US EPA RECORDS CENTER REGION 5
472746

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION
01 STATE: ILD | 02 SITE NUMBER: 063 698 971

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	Perma-Treat of Illinois
02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER	North Carbon St. & Industrial Park Dr.
03 CITY	Marion
04 STATE	IL
05 ZIP CODE	62959
06 COUNTY	Williamson
07 COUNTY CODE	199
08 CONG DIST	22
09 COORDINATES LATITUDE	42 44 08" N
LONGITUDE	88 57 08" W
10 TYPE OF OWNERSHIP (Check one)	☒ A. PRIVATE ☐ B. FEDERAL ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION: 03 23 94 (MONTH DAY YEAR)
02 SITE STATUS: ☒ ACTIVE ☐ INACTIVE
03 YEARS OF OPERATION: 1982 (BEGINNING YEAR) present (ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
☒ A. EPA ☐ B. EPA CONTRACTOR BVWS (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR ___ (Name of firm)
☐ E. STATE ☐ F. STATE CONTRACTOR ___ (Name of firm) ☐ G. OTHER ___ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
John Chitwood	Geologist	BVWS	(312 683-7832
09 OTHER INSPECTORS	**10 TITLE**	**11 ORGANIZATION**	**12 TELEPHONE NO.**
Jeff Albano	Environmental Scientist	BVWS	(312 683-7853
Mary Lee	Geologist	BVWS	(312 346-3775
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
Rudy J. Bond	Owner	N. Carbon & Industrial	(618 997-5646
Rodger A. Walker	Site Consultant	802 E. Herrin St., Herrin, IL	(618 942-2844
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	0820	Partly cloudy, 40°F, forcasted rain

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Tom Crause	IEPA/DPLC/RPMS	(217, 782-6760

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Jeff Albano	USEPA	BVWS	312 683-7853	09 23 94 (MONTH DAY YEAR)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	063 698 971

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- X A. SOLID
- B. POWDER, FINES
- C. SLUDGE
- D. OTHER _____ (Specify)
- E. SLURRY
- F. LIQUID
- G. GAS

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

- TONS _____
- CUBIC YARDS 2,420
- NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

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

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES	Unknown		Contaminated soil
OCC	OTHER ORGANIC CHEMICALS	Unknown		Contaminated soil
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	Unknown		Contaminated soil

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	Potassium	N/A		1,610	PPM
MES	Selenium	7782-49-2		0.99	PPM
MES	Thallium	7740-78-0		0.30	PPM

V. FEEDSTOCKS (See Appendix for CAS Numbers)

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

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

USEPA 1994, analytical case no. 21795

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: ILD | 02 SITE NUMBER: 063 698 971

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
No damage to flora observed.

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
No damage to fauna observed.

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Contamination to food chain not documented.

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: ~~3-23-94~~) ☒ POTENTIAL ☒ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 19,782 — 04 NARRATIVE DESCRIPTION
Source areas do not have any engineered containment systems.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
No damage to offsite property observed.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
No contamination of sewers, storm drains, WWTPs is observed or documented.

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
No illegal/unauthorized dumping observed or documented.

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

III. TOTAL POPULATION POTENTIALLY AFFECTED: 19,782

IV. COMMENTS

IEPA, 1991. CERCLA Preliminary Assessment report.

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

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE: ILD | 02 SITE NUMBER: 063 698 971

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☐ B. $10^{-4} - 10^{-6}$ cm/sec ☒ C. $10^{-4} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☒ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
45 (ft)	0..5 (ft)	---

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
3 (in)	3 (in)	0-2 %	south	%

09 FLOOD POTENTIAL

SITE IS IN 10-100 YEAR FLOODPLAIN

10 ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE: A. _____ (mi)

OTHER: B. _____ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

1.5 (mi)

ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. 0.1 (mi)	B. _____ (mi)	C. _____ (mi)	D. _____ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The Perma-Treat site is located in a mixed commercial/residential area.

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

J.A. Linebeck, quanternary deposits of Illinois, ISGS, 1975.
W.A Pryor, 1956. Groundwater geology of southern Illinois, ISGS, Circular 21
U.S. Dept. of Commerce, technical paper #40, 1961.
IEPA, 1991. CERCLA Preliminary Assessment report.
USGS, 1966. Topographic map, Marion, IL, 7.5 minute quadrangle.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
ILD	063 698 971

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
sediment ~~SURFACE WATER~~	7	IT Analytical Services Export, PA 15632 8806; Southwest Labs of Oklahoma, Broken Arrow, OK 74012	6/94
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	8	Encotec 3985 Research Park, Ann Arbor, MI 48108, Weyerhauser Analytical Federal Way, WA 98003	6/94
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
Location	
Measurements	Sample locations were measured in feet and inches from
	fixed structures.

IV. PHOTOGRAPHS AND MAPS

01 TYPE [X] GROUND [ ] AERIAL

02 IN CUSTODY OF BVWS/USEPA files (Name of organization or individual)

03 MAPS [X] YES [ ] NO

04 LOCATION OF MAPS USEPA Region V files

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

Air monitor: no readings above background noted on HNu.

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

USEPA, 1994. Analytical case no. 21759

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	063 698 971

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
Hickson Corporation			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
1579 Koppers Road			

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
Conley	GA	30027			

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

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

IEPA, 1991 CERCLA Preliminary Assessment report.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
ILD	063 698 971

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☒ D. SPILLED MATERIAL REMOVED — 02 DATE 1985 — 03 AGENCY _____
04 DESCRIPTION
Release of chromated copper arsenate to area north of control room.

01 ☒ E. CONTAMINATED SOIL REMOVED — 02 DATE 1985 — 03 AGENCY _____
04 DESCRIPTION
Contaminated soil was neutralized with lime and removed.

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	063 698 971

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☒ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

In a June 20, 1991, RCRA inspection, IEPA personnel found restricted waste stored in an onsite waste pile for more than 90 days.

On September 19, 1991, the IEPA notified Perma-Treat that the waste pile was in violation of RCRA requirements for generators and storage sites of hazardous waste.

Subject to numerous conditions and modifications, the IEPA approved Perma-Treat's RCRA closure plan for the waste pile on December 11, 1992. The approved clousre plan required soil sampling near the southern and eastern sides of the drip pad.

Perma-Treat appealed the IEPA enforcement action seeking closure of the waste pile. Perma-Treat won the appeal, halting IEPA's RCRA enforcement action.

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

IEPA RCRA Land Disposal Restriction report, Perma-Treat of Illinois, USEPA ILD 063 698 971, IEPA 1990555010, June 20, 1991.

IEPA Division of Land Pollution Control, in letter to Carolyn Bond, Perma-Trea of Illinois, Inc. September 19, 1991.

IEPA Division of Land Pollution Control, in letter to Carolyn Bond, Perma-Treat of Illinois, Inc., December 11, 1992.

IEPA Division of Land Pollution Control in correspondence to ARCS V Contractor October 26, 1993 and January 14, 1994.

Appendix C

Perma-Treat of Illinois, Inc.

Target Compound List and
Target Analyte List

Target Compound List

Volatiles

Chloromethane
Bromomethane
Vinyl Chloride
Chloroethane
Methylene Chloride
Acetone
Carbon Disulfide
1,1-Dichloroethene
1,1-Dichloroethane
1,2-Dichloroethene (total)
Chloroform
1,2-Dichloroethane
2-Butanone
1,1,1-Trichloroethane
Carbon Tetrachloride
Bromodichloromethane
1,2-Dichloropropane
Cis-1,3-Dichloropropene
Trichloroethene
Dibromochloromethane
1,1,2-Trichloroethane
Benzene
trans-1,3-Dichloropropane
Bromoform
4-Methyl-2-pentanone
2-Hexanone
Tetrachloroethene
Toluene
1,1,2,2-Tetrachloroethane
Chlorobenzene
Ethyl benzene
Styrene
Xylenes (total)

Source: Target Compound List for water and soil with low or medium levels of volatile and semi-volatile organic contaminants, as shown in the Quality Assurance Project Plan for Region V Superfund Site Assessment Program, September 27, 1991.

Target Compound List (Continued)

Semi-Volatiles

Phenol
bis(2-Chloroethyl) ether
2-Chlorophenol
1,3-Dichlorobenzene
1,4-Dichlorobenzene
1,2-Dichlorobenzene
2-Methylphenol
2,2-oxybis-(1-Chloropropane)*
4-Methylphenol
N-Nitroso-di-n-dipropylamine
Hexachloroethane
Nitrobenzene
Isophorone
2-Nitrophenol
2,4-Dimethylphenol
bis(2-Chloroethoxy) methane
2,4-Dichlorophenol
1,2,4-Trichlorobenzene
Naphthalene
4-Chloroaniline
Hexachlorobutadiene
4-Chloro-3-methylhenol
2-Methylnaphthalene
Hexachlorocyclopentadiene
2,4,6-Trichlorophenol
2,4,5-Trichlorophenol
2-Chloronephthalene
2-Nitroaniline
Dimethylphthalate
Acenaphthylene
2,6-Dinitrotoluene
3-Nitroaniline
Acenaphthene
2,4-Dinitrophenol
4-Nitrophenol
Dibenzofuran
2,4-Dinitrotoluene
Diethylphthalate
4-Chlorphenyl-phenyl ether
Fluroene
4-Nitroaniline
4,6-Dinitro-2-methylphenol
N-Nitrosodiphenylamine
4-Bromophenyl-phenyl ether
Hexachlorobenzene
Pentachlorophenol
Phenanthrenel
Anthracene
Carbazole
Di-n-butylphthalate
Fluoranthene
Pyrene
Butyl benzyl phthalate
3,3-Dichlorbenzidine
Benzo(a)anthracene
Chrysene
bis(2-Ethylhexyl)phthalate
Di-n-Octyphthalate
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Benzp(a)pyrene
Indeno(1,2,3-cd)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

*Previously known by the name of bis(2-chlorousipropyl) ether.

Source: Target Compound List for water and soil with low or medium levels of volatile and semi-volatile organic contaminants, as shown in the Quality Assurance Project Plan for Region V Superfund Site Assessment Program, September 27, 1991.

Target Compound List (Continued)

Semi-Volatiles

Phenol
bis(2-Chloroethyl) ether
2-Chlorophenol
1,3-Dichlorobenzene
1,4-Dichlorobenzene
1,2-Dichlorobenzene
2-Methylphenol
2,2-oxybis-(1-Chloropropane)*
4-Methylphenol
N-Nitroso-di-n-dipropylamine
Hexachloroethane
Nitrobenzene
Isophorone
2-Nitrophenol
2,4-Dimethylphenol
bis(2-Chloroethoxy) methane
2,4-Dichlorophenol
1,2,4-Trichlorobenzene
Naphthalene
4-Chloroaniline
Hexachlorobutadiene
4-Chloro-3-methylhenol
2-Methylnaphthalene
Hexachlorocyclopentadiene
2,4,6-Trichlorophenol
2,4,5-Trichlorophenol
2-Chloronephthalene
2-Nitroaniline
Dimethylphthalate
Acenaphthylene
2,6-Dinitrotoluene
3-Nitroaniline
Acenaphthene
2,4-Dinitrophenol
4-Nitrophenol
Dibenzofuran
2,4-Dinitrotoluene
Diethylphthalate
4-Chlorphenyl-phenyl ether
Fluroene
4-Nitroaniline
4,6-Dinitro-2-methylphenol
N-Nitrosodiphenylamine
4-Bromophenyl-phenyl ether
Hexachlorobenzene
Pentachlorophenol
Phenanthrenel
Anthracene
Carbazole
Di-n-butylphthalate
Fluoranthene
Pyrene
Butyl benzyl phthalate
3,3-Dichlorbenzidine
Benzo(a)anthracene
Chrysene
bis(2-Ethylhexyl)phthalate
Di-n-Octyphthalate
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Benzp(a)pyrene
Indeno(1,2,3-cd)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

*Previously known by the name of bis(2-chlorousipropyl) ether.

Source: Target Compound List for water and soil with low or medium levels of volatile and semi-volatile organic contaminants, as shown in the Quality Assurance Project Plan for Region V Superfund Site Assessment Program, September 27, 1991.

Target Compound List

Volatiles

Chloromethane
Bromomethane
Vinyl Chloride
Chloroethane
Methylene Chloride
Acetone
Carbon Disulfide
1,1-Dichloroethene
1,1-Dichloroethane
1,2-Dichloroethene (total)
Chloroform
1,2-Dichloroethane
2-Butanone
1,1,1-Trichloroethane
Carbon Tetrachloride
Bromodichloromethane
1,2-Dichloropropane
Cis-1,3-Dichloropropene
Trichloroethene
Dibromochloromethane
1,1,2-Trichloroethane
Benzene
trans-1,3-Dichloropropane
Bromoform
4-Methyl-2-pentanone
2-Hexanone
Tetrachloroethene
Toluene
1,1,2,2-Tetrachloroethane
Chlorobenzene
Ethyl benzene
Styrene
Xylenes (total)

Source: Target Compound List for water and soil with low or medium levels of volatile and semi-volatile organic contaminants, as shown in the Quality Assurance Project Plan for Region V Superfund Site Assessment Program, September 27, 1991.

Target Compound List (Continued)

Pesticide/PCB

alpha-BHC	4,4-DDT
beta-BHC	Methoxychlor
delta-BHC	Endrin ketone
gamma-BHC (Lindane)	Endrin aldehyde
Heptachlor	alpha-chlordane
Aldrin	gamma-chlordane
Heptachlor epoxide	Toxaphene
Endosulfan I	Aroclor-1016
Dieldrin	Aroclor-1221
4,4-DDE	Aroclor-1232
Endrin	Aroclor-1242
Endosulfan II	Aroclor-1248
4,4-DDD	Aroclor-1254
Endosulfan sulfate	Aroclor-1260

Source: Target Compound List for water and soil containing less than high concentrations of pesticides/aroclors, as shown in the Quality Assurance Project Plan for Region V Superfund Site Assessment Program, September 27, 1991.

Target Analyte List

Aluminum	Magnesium
Antimony	Manganese
Arsenic	Mercury
Barium	Nickel
Beryllium	Potassium
Cadmium	Selenium
Calcium	Silver
Chromium	Sodium
Cobalt	Thallium
Copper	Vanadium
Iron	Zinc
Lead	Cyanide

Source: Target Analyte List in the Quality Assurance Project Plan for Region V Superfund Site Assessment Program, September 27, 1991.

Appendix D

Perma-Treat of Illinois, Inc.

Analytical Results

Appendix D Contents

Data Qualifiers D-2

Analytical Results D-3

Sediment Samples
Volatile Organic Analysis for Sediment Samples D-3
Volatile Organic Analysis for Sediment Samples
Tentatively Identified Compounds D-4
Semi-volatile Organic Analysis for Sediment Samples D-5
Semi-volatile Organic Analysis for Sediment Samples,
Tentatively Identified Compounds D-7
Pesticide and PCB Analysis for Sediment Samples D-11
Inorganic Analysis for Sediment Samples D-12
Soil Samples
Volatile Organic Analysis for Soil Samples D-13
Semi-volatile Organic Analysis for Soil Samples D-14
Semi-volatile Organic Analysis for Soil Samples,
Tentatively Identified Compounds D-16
Pesticide and PCB Analysis for Soil Samples D-18
Inorganic Analysis for Soil Samples D-19

Data Qualifiers		
Analysis	Qualifier	Description
Organic	U	Compound was analyzed but not detected. The associated numerical value is the sample quantitation limit.
	J	An estimated value. This flag is used either when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria with the result less than the sample quantitation limit but greater than zero.
	B	Reported value is less than the CRQL, but greater than the instrument detection limit.
	N	Indicates presumptive evidence of a compound. This flag is used only for TICs.
	D	Analyzed at a secondary dilution factor.
Inorganic	U	Compound was analyzed for but not detected. The associated numerical value is the sample quantitation limit.
	J	An estimated value.
	B	The reported value is less than the CRDL, but greater than or equal to the IDL.
	N	Spiked sample recovery not within control limits.
	W	Post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50 percent of spike absorbance.
	*	Duplicate analysis not within control limits.
	+	Correlation coefficient for the method of standard additions (MSA) is less than 0.995.
	S	The reported value was determined by the MSA.

Volatile Organic Analysis for Sediment Samples Perma Treat							
Volatile Compound	Sample Locations and Number Concentration in ug/kg						
	ST01	ST02	ST03	ST04	ST05	ST06	ST07 Background
Chloromethane	13 U	15 U	14 U	14 U	16 U	18 U	18 U
Bromomethane	13 U	15 U	14 U	14 U	16 U	18 U	18 U
Vinyl Chloride	13 U	15 U	14 U	14 U	16 U	18 U	18 U
Chloroethane	13 U	15 U	14 U	14 U	16 UJ	18 UJ	18 U
Methylene Chloride	13 U	15 U	14 U	14 U	16 U	18 U	18 U
Acetone	13 UJ	7 J	14 UJ	14 UJ	11 J	10 J	18 UJ
Carbon Disulfide	13 U	15 U	14 U	14 U	16 U	18 U	18 U
1,1-Dichloroethene	13 U	15 U	14 U	14 U	2 J	18 U	18 U
1,1-Dichloroethane	13 U	15 U	14 U	14 U	16 U	18 U	18 U
1,2-Dichloroethene (total)	13 U	15 U	14 U	14 U	16 U	18 U	18 U
Chloroform	13 U	15 U	14 U	14 UJB	16 UJB	18 UJB	18 UJB
1,2-Dichloroethane	13 U	15 U	14 U	14 U	16 U	18 U	18 U
2-Butanone	13 U	15 U	14 U	14 U	16 UJ	18 UJ	18 U
1,1,1-Trichloroethane	13 U	15 U	14 U	14 U	16 U	18 U	18 U
Carbon Tetrachloride	13 U	15 U	14 U	14 U	16 U	18 U	18 U
Bromodichloromethane	13 U	15 U	14 U	14 U	16 U	18 U	18 U
1,2-Dichloropropane	13 U	15 U	14 U	14 U	16 U	18 U	18 U
cis-1,3-Dichloropropene	13 U	15 U	14 U	14 U	16 U	18 U	18 U
Trichloroethene	13 U	15 U	14 U	14 U	16 U	18 U	18 U
Dibromochloromethane	13 U	15 U	14 U	14 U	16 U	18 U	18 U
1,1,2-Trichloroethane	13 U	15 U	14 U	14 U	16 U	18 U	18 U
Benzene	13 U	15 U	14 U	14 U	16 U	18 U	18 U
trans-1,3-Dichloropropene	13 U	15 U	14 U	14 U	16 U	18 U	18 U
Bromoform	13 U	15 U	14 U	14 U	16 U	18 U	18 U
4-Methyl-2-Pentanone	13 U	15 U	14 U	14 UJ	16 UJ	18 UJ	18 U
2-Hexanone	13 U	15 U	14 U	14 UJ	16 UJ	18 UJ	18 U
Tetrachloroethene	13 U	15 U	14 U	14 UJ	16 U	18 U	18 U
1,1,2,2-Tetrachloroethane	13 U	15 U	14 U	14 UJ	16 U	18 U	18 U
Toluene	13 U	15 U	14 U	14 UJ	16 U	18 U	18 U
Chlorobenzene	13 U	15 U	14 U	14 UJ	16 U	18 U	18 U
Ethylbenzene	13 U	15 U	14 U	14 UJ	16 U	18 U	18 U
Styrene	13 U	15 U	14 U	14 UJ	16 U	18 U	18 U
Xylene (total)	13 U	15 U	14 U	14 UJ	16 U	18 U	18 U
Total Number of TICS *	0	0	0	0	1	0	0

* Number, not concentrations, of tentatively identified compounds (TICs).

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Volatile Organic Analysis for Sediment Samples Tentatively Identified Compounds Perma Treat Concentrations in ug/kg		
Compound Name	Retention Time	Estimated Concentration
Sample ST05		
Unknown Siloxane	8.097	8 J

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Semivolatile Organic Analysis for Sediment Samples
Perma Treat

Semivolatile Compound	Sample Location and Number Concentrations in ug/kg						
	ST01	ST02	ST03	ST04	ST05	ST06	ST07 Background
Phenol	420 U	490 U	480 U	460 U	520 U	610 U	600 U
bis(2-Chloroethyl)Ether	420 U	490 U	480 U	460 U	520 U	610 U	600 U
2-Chlorophenol	420 U	490 U	480 U	460 U	520 U	610 U	600 U
1,3-Dichlorobenzene	420 U	490 U	480 U	460 U	520 U	610 U	600 U
1,4-Dichlorobenzene	420 U	490 U	480 U	460 U	520 U	610 U	600 U
1,2-Dichlorobenzene	420 U	490 U	480 U	460 U	520 U	610 U	600 U
2-Methylphenol	420 U	490 U	480 U	460 U	520 U	610 U	600 U
2,2'-oxybis(1-Chloropropane)	420 UJ	490 UJ	480 UJ	460 UJ	520 U	610 U	600 U
4-Methylphenol	420 U	26 J	480 U	460 U	520 U	150 J	600 U
n-Nitroso-Di-n-Propylamine	420 U	490 U	480 U	460 U	520 U	610 U	600 U
Hexachloroethane	420 U	490 U	480 U	460 U	520 U	610 U	600 U
Nitrobenzene	420 U	490 U	480 U	460 U	520 U	610 U	600 U
Isophorone	420 U	490 U	480 U	460 U	520 U	610 U	600 U
2-Nitrophenol	420 U	490 U	480 U	460 U	520 U	610 U	600 U
2,4-Dimethylphenol	420 U	490 U	480 U	460 U	520 U	610 U	600 U
2,4-Dichlorophenol	420 U	490 U	480 U	460 U	520 U	610 U	600 U
1,2,4-Trichlorobenzene	420 U	490 U	480 U	460 U	520 U	610 U	600 U
Naphthalene	28 J	50 J	480 U	460 U	62 J	610 U	600 U
4-Chloroaniline	420 U	490 U	480 U	460 U	520 U	610 U	600 U
Hexachlorobutadiene	420 U	490 U	480 U	460 U	520 U	610 U	600 U
bis(2-Chloroethoxy)Methane	420 U	490 U	480 U	460 U	520 U	610 U	600 U
4-Chloro-3-Methylphenol	420 U	490 U	480 U	460 U	520 U	610 U	600 U
2-Methylnaphthalene	35 J	68 J	26 J	460 U	150 J	56 J	72 J
Hexachlorocyclopentadiene	420 U	490 U	480 U	460 U	520 UJ	610 UJ	600 UJ
2,4,6-Trichlorophenol	420 U	490 U	480 U	460 U	520 U	610 U	600 U
2,4,5-Trichlorophenol	1000 U	1200 U	1200 U	1100 U	1300 U	1500 U	1400 U
2-Chloronaphthalene	420 U	490 U	480 U	460 U	520 U	610 U	600 U
2-Nitroaniline	1000 U	1200 U	1200 U	1100 U	1300 U	1500 U	1400 U
Dimethylphthalate	420 U	490 U	480 U	460 U	520 U	610 U	600 U
Acenaphthylene	420 U	490 U	480 U	460 U	520 U	610 U	600 U
2,6-Dinitrotoluene	420 U	490 U	480 U	460 U	520 U	610 U	600 U
3-Nitroaniline	1000 U	1200 U	1200 U	1100 U	1300 U	1500 U	1400 U
Acenaphthene	420 U	490 U	480 U	460 U	520 U	610 U	600 U
2,4-Dinitrophenol	1000 U	1200 U	1200 U	1100 U	1300 UJ	1500 UJ	1400 UJ
4-Nitrophenol	1000 U	1200 U	1200 U	1100 U	1300 U	1500 U	1400 U
Dibenzofuran	62 J	120 J	480 U	460 U	68 J	35 J	36 J
2,4-Dinitrotoluene	420 U	490 U	480 U	460 U	520 U	610 U	600 U
Diethylphthalate	420 U	490 U	480 U	460 U	520 U	610 U	600 U

Semivolatile Organic Analysis for Sediment Samples (Continued)
Perma Treat

Semivolatile Compound	Sample Location and Number Concentrations in ug/kg						
	ST01	ST02	ST03	ST04	ST05	ST06	ST07 Background
4-Chlorophenyl-phenylether	420 U	490 U	480 U	460 U	520 U	610 U	600 U
Fluorene	420 U	490 U	480 U	460 U	520 U	610 U	600 U
4-Nitroaniline	1000 U	1200 U	1200 U	1100 U	1300 U	1500 U	1400 U
4,6-Dinitro-2-Methylphenol	1000 U	1200 U	1200 U	1100 U	1300 UJ	1500 UJ	1400 UJ
n-Nitrosodiphenylamine	420 U	490 U	480 U	460 U	520 U	610 U	600 U
4-Bromophenyl-phenylether	420 U	490 U	480 U	460 U	520 U	610 U	600 U
Hexachlorobenzene	420 U	490 U	480 U	460 U	520 U	610 U	600 U
Pentachlorophenol	1000 U	1200 U	1200 U	1100 U	1300 U	1500 U	1400 U
Phenanthrene	64 J	99 J	100 J	26 J	340 J	300 J	120 J
Anthracene	420 U	490 U	32 J	460 U	53 J	41 J	600 U
Carbazole	420 U	490 U	480 U	460 U	54 J	58 J	600 U
di-n-Butylphthalate	420 U	490 U	480 U	460 U	520 U	610 U	45 J
Fluoranthene	30 J	45 J	200 J	37 J	600	600 J	150 J
Pyrene	43 J	69 J	250 J	43 J	680 J	720 J	150 J
Butylbenzylphthalate	420 U	490 U	480 U	460 U	520 UJ	610 UJ	600 UJ
3,3'-Dichlorobenzidine	420 U	490 U	480 U	460 U	520 U	610 U	600 U
Benzo(a)Anthracene	420 U	30 J	110 J	460 U	300 J	240 J	65 J
Chrysene	36 J	55 J	160 J	25 J	390 J	400 J	100 J
bis(2-Ethylhexyl)Phthalate	420 UJB	490 UJB	480 UJB	460 UJB	520 UJB	610 UJB	600 UJB
di-n-octylphthalate	420 U	490 U	480 U	460 U	520 U	610 UJ	600 UJ
Benzo(b)Fluoranthene	32 J	46 J	170 J	460 U	420 J	390 J	100 J
Benzo(k)Fluoranthene	24 J	39 J	170 J	460 U	340 J	450 J	75 J
Benzo(a)Pyrene	420 U	53 J	120 J	460 U	340 J	320 J	76 J
Indeno(1,2,3-cd)Pyrene	420 U	38 J	83 J	460 U	320 J	270 J	61 J
Dibenzo(a,h)Anthracene	420 U	490 U	480 U	460 U	520 U	610 U	600 U
Benzo(g,h,i)Perylene	420 U	490 U	85 J	460 U	360 J	330 J	70 J
Total Number of TICs	29	29	25	29	29	30	30

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Semivolatile Organic Analysis for Sediment Samples Tentatively Identified Compounds Perma Treat Concentrations in ug/kg		
Compound Name	Retention Time	Estimated Concentration
Sample ST01		
Unknown	2.080	7500 UJB
3-Penten-2-one, 4-methyl-	3.190	180 UJNBA
2-Pentanone, 4-hydroxy-4-met	3.649	12000 UJNBA
Unknown Alkane	12.261	160 J
Unknown Alkane	12.314	190 J
Unknown Alkane	13.232	170 J
Unknown Organic Acid	14.512	230 J
Unknown Alkane	15.559	180 J
Unknown Amide	16.243	160 UJB
Unknown Amide	17.551	1800 UJB
Unknown	18.092	390 J
Unknown Alkane	18.330	490 J
Unknown Alkane	18.676	340 J
Unknown Alkane	18.975	320 J
Unknown Alkane	19.308	620 J
Unknown	19.594	350 J
Unknown Amide	20.145	830 UJB
Unknown	20.377	430 UJB
Unknown	20.581	490 J
Unknown	20.690	460 J
Unknown	20.812	760 J
Unknown	21.362	470 J
Unknown	21.538	260 J
Unknown	22.100	770 J
Unknown	22.140	610 J
Unknown	22.625	800 J
Unknown Alkane	23.578	240 J
Unknown	23.839	250 J
Unknown	25.578	740 UJB
Sample ST02		
Unknown	2.120	7900 UJB
Unknown	2.186	450 JB
2-Pentanone, 4-hydroxy-4-met	3.671	13000 UJNBA
Unknown Alkane	12.267	250 J
Unknown Alkane	12.320	260 J
Unknown Alkane	13.233	270 J
Unknown	14.398	360 J
Unknown Organic Acid	14.552	790 J
Unknown	16.615	710 J
Unknown Amide	17.570	2000 UJB
Unknown Alkane	18.350	810 J
Unknown Alkane	19.339	930 J
Unknown	19.621	460 J
Unknown Alkane	19.814	720 J
Unknown Amide	20.159	930 UJB
Unknown	20.400	750 JB
Unknown	20.607	980 J
Unknown Alkane	20.711	860 J
Unknown	20.849	1300 J
Unknown	21.380	830 J
Unknown Alkane	21.765	960 J
Unknown	22.127	1100 J
Unknown	22.168	640 J
Unknown	22.651	1400 J
Unknown	23.315	640 J
Unknown	23.390	810 J

Semivolatile Organic Analysis for Sediment Samples Tentatively Identified Compounds (Continued) Perma Treat Concentrations in ug/kg		
Compound Name	Retention Time	Estimated Concentration
Sample ST02 (Continued)		
Unknown Alkane	24.354	660 J
Unknown	24.864	540 J
Unknown	25.594	820 UJB
Sample ST03		
Unknown	2.146	7900 UJB
Unknown	2.212	250 J
3-Penten-2-one, 4-methyl-	3.217	200 UJNBA
2-Pentanone, 4-hydroxy-4-met	3.677	11000 UJNBA
Unknown	11.406	240 UJB
Unknown	12.223	190 J
Unknown Alkane	12.315	130 J
Unknown Organic Acid	13.371	120 J
Unknown Organic Acid	14.389	290 J
Unknown	14.448	100 J
Unknown Organic Acid	14.528	480 J
Unknown Organic Acid	15.934	110 J
Unknown Organic Acid	16.054	140 J
Unknown Amide	16.240	160 UJB
Unknown Alkane	16.991	120 J
Unknown Amide	17.550	1100 UJB
Unknown Alkane	17.663	130 J
Unknown Alkane	19.528	160 J
Unknown Amide	20.128	1300 UJB
Unknown Alkane	20.662	490 J
Unknown Alkane	21.729	850 J
Unknown Alkane	22.907	240 J
Unknown	23.240	220 J
Unknown	23.406	220 J
Unknown	25.575	1100 UJB
Sample ST04		
Unknown	2.094	6300 UJB
3-Penten-2-one, 4-methyl-	3.197	180 UJNBA
2-Pentanone, 4-hydroxy-4-met	3.657	11000 UJNBA
Unknown	11.407	260 UJB
Unknown Cycloalkane	12.223	300 J
Unknown Organic Acid	13.373	260 J
Unknown Hydrocarbon	14.374	130 J
Unknown Organic Acid	14.512	310 J
Unknown Amide	14.664	110 J
Unknown Hydrocarbon	14.855	110 J
Unknown	14.980	110 J
Unknown Organic Acid	15.929	170 J
Unknown Amide	16.120	250 J
Unknown Amide	16.239	260 UJB
Unknown Amide	17.545	2300 UJB
Unknown Alkane	17.664	160 J
Unknown Alkane	18.310	140 J
Unknown Hydrocarbon	18.370	140 J
Unknown Alkane	19.531	250 J
Unknown Amide	20.132	1400 UJB
Unknown Alkane	20.661	1000 J
Unknown	20.807	240 J
Unknown Alkane	21.734	1300 J
Unknown Alkane	22.906	540 J

Semivolatile Organic Analysis for Sediment Samples Tentatively Identified Compounds (Continued) Perma Treat Concentrations in ug/kg		
Compound Name	Retention Time	Estimated Concentration
Sample ST04 (Continued)		
Unknown	23.370	390 J
Unknown	23.423	1200 J
Unknown	24.318	230 J
Unknown	24.821	180 J
Unknown	25.575	350 UJB
Sample ST05		
Unknown	2.126	8400 UJB
Unknown	2.192	230 J
3-Penten-2-one, 4-methyl-	3.217	190 UJNBA
2-Pentanone, 4-hydroxy-4-met	3.676	10000 UJNBA
Naphthalene, -dimethyl-	9.805	150 J
Unknown Alkane	9.997	280 J
Unknown	11.414	140 UJB
Dibenzofuran, -methyl-	11.964	180 J
Unknown	12.238	380 J
Unknown Alkane	12.271	150 J
Unknown Alkane	12.324	560 J
Unknown Organic Acid	13.396	270 J
Unknown Alkane	13.997	160 J
Unknown Organic Acid	14.412	560 J
Unknown	14.479	200 J
Unknown Organic Acid	14.560	910 J
Unknown Amide	14.707	170 J
Unknown	14.895	210 J
Unknown Alkane	15.565	210 J
Unknown Amide	16.265	260 UJB
Unknown Alkane	16.298	260 J
Unknown Amide	17.564	2000 UJB
Unknown Alkane	18.327	280 J
Unknown Alkane	19.549	300 J
Unknown Amide	20.150	1100 UJB
Unknown Alkane	20.677	700 J
Unknown Alkane	21.745	680 J
Unknown Alkane	22.923	380 J
Unknown	25.604	920 UJB
Sample ST06		
Unknown	2.107	6600 UJB
Unknown	2.172	230 JB
3-Penten-2-one, 4-methyl-	3.210	220 UJNBA
2-Pentanone, 4-hydroxy-4-met	3.657	11000 UJNBA
Unknown Alkane	9.994	160 J
Unknown Cycloalkane	12.236	530 J
Unknown Alkane	12.269	170 J
Unknown Alkane	12.322	330 J
Unknown Organic Acid	12.839	170 J
Unknown	12.892	220 J
Unknown Alkane	13.238	190 J
Unknown Organic Acid	13.391	350 J
Unknown Hydrocarbon	13.471	230 J
Unknown Organic Acid	14.411	690 J
Unknown Organic Acid	14.471	220 J
Unknown Organic Acid	14.551	1200 J
Unknown	15.240	210 J
Unknown Alkane	15.568	190 J

Semivolatile Organic Analysis for Sediment Samples Tentatively Identified Compounds (Continued) Perma Treat Concentrations in ug/kg		
Compound Name	Retention Time	Estimated Concentration
Sample ST06 (Continued)		
Unknown	15.957	500 J
Unknown Organic Acid	16.072	500 J
Unknown Amide	17.564	1600 UJB
Unknown Alkane	18.324	320 J
Unknown Alkane	19.543	350 J
Unknown Amide	20.149	1200 UJB
Unknown Alkane	20.681	1200 J
Unknown Alkane	21.743	980 J
Unknown	22.092	470 J
Unknown	23.753	530 J
Unknown	24.340	520 J
Unknown	25.598	790 UJB
Sample ST07 (Background)		
Unknown	2.133	9700 UJB
Unknown	2.330	180 J
3-Penten-2-one, 4-methyl-	3.217	250 UJNBA
2-Pentanone, 4-hydroxy-4-met	3.677	13000 UJNBA
Unknown Alkane	9.999	210 J
Unknown Cycloalkane	12.233	430 J
Unknown Alkane	12.320	510 J
Unknown Organic Acid	13.395	400 J
Unknown Organic Acid	13.468	220 J
Unknown Organic Acid	14.406	460 J
Unknown Organic Acid	14.466	190 J
Unknown Organic Acid	14.546	740 J
Unknown Amide	14.693	170 J
Unknown	15.949	180 J
Unknown Amide	16.143	570 UJB
Unknown Amide	16.264	440 UJB
Unknown Alkane	17.000	300 J
Unknown Amide	17.569	3800 UJB
Unknown Alkane	17.677	370 J
Unknown Alkane	18.326	440 J
Unknown Alkane	19.545	620 J
Unknown Amide	20.148	1300 UJB
Unknown Alkane	20.677	1600 J
Unknown Hydrocarbon	20.797	430 J
Unknown Alkane	21.748	1400 J
Unknown Alkane	22.925	490 J
.gamma.-Sitosterol	23.752	850 JN
Unknown	23.973	430 J
Unknown	24.353	730 J
Unknown	25.603	1000 UJB

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Pesticide/PCB Analysis for Sediment Samples Perma Treat							
Pesticide/ PCB	Sample Location and Number Concentrations in ug/kg						
	ST01	ST02	ST03	ST04	ST05	ST06	ST07 Background
Alpha-BHC	2.2 U	2.5 U	2.5 U	2.4 U	2.7 U	3.1 U	3.1 U
Beta-BHC	2.2 U	2.5 U	2.5 U	2.4 U	2.7 U	3.1 U	3.1 U
Delta-BHC	2.2 U	2.5 U	2.5 U	2.4 U	2.7 U	5.7	3.4
Gamma-BHC (Lind.)	2.2	2.5 U	2.5 U	2.4 U	2.7 U	3.1 U	3.1 U
Heptachlor	2.2 U	2.5 U	2.5 U	2.4 U	3.2 P	3.1 U	3.8 P
Aldrin	2.2 U	2.5 U	2.5 U	2.4 U	2.7 U	3.1 U	3.1 U
Heptachlor Epoxide	2.2 U	2.5 U	2.5 U	2.4 U	5.0 P	3.1 U	3.1 U
Endosulfan I	2.2 U	2.5 U	2.5 U	2.4 U	2.7 U	3.1 U	3.1 U
Dieldrin	4.2 U	4.9 U	16 P	4.6 U	13 P	6.2 P	6.0 U
4,4'-DDE	4.2 U	4.9 U	4.8 U	4.6 U	5.2 U	6.1 U	6.0 U
Endrin	4.2 U	4.9 U	4.9 P	4.6 U	20 P	11 P	13 P
Endosulfan II	4.2 U	4.9 U	4.8 U	4.6 U	11 P	10 P	6.0 U
4,4'-DDD	4.2 U	4.9 U	4.8 U	4.6 U	5.2 U	6.1 U	6.0 U
Endosulfan Sulfate	22 U	4.9 U	4.8 U	4.6 U	5.2 U	6.1 U	6.0 U
4,4'-DDT	4.2 U	4.9 U	4.8 U	4.6 U	11 P	8.6 P	15 P
Methoxychlor	22 U	25 U	25 U	24 U	27 U	31 U	31 U
Endrin Ketone	4.2 U	4.9 U	4.8 U	4.6 U	5.2 U	6.1 U	6.0 U
Endrin Aldehyde	14 P	16	4.8 P	4.6 U	16 P	19 P	8.3 P
Alpha-Chlordane	2.6 P	2.5 U	39 JPD	4.6 U	39 P	19 P	4.7 P
Gamma-Chlordane	2.7 P	2.5 U	37 P	2.4 U	35 P	20 P	5.0 P
Toxaphene	220 U	250 U	250 U	240 U	270 U	310 U	310 U
Aroclor-1016	42 U	49 U	48 U	46 U	52 U	61 U	60 U
Aroclor-1221	85 U	100 U	97 U	94 U	110 U	120 U	120 U
Aroclor-1232	42 U	49 U	48 U	46 U	52 U	61 U	60 U
Aroclor-1242	42 U	49 U	48 U	46 U	52 U	61 U	60 U
Aroclor-1248	42 U	49 U	48 U	46 U	52 U	61 U	60 U
Aroclor-1254	42 U	49 U	48 U	46 U	52 U	61 U	60 U
Aroclor-1260	42 U	49 U	48 U	46 U	52 U	61 U	60 U

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Inorganic Analysis for Sediment Samples
Perma Treat

Metals and Cyanide	Sample Location and Number Concentrations in mg/kg						
	ST01	ST02	ST03	ST04	ST05	ST06	ST07 Background
Aluminum	2350 *	7570 *	9690 *	4950 *	12800 *	15800 *	9350 *
Antimony	4.5 UJN	6.6 JBN	5.1 UJN	4.9 UJN	6.6 UJN	7.7 UJN	6.2 UJN
Arsenic	163 *	179 *	23.0 *	5.3 *	9.9 *	10.7 *	7.3 *
Barium	47.5 B	101	111	91.5	148	141	113
Beryllium	0.20 B	0.50 B	0.73 B	0.37 B	0.79 B	0.64 B	0.62 B
Cadmium	1.0 U	1.2 U	1.1 U	1.1 U	1.7 B	1.7 U	1.4 U
Calcium	93200	68800	5570	1100 B	13800	12100	3130
Chromium	114	130	20.7	8.8	19.0	16.1	11.7
Cobalt	3.5 B	7.4 B	8.2 B	4.6 B	11.5 B	8.6 B	9.6 B
Copper	95.9	114	12.9	8.1	57.1	85.9	29.0
Iron	7260 J*	14100 J*	22400 J*	8910 J*	16700 J*	15600 J*	16900 J*
Lead	8.6 *	24.6 *	35.2 *	35.9 *	174 *	81.4 *	39.3 *
Magnesium	8180	6150	1520	625 B	2630	2520	1650
Manganese	286	525	495	1260	1360	3390	1220
Mercury	0.13 U	0.15 U	0.15 U	0.14 U	0.19 U	0.22 U	0.18 U
Nickel	7.2 B	14.6	10.7 B	4.2 B	26.8	15.3 B	12.1 B
Potassium	491 B	1070 B	601 B	436 B	680 B	700 B	680 B
Selenium	0.44 U	0.52 U	0.99 B	0.59 B	0.64 U	0.74 U	0.60 U
Silver	0.46 U	0.55 U	0.52 U	0.57 B	0.67 U	0.79 U	1.1 B
Sodium	132 B	225 B	160 B	63.0 B	295 B	254 B	176 B
Thallium	1.2 U	1.4 U	1.3 U	1.3 U	1.7 U	2.0 U	1.6 U
Vanadium	7.5 B	19.4	40.2	18.5	22.0	19.9 B	16.4 B
Zinc	84.8	78.5	67.4	42.4	225	177	98.1
Cyanide	3.2 U	3.9 U	3.6 U	3.5 U	4.7 U	5.5 U	4.4 U

sedmetal

Volatile Organic Analysis for Soil Samples Perma Treat								
Volatile Compound	Sample Locations and Number Concentrations in ug/kg							
	SS01	SS02	SS03	SS04	SS05	SS06	SS07	SS08 Background
Chloromethane	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Bromomethane	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Vinyl Chloride	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Chloroethane	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Methylene Chloride	15 UB	30 UB	12 UJB	11 UJB	14 UB	15 UB	12 UJB	13 UB
Acetone	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Carbon Disulfide	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
1,1-Dichloroethene	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
1,1-Dichloroethane	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
1,2-Dichloroethene (total)	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Chloroform	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
1,2-Dichloroethane	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
2-Butanone	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
1,1,1-Trichloroethane	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Carbon Tetrachloride	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Bromodichloromethane	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
1,2-Dichloropropane	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
cis-1,3-Dichloropropene	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Trichloroethene	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Dibromochloromethane	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
1,1,2-Trichloroethane	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Benzene	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
trans-1,3-Dichloropropene	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Bromoform	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
4-Methyl-2-Pentanone	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
2-Hexanone	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Tetrachloroethene	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
1,1,2,2-Tetrachloroethane	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Toluene	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Chlorobenzene	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Ethylbenzene	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Styrene	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Xylene (total)	12 U	22 U	12 U	11 U	13 U	12 U	12 U	13 U
Total Number of TICs *	0	0	0	0	0	0	0	0

* Number, not concentrations, of tentatively identified compounds (TICs).

SOIL-VOL

Semivolatile Organic Analysis for Soil Samples
Perma Treat

Semivolatile Compound	Sample Location and Number Concentrations in ug/kg							
	SS01	SS02	SS03	SS04	SS05	SS06	SS07	SS08 Background
Phenol	29 J	37 J	20 J	20 J	27 J	400 U	380 U	420 U
bis(2-Chloroethyl)Ether	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
2-Chlorophenol	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
1,3-Dichlorobenzene	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
1,4-Dichlorobenzene	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
1,2-Dichlorobenzene	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
2-Methylphenol	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
2,2'-oxybis(1-Chloropropane	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
4-Methylphenol	410 U	730 U	400 U	370 U	420 U	400 U	380 U	29 J
n-Nitroso-Di-n-Propylamine	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
Hexachloroethane	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
Nitrobenzene	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
Isophorone	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
2-Nitrophenol	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
2,4-Dimethylphenol	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
bis(2-Chloroethoxy)Methane	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
2,4-Dichlorophenol	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
1,2,4-Trichlorobenzene	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
Naphthalene	410 U	730 U	42 J	70 J	420 U	400 U	380 U	31 J
4-Chloroaniline	410 UJ	730 UJ	400 UJ	370 UJ	420 UJ	400 UJ	380 UJ	420 UJ
Hexachlorobutadiene	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
4-Chloro-3-Methylphenol	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
2-Methylnaphthalene	410 U	730 U	46 J	85 J	420 U	400 U	380 U	61 J
Hexachlorocyclopentadiene	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
2,4,6-Trichlorophenol	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
2,4,5-Trichlorophenol	990 U	1800 U	960 U	890 U	1000 U	960 U	930 U	1000 U
2-Chloronaphthalene	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
2-Nitroaniline	990 U	1800 U	960 U	890 U	1000 U	960 U	930 U	1000 U
Dimethyl Phthalate	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
Acenaphthylene	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
2,6-Dinitrotoluene	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
3-Nitroaniline	990 UJ	1800 UJ	960 UJ	890 UJ	1000 UJ	960 UJ	930 UJ	1000 UJ
Acenaphthene	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
2,4-Dinitrophenol	990 UJ	730 U	960 UJ	890 UJ	1000 UJ	960 UJ	930 UJ	1000 UJ
4-Nitrophenol	990 U	730 U	960 U	890 U	1000 U	960 U	930 U	1000 U
Dibenzofuran	410 U	730 U	84 J	170 J	420 U	400 U	380 U	420 U
2,4-Dinitrotoluene	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
Diethylphthalate	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
4-Chlorophenyl-phenylether	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
Fluorene	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
4-Nitroaniline	990 UJ	730 U	960 UJ	890 UJ	1000 UJ	960 UJ	930 UJ	1000 UJ
4,6-Dinitro-2-Methylphenol	990 U	730 U	960 U	890 U	1000 U	960 U	930 U	1000 U
n-Nitrosodiphenylamine	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
4-Bromophenyl-phenylether	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U

Semivolatile Organic Analysis for Soil Samples (Continued)
Perma Treat

Semivolatile Compound	Sample Location and Number Concentrations in ug/kg							
	SS01	SS02	SS03	SS04	SS05	SS06	SS07	SS08 Background
Hexachlorobenzene	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
Pentachlorophenol	990 U	1800 U	960 U	890 U	1000 U	960 U	930 U	1000 U
Phenanthrene	25 J	730 U	86 J	150 J	420 U	400 U	380 U	120 J
Anthracene	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
Carbazole	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
di-n-Butylphthalate	410 UJB	730 UJB	400 UJB	370 UJB	420 UJB	400 U	380 U	420 UJB
Fluoranthene	39 J	64 J	24 J	63 J	22 J	400 U	380 U	170 J
Pyrene	39 J	58 J	70 J	100 J	32 J	400 U	380 U	180 J
Butylbenzylphthalate	410 U	730 U	98 J	130 J	420 U	400 U	380 U	420 U
3,3'-Dichlorobenzidine	410 UJ	730 UJ	400 UJ	370 UJ	420 UJ	400 UJ	380 UJ	420 UJ
Benzo(a)Anthracene	410 U	730 U	400 U	38 J	420 U	400 U	380 U	69 J
Chrysene	31 J	37 J	400 U	64 J	420 U	400 U	380 U	140 J
bis(2-Ethylhexyl)Phthalate	410 UJB	730 UJB	2000 B	370 U	420 UJB	400 UJB	380 UJB	420 UJB
di-n-Octyl Phthalate	410 UJ	730 U	400 UJ	370 UJ	420 UJ	400 UJ	380 UJ	420 UJ
Benzo(b)Fluoranthene	24 J	60 J	400 U	61 J	26 J	400 U	380 U	92 J
Benzo(k)Fluoranthene	24 J	730 U	400 U	370 U	420 U	400 U	380 U	100 J
Benzo(a)Pyrene	21 J	730 U	400 U	63 J	420 U	400 U	380 U	82 J
Indeno(1,2,3-cd)Pyrene	410 U	730 U	400 U	370 U	420 U	400 U	380 U	53 J
Dibenzo(a,h)Anthracene	410 U	730 U	400 U	370 U	420 U	400 U	380 U	420 U
Benzo(g,h,i)Perylene	410 UJ	730 UJ	400 UJ	370 UJ	420 UJ	400 UJ	380 UJ	73 J
Total Number of TICs	13	14	20	20	12	9	20	20

soil-sv

Semivolatile Organic Analysis for Soil Samples Tentatively Identified Compounds Perma Treat Concentrations in ug/kg		
Compound Name	Retention Time	Estimated Concentration
Sample SS01		
2-Cyclohexe-1-OL	5.53	130 UJBN
Unknown	6.02	640 J
Unknown	6.08	520 J
Unknown	6.38	170 J
5,5-Dimethylethyl-2(5H)-Fura	6.72	520 JN
1-Phenyl Ethanone	9.08	120 JN
2H-1-Benzopyran-2-One	15.48	310 JN
1-(1,1-Dimethylethyl)-2-Meth	17.70	210 UJBN
Unknown	18.92	140 J
Unknown Alkane	28.92	52 J
Unknown	29.60	95 J
Unknown Alkane	30.87	120 J
Unknown Alkane	31.97	93 J
Sample SS02		
2-Cyclohexen-1-OL	5.47	170 UJBN
Unknown	6.00	1900 J
Unknown	6.30	440 J
5,5-Diemthy-2(5H)-Furanone	6.63	1300 JN
Unknown	8.65	200 J
1-(1,1-Diemthylethyl)-2-Meth	17.63	300 UJB
Unknown	18.03	250 J
Unknown	18.83	330 J
Unknown Organic Acid	26.35	260 UJB
Unknown	29.50	290 J
Unknown Alkane	30.32	670 J
Unknown Alkane	31.87	850 J
Unknown	37.58	560 J
Unknown	37.82	160 J
Sample SS03		
Unknown Alkane	27.10	2300 J
Unknown	27.38	880 J
Unknown	27.50	950 J
Unknown Alkane	27.95	1400 J
Unknown Alkane	28.22	900 J
Unknown Alkane	28.42	1900 J
Unknown Alkane	28.62	1200 J
Unknown Alkane	28.68	1100 J
Unknown Alkane	28.75	1300 J
Unknown Alkane	28.97	1400 J
Unknown Alkane	29.05	1100 J
Unknown Alkane	29.15	1100 J
Unknown Alkane	29.22	1000 J
Unknown	29.28	990 J
Unknown	29.37	940 J
Unknown	29.53	810 J
Unknown	29.67	760 J
Unknown	29.88	720 J
Unknown Alkane	29.98	970 J
Unknown	30.28	740 J

Semivolatile Organic Analysis for Soil Samples Tentatively Identified Compounds (Continued) Perma Treat Concentrations in ug/kg		
Compound Name	Retention Time	Estimated Concentration
Sample SS04		
Unknown	6.07	840 J
Unknown Alkane	24.97	660 J
Unknown Alkane	25.55	860 J
Unknown Alkane	25.88	950 J
Unknown Alkane	26.47	1800 J
Unknown Alkane	26.67	920 J
Unknown Alkane	27.33	2600 J
Unknown Alkane	27.63	1000 J
Unknown Alkane	27.80	1800 J
Unknown Alkane	28.17	1500 J
Unknown Alkane	28.47	980 J
Unknown Alkane	28.65	1800 J
Unknown Alkane	28.90	950 J
Unknown Alkane	28.97	1200 J
Unknown Alkane	29.28	1200 J
Unknown Alkane	29.40	980 J
Unknown Alkane	29.50	910 J
Unknown Alkane	30.22	1300 J
Unknown	30.52	1100 J
Unknown Alkane	30.60	940 J
Sample SS05		
2-Cyclohexen-1-OL	5.55	93 UJBN
Unknown	6.10	1200 J
Unknown	6.40	210 J
5,5,-Dimethyl-2(5H)-Furanone	6.73	690 JN
Unknown	8.73	120 J
1,(1,1-Diemthylethyl)-2-Meth	17.72	210 UJBN
Unknown	29.63	120 J
Unknown	30.60	120 J
Unknown Alkane	32.02	150 J
Unknown	32.32	110 J
Unknown	33.15	120 J
Unknown	37.78	300 J
Sample SS06		
2-Cyclohexen-1-OL	5.47	100 UJBN
Unknown	6.02	1100 J
Unknown	6.32	210 J
5,5,-Dimethyl-2(5H)-Furanone	6.65	370 JN
Unknown	8.65	150 J
1,(1,1-Diemthylethyl)-2-Meth	17.62	180 UJBN
Unknown	18.83	100 J
Unknown Alkane	30.35	110 J
Unknown Alkane	31.92	140 J

Semivolatile Organic Analysis for Soil Samples Tentatively Identified Compounds (Continued) Perma Treat Concentrations in ug/kg		
Compound Name	Retention Time	Estimated Concentration
Sample SS07		
2-Cyclohexen-1-OL	5.53	89 UJBN
Unknown	6.07	1000 J
Unknown	6.37	330 J
5,5,-Diemthy-2(5H)-Furanone	6.70	350 JN
Unknown	8.72	160 J
1,(1,1-Diemethylethyl)-2-Methy	17.70	220 UJBN
Unknown Alkane	28.20	87 J
Unknown Alkane	28.95	120 J
Unknown Alkane	29.72	100 J
Unknown	30.35	210 J
Unknown Alkane	30.45	440 J
Unknown Alkane	30.58	170 J
Unknown Alkane	31.02	100 J
Unknown Alkane	31.70	160 J
Unknown	32.03	310 J
Unknown	32.32	130 J
Unknown	33.17	120 J
Unknown Alkane	34.10	91 J
Unknown	34.57	130 J
Unknown	35.30	110 J
Sample SS08 Background		
Unknown	6.07	1100 J
Unknown	6.37	610 UJB
5,5,-Dimethyl-2(5H)-Furanone	6.70	370 JN
Unknown	8.72	190 J
1,(1,1-Diemethylethyl)-2-Methy	17.70	240 UJBN
Unknown	19.78	210 J
Unknown	23.08	150 J
Unknown	23.15	150 J
Unknown Alkane	26.47	120 J
Unknown Alkane	28.93	120 J
Unknown	29.38	110 J
Unknown	29.72	110 J
Unknown Alkane	30.45	290 J
Unknown	30.62	210 J
Unknown	30.97	180 J
Unknown Alkane	32.02	220 J
Unknown	32.58	360 J
Unknown Alkane	32.67	230 J
Unknown	34.73	180 J
Unknown	34.87	150 J

tic-soil

Pesticide/Perma Treat								
Pesticide/ PCB	Sample Location and Number Concentrations in ug/kg							
	SS01	SS02	SS03	SS04	SS05	SS06	SS07	SS08 Background
Alpha-BHC	2.1 UJ	3.8 UJ	2.0 UJ	1.9 UJ	2.2 UJ	2.0 UJ	2.0 UJ	2.2 UJ
Beta-BHC	2.1 UJ	3.8 UJ	2.0 UJ	1.9 UJ	2.2 UJ	2.0 UJ	2.0 UJ	2.2 UJ
Delta-BHC	2.1 UJ	3.8 UJ	2.0 UJ	1.9 UJ	2.2 UJ	2.0 UJ	2.0 UJ	2.2 UJ
Gamma-BHC (Lindane)	2.1 UJ	3.8 UJ	2.0 UJ	1.9 UJ	2.2 UJ	2.0 UJ	2.0 UJ	2.2 UJ
Heptachlor	2.1 UJ	3.8 UJ	2.0 UJ	1.9 UJ	2.2 UJ	2.0 UJ	2.0 UJ	2.2 UJ
Aldrin	2.1 UJ	3.8 UJ	2.0 UJ	1.9 UJ	2.2 UJ	2.0 UJ	2.0 UJ	2.2 UJ
Heptachlor Epoxide	2.1 UJ	3.8 UJ	2.0 UJ	1.9 UJ	2.2 UJ	2.0 UJ	2.0 UJ	2.2 UJ
Endosulfan I	2.1 UJ	3.8 UJ	2.0 UJ	1.9 UJ	2.2 UJ	2.0 UJ	2.0 UJ	2.2 UJ
Dieldrin	4.1 UJ	7.3 UJ	4.0 UJ	3.7 UJ	4.2 UJ	4.0 UJ	3.8 UJ	4.2 UJ
4,4'-DDE	4.1 UJ	7.3 UJ	4.0 UJ	3.7 UJ	4.2 UJ	4.0 UJ	3.8 UJ	4.2 UJ
Endrin	4.1 UJ	7.3 UJ	4.0 UJ	3.7 UJ	4.2 UJ	4.0 UJ	3.8 UJ	4.2 UJ
Endosulfan II	4.1 UJ	7.3 UJ	4.0 UJ	3.7 UJ	4.2 UJ	4.0 UJ	3.8 UJ	4.2 UJ
4,4'-DDD	4.1 UJ	7.3 UJ	4.0 UJ	3.7 UJ	4.2 UJ	4.0 UJ	3.8 UJ	4.2 UJ
Endosulfan Sulfate	4.1 UJ	7.3 UJ	4.0 UJ	3.7 UJ	4.2 UJ	4.0 UJ	3.8 UJ	4.2 UJ
4,4'-DDT	4.1 UJ	7.3 UJ	4.0 UJ	3.7 UJ	4.2 UJ	4.0 UJ	3.8 UJ	4.2 UJ
Methoxychlor	21 UJ	38 UJ	20 UJ	19 UJ	22 UJ	20 UJ	20 UJ	4.2 UJ
Endrin Ketone	4.1 UJ	7.3 UJ	4.0 UJ	3.7 UJ	4.2 UJ	4.0 UJ	3.8 UJ	22 UJ
Endrin Aldehyde	4.1 UJ	7.3 UJ	4.0 UJ	3.7 UJ	4.2 UJ	4.0 UJ	3.8 UJ	4.2 UJ
Alpha-Chlordane	2.1 UJ	3.8 UJ	2.0 UJ	1.9 UJ	2.2 UJ	2.0 UJ	2.0 UJ	4.2 UJ
Gamma-Chlordane	2.1 UJ	3.8 UJ	2.0 UJ	1.9 UJ	2.2 UJ	2.0 UJ	2.0 UJ	2.2 UJ
Toxaphene	210 UJ	380 UJ	200 UJ	190 UJ	220 UJ	200 UJ	200 UJ	220 UJ
Aroclor-1016	41 UJ	73 UJ	40 UJ	37 UJ	42 UJ	40 UJ	38 UJ	42 UJ
Aroclor-1221	83 UJ	150 UJ	81 UJ	74 UJ	85 UJ	81 UJ	78 UJ	85 UJ
Aroclor-1232	41 UJ	73 UJ	40 UJ	37 UJ	42 UJ	40 UJ	38 UJ	42 UJ
Aroclor-1242	41 UJ	73 UJ	40 UJ	37 UJ	42 UJ	40 UJ	38 UJ	42 UJ
Aroclor-1248	41 UJ	73 UJ	40 UJ	37 UJ	42 UJ	40 UJ	38 UJ	42 UJ
Aroclor-1254	41 UJ	73 UJ	40 UJ	37 UJ	42 UJ	40 UJ	38 UJ	42 UJ
Aroclor-1260	41 UJ	73 UJ	40 UJ	37 UJ	42 UJ	40 UJ	38 UJ	42 UJ

Pestsoil

Inorganic Analysis for Soil Samples
Perma Treat

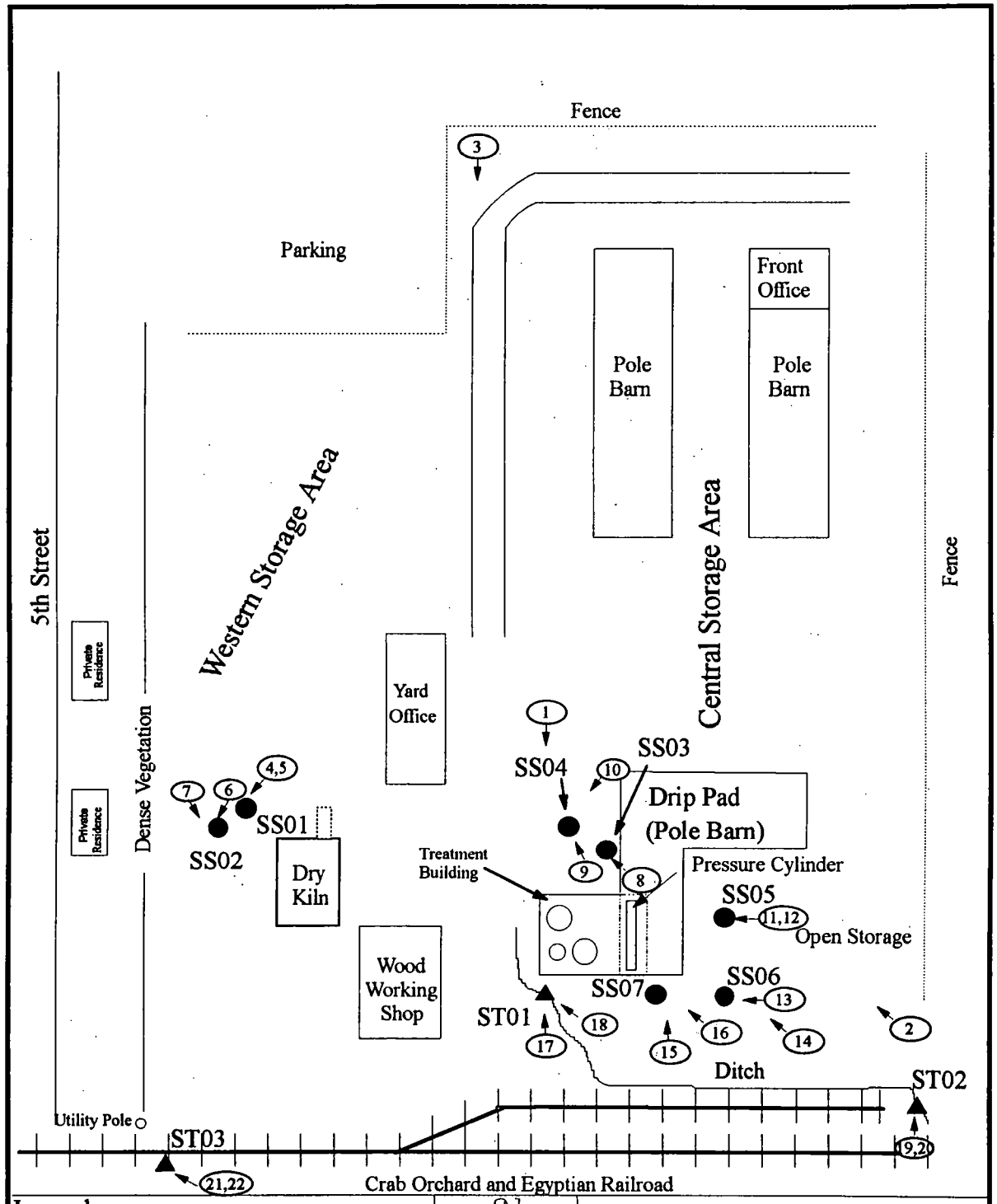
Metals and Cyanide	Sample Locations and Number Concentrations in mg/kg							
	SS01	SS02	SS03	SS04	SS05	SS06	SS07	SS08 Background
Aluminum	17200	16800	10900	6750	11000	15100	15200	5450
Antimony	4.2 UJN	7.2 UJN	18.9 JN	8.3 UJN	5.1 JBN	4.7 UJN	5.2 UJN	5.0 UJN
Arsenic	11.1 JS*	46.9 J*	5490 J*	193 JS*	348 J*	175 J*	636 J*	11.5 J*
Barium	403	136	112	69.5	205	118	124	74.9
Beryllium	0.87 B	0.82 B	0.52 B	0.38 B	0.80 B	0.69 B	0.73 B	0.81 B
Cadmium	0.83 U	1.4 U	1.0 U	0.77 U	0.96	0.94 U	1.0 U	1.00 U
Calcium	11100	5320	102000	167000	15700	11200	10700	24700
Chromium	26.1	39.0	2640	159	1700	157	266	14.2
Cobalt	21.3	9.5 B	6.1 B	4.7 B	27.0	8.5 B	7.8 B	10.7 B
Copper	19.0 JN	45.1 JN	2510 JN	132 JN	1430 JN	151 JN	427 JN	8.2 JN
Iron	22200 JE	20900 JE	13200 JE	9760 JE	33900 JE	18000 JE	19400 JE	20100 JE
Lead	16.7	25.0	31.7	11.2	114	14.6	15.9	22.5
Magnesium	2740	2460	7910	11500	4330	2300	3960	3170
Manganese	2780 JE	526 JE	529 JE	332 JE	1440 JE	421 JE	375 JE	1000 JE
Mercury	0.06 UJN	0.09 JBN	0.10 JBN	0.05 UJN	0.06 JBN	0.06 UJN	0.06 UJBN	0.06 UJN
Nickel	19.6	24.5	14.7	14.3	33.2	17.2	18.3	14.4
Potassium	1570	1610	1490	1570	1100	834	1240	356 U
Selenium	0.41 JBN	0.54 JBN	0.81 JBN	0.43 JBNW	0.31 JBNW	0.19 JBN	0.52 JBN	0.34 JBN
Silver	0.79 U	1.4 U	0.99 U	0.73 U	0.80 U	0.90 U	1.00 U	0.95 U
Sodium	107 B	64.8 B	152 B	177 B	113 B	54.5 B	73.5 B	114 B
Thallium	0.27 B	0.30 B	0.16 U	0.12 JBW	0.25 B	0.19 B	0.18 B	0.16 U
Vanadium	39.1	32.2	24.0	14.2	25.2	32.8	30.8	28.0
Zinc	56.4 JEN*	75.1 JEN*	126 JEN*	79.3 JEN*	232 JEN*	41.6 JEN*	49.3 JEN*	84.8 JEN*
Cyanide	0.63 U	0.93 U	0.62 U	0.60 U	0.63 U	0.61 U	0.58 U	0.66 U

soilmet

Appendix E

Perma-Treat of Illinois, Inc.

Site Photographs



Legend:
▲ Sediment Sample Location
● Soil Sample Location

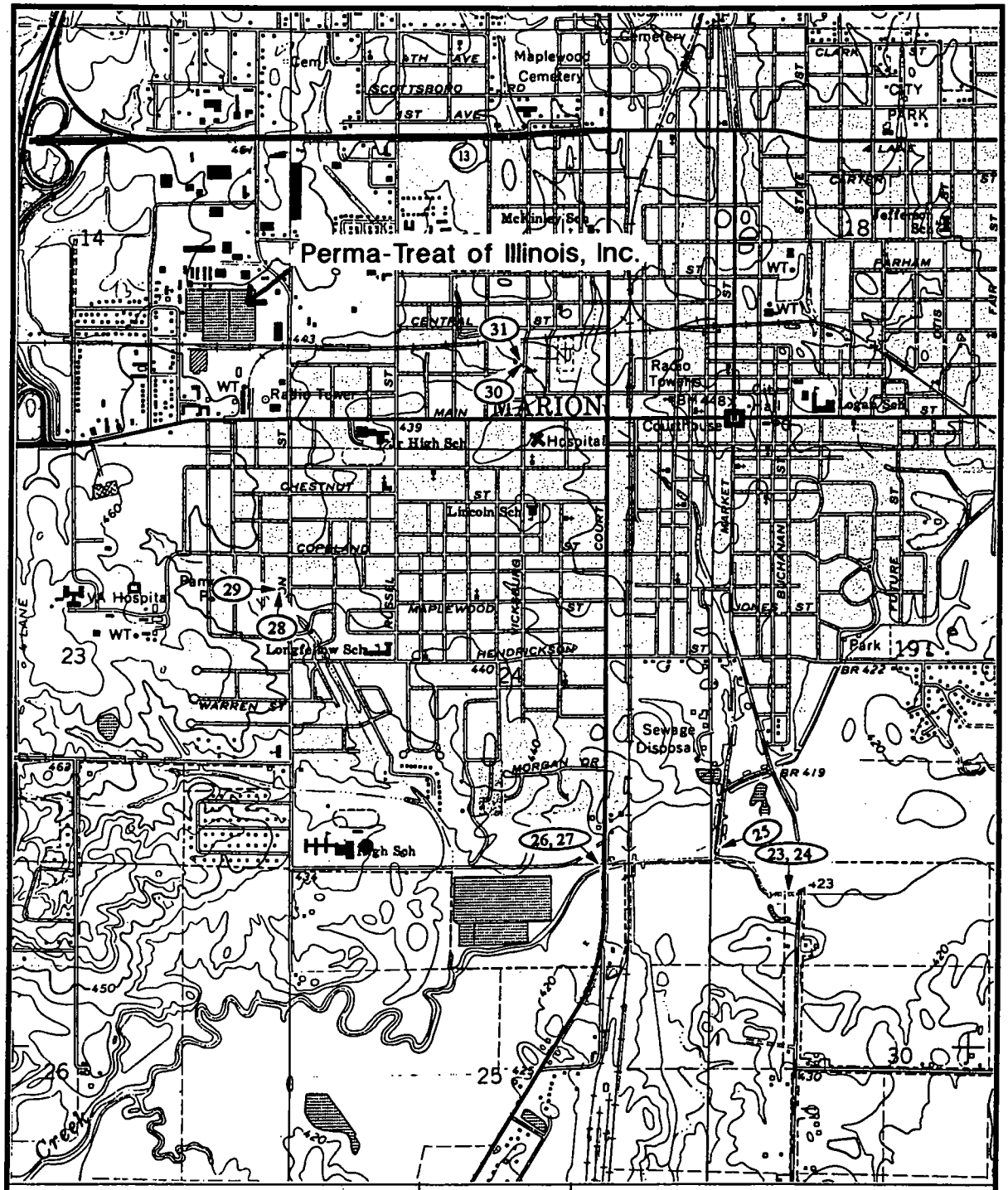
Scale:
Not to Scale

N

Figure E-1
Onsite Photograph Locations

Perma-Treat of Illinois, Inc.
Marion, Illinois

FRE00155
9-25-94



Legend:
- ▲ Sediment Sample Location
- ● Soil Sample Location
- ◄ Streamflow Direction

Scale: 1 inch = 2,000 feet

N

Figure E-2
Offsite Photograph Locations

Perma-Treat of Illinois, Inc.
Marion, Illinois

FRE00156
9.19.94

Date: 7/29/93

Time: 0940

Photo Taken By: M. Lee

Photo Number: 01

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of photo: South

Description: Area north of treatment building, exposed to chromated copper arsenate release in 1988.

Date: 7/29/93

Time: 0950

Photo Taken By: M. Lee

Photo Number: 02

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: Northwest

Description: Southeast side of treatment building and drip pad.

Date: 7/29/93

Time: 1040

Photo Taken By: M. Lee

Photo Number: 03

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of photo: South

Description: View of central yard from northwest corner of site.

Date: 3/23/94

Time: 0850

Photo Taken By: J. Albano

Photo Number: 04

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: Southwest

Description: Soil sample location SS01.

Date: 3/23/94

Time: 0852

Photo Taken By: J. Albano

Photo Number: 05

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: Southwest

Description: Expanded view of soil sample location SS01.

Date: 3/23/94

Time: 0915

Photo Taken By: J. Albano

Photo Number: 06

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: Southwest

Description: Soil sample location SS02.

Date: 3/23/94

Time: 0918

Photo Taken By: J. Albano

Photo Number: 07

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: Southeast.

Description: Expanded view of soil sample location SS02.

Date: 3/23/94

Time: 0947

Photo Taken By: J. Albano

Photo Number: 08

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: Northwest

Description: View of soil sample location SS03.

Date: 3/23/94

Time: 1000

Photo Taken By: J. Albano

Photo Number: 09

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: Northwest

Description: View of soil sample location SS04. Placard incorrectly reads "SS03." Correct sample location is SS04.

Date: 3/23/94

Time: 1005

Photo Taken By: J. Albano

Photo Number: 10

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: Southwest

Description: Expanded view of soil sample locations SS03 and SS04.

Date: 3/23/94

Time: 1028

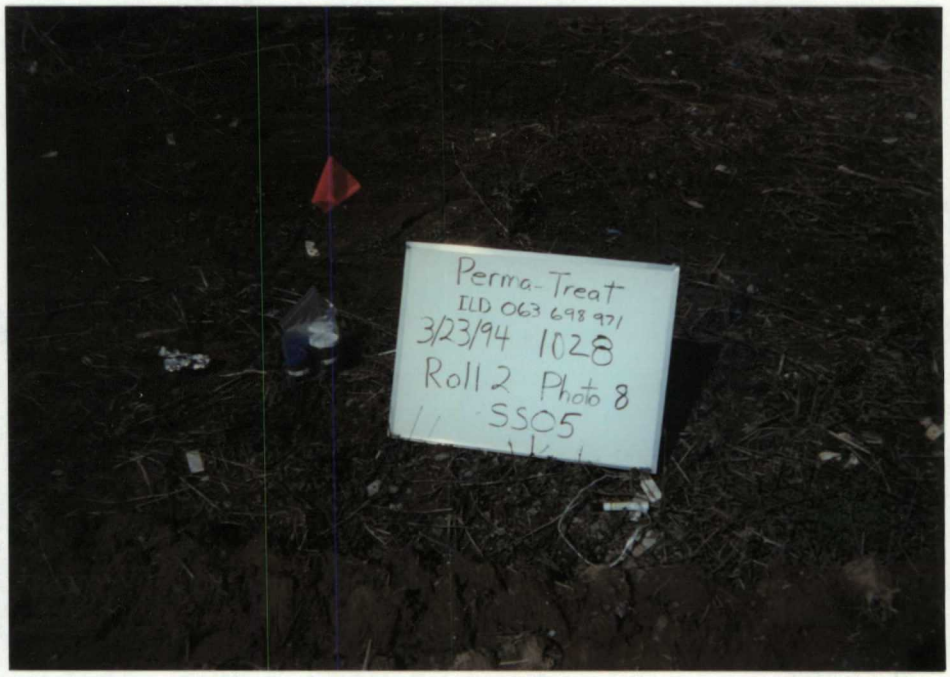
Photo Taken By: J. Albano

Photo Number: 11

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: West

Description: Soil sample location SS05.



Date: 3/23/94

Time: 1030

Photo Taken By: J. Albano

Photo Number: 12

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: West

Description: Expanded view of soil sample location SS05.

Date: 3/23/94

Time: 1040

Photo Taken By: J. Albano

Photo Number: 13

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: North

Description: Soil sample location SS06.

Date: 3/23/94

Time: 1042

Photo Taken By: J. Albano

Photo Number: 14

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: North

Description: Expanded view of soil sample location SS06.

Date: 3/23/94

Time: 1050

Photo Taken By: J. Albano

Photo Number: 15

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: North

Description: Soil sample location SS07.

Date: 3/23/94

Time: 1052

Photo Taken By: J. Albano

Photo Number: 16

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: Northwest

Description: Expanded view of soil sample location SS07.

Date: 3/23/94

Time: 1110

Photo Taken By: J. Albano

Photo Number: 17

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: North

Description: Sediment sample location ST01.

Date: 3/23/94

Time: 1112

Photo Taken By: J. Albano

Photo Number: 18

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: Northwest

Description: Expanded view of sediment sample location ST01.

Date: 3/23/94

Time: 1125

Photo Taken By: J. Albano

Photo Number: 19

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: North

Description: Sediment sample location ST02.

Date: 3/23/94

Time: 1127

Photo Taken By: J. Albano

Photo Number: 20

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: North

Description: Expanded view of sediment sample location ST02.

Date: 3/23/94

Time: 1150

Photo Taken By: J. Albano

Photo Number: 21

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: Northwest

Description: Sediment sample location ST03.

Date: 3/23/94

Time: 1152

Photo Taken By: J. Albano

Photo Number: 22

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: Northwest

Description: Expanded view of sediment sample location ST03.

Date: 3/23/94

Time: 1405

Photo Taken By: J. Chitwood

Photo Number: 23

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: South

Description: Sediment sample location ST07.

Date: 3/23/94

Time: 1407

Photo Taken By: J. Albano

Photo Number: 24

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: South

Description: Expanded view of sediment sample location ST07.

Date: 3/23/94

Time: 1440

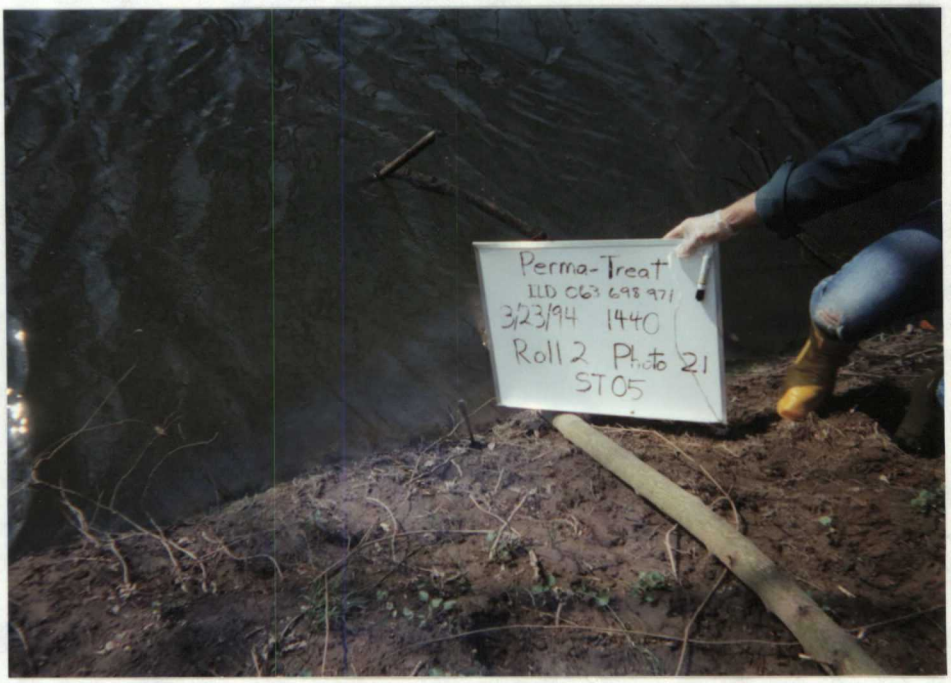
Photo Taken By: J. Albano

Photo Number: 25

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: Southwest

Description: Sediment sample location ST05.



Date: 3/23/94

Time: 1520

Photo Taken By: J. Albano

Photo Number: 26

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: Southeast

Description: Sediment sample location ST06.

Date: 3/23/94

Time: 1522

Photo Taken By: J. Albano

Photo Number: 27

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: Southeast

Description: Expanded view of sediment sample location ST06.

Date: 3/23/94

Time: 1545

Photo Taken By: J. Albano

Photo Number: 28

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: North

Description: Background soil sample location SS08. Placard incorrectly reads ST06. Correct sample location number is SS08.

Date: 3/23/94

Time: 1548

Photo Taken By: J. Albano

Photo Number: 29

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: Northeast

Description: Expanded view of background soil sample location SS08.

Date: 3/23/94

Time: 1606

Photo Taken By: J. Albano

Photo Number: 30

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: North

Description: Sediment sample location ST04.

Date: 3/23/94

Time: 1608

Photo Taken By: J. Albano

Photo Number: 31

Location/ILD #: Perma-Treat of Illinois, Inc. ILD 063 698 971

Direction of Photo: Southeast

Description: Expanded view of sediment sample location ST04.

Appendix F

Perma-Treat of Illinois, Inc.

Representative Well Logs