene		ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene		ND	ND	ND	ND	ND

μg/L - Micrograms per liter.
B - Compound detected in blank sample.
J - Estimated value.
ND - Not detected.

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SAUGET Analytical Data
Site L

GROUND WATER SAMPLES
Total Metals (μg/L)
Collected by Ecology & Environment, Inc. (3/87)

	Sample Number	DC-GW-18	DC-GW-22	DC-GW-35	DC-GW-37	Maximum
	Well Number	EE-G108	NA	NA	EE-G109	Concentration
	Date Collected	03/18/87	03/18/87	03/24/87	03/24/87	Detected
Total Metals			BLANK	BLANK		
Aluminum		ND	ND	ND	ND	ND
Antimony		ND	ND	ND	ND	ND
Arsenic		ND	ND	ND	**14000**	**14000**
Barium		**331**	ND	ND	ND	**331**
Beryllium		ND	ND	ND	ND	ND
Boron		ND	ND	ND	ND	ND
Cadmium		ND	ND	ND	**32**	**32**
Chromium		ND	ND	ND	ND	ND
Cobalt		ND	ND	ND	**84**	**84**
Copper		ND	ND	ND	ND	ND
Iron		**21900**	ND	**111**	**523000**	**523000**
Lead		ND	ND	ND	ND	ND
Manganese		**1280**	ND	ND	**7660**	**7660**
Mercury		ND	ND	ND	ND	ND
Nickel		ND	ND	ND	ND	ND
Selenium		ND	ND	ND	ND	ND
Silver		ND	ND	ND	ND	ND
Thallium		ND	ND	ND	ND	ND
Tin		ND	ND	ND	ND	ND
Vanadium		ND	ND	ND	**159**	**159**
Zinc		**24**	ND	**10**	**2210**	**2210**
Cyanide		ND	ND	ND	ND	ND

μg/L - Micrograms per liter.
ND - Not detected.

SAUGET Analytical Data
Site L

GROUND WATER SAMPLES
Pesticides/PCBs (μg/L)
Collected by Ecology & Environment, Inc. (3/87)

	Sample Number	DC-GW-18	DC-GW-22	DC-GW-35	DC-GW-37	Maximum
	Well Number	EE-G108	NA	NA	EE-G109	Concentration
	Date Collected	03/18/87	03/18/87	03/24/87	03/24/87	Detected
Pesticides/PCBs			BLANK	BLANK		
Alpha-BHC		ND	ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND
Aldrin		ND	ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND	ND
Endrin		ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND
Chlordane		ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND	ND
Aroclor-1260		ND	ND	ND	ND	ND

μg/L - Micrograms per liter.
ND - Not detected.

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SAUGET Analytical Data
Site L

GROUND WATER SAMPLES
Volatile Organic Compounds (μg/L)
Collected by Ecology & Environment, Inc. (3/87)

	Sample Number	DC-GW-18	DC-GW-22	DC-GW-35	DC-GW-37	Maximum
	Well Number	EE-G108	NA	NA	EE-G109	Concentration
	Date Collected	03/18/87	03/18/87	03/24/87	03/24/87	Detected
VOC			BLANK	BLANK		
Chloromethane		ND	ND	ND	ND	ND
Bromomethane		ND	ND	ND	ND	ND
Vinyl chloride		ND	ND	ND	ND	ND
Chloroethane		ND	ND	ND	ND	ND
Methylene chloride		ND	2 BJ	2 BJ	44 J	44 J
Acetone		ND	4 BJ	13 B	650 B	650 B
Carbon Disulfide		ND	ND	ND	ND	ND
1,1-Dichloroethene		ND	ND	ND	ND	ND
1,1-Dichloroethane		ND	ND	ND	ND	ND
trans-1,2-Dichloroethene		ND	ND	ND	ND	ND
Chloroform		ND	1 J	1 J	730	730
1,2-Dichloroethane		ND	ND	ND	ND	ND
2-Butanone (MEK)		ND	ND	ND	ND	ND
1,1,1-Trichloroethane		ND	ND	ND	ND	ND
Carbon Tetrachloride		ND	ND	ND	ND	ND
Vinyl Acetate		ND	ND	ND	ND	ND
Bromodichloromethane		ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND
trans-1,3-Dichloropropene		ND	ND	ND	ND	ND
Trichloroethene		ND	ND	ND	ND	ND
Dibromochloromethane		ND	ND	ND	ND	ND
1,1,2-Trichloroethane		ND	ND	ND	ND	ND
Benzene		1 J	3 J	ND	150	150
cis-1,3-Dichloropropene		ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether		ND	ND	ND	ND	ND
Bromoform		ND	ND	ND	ND	ND
4-Methyl-2-pentanone		ND	ND	ND	270 B	270 B
2-Hexanone		ND	4 J	ND	ND	4 J
Tetrachloroethene		ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane		ND	ND	ND	ND	ND
Toluene		ND	4 J	ND	970 B	970 B
Chlorobenzene		1 J	2 J	ND	ND	2 J
Ethylbenzene		ND	ND	ND	ND	ND
Styrene		ND	ND	ND	ND	ND
Total Xylenes		ND	ND	ND	ND	ND

μg/L - Micrograms per liter.
B - Compound detected in blank sample.
J - Estimated value.
ND - Not detected.

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SAUGET Analytical Data
Site L

GROUND WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by Ecology & Environment, Inc. (3/87)

	Sample Number	DC-GW-18	DC-GW-22	DC-GW-35	DC-GW-37	Maximum
	Well Number	EE-G108	NA	NA	EE-G109	Concentration
	Date Collected	03/18/87	03/18/87	03/24/87	03/24/87	Detected
BNAs			BLANK	BLANK		
Phenol		ND	ND	ND	150	150
bis(2-Chloroethyl)ether		ND	ND	ND	ND	ND
2-Chlorophenol		ND	ND	ND	130	130
1,3-Dichlorobenzene		ND	ND	ND	ND	ND
1,4-Dichlorobenzene		ND	ND	ND	ND	ND
Benzyl Alcohol		ND	ND	ND	ND	ND
1,2-Dichlorobenzene		ND	ND	ND	ND	ND
2-Methylphenol		ND	ND	ND	6 J	6 J
bis(2-Chloroisopropyl)ether		ND	ND	ND	ND	ND
4-Methylphenol		ND	ND	ND	75	75
N-Nitroso-n-Dipropylamine		ND	ND	ND	ND	ND
Hexachloroethane		ND	ND	ND	ND	ND
Nitrobenzene		ND	ND	ND	ND	ND
Isophorone		ND	ND	ND	ND	ND
2-Nitrophenol		ND	ND	ND	41	41
2,4-Dichlorophenol		ND	ND	ND	ND	ND
Benzoic Acid		ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane		ND	ND	ND	ND	ND
2,4-Dichlorophenol		ND	ND	ND	ND	ND
1,2,4-Trichlorophenol		ND	ND	ND	ND	ND
Naphthalene		ND	ND	ND	ND	ND
4-Chloroaniline		ND	ND	ND	60	60
Hexachlorobutadiene		ND	ND	ND	ND	ND
4-Chloro-3-methylphenol		ND	ND	ND	ND	ND
2-Methylnaphathalene		ND	ND	ND	ND	ND
Hexachlorocyclopentadiene		ND	ND	ND	ND	ND
2,4,6-Trichlorophenol		ND	ND	ND	ND	ND
2,4,5-Trichlorophenol		ND	ND	ND	ND	ND
2-Chloronaphthalene		ND	ND	ND	ND	ND
2-Nitroaniline		ND	ND	ND	ND	ND
Dimethyl Phthalate		ND	ND	ND	ND	ND
Acenaphthylene		ND	ND	ND	ND	ND
3-Nitroaniline		ND	ND	ND	ND	ND
Acenaphthene		ND	ND	ND	ND	ND

μg/L - Micrograms per liter.
B - Compound detected in blank sample.
J - Estimated value.
ND - Not detected.

SAUGET Analytical Data
Site I

GROUND WATER SAMPLES
Volatile Organic Compounds (µg/L)
Collected by Ecology & Environment, Inc. (3/87)

	Sample Number	DC-GW-23	DC-GW-24	DC-GW-25	DC-GW-26	DC-GW-27	DC-GW-28	DC-GW-29	DC-GW-30	DC-GW-31	Maximum
	Well Number	EE-13	EE-12	EE-G112	EE-14	EE-15	EE-16	EE-12	NA	EE-20	Concentration
	Date Collected	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	3/23/87	3/23/87	3/23/87	3/23/87	Detected
VOC									BLANK		
Chloromethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride		ND	ND	5 J	ND	76	790	6 J	ND	ND	790
Chloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride		ND	ND	ND	56 J	2 J	ND	ND	2 J	ND	56
Acetone		29 B	40 B	17 B	180 J	10 B	190 B	16 B	23 B	29 B	190 B
Carbon Disulfide		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene		ND	ND	ND	ND	10	ND	ND	ND	ND	10
1,1-Dichloroethane		ND	ND	ND	ND	120	ND	ND	ND	ND	120
trans-1,2-Dichloroethene		ND	ND	ND	150	310	640	ND	ND	ND	640
Chloroform		ND	ND	ND	110 J	ND	ND	ND	ND	ND	110 J
1,2-Dichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene		ND	ND	ND	270	4 J	ND	ND	ND	ND	270
Dibromochloromethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene		ND	50	28	1400	5	550	75	ND	ND	1400
cis-1,3-Dichloropropene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone		ND	ND	ND	230 J	ND	ND	ND	ND	ND	230 J
2-Hexanone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene		ND	ND	ND	470	ND	ND	ND	ND	ND	470
1,1,2,2-Tetrachloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene		ND	ND	ND	240	ND	740	1 J	ND	ND	740
Chlorobenzene		ND	270	33	3100	120	550	390	ND	ND	3100
Ethylbenzene		ND	ND	1 J	190	ND	58	2 J	ND	ND	190
Styrene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes		ND	ND	ND	61 J	ND	58	ND	ND	ND	61 J

µg/L - Micrograms per liter.
B - Compound detected in blank sample.
J - Estimated value.
ND - Not detected.

Filename: Gwsiter.xls - Table: GW VOCs

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SAUGET Analytical Data
Site I

GROUND WATER SAMPLES
Base Neutrals/Acids (µg/L)
Collected by Ecology & Environment, Inc. (3/87)

Sample Number	DC-GW-23	DC-GW-24	DC-GW-25	DC-GW-26	DC-GW-27	DC-GW-28	DC-GW-29	DC-GW-30	DC-GW-31	Maximum
Well Number	EE-13	EE-12	EE-G112	EE-14	EE-15	EE-16	EE-12	NA	EE-20	Concentration
Date Collected	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	Detected
BNAs								BLANK		
Phenol	ND	ND	ND	1800	ND	80	ND	ND	ND	1800
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	5 J	ND	370	ND	ND	ND	ND	ND	370
1,3-Dichlorobenzene	ND	110	ND	ND	ND	ND	110	ND	ND	110
1,4-Dichlorobenzene	ND	640	ND	910	10	110	830	ND	ND	910
Benzyl Alcohol	ND	ND	ND	230 J	ND	350	ND	ND	ND	350
1,2-Dichlorobenzene	ND	110	ND	220 J	4 J	15 J	110	ND	ND	220 J
2-Methylphenol	ND	ND	ND	89 J	ND	76	ND	ND	ND	89 J
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	350	ND	ND	ND	ND	ND	350
N-Nitroso-n-Dipropylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic Acid	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis-(2-Chloroethoxy)methane	ND	2 J	ND	2900	ND	ND	ND	ND	ND	2900
2,4-Dichlorophenol	ND	22	ND	1000	ND	ND	ND	ND	ND	1000
1,2,4-Trichlorobenzene	ND	ND	ND	2700	ND	ND	ND	ND	ND	2700
Naphthalene	ND	ND	ND	57 J	ND	230	ND	ND	ND	230
4-Chloroaniline	ND	140	14	8300	18	9600 E	78	ND	ND	9600 E
Hexachlorobutadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	140 J	ND	ND	ND	ND	ND	140 J
2-Methylnaphathalene	ND	1 J	ND	ND	ND	9 J	ND	ND	ND	9
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	290	ND	ND	ND	ND	ND	290
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/L - Micrograms per liter.

B - Compound detected in blank sample.

E - Estimated value. Concentration detected exceeds the calibrated range.

J - Estimated value.

ND - Not detected

SAUGET Analytical Data
Site I

GROUND WATER SAMPLES
Base Neutrals/Acids (μg/L)
Collected by Ecology & Environment, Inc. (3/87)

	Sample Number	DC-GW-23	DC-GW-24	DC-GW-25	DC-GW-26	DC-GW-27	DC-GW-28	DC-GW-29	DC-GW-30	DC-GW-31	Maximum
	Well Number	EE-13	EE-12	EE-G112	EE-14	EE-15	EE-16	EE-12	NA	EE-20	Concentration
	Date Collected	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	Detected
BNAs									BLANK		
2,4-Dinitrophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate		ND	ND	23 B	ND	13 B	140 B	ND	13 B	8 BJ	140 B
4-Chlorophenyl-Phenylether		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene		ND	ND	ND	ND	ND	25 J	ND	ND	ND	25 J
4-Nitroaniline		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl-phenylether		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol		ND	ND	6 J	2400	7 J	60 J	ND	ND	ND	2400
Phenanthrene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene		ND	ND	ND	ND	2 BJ	ND	ND	ND	ND	2
Di-n-butly phthalate		2 JB	7 BJ	2 JB	ND	ND	ND	ND	2 JB	4 BJ	7 BJ
Fluoranthene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butyl Benzyl phthalate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)anthracene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-ethylhexyl)phthalate		2 JB	5 BJ	3 JB	ND	2	20 BJ	ND	2 JB	3 BJ	20 BJ
Chrysene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate		ND	ND	ND	ND	ND	ND	ND	ND	1 J	1 J
Benzo(b)fluoranthene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (a)pyrene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,I)perylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

μg/L - Micrograms per liter.
B - Compound detected in blank sample.
E - Estimated value. Concentration detected exceeds the calibrated range.
J - Estimated value.
ND - Not detected.

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SAUGET Analytical Data
Site I

GROUND WATER SAMPLES
Total Metals (μg/L)
Collected by Ecology & Environment, Inc. (3/87)

	Sample Number	DC-GW-23	DC-GW-24	DC-GW-25	DC-GW-26	DC-GW-27	DC-GW-28	DC-GW-29	DC-GW-30	DC-GW-31	Maximum
	Sample Depth (ft)	EE-13	EE-12	EE-G112	EE-14	EE-15	EE-16	EE-12	NA	EE-20	Concentration
	Date Collected	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	Detected
Total Metals									BLANK		
Aluminum		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic		**12**	ND	**20**	**15**	**12**	ND	ND	ND	ND	**20**
Barium		ND	ND	**223**	ND	ND	**956**	ND	ND	ND	**956**
Beryllium		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron		**25400**	**23300**	**10800**	**24100**	**10500**	**9540**	**24900**	**107**	**124**	**25400**
Lead		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese		**1520**	**1550**	**1650**	**1260**	**1270**	**1750**	**1580**	ND	ND	**1750**
Mercury		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel		ND	ND	ND	**95**	ND	ND	ND	ND	ND	**95**
Selenium		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tin		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc		ND	ND	ND	**25**	**26**	ND	ND	ND	ND	**26**
Cyanide		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

μg/L - Micrograms per liter.
ND - Not detected.

SAUGET Analytical Data
Site I

GROUND WATER SAMPLES
Pesticides/PCBs (µg/L)
Collected by Ecology & Environment, Inc. (3/87)

	Sample Number	DC-GW-23	DC-GW-24	DC-GW-25	DC-GW-26	DC-GW-27	DC-GW-28	DC-GW-29	DC-GW-30	DC-GW-31	Maximum
	Well Number	EE-13	EE-12	EE-G112	EE-14	EE-15	EE-16	EE-12	NA	EE-20	Concentration
	Date Collected	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	03/23/87	Detected
Pesticides/PCBs									BLANK		
Alpha-BHC		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC (Lindane)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1016		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

µg/L - Micrograms per liter.
ND - Not detected.

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SAUGET Analytical Data

Sauget Sites Area 1

GROUNDWATER SAMPLES (µg/L)

Collected by IEPA

Sample Number	G201	G202	G203	G204	G205	Maximum
Date Collected	3/27/91	3/27/91	3/27/91	3/28/91	3/27/91	Detected
VOLATILES						
Methylene Chloride	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND
# of TICs	(0)	(0)	(0)	(0)	(0)	0
SEMIVOLATILES						
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND
4-Methlyphenol	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND
Fluroanthene	ND	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	ND	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND
# of TICs	(5)	(5)	(9)	(6)	(20)	20
PESTICIDES/PCB's						
beta-BHC	ND	ND	ND	ND	ND	ND
Heptachlor	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND
Endrin	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND
Methoxychlor	ND	ND	ND	ND	0.07 J	0.07 J
alpha-Chlorodane	ND	ND	ND	ND	3.76	3.76
gamma-Chlorodane	ND	ND	ND	ND	5.02	5.02
Aroclor-1254	ND	ND	ND	ND	ND	ND
Aroclor-1260	ND	ND	ND	ND	ND	ND

µg/L - Micrograms per liter.
J - Estimated value.
ND - Not detected.
TICs - Tentatively identified compounds

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SAUGET Analytical Data
Sauget Sites Area 1

GROUNDWATER SAMPLES
Total Metals (μg/L)
Collected by IEPA

	Sample Number	G201	G202	G203	G204	G205	Maximum
	Date Collected	03/27/91	03/27/91	03/27/91	03/28/91	03/27/91	Detected
	Temperature (°F)	60.8	60.8	59.8	60.3	55.9	
	Conductivity (μmhos)	1003	1326	1027	1230	960	
	pH	7.59	7.38	7.24	7.56	7.49	
Total Metals							
Aluminum		ND	ND	ND	ND	96 B	96 B
Antimony		ND	54 B	55 B	ND	ND	55
Arsenic		ND	10.9	ND	3.9 B	9.2 B	10.9
Barium		ND	273	ND	502	ND	502
Beryllium		ND	ND	ND	ND	ND	ND
Cadmium		ND	ND	ND	ND	ND	ND
Calcium		141000	202000	164000	145000	11900	202000
Chromium		ND	ND	ND	ND	ND	ND
Cobalt		6.2	ND	ND	ND	ND	6.2
Copper		ND	ND	ND	ND	75	75
Iron		977	21700	400	166	724	21700
Lead		6.7	ND	ND	3.3	11	11
Magnesium		32100	41600	25800	37600	ND	41600
Manganese		712	1590	2750	39	100	2750
Mercury		ND	ND	ND	ND	ND	ND
Nickel		ND	ND	ND	ND	ND	ND
Potassium		4340 B	7110	6330	5420	ND	7110
Selenium		1.3 B	ND	1.3 B	2.7 B	0.8 B	2.7 B
Silver		ND	ND	ND	ND	ND	ND
Sodium		20900	24400	6240	14600	ND	24400
Thallium		2.4 B	4.7 B	3.1 B	ND	ND	4.7 B
Vanadium		ND	ND	ND	ND	ND	ND
Zinc		580	ND	58	38	658	658
Sulfate		95000	146000	93000	48800	13000	146000

μg/L - Micrograms per liter.
B - Estimated value. The value is less than the CRDL, but greater than the instrument detection limit.
ND - Not detected.

Groundwater Sample Results
January 1996
Sauget,Illinois

concentration (mg/L)

Monitoring Well	Benzene	Ethylbenzene	Toluene	Xylene(Total)	Pentachloro-	Phenol	Cresols	Naphthalene	TNCPAH	TCPAH	BTEX
MAG101	0.00503	0.00259	0.00068	0.00453	0	0	0	0.6	0.922	0.6	0.01283
MAG103	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MAG108	0	0	0	0	0	0	0	0.0545	0.23246	0.0604	0
MAG110	0	0	0	0	0	0	0	0	0	0	0
MAG201	0.154	0.087	0.0611	0.1041	0	0	0	7.32	0.26	7.32	0.4062
MAG203	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MAG208	0	0	0	0	0	0	0	0	0	0	0
MAG209	0	0	0	0	0	0	0	0	0	0.00257	0
MAG210	0	0	0	0	0	0	0	0.00257	0	0	0
MAG401	0	0	0	0	0	0	0	0	0	0	0
MAG403	NS	NS	NS	NS	NS	NS	NS	0	0	0	0
MAG408	0.00353	0	0.00566	0.00081	0	0	0	NS	NS	NS	NS
MAG409	0	0	0	0	0	0	0	0	0	0	0.001
MAG410	0	0	0	0	0	0	0	0	0.0223	0	0
MAG404	0	0	0	0	0	0	0	0	0	0	0
MAG411	0	0	0	0	0	0	0	0	0	0	0
MAG412	0.00181	0.31	0.184	0.393	0	0	0	0	0.534	11.7	0.88881
	0	0	0	0	0	0	0	11.7	0	0	0

NS=NOT SAMPLED

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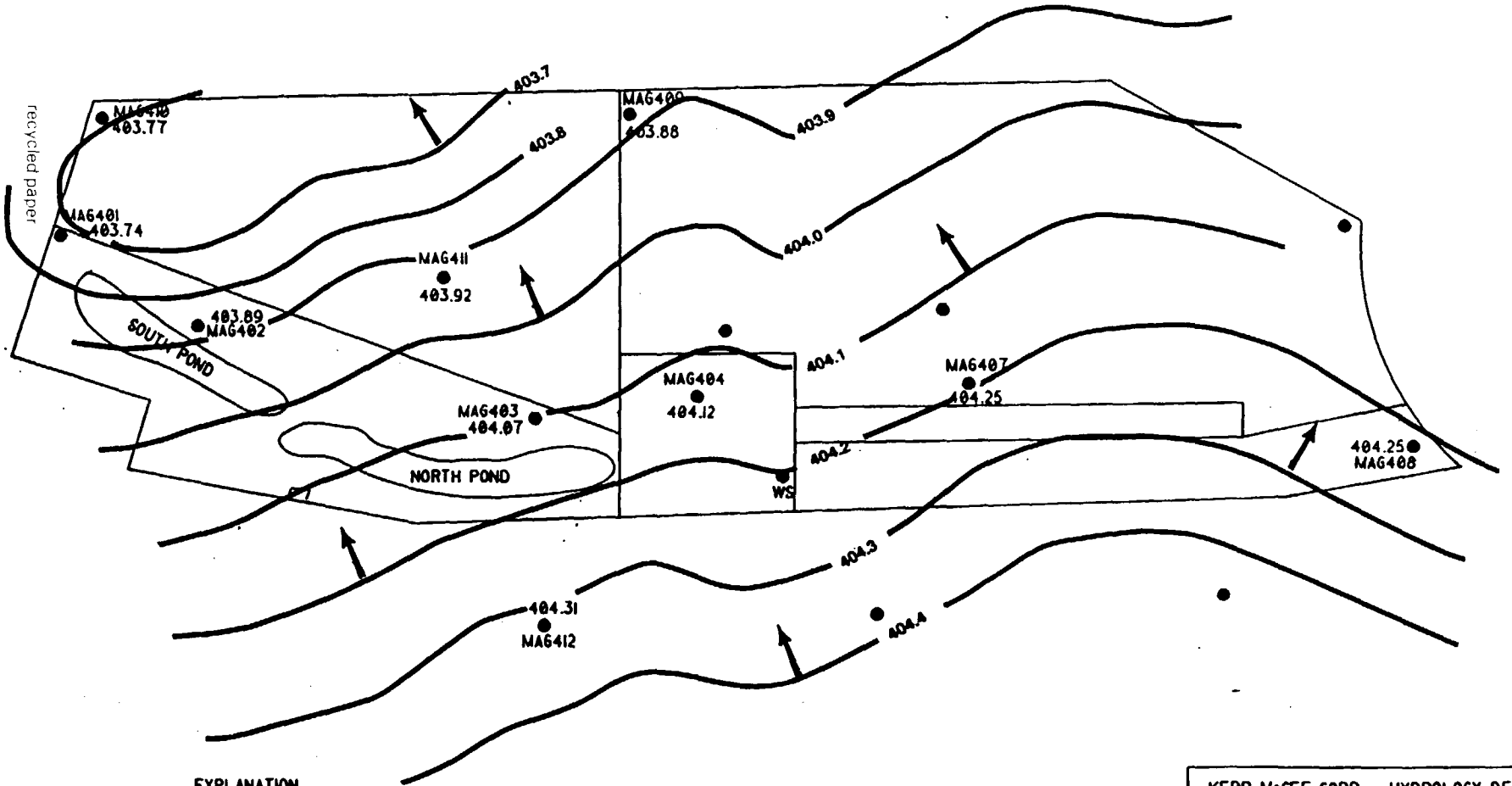

EXPLANATION

MAG ● MONITORING WELL LOCATION & IDENTIFICATIONS

403 WATER LEVEL ELEVATION CONTOURS

CONTOUR INTERVAL = .10

WATER LEVELS TAKEN JULY 25, 1995

0 400 FT
SCALE

KERR-McGEE CORP. - HYDROLOGY DEPT.

POTENTIOMETRIC SURFACE
DEEP MONITORING WELLS
JULY 25, 1995

KERR-McGEE CHEMICAL CORP.
SAUGET, IL

MAP DATE: 9/95 | DRAWN BY: K. BULLER

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