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Regulators

FINAL WORK PLAN

IOWA ARMY AMMUNITION PLANT

PHASE I REMEDIAL INVESTIGATION/FEASIBILITY STUDY

Volume 1 of 3

Sections 1.0 through 3.0

Contract No.: DAAA15-90-D-0006
Task No. 0002

Prepared for:

U.S. ARMY TOXIC AND HAZARDOUS MATERIALS AGENGY
Aberdeen Proving Ground, Maryland

Prepared by:

JAYCOR
1901 N. Beauregard Street, Suite 503
Alexandria, VA 22311-1703

CDM FEDERAL PROGRAMS CORPORATION
13135 Lee Jackson Memorial Highway, Suite 200
Fairfax, VA 22033

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VOLUME III

LIST OF ACRONYMS

ACGIH	American Conference of Governmental Industrial Hygienists
AEC	U.S. Atomic Energy Commission
ARAR	Applicable or Relevant and Appropriate Requirements
AWQC	Ambient Water Quality Criteria
BLACK POWDER	Charcol, Sulfur, and Potassium Nitrate
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COE	U.S. Army Corps of Engineers
COMPOSITION B	RDX (60%), TNT (39%), Wax (1%)
CRL	Certified Reporting Limit
CRP	Community Relations Plan
CWA	Clean Water Act
DNB	Dinitrobenzene (1,3)
DNT	Dinitrotoluene (2,4 and 2,6)
FS	Feasibility Study
FSP	Field Sampling Plan
GAC	Granular Activated Carbon
GOCO	Government Owned, Contractor Operated
GW	Groundwater
HMX	Cyclotetramethylene tetra nitramine
IAG	Interagency Agreement
IAAP	Iowa Army Ammunition Plant
IRDMIS	Installation Restoration Data Management Information System
IRM	Interim Reference Materials
IRP	Installation Restoration Program
LAP	Load, Assemble, and Pack
LHA	Lifetime Health Advisory
LQAC	Laboratory Quality Assurance Coordinator
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NB	Nitrobenzene
NCP	National Contingency Plan
NIST	National Institute of Standards and Technology
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
OVA	Organic Vapor Analyzer
PBX	HMX, ISOBUTYLACETATE or Methyl Isobutyl Ketone, and n-butyl acetate, polystyrene, gum resin and di-2-ethyl hexylphathlate; Some contain nitrocellulose, ethanol, tris-beta chlorethyl phosphate, biphenylamine
QA	Quality Assurance
QAPjP	Quality Assurance Project Plan
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RDX	Cyclotrimethylenetrinitramine

LIST OF ACRONYMS (Continued)

RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SA	Soil Auger
SAP	Sampling and Analysis Plan
SARA	Superfund Amendments and Reauthorization Act of 1986
SARM	Standard Analytical Reference Material
SD	Sediment
SI	Site Investigation
SOP	Standard Operating Procedure
SS	Soil Scoop
SW	Surface Water
SWMU	Solid Waste Management Unit
TCLP	Toxicity Characteristic Leaching Procedure
TETRYL	2,4,6-Trinitrophenylmethlynitramine
TNB	Trinitrobenzene (1,3,5)
TNT	Trinitrotoluene (2,4,6)
USAEHA	U.S. Army Environmental Hygiene Agency
USATHAMA	U.S. Army Toxic and Hazardous Materials Agency
US EPA	U.S. Environmental Protection Agency
VOA	Volatile Organics Analysis
VOC	Volatile Organic Compound
VSI	Visual Site Inspection

IOWA ARMY AMMUNITION PLANT
BUILDING IDENTIFICATION SERIALS

Unit	Identification No.
Operations	0 thru 9
Storage & Support Bldgs.	10 thru 80
Service	100 thru 900

Operations

Line 1	1
Line 2	2
Line 3	3
Line 3A	3A
Line 4A	4A
Line 4B	4B
Line 5A	5A
Line 5B	5B
Line 6	6
Line 7	7
Line 8	8
Line 9	9

Storage & Support Bldgs.

Yard E	10
Yard L	11
Yard M	14
Yard G	18
Yard D	20-21
Yard K	21-40
Yard C	23
Yard H	24-25
Yard F	30
Yard J	50-60-70-80

SERVICE

Operations

Administration	100
Guard and Fire	200
Shops	300
Railroad Service	400
Residence & Service	500

Storage & Support Bldgs.

Laboratory & Service	600
Emergency Reservoir	700
Line 800	800
Demolition Area	900

BUILDING NUMBERS

Loading Line Storage	01
Powerhouse	02
Solvent Storage	03
Receiving & Painting Building	04
Melt Loading	05
Ammonium Nitrate Service Magazine	06
High Explosives Preparation	07
TNT Service magazxine	08
Time Clock Recorder Booth	09
Drilling and Boostering	10
Fuse & Ignition Cartridge Magazine	11
Assembly and Shipping	12
Propellant Charge	13
Primer Service Magazine	14
Smokeless Powder Service Magazine	15
Booster Service Magazine	16
Fuse Service Magazine	17
Black Powder Service Magazine	18
Black Powder Dry House	19
Black Powder Pellet	20
Detonator Service Magazine	21
Fuse Assembly	22
Fuse Test	23
Black Powder Heating	24
Tetryl Service Magazine	25
Tetryl Screening and Blending	26
Blended Tetryl Rest House	27
Tetryl Pelleting	28
Booster Assembly	29
Land Maintenance	30
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Primer Storage	35
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Inert Storage	37
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Primer Igloo	48
Delay Loading	49
TNT Screening	50
Electric Locomotive	51
Loading Line Office	52
Shipping Building	53
Black Powder Rest House	54
Finished Booster Rest House	55
Tetryl Pellet Magazine	56
Primer Mixture Preparation Building	57
Mixing Building	58
Loading Building	59
Element Dry House	60
Testing, Packing, and Shipping	61
Element Rest House	62
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Lead Azide Preparation Building	88
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Gasoline Storage Tanks	209
Kerosene Storage Tanks	210
Emergency Power	211
Equipment Building	212
Cyclic Heating Building	213
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Booster Pump House	215

Source: Mason & Hanger - Silas Mason Co., Inc., Iowa Army Ammunition Plant, Middletown, Iowa 52683; 13.3-15 (duplicate), Revision #3, May 1, 1980.

SECTION 1.0 PROJECT ORGANIZATION

1.1 PROJECT ORGANIZATION

1.1.1 Statement of Project Scope

This document is the Phase I Remedial Investigation/Feasibility Study (RI/FS) Final Work Plan, which details the investigative activities for determining the nature and extent of contamination at the Iowa Army Ammunition Plant (IAAP) Site, Burlington, Iowa. This document was prepared in partial fulfillment of the requirements of Contract No. DAAA15-90-D-0006, Task Order No. 1, for U.S. Army Toxic and Hazardous Materials Agency (USATHAMA). The work plan was prepared according to U.S. Environmental Protection Agency (USEPA) guidance, as promulgated in "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA," Interim Final, EPA/540/G-89-004, OSWER Directive 9355.3-01, October 1988.

In September 1990, the USEPA and the U.S. Department of the Army signed a Federal Facility Agreement (FFA) pursuant to Section 120 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) relative to the IAAP (USEPA 1990). After the FFA underwent public comment, it became effective on 10 December 1990. This agreement, also called an Interagency Agreement (IAG), mandated that a RI be performed to determine the nature and extent of the threat to public health and the environment caused by the release of hazardous substances from sources on the property at IAAP. The IAG also required that a feasibility study (FS) be performed to identify, evaluate, and select alternatives for remedial action(s) to mitigate environmental and health hazards at IAAP.

In accordance with the U.S. Army Materiel Development and Readiness Command Regulation 10-30, USATHAMA has the responsibility to identify, control, and/or eliminate the migration of existing or potential contamination resulting from past operations. This is accomplished through the Installation Restoration Program (IRP) process, which is implemented in three phases--Discovery, Remedial Investigation/Feasibility Study (RI/FS), and Remedial Action. The discovery phase has been completed; this work plan details the upcoming RI/FS; and the Remedial Action will be implemented based on the findings and conclusions of the RI/FS.

During the Discovery Phase, USATHAMA conducted a facility records search. During this records search, installation files were examined, current and former key employees interviewed, and the terrain and facilities examined. Information pertaining to past and current operations, waste generation and disposal practices, and the environmental setting of the area was collected. All data were examined and evaluated to determine the potential for or the existence of contaminant migration at hazardous levels. Based on information gathered during the IAAP records search in 1980, conditions were found that indicated a potential for contamination from past and current site operations at the installation.

To date, 43 sites of known or suspected contamination have been identified at IAAP, 30 of which are listed as Resource Conservation and Recovery Act (RCRA) solid waste management units (SWMUs) in the FFA. The sites, their IAAP site designation, and status are summarized below. (Note: See page 1-1.4 for discussion of the status of Site IAAP-44.)

IAAP SITE DESIGNATION	SITE	STATUS
IAAP-1	Line 1	SWMU
IAAP-2	Line 2	SWMU
IAAP-3	Line 3	SWMU
IAAP-4	Line 3A	SWMU
IAAP-5	Lines 4A & 4B	SWMU
IAAP-6	Lines 5A & 5B	SWMU
IAAP-7	Line 6	SWMU
IAAP-8	Line 7	SWMU
IAAP-9	Line 8	SWMU
IAAP-10	Line 9	SWMU
IAAP-11	Line 800	SWMU
IAAP-12	Explosive Disposal Area (East Burn Pads)	SWMU
IAAP-13	Incendiary Disposal Area	SWMU
IAAP-14	Boxcar Unloading Area	SWMU
IAAP-15	Old Fly Ash Waste Pile	SWMU
IAAP-16	Former Line 1 Impoundment	SWMU
IAAP-17	Pesticide Pit	SWMU
IAAP-18	Possible Demolition Site	SWMU
IAAP-19	Contaminated Clothing Laundry	SWMU
IAAP-20	Inert Disposal Area	SWMU
IAAP-21	Demolition Area	SWMU
IAAP-22	Unidentified Substance Waste Site	SWMU
IAAP-23	Deactivation Furnace	SWMU
IAAP-24	Contaminated Waste Processor	SWMU
IAAP-25	Explosive Waste Incinerator	SWMU
IAAP-26	Sewage Treatment Plant/Sludge Drying Beds	SWMU
IAAP-27	Fly Ash Landfill	SWMU
IAAP-28	Construction Debris Landfill	SWMU
IAAP-29	Line 3A Sewage Treatment Plant/Sludge Beds	SWMU
IAAP-30	Firing Site Area (Test Fire Area)	SWMU
IAAP-31	Yard B Ammunition Box Chipper Disposal Pit	Potential site identified through facility records and/or interviews.
IAAP-32	Burn Cages	Potential site identified through facility records and/or interviews.

IAAP SITE DESIGNATION	SITE	STATUS
IAAP-33	Burn Cages Landfill	Potential site identified through facility records and/or interviews.
IAAP-34	West Burn Pads	Potential site identified through facility records and/or interviews.
IAAP-35	West Burn Pads Landfill	Potential site identified through facility records and/or interviews.
IAAP-36	North Burn Pads	Potential site identified through facility records and/or interviews.
IAAP-37	North Burn Pads Landfill	Potential site identified through facility records and/or interviews.
IAAP-38	Building 600-86 Septic System	Potential site identified through facility records and/or interviews.
IAAP-39	Fire Training Pit	Potential site identified through facility records and/or interviews.
IAAP-40	Roundhouse Transformer Storage Area	Potential site identified through facility records and/or interviews.
IAAP-41	Line 3A Pond	Potential site identified through facility records and/or interviews.
IAAP-42	Abandoned Coal Storage Yard	Area of concern.
IAAP-43	Fly Ash Disposal Area	Potential site identified through facility records and/or interviews.

A series of site contamination/characterizations was conducted at IAAP between 1979 and 1990. Investigative activities focused on the Line 800 Pink Water Lagoon (IAAP-44) and the Former Line 1 Impoundment (IAAP-16), but encompassed other areas of concern as well. These investigations were implemented primarily in a phased approach; that is, follow-on studies addressed data requirements identified by each preceding investigation. A narrative summary of these investigations is contained in Section 2.1.3.

In conducting the data evaluation to facilitate preparation of the RI/FS work plan for the current study, it was determined that more information regarding the past operational and waste handling practices was required for each site, before a work plan could be developed. Therefore, preliminary assessments (PAs) were conducted at each of the sites. Each PA included a site reconnaissance to determine current site conditions, and a records search to determine the past operational and waste handling practices and identify contaminants of concern and possible waste sources. In August 1991, a site investigation (SI) was conducted at each site. Limited soil, sediment, groundwater, and surface water samples were collected in an effort to determine whether contamination was present at suspected sources and in associated migration pathways. Data collected for the PA/SI phase of this study will be used to supplement existing information from previous investigations to support the RI/FS effort.

In Section 3.0, all data accumulated to date for each of the 43 sites listed in the FFA will be examined, and a determination made whether site contamination is significant enough to warrant inclusion in the RI/FS.

Also included in the work plan is the proposed FSP for additional sampling at the Former Line 1 Impoundment (IAAP-16) and the Line 800 Pink Water Lagoon (IAAP-44). In 1989 Dames and Moore submitted a RI/FS on these sites. After review of the final report of this investigation, EPA Region VII directed that additional samples be taken at these two sites, and that the Risk Assessment (RA) prepared as part of the final report be recalculated to accommodate more current analytical data. This additional follow-up sampling will be conducted concurrently with the RI/FS at IAAP, though the two subject sites were not originally under consideration for the current RI/FS. The follow-up sampling is intended to be a limited event to fill data gaps remaining from the Dames & Moore RI/FS. EPA Region VII provided guidance regarding the number of additional surface water/sediment samples to be collected, and the 40 associated monitoring wells that need to be resampled in support of the RA. The FSP for IAAP-16 is presented in Section 5.18. The FSP for IAAP-44 is presented in Section 5.46. A second round of groundwater sampling of the 40 wells will be required at a quarterly interval. This second round of sampling will be conducted concurrently with Phase II of the RI/FS. A proposed FSP for the event will be submitted with the Phase II Work Plan. After field work for the RI/FS is completed, the RA will be recalculated and the status of these two additional sites and their relative contribution to site contamination will be further evaluated, and a determination will be made regarding the designation of the two sites as a separate operable unit.

1.1.2 Organization of RI/FS Work Plan

The sections of this report that follow document and describe the evaluation of site conditions, and the sequence of actions taken to determine whether sites will be included in the RI. After RI sites are identified, the sampling scheme for the RI is presented. These sections are organized as follows:

- Section 2.0 - Site Setting and Background

  This section includes a description of the site and its history, and a discussion of the cultural and environmental setting of IAAP. A chronological summary of past investigations also is included.

- Section 3.0 - Initial Site Evaluation

  This section discusses the criteria established by USATHAMA for RI inclusion/exclusion. For each of the 43 sites, the site history is discussed, and a summary of past investigations presented. Each site evaluation will include a discussion of relevant data that demonstrate the need for inclusion in the RI or allows for its exclusion.

  Also represented in this section is a proposed sampling design for two additional sites (IAAP-16 and IAAP-44) that require follow-up sampling to supplement an existing Risk Assessment. This follow-up sampling was requested by EPA, and it was agreed that the work would be conducted concurrently with the RI, though these two sites are not under consideration in the current RI/FS at IAAP.

- Section 4.0 - RI Work Plan Rationale

  This section (4.1) identifies Data Quality Objectives (DQOs) to ensure that the data collected are of adequate quality for supporting the Risk Assessment and for evaluating remedial alternatives.

In Section 4.2, the specific RI Work Plan tasks for Phase I and Phase II are listed in the logical sequence they are to be conducted. After Phase I tasks are identified, data evaluation and risk assessment needs are reevaluated. Phase II tasks are designed to fill data gaps and expand the scope of the RI.

- Section 5.0 - Remedial Investigation Sampling Plan
For each site included in the RI, the data requirements and sampling objectives are identified. The proposed sampling scheme is detailed.

- Section 6.0 - Feasibility Study
In this section, general Feasibility Study tasks are discussed. The FS process is a three stage process which proceeds from the development of remedial alternatives, through their screening and detailed analysis. The development of Applicable or Relevant and Appropriate Requirements (ARARs) is described. The initial development of remedial alternatives is discussed. The procedure for screening and analyzing potential remedial technologies is presented.

- Section 7.0 - Long-Term Groundwater Monitoring Plan
This section proposes the implementation of a routine groundwater sampling program for IAAP that is designed to monitor basewide groundwater quality and conditions, determine the presence and extent of contamination, and monitor the migration of contamination, after the RI.

- Section 8.0 - Data Management Plan
This section details the data management systems that will be utilized to track all chemical and physical data associated with past and current studies of the IAAP.

- Section 9.0 - Community Relations Activities
A Community Relations Plan has already been developed for IAAP. This section will discuss only the general tasks associated with implementation of community relations activities at the plant.

- Section 10.0 - Project Coordination and Management
The project schedule, key personnel, and subcontractor management are discussed.

1.1.3 Associated Project Plans

1.1.3.1 Sampling and Analysis Plan (SAP)

1.1.3.1.1 Field Sampling Plan (FSP)

The Field Sampling Plan (FSP) is included in its entirety in Section 5.0. In general, the FSP will include, for each site that meets RI inclusion criteria, the following elements:

- Description of the objectives of the sampling efforts, including the ultimate use of the data;

- Specifications of the types, locations, and frequency of the samples to be taken; and

- Scaled map depicting the relevant site features and the proposed sample locations.

1.1.3.1.2 Quality Assurance Project Plan (QAPjP)

The Quality Assurance Project Plan (QAPjP) is included in its entirety as a supplemental volume to the RI/FS Work Plan (Volume 3). In general, the QAPjP was prepared in accordance with the guidance promulgated in the USATHAMA "Quality Assurance Program", January 1990, and in "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans," EPA 1990. The QAPjP addresses the standard practices required for the field collection of samples, as well as the procedures utilized by the contractor laboratories to analyze samples and provide useable data of known quality.

1.1.3.2 Health and Safety Plan (HASP)

The Health and Safety Plan (HASP) is included in its entirety as a supplemental volume to the RI/FS Work Plan (Volume 3). In general, the HASP was developed in accordance with guidance promulgated in 29 CFR 1910.120 (OSHA) and 40 CFR 311 (EPA); NIOSH Pocket Guide to Chemical Hazards; ACGIH Threshold Limit Values; U.S. EPA, OERR Environmental Response Team (ERT) Standard Operating Safety Guidelines; and OSHA/NIOSH/EPA/Coast Guard "Occupational Health and Safety Guidelines for Activities at Hazardous Waste Sites."

SECTION 2.0 SITE SETTING AND BACKGROUND

2.1 IAAP SITE

2.1.1 Site Location

The Iowa Army Ammunition Plant (IAAP) is a government facility, owned by the United States Army and operated by a private contractor, Mason & Hanger-Silas Mason, Co., Inc. The IAAP is located in the southeastern part of Iowa, near the town of Middletown, in Des Moines County, approximately 10 miles west of the Mississippi River. The IAAP is a secured facility covering 19,127 acres in a rural setting; approximately 10,000 acres are dedicated for agricultural production. The plant is located in Sections 34, 35, 36 T70N, R4W, Sections 31, 32, 33, and 34, T70N, R3W, Sections 1, 2, 3, 10, 11, 12, 13, 14, 15, 23, and 24, T69N, R4W, Sections 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20, 21 and 22, T69N, R3W in Des Moines County, Iowa.

A location map of the IAAP relative to the state of Iowa is shown as Figure 2-1. Plate 1 (attached as a pull-out map inside the back cover) shows a layout of IAAP, identifying major buildings, SWMUs and general topography.

2.1.2 Site History

The IAAP was initially developed in 1941, and has undergone modernization and expansion since then. Production at the facility began in September 1941 and ended in August 1945, producing supplies for World War II. Production was resumed in 1949 and has continued to the present. In the 1960s and early 1970s, the IAAP produced supplies for wars in southeast Asia. During peacetime, activities at the plant continue, at a reduced level. Also, during a period from 1946 to 1950, nitrogen fertilizer was produced at one IAAP line. From 1947 through 1973 the former Atomic Energy Commission operated facilities on the site, which then reverted to Army control in 1973 (Ecology and Environment, Inc. 1987).

The IAAP is currently operating to load, assemble, and pack (LAP) ammunition items, including projectiles, mortar rounds, warheads, demolition charges, anti-tank mines, anti-personnel mines, and the components of these munitions, including primers, detonators, fuses, and boosters. The loading, assembling, and packing operations use explosive material and lead-based initiating compounds.

Only a few of the production lines are in operation. Histories of individual areas within the IAAP are discussed in Section 3.0.

2.1.3 Status of Previous Investigations

Numerous previous investigations have been completed at the IAAP. Twelve major environmental investigations were performed at IAAP between 1975 and 1989. An RI/FS has already been conducted at the Former Line 1 Impoundment and the Line 800 Pink Water Lagoon (IAAP-44); therefore, these two sites are not part of the current RI/FS. Other studies have focused on the Demolition Area, and the Brush Creek, Spring Creek, and Long Creek watersheds. Additionally, a site investigation was completed in 1991, which incorporated findings and recommendations from previous studies.

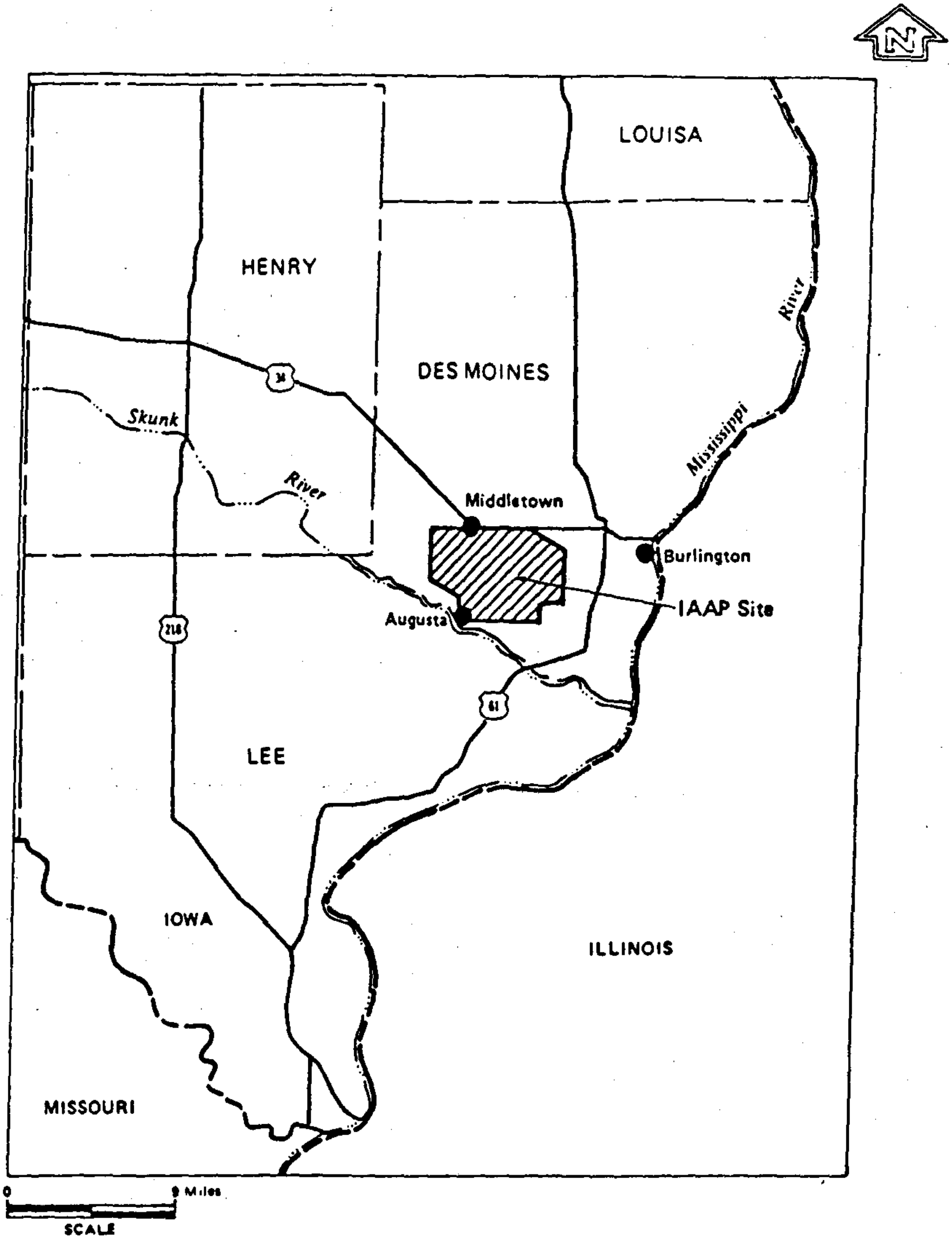

FIGURE 2-1
LOCATION OF IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, DES MOINES COUNTY, IOWA

Prepared by:

CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.

for:
JAYCOR

Source: Dames & Moore

The following sections provide a narrative, chronological profile of the major environmental studies known to have been conducted at the IAAP. An overview of each study is presented, along with pertinent conclusions and recommendations. Individual recommendations for further study are generally reflected in latter studies. In particular, the most recent study, the Site Investigation (Section 2.1.3.13), was a comprehensive site-wide investigation to address all possible areas of contamination, either suspected due to historical operations or recommended by previous investigations.

2.1.3.1 Aquatic Field Surveys (1975)

In 1975, Environmental Control Technology Corporation conducted two aquatic field surveys at IAAP -- the first in June and the second in October. The purpose of the surveys was to determine the biological and chemical impacts of discharges from the facility. Brush Creek was the primary area of study since it received the greatest volume of treated wastewater discharge. Eight sampling stations were established on Brush Creek and two on Spring Creek: the latter stations representing an attempt to determine possible impacts from the explosives disposal area. Seven process outfalls were also monitored during the surveys. Water and sediment samples were analyzed for nutrients, minerals, heavy metals, and explosive-related compounds.

It was found that industrial discharges were affecting water quality in Brush Creek as evidenced by dissolved solids and nutrients. Boiler blowdown water and sewage treatment plant effluent were judged to be the chief contributors. Low levels of TNT and its transformation products were observed in water and sediment samples from all except one station on Brush Creek.

2.1.3.2 Installation Assessment (1978)

In 1978, an installation assessment of IAAP was conducted by USATHAMA which involved personnel interviews and a review of records of various government agencies. The purpose was to evaluate the use, storage, treatment, and disposal of toxic and hazardous materials at the plant, and to define any conditions that may adversely affect public health and welfare, or result in environmental degradation.

The assessment found no evidence of off-site migration of contamination in surface water. However, it identified three areas of known or possible contamination within the IAAP boundary:

- Line 800 Pink Water Lagoon (IAAP-44) had TNT and heavy metals contamination in subsurface soil.
- Former Line 1 Impoundment (IAAP-16) had wastewater contamination in the Brush Creek stream banks.
- Possibility of off-site groundwater contamination by explosives and associated wastes through unknown mechanisms exists. where ?

The major findings of this study were as follows:

- Migration of contaminants from the pesticide pit has been observed outside of the fence surrounding the pit.
- A former sulfuric acid disposal pit was identified south of Line 3A near water tower 3A-145.
- Two former demolition areas were identified near the installation's southern boundary, along Augusta Road--one east of the pistol range (IAAP-18) and the other south of Yard D (IAAP-21) with the potential for contamination by TNT, Composition B, Composition C and white phosphorous.
- Although the inert disposal area (IAAP-20) showed no evidence of contamination, there is a period (early World War II years) for which no information is available about the materials buried at this location.
- Resolution was needed of the conflict between limited geological data tending to refute likely migration, and documentation that migration of contamination has occurred.
- There was a need for more information on the groundwater at IAAP, especially near potential sources of contamination and at the boundaries of the installation.
- A follow-on USATHAMA survey was recommended to better define contaminants that may be migrating from the installation.
- A recommendation was made that IAAP expand its water quality monitoring program, especially where streams exit the facility.

2.1.3.3 Aerial Color Infrared Photography Interpretation (1979)

In August and September 1979, Rome Research Corporation performed an aerial color infrared photography interpretation study at IAAP to locate signs of vegetation stress attributable to present or past disposal activities.

Nine sites containing stressed vegetation were identified. Field visits were conducted in September 1979 to confirm the imagery interpretation. Three stressed areas were attributed to trees affected with Dutch Elm disease; two areas were attributed to the fact that some trees were stressed or dead due to old age, but that younger growth was thriving; and, the following four areas are believed to have been stressed by toxic materials:

- North end of explosives disposal area
- Area between Lines 2 and 3, south of Oliver Road
- Flyash pile in the vicinity of sewage treatment plant
- Small cemetery between Yards E and G near the southern boundary of the installation

2.1.3.4 Contamination Assessment (1981)

From February through October 1981, Environmental Research Group, Inc. (ERG) conducted a preliminary contamination survey of IAAP (ERG 1982) which consisted of installing monitoring wells, and collecting groundwater, surface water, sediment and soil samples, and analyzing them for selected explosives, nutrients, organics, heavy metals, polychlorinated biphenyls (PCBs), and pesticides. The contamination survey was viewed as a baseline study to identify areas of concern. It examined the following areas: Long Creek, Brush Creek and Spring Creek watersheds, demolition area, Storage Yard K, southern facility boundary, and the Line 800 Pink Water Lagoon.

Study sites were chosen by USATHAMA based on information from previous investigations. The sites consisted of 31 groundwater wells, 15 soil sampling locations, and 20 sites for collection of surface water and sediment samples. The following conclusions and recommendations resulted from the study:

- Exceptionally high barium levels were found in all groundwater and surface water samples, even those upgradient from probable sources of contamination. There are no known barium ore deposits in the region that could account for the elevated barium level in every sample. While it is known that barium nitrate was used at the installation, it is difficult to explain the levels found in areas with no apparent pathways from probable sources. Accordingly, further investigation into these observations was recommended.

- In the Long Creek watershed, elevated lead concentrations were found in two soil samples; however, it was believed that the lead may have migrated into the facility from outside sources.

- Contaminants from the facility were not migrating off site via the Long Creek watershed.

- No contamination was found in the demolition area, Storage Yard K, or along the southern boundary of IAAP.

- The explosives disposal area, located along Spring Creek, appeared to be contaminating the creek with RDX and 2,4,6-TNT. However, groundwater flow from this area did not appear to be a migration pathway.

- TNT and RDX were found in surface water samples in the Brush Creek watershed (excluding those sites associated with the Line 800 Pink Water Lagoon). Trace amounts of 2,4,6-TNT were found in sediments along Brush Creek. These measurements may be attributable to an NPDES-permitted discharge into the creek. There was a high concentration of RDX in one of the groundwater samples in this watershed, possibly the result of activities at the Former Line 1 Impoundment. It may be that contaminated groundwater is seeping into Brush Creek.

- Explosives-contaminated sediments remain at the former Line 1 Impoundment that are subject to erosion and scour which could release explosives contaminants into the creek.

- In the area of the Line 800 Pink Water Lagoon, very high levels of RDX and high levels of 2,4,6-TNT were found in three wells. However, there was no evidence that the contamination is migrating off the facility via the groundwater.

2.1.3.5 Underground Pollution Investigation (1981)

Between October 1980 and October 1981, an underground pollution investigation was conducted by SCS Engineers (SCS 1982) which examined groundwater and surface water quality around the former Line 1 Pink Water Lagoon, and groundwater quality in the areas surrounding the detonator Line 6 lead azide treatment sumps/leach beds and the proposed location of the Line 4A evaporation spray lagoon. Four monitoring wells and six soil borings were located at the Line 800 Pink Water Lagoon. Four monitoring wells and 14 soil borings were located at the Line 6 treatment area. Five monitoring wells were located in the five borings at the Line 4A, spray evaporation pond. Available boring logs are included in Appendix C.

Surface water samples were collected in Brush Creek upstream and downstream of the Line 800 Pink Water Lagoon. Sediment samples and effluent samples were collected from the Line 800 Pink Water Lagoon and the Line 6 treatment sumps. These samples were analyzed for RCRA hazardous waste criteria: ignitability, corrosivity, reactivity, and extraction procedure toxicity. Groundwater samples were taken at all three study areas. The study produced the following recommendations and conclusions:

- Additional study should be conducted to determine the extent of explosive-contaminated sediments in Brush Creek resulting from the Former Line 1 Impoundment. Further, the creek valley should be investigated for deposits of eroded, contaminated sediments.

- Subsurface water contamination had not occurred at the Former Line 1 Impoundment or Line 6 treatment areas, nor was contamination of water supply aquifers likely. Potential exists for surface water contamination. Surficial soil samples should be taken in the drainageways downgradient from the Line 6 treatment area and migration pathways should be identified.

- Additional study of the Line 6 treatment area should be conducted to determine the presence or absence of heavy metals-contaminated soil surrounding the leach beds.

- Contaminants of concern in groundwater samples in the area of the proposed Line 4A, spray evaporation pond were all below EPA groundwater quality criteria.

2.1.3.6 Follow-on Study of Contamination (1983)

A follow-on study of the 1981 Contamination Survey was conducted by Battelle Project Management Division in late 1983 (Battelle 1984). The study included the installation of four shallow and four deep monitoring wells around the Line 800 Pink Water Lagoon, sampling of sediment from the Line 800 Pink Water Lagoon and the Former Line 1 Impoundment, sampling of groundwater and surface water within the Brush Creek and Spring Creek watersheds, and visual reconnaissance of the Brush Creek area (for signs of interaction between the creek and groundwater). Conclusions and recommendations of the follow-on study were as follows:

- Based on three surface water samples and one boundary groundwater sample, no explosives contamination was found in the Spring Creek watershed.

- Soils and sediments within the Line 800 Pink Water Lagoon are contaminated with explosives and their related compounds, as well as heavy metals. The horizontal and vertical extent of contamination in the northeast end of the lagoon could not be determined from available data. In the southwest end, data indicate vertical migration. The follow-on study examined only a five-foot depth for soil and sediment samples; further examination is recommended to determine the true extent of vertical contamination.

- High levels of RDX and other explosives (in excess of human health criteria) were observed in shallow wells near the Line 800 Pink Water Lagoon. It was suggested that leaching of explosives-contaminated sediments into groundwater is occurring.

- Direction of contaminant migration in groundwater from the Line 800 Pink Water Lagoon needs to be determined. Three different directions have been identified as likely pathways.

- RDX was found in one bedrock well west of the Line 800 Pink Water Lagoon. It is uncertain whether this resulted from migration (in a direction opposite the expected flow direction), contamination of the well during drilling and sampling, or by some other means. The data were inconclusive as to contaminant migration in the bedrock aquifer near the Line 800 Pink Water Lagoon. It was recommended that all wells around the Line 800 Pink Water Lagoon be resampled during periods of high and low water levels.

- Interaction between groundwater and surface water at Brush Creek could not be determined quantitatively.

- 2,4,6-TNT, RDX, other explosives, and metals exist in sediment in the Former Line 1 Impoundment.

- RDX is migrating from the site in Brush Creek, although in concentrations well below the fresh water aquatic life criterion. It is likely that significant input of RDX into Brush Creek is occurring at the Former Line 1 Impoundment.

- Shallow groundwater in the Brush Creek drainage system has also been contaminated with RDX from sediments in the Former Line 1 Impoundment. Contamination at levels above human health criteria was found at a well some distance from the impoundment while two wells close to the impoundment were uncontaminated. The pathway for the observed contamination is not known.

- Additional study is required to define the impact of current surface water discharges on contamination in the Brush Creek watershed.

2.1.3.7 Midwest Confirmatory Study (1985)

In September and October 1985, Dames & Moore conducted a study of potential groundwater migration off site, called the Midwest Site Confirmatory Survey, which included 65 groundwater and 19 surface water samples collected from six areas within IAAP, including Brush Creek, Spring Creek, Long Creek and Mathes Lake (Dames & Moore 1986).

The primary area of concern was found to be the Line 800 Pink Water Lagoon, where elevated levels of explosives and chloroform were found in groundwater samples. High chloroform levels were found in groundwater samples in the demolition area. High levels of explosives and chloroform were found in groundwater samples in the explosives disposal area. Additionally, methylene chloride was found in two wells, and hexavalent chromium, explosives, chloroform and methylene chloride were found in surface water samples.

The chloroform and methylene chloride detected in these samples was considered to be laboratory contamination. There were no installation activities which could have possibly resulted in the contamination alleged to be in these areas. The resample effort noted in Section 2.1.3.9 Confirmatory Water Sampling (Page 2-1.9) indicated that methylene chloride was not detected in any of the samples.

✓ 2.1.3.8 RCRA Facility Assessment (1986)

In 1986, under contract to EPA, Ecology and Environment, Inc. (E&E) conducted a RCRA Facility Assessment (RFA) at IAAP. Limited sampling was performed at sites selected by EPA which were either active or former hazardous waste treatment, storage and disposal facilities. The sites sampled were the pesticide pit, boxcar unloading area, Lines 4 and 6, explosives disposal area, and flyash landfill. Results of the sampling program were as follows:

- Soil and sediment samples at Line 6 contained very high concentrations of barium, lead and zinc. Both here and at the open burning area, high metals concentrations were found upgradient and downgradient of the source.

- Groundwater samples at Lines 4 and 6 contained significant levels of heavy metals. A water sample collected from the Line 4A spray evaporation pond contained heavy metals. The heavy metals detected in the surface water at the Line 4A spray evaporation pond is considered to be in error as the pond was never placed in use and contains only rain water.

- The open burning pit (in the explosives disposal area) showed very high levels of explosives in soil samples.

- Heavy metals concentrations upgradient and downgradient of the open burning pit were high, with barium levels being exceptionally high.

- At the boxcar unloading area, high metals and organic levels were measured.

- The soil sample at the flyash landfill had elevated metals concentrations.

- Soil and sediment samples collected downgradient from the pesticide pit showed significant pesticide levels. No groundwater data were available directly downgradient of the pit.

The RFA produced the following conclusions and recommendations:

- High concentrations of heavy metals, especially barium, present the most persistent problem, although the barium source has not been identified. High concentrations upgradient of potential sources suggest that there may be multiple pathways, which are not necessarily related to groundwater flow.

- Factors such as high solubility and rapid degradation of explosives may indicate the need for additional monitoring of soils and surface water near areas of explosives disposal.

- Air sampling during incineration and open burning may provide information on the distribution of barium.

- The lack of a continual and complete set of soil, surface water and groundwater sampling data are inhibiting a comprehensive evaluation of contaminant migration.

- Additional sampling to determine the existence of past or present releases is recommended for: pesticide pit (soil, groundwater); flyash landfill (sediment, surface water); incendiary disposal area (type of materials buried); explosives disposal area (soil, sediment); Line 4A (groundwater); Line 6 (soil, sediment, groundwater); demolition area (soil, sediment); firing site (soil, sediment); possible demolition site (soil, sediment); inert disposal area (sediment, groundwater) [new well locations recommended because Wells C-6 and C-7 not properly placed for detection of releases]; and petroleum spill area.

Groundwater contamination at Line 6 is further discussed in Section 2.1.3.10.

2.1.3.9 Confirmatory Water Sampling (1987)

In June 1987, Environmental Science and Engineering (ESE) performed confirmatory sampling of 17 monitoring wells and five surface water sites to better document the presence or absence of chloroform and methylene chloride found in an earlier survey (Section 2.1.3.7). One groundwater sample from the demolition area was found to contain an elevated level of chloroform. No methylene chloride was detected in any of the samples. However, some samples were found to contain a nontarget compound (1,1,2-trichloro-1,2,2-trifluoroethane), although the quantities could not be determined.

The resampling of groundwater monitoring wells in the Demolition Area (IAAP-21) indicated that one well had an elevated level of chloroform. However, the preliminary sampling of the same well did not indicate elevated levels of chloroform. The resampling effort demonstrated other monitoring wells did not contain elevated levels of chloroform as was indicated in the preliminary sampling. Therefore, it appears the true groundwater conditions have not been accurately demonstrated. The samples may have been subjected to chloroform contaminated sample containers or laboratory contamination by chloroform. There is no history of chloroform use or disposal in the Demolition Area.

2.1.3.10 Groundwater Quality Assessment (1988)

In 1988, Terracon Consultants conducted a groundwater quality assessment at the inert landfill and Line 6 areas to evaluate the potential for contamination of groundwater by those activities (Terracon 1989). Nine wells were installed at the inert landfill and 27 wells at Line 6 (9 sets of 3 wells each). Soil properties and aquifer characteristics were determined in addition to the analysis of groundwater samples. Available boring logs are included in Appendix C.

Synthetic organic compounds were detected in three wells upgradient from the inert landfill. Arsenic was found in two wells at the inert landfill. Cyanide was found in Well T30, a bedrock well at Line 6.

It was recommended that additional testing be performed at the inert landfill: collecting soil samples for vertical permeability analysis, installing two shallow groundwater wells, and monitoring them along with the three wells where synthetic organic compounds were detected. It was also recommended that well T30 at Line 6 be resampled and analyzed for cyanide.

2.1.3.11 Petroleum Leak/Spill Area (1988-89)

In November 1988, PACE Laboratories conducted a soil-gas analysis at the petroleum leak/spill area. This assessment arose from the finding of contamination during excavation of three underground storage tanks at a service station in the north-central portion of the facility. During the course of the assessment, the excavation was expanded and it was discovered that two gasoline tanks, which were previously removed, had been located in the immediate area of the excavation.

Soil-gas analyses indicated very high levels of organic vapors. Groundwater seeping into the excavated area had a noticeable gasoline sheen on the surface. A soil-gas plume of hydrocarbons approximately 100 feet wide extended 100-200 feet south of the excavated area. It was suggested that the soil-gas concentrations may have been indicative of free product in the soil or floating on the water table.

Further soil and groundwater investigation was conducted by Dames and Moore in 1989 to determine the extent of hydrocarbon contamination. This study led to the following conclusions:

- Shallow groundwater contamination is horizontally confined to the immediate area of the source (no more than 50 feet from the excavation boundary). Vertical contamination is almost entirely limited to the shallow groundwater table.
- Contaminated groundwater has not reached the deep portions of the glacial till.
- Soil contamination is similarly limited horizontally and vertically to the immediate vicinity of the source.
- Soil-gas testing indicated gaseous hydrocarbons over an area slightly larger than the area of soil and groundwater contamination.
- Contamination of surface water and sediments was not found at the nearest downgradient stream.
- Potential health and environmental risks were considered to be negligible because groundwater in the area is not a source of drinking water and because contaminated soils are isolated from human activity.
- No additional remedial action was recommended. However, periodic soil gas monitoring was recommended to check for accumulation. Additional groundwater monitoring was recommended to confirm the downward hydraulic gradient and to check for the presence of hydrocarbons and lead.

2.1.3.12 Endangerment Assessment/Feasibility Study (1989)

In August 1989, Dames & Moore prepared a Feasibility Study to evaluate remedial alternatives at two IAAP sites: the former Line 1 Impoundment (IAAP-16) and the Line 800 Pink Water Lagoon (IAAP-44). This study was based on data collected during numerous investigations between 1980 and 1987. Target risk levels of 10^{-4}, 10^{-5} and 10^{-6} were used in assessing the need for remediation. Contaminants of concern were RDX in soil/sediment at the Former Line 1 Impoundment; and RDX and 2,6-DNT in groundwater at the Line 800 Pink Water Lagoon.

At the 10^{-4} risk level, no remediation was found to be necessary at either site, although groundwater monitoring at the Line 800 Pink Water Lagoon and surface water monitoring at the Former Line 1 Impoundment were recommended. At the more stringent risk levels, some degree of remediation would be necessary for the indicated materials at both sites. Further, although soils and surface water in the Line 800 Pink Water Lagoon did not represent health risks at the 10^{-5} and 10^{-6} levels, their remediation would be necessary to effect the remediation of the groundwater.

Sixteen technologies were identified as suitable for remedial action at the two sites. Combinations of these technologies were evaluated. The recommended alternative for the 10^{-6} risk level was excavation and removal of soil/sediment from the Former Line 1 Impoundment and placement into the dewatered Line 800 Pink Water Lagoon, with final capping of the entire area, then groundwater in the bedrock aquifer pumped and treated. For the 10^{-5} risk level, the approach would be the same except that the quantity of material requiring remediation would be smaller.

An Endangerment Assessment conducted by Dames & Moore in conjunction with the Feasibility Study identified a number of major pathways for human exposure to contaminants released from the Former Line 1 Impoundment and the Line 800 Pink Water Lagoon:

Former Line 1 Impoundment

- Consumption of deer that drink contaminated water and feed on vegetation growing in areas of contaminated soil.
- Consumption of beef and dairy products from cattle that drink water from Brush Creek.
- Dermal contact with surface water by children with access to Brush Creek south of the IAAP boundary.
- Dermal contact with sediments by children with access to Brush Creek south of the IAAP boundary.

Line 800 Pink Water Lagoon

- Consumption of deer that drink contaminated water and feed on vegetation growing in areas of contaminated soil.
- Inhalation of dust by IAAP maintenance personnel.

Consumption of groundwater from future wells installed outside of IAAP property along Brush Creek represents an additional pathway from both sites.

2.1.3.13 Site Investigation (1991)

In September 1990, the USEPA and the U.S. Department of the Army signed a FFA under CERCLA, Section 120, regarding IAAP. The agreement, recognizing the recommendations and conclusions of previous environmental studies, required that an RI/FS be performed to determine the nature and extent of the threat to public health and the environment caused by the release of hazardous substances at IAAP; and to identify, evaluate, and select alternatives for remedial action to mitigate these threats.

Preliminary assessments were conducted on 43 sites, 30 of which are solid waste management units (SWMUs), as identified by the FFA, resulting in recommendations that 42 sites required site investigations (SIs) -- to determine whether or not an RI will be required. No samples were collected at IAAP-16 and IAAP-44 during the SI because Dames & Moore had already conducted an RI/FS at these locations (see Section 2.1.3.12).

SIs were conducted in August 1991. The major objectives of the SIs were to collect data necessary to confirm or deny environmental contamination; identify and quantify contaminants in soils, sediments, groundwater and surface water; and evaluate the potential for contaminant migration. Together, this information was evaluated to determine which SWMUs would be recommended for RIs.

SI activities resulted in the collection of 281 environmental samples, which were analyzed for inorganics, volatile organics, semivolatile organics, explosives, pesticides/PCBs and radionuclides. Results of this investigation are discussed on a site-specific basis in Sections 3.3 through 3.46. The samples collected in each matrix at each site are summarized in Table 2-1.

Background soil samples were collected from areas known to be uncontaminated in an effort to characterize indigenous soil quality for comparison to on-site samples. Three soil samples were taken at the 0 to 12-inch interval and one soil sample (soil auger) was taken at 3 feet. The analytical results of the background samples will be discussed in Section 3.2, which details the criteria for including sites in the RI.

The parameters of concern at each Phase I RI site are summarized in Table 2-1a.

Table 2-1: Summary of SI Samples

SWMU	Surface Soil* (scoop)	Subsurface Soil** (auger)	Surface Water	Sediment	Ground Water
IAAP 1-Line 1	1	5	1	1	
IAAP 2-Line 2	2	4		2	
IAAP 3-Line 3	5	7	1	1	
IAAP 4-Line 3-A	10		1	2	
IAAP 5-Lines 4A & 4B		14	3	1	
IAAP 6-Lines 5A & 5B	1	19			
IAAP 7-Line 6		12			1
IAAP 8-Line 7	3	11	1		
IAAP 9-Line 8		8	1	2	
IAAP 10-Line 9	7		2		
IAAP 11-Line 800		12			
IAAP 12-EDA (East Burn Pads)	2				4
IAAP 13-Incendiary Disposal Area				2	
IAAP 14-Boxcar Unloading Area	3			1	
IAAP 15-Old Fly Ash Waste Pile	1	1	3	3	
IAAP 16-Former Line 1 Impoundment***					
IAAP 17-Pesticide Pit	1				
IAAP 18-Possible Demolition Site		3			
IAAP 19-Contaminated Clothing Laundry		1		1	
IAAP 20-Inert Disposal Area	2	5	3	4	
IAAP 21-Demolition Area	2	1			2
IAAP 22-Unidentified Substance Waste Site		1		1	
IAAP 23-Deactivation Furnace	1	4			
IAAP 24-Contaminated Waste Processor	1	2	1		

* Number of subsamples is specified in relevant subsections of 3.0.

** Depths and numbers of subsamples are specified in relevant subsections of 3.0.

*** No samples needed.

Table 2-1: Summary of SI Samples (Continued)

SWMU	Surface Soil* (scoop)	Subsurface Soil** (auger)	Surface Water	Sediment	Ground Water
IAAP 25-Explosive Waste Incinerator	2			1	
IAAP 26-Sewage Plant/Sludge Beds	2		2	1	
IAAP 27-Fly Ash Landfill	1	2			3
IAAP 28-Construction Debris Landfill	3				
IAAP 29-Line 3A Sewage Plant/Sewage Beds	2		1		
IAAP 30-Firing Site Area		11	2	2	
IAAP 31-Yard B Ammunition Box Chipper Pit	1	1			
IAAP 32-Burn Cages		2			
IAAP 33-Burn Cages Landfill		2			
IAAP 34-W.Burn Pads	2	2			
IAAP 35-W.Burn Pads Landfill	1	3		3	
IAAP 36-N.Burn Pads		4		1	
IAAP 37-N.Burn Pads Landfill		2		3	
IAAP 38-Building 600-68 Septic System		1			
IAAP 39-Fire Training Pit		5			
IAAP 40-Roundhouse Transformer Storage Area	1	4			
IAAP 41-Line 3A Pond		3			
IAAP 42-Abandoned Coal Storage Yard		5	2	2	
IAAP 43-Fly Ash Disposal Area	1	3		2	
IAAP 44-Line 800 Pink Water Lagoon ***					
TOTAL	58	160	19	34	10

* Number of subsamples is specified in relevant subsections of 3.0.

** Depths and numbers of subsamples are specified in relevant subsections of 3.0.

Table 2-1a
IAAP Phase I RI Summary of Parameters of Concern

SI/RI SITES	EXPLOSIVES	METALS	VOLATILES	SEMIVOLATILES	PESTICIDES/PCBS	RADIONUCLIDES	NITRATES	SULFATES
IAAP-1/R1	X	X	X	X		X		
IAAP-2/R2	X	X	X	X				
IAAP-3/R3		X	X	X	X			
IAAP-4/R4	X	X	X	X	X			
IAAP-5/R5	X	X	X					
IAAP-6/R6		X	X					
IAAP-7/R7	X	X						
IAAP-8/R8	X				X			
IAAP-9/R9	X	X		X				
IAAP-10/R10	X	X	X					
IAAP-11/R11	X	X	X	X	X			
IAAP-12/R12	X	X	X	X				
IAAP-17/R13		X	X	X	X			
IAAP-20/R14	X	X	X	X				
IAAP-21 ┐ R15	X	X						
IAAP-23 ┘	X	X						
IAAP-24/R16	X	X						

SI/RI SITES	EXPLOSIVES	METALS	VOLATILES	SEMIVOLATILES	PESTICIDES/PCBS	RADIONUCLIDES	NITRATES	SULFATES
IAAP-25/R17			X					
IAAP-26/R18	X	X						
IAAP-27/R19	X	X						
IAAP-28/R20	X	X	X	X	X			
IAAP-29/R21	X	X						
IAAP-30/R22	X	X						
IAAP-31/R23	X	X	X	X				
IAAP-32 ┐	X	X						
IAAP-33 ├ R24	X	X						
IAAP-34 │	X	X		X				
IAAP-35 ┘	X	X						
IAAP-36/R25	X	X						
IAAP-38/R26	X	X	X	X	X			
IAAP-39/R27	X	X	X	X				
IAAP-40/R28			X	X	X			
IAAP-41/R29	X	X						
IAAP-43/R30		X					X	X

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2.2 ENVIRONMENTAL SETTING

2.2.1 Surrounding Demography and Land Use

2.2.1.1 Population

According to the 1990 U.S. Census, Des Moines County has a population of approximately 42,614 persons. Burlington, the county seat, has a population of 27,208. More than 60 percent of the total population of the county lives in Burlington, and about 20 percent live on farms. West Burlington has a population of 3,371. Middletown has a population of 387. Augusta is an unincorporated town south of IAAP and approximately 50 people live in this area.

2.2.1.2 Land Use

The IAAP is located in a rural area of southeastern Iowa in Des Moines County. The county has an area of 261,760 acres, or 409 square miles of land. Croplands comprise about 60 percent of the county; the remainder is composed of 10 percent urban use, 8 percent pasture land, and 22 percent woodland, wasteland, or idle land. Growing soybeans and corn for grain and seed, feeding cattle, and raising hogs are the principle farming enterprises.

The IAAP encompasses an area of 19,127 acres, or 30 square miles of land. Land use on the facility consists of 7,751 acres leased for agricultural use, approximately 7,500 acres of forested land, and the remaining area used for administrative and industrial operations. Approximately 20 houses for use by contract personnel and their families are located on the site. These houses are currently unoccupied and are more than 1500 feet from the nearest investigative site.

2.2.1.3 Cultural Features

There are several recreational facilities both on the site and in the immediate area surrounding the site. Mathes Lake (also called Long Lake) is located on the IAAP site. On the water front area of Mathes Lake, where Long Creek feeds into the lake, there is a small Boy Scouts of America campsite. There is also a boat ramp on the east shore of the lake that is used mainly by fishermen.

Two cemeteries are located within the boundaries of the IAAP: Spring Creek Cemetery is located on the west side of the site, just east of Yard C; Shilo Cemetery is located on the southwest side of the site, south of Yard D.

There is a large deer population on and around the IAAP site. Hunting is regulated at IAAP through the use of permits.

South of the IAAP is the Skunk River. It has two boat launch access areas and one small park located on its banks, most of which are located in the area known as Augusta. The Upper Augusta Access Area is located southwest of the IAAP, and the Lower Augusta Access Area is located south of the IAAP. Welter County Park is located adjacent to the Lower Augusta Access Site. The Skunk River is utilized for all types of recreational uses, such as boating, skiing, swimming and fishing.

Several schools and one church are located within one mile of the IAAP. Directly east are three schools: Southeastern Community College at Burlington, Buena Vista School, and Brush College School. Long Creek Church, which is west of the site, is the only church that is near the IAAP.

There are three quarries located near the IAAP. The first is located on the west side of the facility. This quarry is fairly large, with groundwater at the low point. The second quarry is smaller and located just outside the facility at the south entrance. No water is shown on the USGS Quadrangle map. The third quarry is located southeast of the site. It has a small area that is covered by water, and the overall size of the quarry is relatively small.

Approximately 3 miles west of the IAAP, in neighboring Henry County, is Geode State Park. The park is named for the geode - a stone containing crystal formations. Lake Geode, located within the park area, is popular for fishing, boating and swimming.

2.2.2 Geology and Hydrogeology

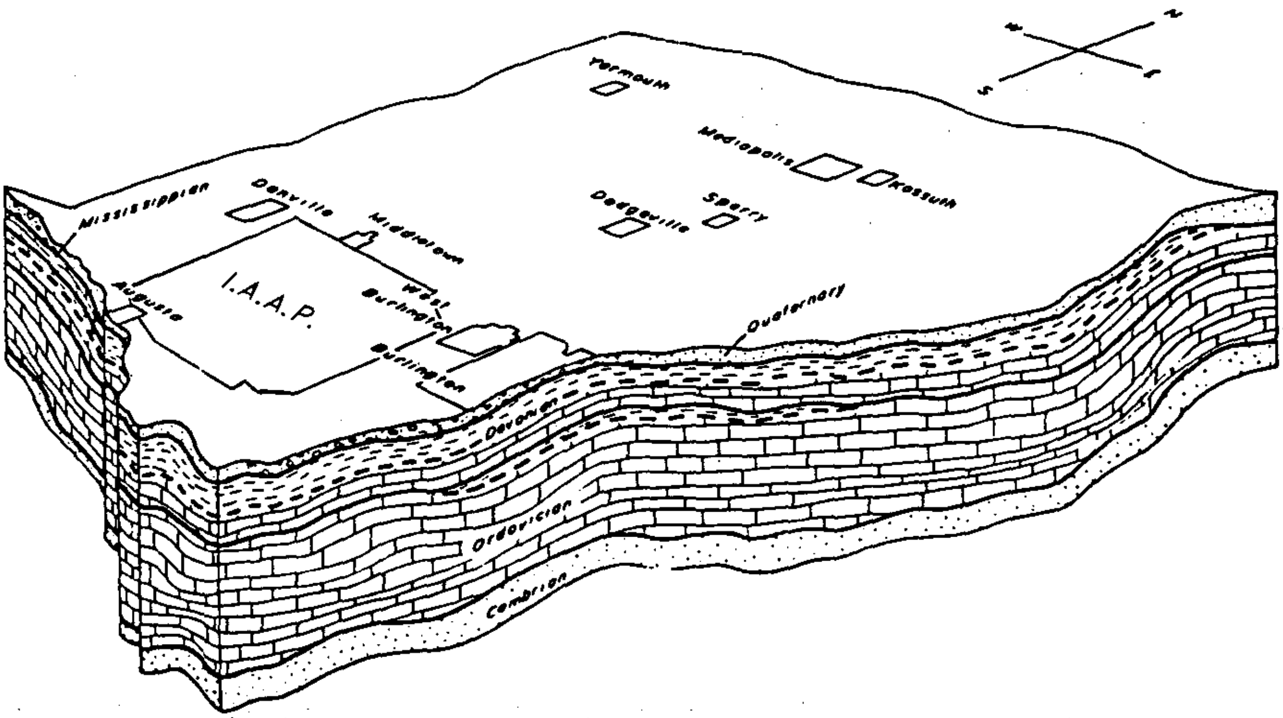
2.2.2.1 Regional Geology and Hydrogeology

Southeastern Iowa is within the Southern Iowa Till Plain Section of the Central Lowland Province. The regional geology typically includes Pleistocene loess and till overlying Paleozoic bedrock. The Pleistocene units are locally mantled by Recent alluvial deposits. Bedrock ranges in age from Cambrian to Pennsylvanian and consists entirely of sedimentary rocks. Figure 2-2 is a block diagram showing the geology of Des Moines County. Appendix C contains a stratigraphic column for bedrock in Southeastern Iowa.

The loess consists chiefly of windblown silt derived from outwash plains, unconsolidated deposits, or bedrock erosion during glaciation. Available data indicate that the loess deposits in this area range in thickness from 2 to 6 feet. Loess thickness on the nearly level stable divides generally ranges from 8 to 10 feet (USDA 1983). The loess was deposited during the Wisconsinan glacial stage.

Till underlies the loess. Till is an unsorted and unstratified, heterogeneous mixture of clay, silt, sand, and gravel deposited directly by and underneath a glacier. The depositional setting of till resulted in pockets and/or discontinuous layers throughout its extent. The uppermost till unit in this area is the Kellerville Till Member of the Glasford Formation, which was deposited during the Illinoian glacial stage. Underlying the Kellerville is the Wolf Creek Formation and, in some locations, the Alburnett Formation, both of which were deposited during pre-Illinoian glacial stages. The Wolf Creek Formation is subdivided into three till members ranging from the Hickory Hill Till Member (youngest) through the Aurora Till Member to the Winthrop Till Member (oldest). All the till units are typically loam-textured with slight variation between members. The Wolf Creek Formation also includes a variety of unnamed, undifferentiated sediments such as fluvial silts, sands, and gravels to local fine-textured swale-fill deposits and peats. The pre-Illinoian tills are typically separated by buried soils or paleosols. Data from the IAAP indicate that the till is up to 140 feet thick.

Loess and till are relatively impermeable materials. Typical hydraulic conductivities for loess and glacial till in southeastern Iowa, estimated by the Iowa Geological Survey, are 7.3 x E-06 cm/sec and 6.3 x E-09 cm/sec, respectively (AEHA 1985). These low hydraulic conductivities form a somewhat impermeable barrier to vertical migration of shallow groundwater.



KEY

- Glacial Drift
- Sand/Sandstone
- Shale
- Limestone/Dolostone

APPROXIMATE HORIZONTAL
SCALE 1" = 30,000'

FIGURE 2-2
BLOCK DIAGRAM SHOWING THE GEOLOGY
OF DES MOINES COUNTY

The bedrock underlying the glacial deposits includes interbedded shale, sandstone, limestone, and dolostone. The sequence is nearly 2,000 feet thick, and commonly consists of alternating intervals of relatively high and relatively low permeability. The bedrock strata dip gently to the southwest, however local folding has been noted (AEHA 1985).

In Des Moines County there are four principal aquifers (IGS Open File Report). These include a shallow or surficial aquifer in unconsolidated Recent and Pleistocene sediments and three bedrock aquifers, one each in Mississippian, Devonian, and Cambro-Ordovician units.

Groundwater occurs at relatively shallow depths in the area in either glacial or alluvial deposits. The deposits together constitute the surficial aquifer, which is typically discontinuous and contains perched zones. Water-bearing zones in the surficial aquifer are found in alluvium, buried channels, and drift. The alluvial zones consist mainly of sand and gravel transported and deposited by streams. Occurrences are usually within floodplains and terraces in major valleys. Buried channel zones consist of alluvium that filled ancient stream valleys and were subsequently overridden by glaciers. The channels were covered by glacial and later alluvial sediment. Alluvial and buried channel aquifers are described in An Overview of Groundwater Quality in the Skunk River Basin, IGS Open File Report 87-3. The drift zones consist of glacial deposits that vary considerably in composition and in water-bearing capacity. Topography strongly controls lateral ground water flow in these zones (AEHA 1985; Battelle 1984; SLC 1982). In general, flow paths in the surfical aquifer are towards creeks and are consistent with surface drainage patterns.

The Mississippian aquifer is the shallowest one in the bedrock and is within the Warsaw Formation (Battelle 1984). The aquifer is primarily composed of limestone and dolostone and ranges in thickness from 0 to 300 feet. The formation underlies approximately one-half of the county. Through portions of southeastern Iowa, Pennsylvanian shales, which are discontinuously distributed beneath the IAAP act as an aquitard and separate the aquifer from the surficial deposits. Groundwater in the Warsaw Formation flows through zones of secondary porosity, such as fractures and bedding planes.

An aquitard of shales (Kinderhook and Maple Mill formations) separates the Devonian aquifer from the overlying Mississippian aquifer. The Devonian aquifer is within the Cedar Valley Limestone, the shaley and carbonate-rich Wapsipinicon Formation, and undifferentiated dolostones and ranges in thickness from 125 to 350 feet. The Cambro-Ordovician aquifer is 900 to 1,000 feet thick and consists primarily of dolostones of the Prairie du Chien and St. Lawrence formations, but also includes two sandstone units, the St. Peter and Jordan formations. The dolostones and shales of the Maquoketa and Galena formations separate the Cambro-Ordovician and Devonian aquifers.

2.2.2.2. Site-Specific Geology and Hydrogeology

The geology at the IAAP is typical of southeastern Iowa, and includes alluvium, loess, and till overlying bedrock. Alluvial deposits are discontinuous and generally less than 50 to 60 feet thick. The loess ranges in thickness from two feet in the western portions of the facility to six feet in the east. The range in thickness of the till varies considerably within the facility, from 12 feet in the southwest portion to 85 to 140 feet in the northern portion. Erosion has removed the till in some valleys, where streams are now flowing over or are incised into bedrock. This is common in the southern portions of the facility.

The bedrock underlying the IAAP consists largely of carbonate rocks (limestone and dolostone) interbedded with varying thicknesses of shales and sandstones, ranging in age from Cambro-Ordovician to Mississippian (Harris et al. 1964). Pennsylvanian shales may be present locally. The strata generally strike northwest-southwest and dip gently northeast; this contrasts with the regional southwest dip of the bedrock. Bedrock units locally exposed and generally encountered during drilling at IAAP included the Mississippian Keokuk Formation and the Burlington Limestone. Along with the Warsaw Formation (described above), the formations comprise the Mississippian aquifer in the area.

The Keokuk Formation encountered in the vicinity of the IAAP is a light gray, cherty limestone approximately 70 feet thick. The upper portion of the Keokuk is quite dolmitic and shaly. There is an approximately 30-foot thick basal interval of alternating gray and blue cherty limestones. Although the Keokuk is present beneath the flat upland areas of the facility, it was not encountered in valley areas to the south (AEHA 1985). The underlying Burlington Limestone is estimated to be 70 feet thick at the IAAP, and is very pale orange to gray in color. It is exposed at several locations within stream valley and is the major unit observed in the Raider Brothers Quarry immediately southwest of the facility in Augusta, Iowa (AEHA 1985).

Two of the four regional aquifers have been studied at the IAAP: the surficial aquifer and the Mississippian aquifer. The water table in the surficial aquifer is quite shallow due to the relatively impermeable nature of the glacial deposits. The large percentage of clay found in the Kellersville Till impeded downward vertical flow. Measured hydraulic conductivities in wells at the IAAP (from slug testing) range from 0.02 m/day to 0.09 m/day and indicate that horizontal flow in the loess and till are also quite limited (AEHA 1985). Groundwater in the surfical aquifer is often perched, and vertical migration and communication with the underlying bedrock aquifer is very limited or absent.

The Keokuk and Burlington formations function as one hydrogeologic unit and represent the Mississippian or upper bedrock aquifer at the IAAP. Groundwater is transmitted via cracks, fractures, or bedding planes, resulting in variations in flow velocity and direction. Groundwater flow direction is dependent on the orientation of the fractures transmitting water; flow direction in this upper bedrock aquifer has not been definitively identified in previous investigations. Most studies have concluded that the groundwater follows bedrock topography, which is to the southeast, and this is reasonably consistent with regional flow patterns. One report indicated the IAAP is on the northern limb of an anticline, suggesting that flow could potentially be northeastward (AEHA 1985).

Recharge to the upper bedrock aquifer from precipitation is probably low due to the relatively impermeable nature of the materials in the surficial aquifer and the possible presence of the Pennsylvanian shales at the aquifer's upper margin. In the vicinity of the IAAP, this aquifer appears to discharge where it comes in hydraulic contact with surface water (e.g., at the southern portions of creeks) USATHAMA 1989). The hydraulic conductivity of the upper bedrock aquifer is estimated to be 0.2 m/day (AEHA 1985).

2.2.3 Topography and Surface Water Features

The IAAP is located in the dissected Southern Iowa Till Plain section of the Central Lowland Province. Evidence of continental glaciation, consisting of gently undulating terrain, is exhibited in the northern area of the facility. The central portion of the IAAP is characterized by rolling terrain dissected by a shallow drainage system, while the southern area of the site contains drainageways with steep slopes down to the creek beds (Terracon 1987). Elevations within the IAAP range from 730 feet above mean sea level in the north to 530 feet in the south (USGS 1981 and 1964). IAAP contains four watersheds, described below and shown on Plate 2.

2.2.3.1 Brush Creek Watershed

Brush Creek drains the central portion of the IAAP site. It originates in the northern portion of the site and exits the site at the southeastern boundary. Brush Creek has a drainage area of approximately 4,500 acres within the site confines. The floodplain at the southern boundary of the site is estimated to be 200 feet wide, and the stream is incised approximately 90 feet deep (USGS 1981 and 1964; AEHA 1985) into the bedrock. Brush Creek flows into the confluence of the Skunk and Mississippi rivers approximately nine miles southeast of the site.

2.2.3.2 Spring Creek Watershed

Spring Creek drains the eastern portion of the IAAP site. It originates off-site, just north of the Burlington Northern Railroad easement and exits the site at the southeastern corner. Its drainage area within the site boundaries covers approximately 3,000 acres. The creek is intermittent and is seasonally dry within the IAAP's limits. At the southeastern boundary of the site, the Spring Creek floodplain is approximately 400 feet wide and is incised approximately 90 feet deep (USGS 1981 and 1964; AEHA 1985). Spring Creek flows off site south-southeast approximately 10 miles directly into the Mississippi River.

2.2.3.3 Long Creek Watershed

Long Creek drains the western portion of the IAAP site. It originates about two miles north of the site's northwest corner and exits the site at the southwestern boundary. It drains approximately 11,500 acres within the IAAP. This drainageway has been dammed near the center of the plant to create George H. Mathes Lake, also known as Long Lake, which encompasses approximately 83 acres. Use of this lake for IAAP water supply was discontinued in January 1977. There is also a smaller lake located north of Mathes Lake that is seven acres in size. It is feed by intermittent streams and drains via intermittent streams into Long Creek. The creek has deeply incised a channel into the sedimentary bedrock unit. The stream valley and floodplain are deepest (120 feet) and widest (500 feet) at the southern plant boundary. Long Creek joins the Skunk River just south of the site, and the latter flows into the Mississippi River about 9 miles east (USATHAMA 1980).

2.2.3.4 Skunk River

The Skunk River is located to the south of the IAAP site. The river flows from north/northwest to south/southeast and actually borders the perimeter on the southwest corner. It is fed by several intermittent streams that originate on site, as well as Long Creek. The Skunk River is a medium sized river with year-round recreational use. Several boat launches are located in close proximity of the IAAP as well as a park with a swimming area. It separates Des Moines County from neighboring Lee County to the south.

2.2.4 Soils

The soils in Des Moines County consist of seven soil associations (USDA Soils Survey of Des Moines County Iowa 1979). Each association has a distinctive pattern of soils, relief, and drainage making it a unique natural landscape. Typically, an association consists of one or more major soils and some minor soils, and is named for the major soils. The soils making up one association can occur in another, but in a different pattern. Five soil associations are present on the IAAP site. The five soil associations are:

1. Nodaway-Lawson-Klum Association
This association is nearly level, moderately well drained to somewhat poorly drained, loamy and silty soils on bottomland. It is found in narrow to moderately wide valleys of major and minor streams. The soils are formed in silty and loamy alluvium. Slopes generally range from 0 to 2 percent. The Nodaway-Lawson-Klum association is made up of 20 percent Nodaway and similar soils, 14 percent Lawson and similar soils, 10 percent Klum and similar soils, and 56 percent minor soils. This association makes up about 7 percent of the county. It is found mainly in the southwestern portion of the IAAP site, along the Skunk River and Long Creek. No figure illustrating this association is available in the soil survey of Des Moines County.

2. Mahaska-Taintor Association
This association is nearly level, somewhat poorly drained to poorly drained, silty soils on uplands. It is found on moderately wide or wide ridgetops characterized by a lack of well defined drainageways. The soils are formed in loess. Slopes range from 0 to 3 percent. The Mahaska-Taintor association is made up of about 48 percent Mahaska soils, 42 percent Taintor soils, and 10 percent minor soils. This association makes up about 20 percent of the county. It and the Clinton-Lindley Association are the two dominant associations found on the IAAP site. It is found mainly in the northern and central parts of the site. (See Figure 2-3.)

3. Clinton-Lindley Association
This association is gently sloping to very steep, moderately well drained to well drained, loamy and silty soils on uplands and high stream benches. It is found on the narrow, rounded tops of ridges and on side slopes. It is characterized by a well developed network of drainageways. The soils formed in loess and glacial till. Slopes range from 2 to 40 percent. The Clinton-Lindley association is made up of about 45 percent Clinton soils, 25 percent Lindley soils, and 30 percent minor soils. This association makes up about 32 percent of the county. It and the Mahaska-Taintor Association are the two dominant associations found on the IAAP site. It is found mainly in the southern and central parts of the site (Figure 2-4).

4. Givin-Hedrick-Ladoga Association
This association is nearly level to moderately sloping, somewhat poorly drained to moderately well drained, silty soils on uplands. It is found on moderately wide ridgetops and short, convex or plane side slopes characterized by a well developed network of drainageways in the more sloped areas. The soils formed in loess. Slopes range from 1 to 9 percent. The Givin-Hedrick-

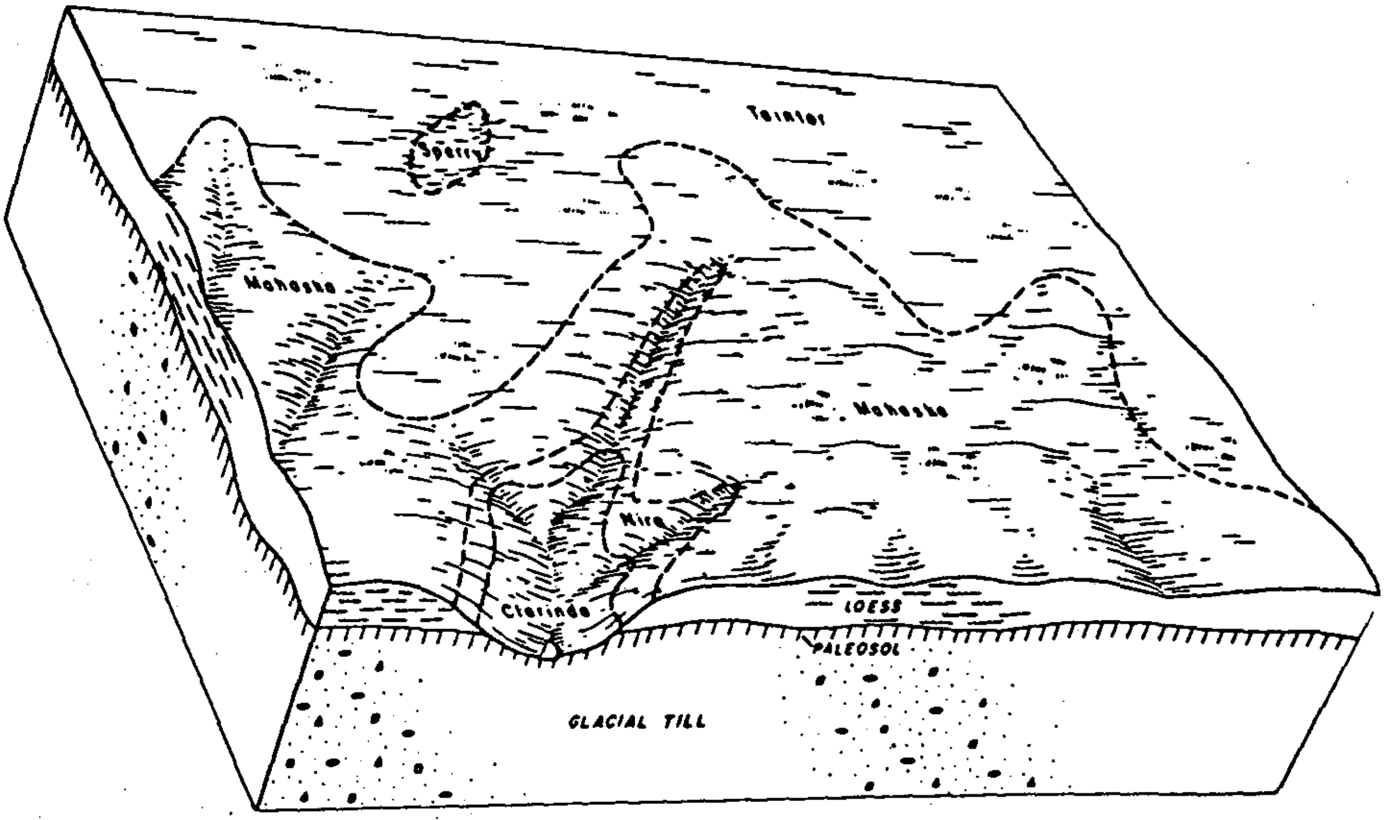


FIGURE 2-3
TYPICAL PATTERN OF SOILS AND PARENT MATERIALS
IN THE MAHASKA-TAINTOR ASSOCIATION

Prepared by:

CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.

for:
JAYCOR

Source: Dames & Moore

Ladoga association is made up of about 35 percent Givin soils, 25 percent Hedrick soils, 20 percent Ladoga soils, and 20 percent minor soils. This association makes up about 16 percent of the county and is found mainly in the northwest and central areas of the IAAP site (Figure 2-5).

5. Weller-Pershing-Grundy Association
This association is gently sloping to moderately sloping, moderately well drained to somewhat poorly drained, silty soils on uplands. It is found on narrow ridgetops and convex side slopes characterized by a well developed network of drainageways. The soils formed in loess. Slopes range from 1 to 9 percent. The Weller-Pershing-Grundy association is about 32 percent Weller soils, 19 percent Pershing soils, 11 percent Grundy soils, 38 percent minor soils. This association makes up about 3 percent of the county. It is found to be only in the southwest corner of the IAAP site (Figure 2-6). Table 2-2 summarizes the soil properties associated with the soil types at IAAP.

2.2.5 Meteorology

Des Moines County is cold in the winter and quite hot with occasional cool spells in the summer (National Climatic Center 1979). During the winter, precipitation frequently occurs as snowstorms, and during the warm months it is chiefly rain, often heavy.

In winter the average temperature is 25° F, and the average daily minimum temperature is 17° F. The lowest temperature on record, which occurred in Burlington on 17 January 1977, is -23° F, and the average daily maximum temperature is 83° F. The highest recorded temperature, which also occurred in Burlington, on 18 July 1966, is 101° F.

The total annual precipitation is about 36 inches. Of this, 23 inches, or about 65 percent, usually falls in April through September. In 2 years out of 10, the rainfall in April through September is less than 18 inches. The heaviest 1-day rainfall during the period of record was 3.44 inches in 1977. Thunderstorms occur on about 51 days each year, and most occur in the summer.

Average seasonal snowfall is about 25 inches. The greatest snow depth at any one time during the period of record was 14 inches. On an average 34 days, at least 1 inch of snow is on the ground. The number of such days varies greatly from year to year.

The average relative humidity in the midafternoon is about 60 percent. Humidity is higher at night, and the average at dawn is about 80 percent. The sun shines 75 percent of the time possible in the summer and 50 percent in winter. The prevailing wind is from the south. Average windspeed of 12 miles per hour is highest in spring.

Tornadoes and severe thunderstorms occur occasionally. They are usually of local extent and of short duration, and the resulting damage is sparse and in narrow belts. Hail falls at times during the warmer part of the year in scattered small areas.

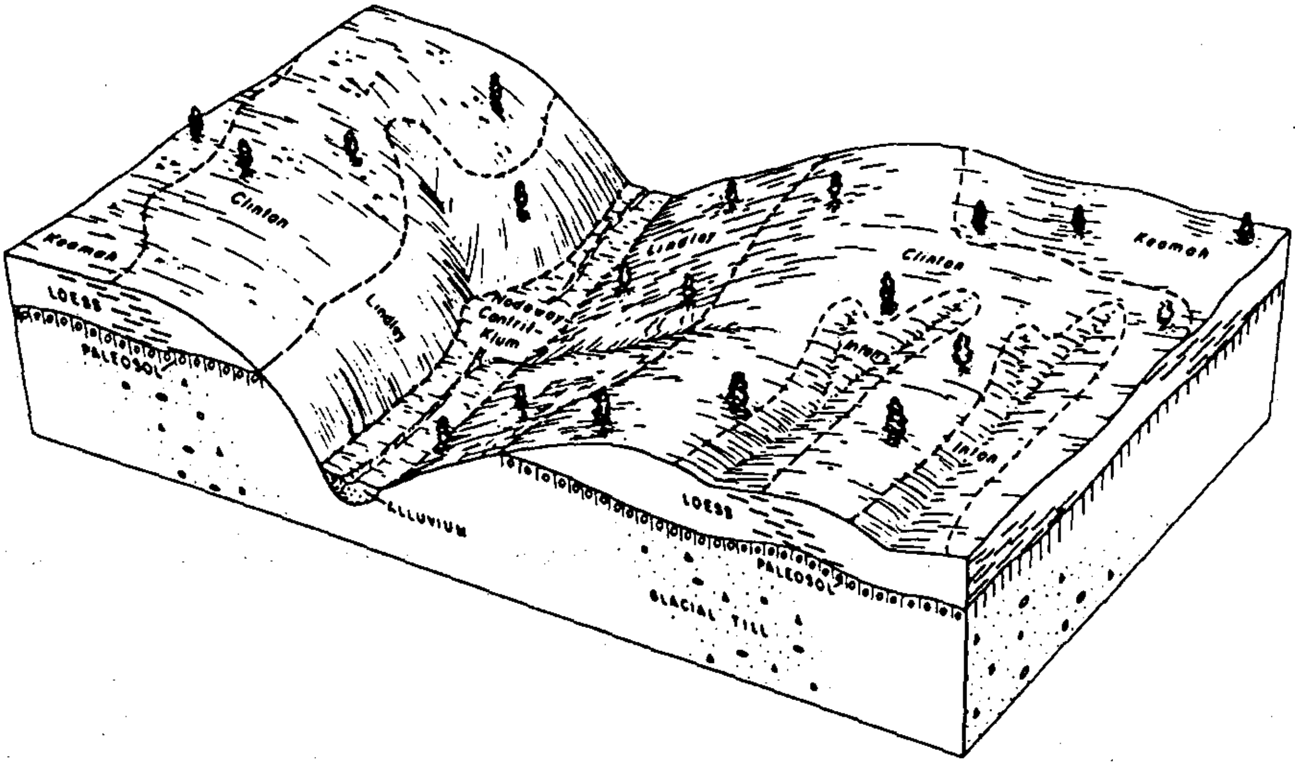


FIGURE 2-4
TYPICAL PATTERN OF SOILS AND PARENT MATERIALS IN THE CLINTON-LINDLEY ASSOCIATION

Prepared by:

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for:
JAYCOR

Source: Dames & Moore

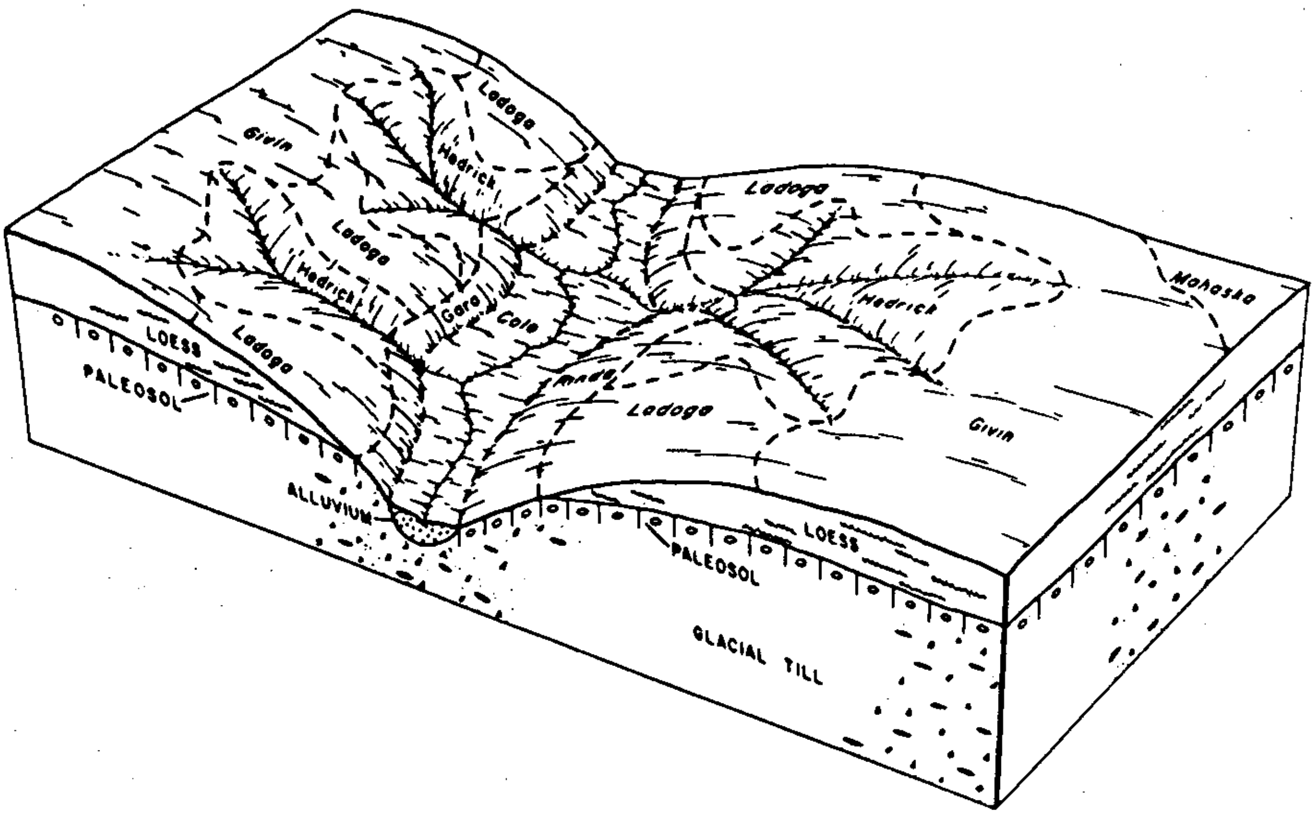

FIGURE 2-5
TYPICAL PATTERN OF SOILS AND PARENT MATERIALS IN GIVIN-HEDRICK-LADOGA ASSOCIATION

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for:
JAYCOR

Source: Dames & Moore

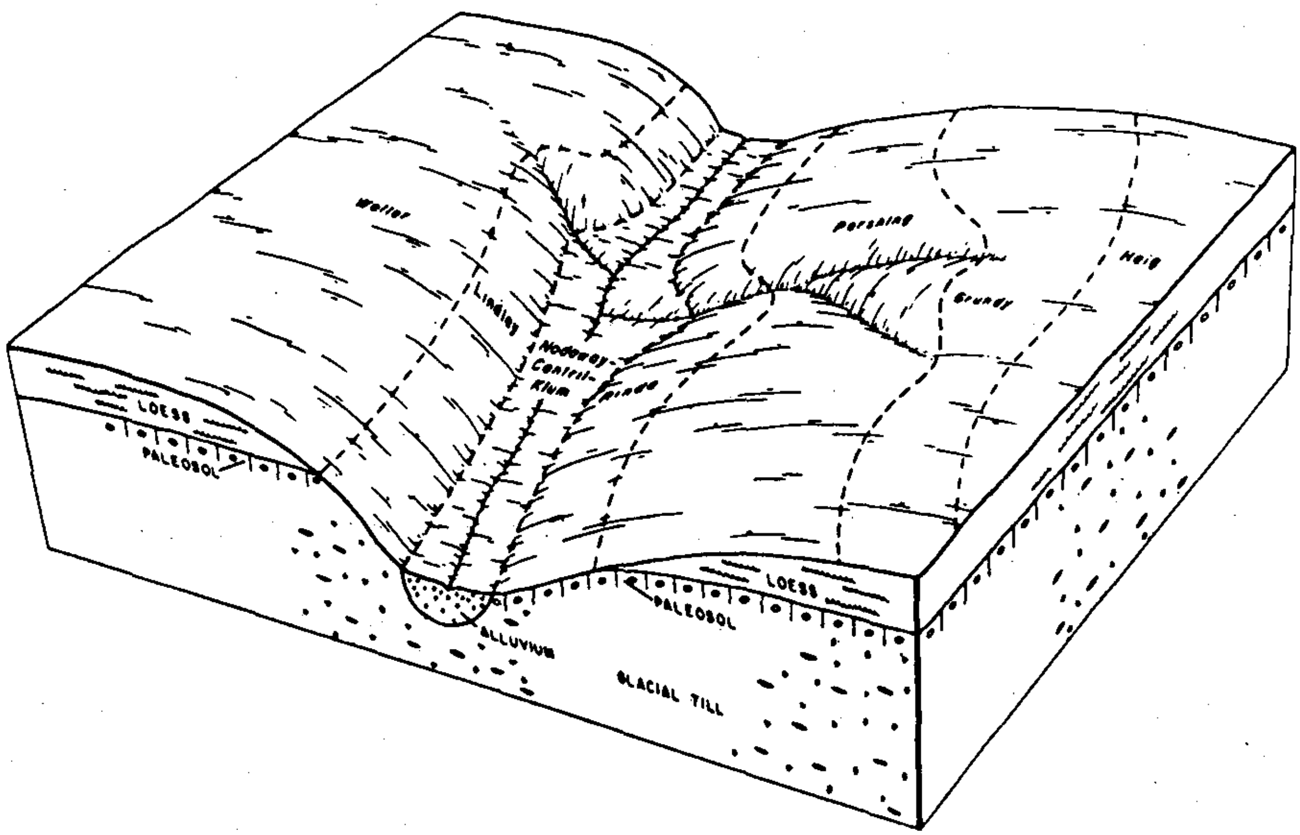

FIGURE 2-6
TYPICAL PATTERN OF SOILS AND PARENT MATERIALS IN WELLER-PERSHING-GRUNDY ASSOCIATION

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for:
JAYCOR

Source: Dames & Moore

Table 2-2
IAAP Soil Properties

Soil Series	Depth (inches)	Texture		Clay (%)	Soil pH	Depth to Water Table (ft)*
		USCS	USDA			
Lindley	0-11 11-60	CL-ML,CL CL	loam cl,l	18-27 25-35	4.5-7.3 4.5-6.5	>6.0
Givin	0-12 12-42	CL,ML CL,CH	sil sicl,sic	18-26 36-42	5.6-6.0 5.1-6.0	2-3 Apparent** Nov-Jul
Ladoga	0-11 11-39	CL,CL-ML CL,CH	sil sicl,sic	18-27 36-42	6.1-7.3 5.1-6.0	>6.0
Clinton	0-12	ML CL,CH	sil sicl,sic	16-26 36-42	5.6-7.3 5.1-6.0	>6.0
Klum	0-8 8-60	SM,ML,SC,CL SM,ML,SC,CL	fsl stratified sil-sl	5-18 5-18	6.1-7.3 6.1-7.3	3-6 Apparent**
Nodaway	0-60	CL,CL-ML	sil	18-28	6.1-7.3	3-5 Apparent**
Taintor	0-19 19-45	CL,CH CH	sicl sic,sicl	30-36 35-44	5.6-7.3 5.6-6.5	1-2 Apparent**
Mahaska	0-22 22-52	CL CH,MH	sicl sicl,sic	20-32 36-42	5.1-7.3 4.5-6.0	2-3 Apparent**
Lawson	0-34 34-60	CL,CL-ML CL	sil sicl,sil	10-20 18-30	6.1-7.8 6.1-7.8	1-3 Apparent**
Hedrick	0-12 12-45	CL,CL-ML CL,CH	sil sicl	16-27 27-37	5.6-7.3 5.1-6.5	>6.0

USCS - Unified Soil Classification System

USDA - U.S. Department of Agriculture Soil Conservation Service

* - As of 10 October 1991

** - An apparent water table is a thick zone of free water in the soil as indicated by the level at which water stands in an uncased borehole at equilibrium.

2.2.6 Ecology

2.2.6.1 Vegetation

Des Moines County is a loess-covered glacial till plain. The soils formed under prairie and forest vegetation. The nearly level and gently sloping soils formed in loess. The native vegetation in these areas is grass. The soils in the steeper areas formed from glacial till. The native vegetation in these areas is trees. The nearly level and gently sloping soils on bottom land along the Mississippi and Skunk rivers formed in alluvium. The native vegetation in these areas is trees. The main types of prairie grasses found in this area are big bluestem and little bluestem prairie grasses. Oak, hickory, ash, elm and maple are the main types of trees.

The IAAP site vegetation follows the same general rules as listed above; however, there is an approximate total of 13 acres containing 30 ponds and small impoundments that have some wetland vegetation along their shorelines (U.S. Army Corps of Engineers 1989).

2.2.6.2 Wildlife

The IAAP has an abundance of fish and wildlife. Forest, land, fish, and wildlife management plans have been instituted to help maintain the wildlife populations while allowing consumptive and nonconsumptive recreational activities.

Long, Brush and Spring creeks and the Skunk River are classified by the state of Iowa as Class B (w) waters. This classification indicates there is warm water suitable for wildlife, fish, aquatic and semiaquatic life, and secondary water uses. Species surveys in the three creeks have indicated an assortment of minnows, darters, and some sucker species in the lower reaches. The upstream reaches are apparently too small to support fish species (U.S. Army Corps of Engineers 1989). To maintain and improve existing fish populations, the U.S. Fish and Wildlife Service performs annual fish population surveys, creel census, data analysis and habitat improvements throughout the IAAP facility. Existing fishing facilities on Mathes Lake are limited and extensive development has been deliberately avoided to preserve the quality of the lake. Species found in Mathes Lake include large mouth bass, channel catfish, black crappie, white crappie, walleye, flathead catfish, gizzard shad, bluegill, carp, black bullheads, and green sunfish. Stump Lake, the smaller lake located north of Mathes Lake, was found to contain black bullheads, yellow bullheads, large mouth bass, bluegill, black crappie. Bluegill, northern pike, and channel catfish have been stocked since a fishkill in 1982 apparently eliminated the bluegill and crappie populations. This fishkill occurred on the upper reaches of a tributary to Long Creek. IDNR investigated the fish kill and determined the cause to be thermal conversion (Baxter 1992). No tissue data are available.

Wildlife found at the IAAP site includes a large whitetail deer population, fox, gray squirrels, raccoons, woodchucks, coyotes, eastern cottontail rabbits, red fox, mice, moles, pocket gophers, beavers, muskrats, badgers, opossum, and mink. In an attempt to effectively manage the overpopulation of deer, limited hunting seasons have been allowed on the site. Trapping of fur-bearing mammals is also allowed during limited times of the year.

Numerous bird species inhabit or migrate through the IAAP site. Some of the most common species include the American robin, northern cardinal, blue jay, red-headed woodpecker, common crow, common grackle, mourning dove, red-winged blackbird, chipping sparrow, eastern meadowlark, American goldfinch, and turkey. Red-tailed hawks are the most common raptor species present, but bald eagles have been observed flying over the IAAP or feeding on the fish they catch in Mathes Lake. Because of its close proximity to the Mississippi River flyway, a large variety of migrating bird species may also use the IAAP environs. Water fowl commonly seen include mallards, blue-winged teals, goldeneyes, buffleheads, wood ducks, hood mergansers, green-winged teals, northern shovelers, and Canadian geese. Nest boxes have been set up on the site for wood ducks, which are common near the on-site ponds and lakes (U.S. Army Corps of Engineers 1989).

According to the U.S. Department of the Interior's Fish and Wildlife Service, no known endangered species reside at IAAP. However, two federally-listed endangered animals may be found as transient species in the vicinity of the site. These species are the bald eagle that winters along large rivers such as the Mississippi and Skunk, and the Indiana bat that has been sighted in adjacent Louisa and Van Buren counties (U.S. Army Corps of Engineers 1989).

The Iowa Department of Natural Resources has identified two state-listed threatened species that may be found at IAAP. These species are the orangethroat darter and the yellow trout lily. The orangethroat darter is known to inhabit small headwater streams and was present in Brush and Spring creeks during a 1987 sampling event. Although no yellow trout lilies have been observed at IAAP, they are generally found in low woodlands along streams or on low wooded slopes and bluffs (U.S. Army Corps of Engineers 1989).

SECTION 3.0 INITIAL SITE EVALUATION

3.1 INTRODUCTION

The initial site evaluation consisted of identifying contaminants of concern (Section 3.1.1), evaluating historic data (Section 3.1.2), and assessing SI data (Section 3.1.3). SI data is considered to be primary data because it was subjected to stringent QA/QC procedures; pre-SI data were used to support SI data.

Each individual site evaluation, provided in Sections 3.3 through 3.46, includes a discussion of the site history and a description of relevant data that demonstrate the need for including a particular site in the RI or allow for its exclusion. For those sites that do not meet the established criteria for RI consideration (Section 3.2), all past and current analytical results will be presented and discussed in sufficient detail to justify the no further action recommendation.

Of the 43 sites assessed during the SI, 30 sites are considered to warrant inclusion in the Phase I RI. One site (IAAP-42) has already been proposed for removal by IAAP (Section 3.44). Where appropriate, multiple SI sites were grouped into one RI site. The SI sites that will be advanced to the RI stage, their RI site designations, and the section of the Field Sampling Plan (FSP) in which the proposed Phase I sampling scheme for each is presented are summarized below.

RI SITE DESIGNATIONS

SWMU	SITE	RI SITE DESIGNATION	WORK PLAN SECTION
IAAP-1	Line 1	R1	5.3
IAAP-2	Line 2	R2	5.4
IAAP-3	Line 3	R3	5.5
IAAP-4	Line 3a	R4	5.6
IAAP-5	Lines 4a & 4b	R5	5.7
IAAP-6	Line 5a & 5b	R6	5.8
IAAP-7	Line 6	R7	5.9
IAAP-8	Line 7	R8	5.10
IAAP-9	Line 8	R9	5.11
IAAP-10	Line 9	R10	5.12
IAAP-11	Line 800	R11	5.13
IAAP-12	EDA East Burn Pads	R12	5.14
IAAP-17	Pesticide Pit	R13	5.15
IAAP-20	Inert Disposal Area	R14	5.16

SWMU	SITE	RI SITE DESIGNATION	WORK PLAN SECTION
IAAP-21/23	Demolition Area/Deactivation Furnace	R15	5.17
IAAP-24	Contaminated Waste Processor	R16	5.18
IAAP-25	Explosive Waste Incinerator	R17	5.19
IAAP-26	STP/Sludge Drying Beds	R18	5.20
IAAP-27	Fly Ash Landfill	R19	5.21
IAAP-28	Construction Debris Landfill	R20	5.22
IAAP-29	Line 3A STP/Sludge Beds	R21	5.23
IAAP-30	Firing Site Area	R22	5.24
IAAP-31	Ammo Box Chipper Disposal Pit	R23	5.25
IAAP-32/33 34/35	Burn Cages/Burn Cages Landfill/ W. Burn Pads/W. Burn Pads Landfill	R24	5.26
IAAP-36	North Burn Pads	R25	5.27
IAAP-38	Building 600-86 Septic System	R26	5.28
IAAP-39	Fire Training Pit	R27	5.29
IAAP-40	Roundhouse Transformer Storage Area	R28	5.30
IAAP-41	Line 3A Pond	R29	5.31
IAAP-43	Fly Ash Disposal Area	R30	5.32

During the Phase I RI, follow-up sampling will be conducted at IAAP-16 and IAAP-44. An RI/FS has already been conducted at these two sites; however, follow-up work was requested by EPA, and it was agreed it would be conducted concurrently with this RI.

3.1.1 Contaminants of Concern

The major feedstocks used at IAAP include TNT, lead azide, barium nitrate, fulminate of mercury, PBX, RDX, and antimony sulfate. The contaminants of concern at IAAP include these feedstocks and the explosive and metals wastes associated with past and current munitions production. In addition, there exists a number of secondary contaminants associated with other base activities, as well as production lines and equipment. These are:

- PCBs at the transformer storage yard and at transformer pads throughout the facility.
- Radionuclides at the former AEC-occupied facilities.
- Leachate, containing various anions, emanating from coal piles and fly ash disposal areas.
- Pesticides potentially migrating from a disposal pit.

In 1979, Mason & Hanger prepared a Phase II Toxic Substances Inventory for IAAP, which listed three main groups of compounds used at the facility:

- Explosives and propellants (14 compounds) including Octol, Composition B, RDX, HMX, and PBX.
- Solvents and sealants (29 compounds) including Dow Corning adhesive sealant No. 732, triaminotrinitrobenzene, Merritone thinner, and naphtha VM&P.
- Substances used by the mechanical department (41 compounds) including graphite, Hyco cleaner, Freon degreaser No. S-180, hydraulic oil and PCB (Askarel).

3.1.2 Evaluation of Historic Data

The pre-SI data used to assess each site were acquired from the installation files that contained EPA reports, memorandums, data transmittals, or other types of EPA correspondence or reports, and from the USATHAMA IRDMIS data base. (IRDMIS is an integrated system for the collection, validation, storage, retrieval, and presentation of data collected under the Installation Restoration Program conducted by THAMA.) The installation files were assumed to contain all historic data and information available about the IAAP; Federal EPA files were not reviewed, nor were State files. During the assessment of historic data, it was discovered that some data for some sites were not available in either installation files, or in IRDMIS. In these circumstances, all historic data were assessed as thoroughly as possible given data availability.

Historic data were used to support SI data. The two data sets were compared to determine whether analytical results correlated or whether current data indicate significant changes in levels and extent of contamination.

3.1.3 SI Sampling Rationale and Data Evaluation

The sampling scheme for each of the sites under consideration was designed to target the soils surrounding buildings or other areas where hazardous wastes were known to have been used, handled, or disposed; associated drainage pathways; areas of stressed vegetation or visible staining; and potential migration routes, such as groundwater and surface water. Analyses were requested based on the possible contaminants present as determined from the PA.

Each SI sample was assigned an eight character alphanumeric that designates the sample type and location. The alphanumeric was developed as follows.

Table 3-1

SWMU #		Alpha		Location #		Sample #	

ALPHA (matrix)	
SS - Soil Scoop	SD - Sediment
SA - Soil Auger	AS - Air Sample
HS - Hollow Stem	TP - Tissue Plant
SW - Surface Water	TA - Tissue Animal
GW - Groundwater	WS - Wipe Sample

The first two digits indicate which SWMU is being referenced. The alpha designates the matrix (See Alpha Key). The location number indicates the specific location within a given SWMU, and the sample number indicates chronologically how many samples were collected from a specific location.

During the SI sampling effort, quality control (QC) samples were collected at a frequency of 5 percent. Field blanks were collected at a rate of one per week for the duration of the sampling effort. Trip blanks were retained in each cooler used to collect VOA samples in the field and ship samples to the contractor laboratories. The following QC samples were collected in association with the SI:

- Trip blanks: 25
- Field blanks: 3
- Equipment blanks: 11 soil, 1 groundwater
- Duplicates: 13 soil, 1 groundwater, 2 surface water
- Matrix spikes: 13 soil, 1 groundwater, 2 surface water

Analytical results for field QC samples are summarized with the SI data summary tables in Appendix B. Laboratory QC sample results are provided on diskette for the Region VII U.S. Environmental Protection Agency (EPA).

Data validation was conducted in strict conformance with USATHAMA protocols. All SI sample results are considered to be THAMA Level 3 data, which indicates the highest level of data confidence. All THAMA Level 3 data from the SI reside on the IRDMIS data base. Because of the high level of confidence in SI data, and because SI data are the most current, the analytical results from this sampling effort were used as the primary data when conducting the initial site evaluation. All other data and information were considered to be supplementary.

3.1.4 SI Data Quality Assurance

3.1.4.1 Adherence to Project Plans

The Sampling and Analysis Plan (SAP) for the SI consisted of the Field Sampling Plan (FSP) and the Health and Safety Plan (HASP). The Quality Assurance Project Plan (QAPjP) was prepared in support of the SAP. These project plans clearly outlined the protocols for field sampling, site safety monitoring, sample documentation, logbook entries, and all other tasks associated with the SI field effort as well as laboratory QA procedures.

All members of the field team adhered to the Standard Operating Procedures (SOPs) developed for the project and presented in the QAPjP. All field work associated with the SI was accomplished in conformance with the guidelines and SOPs promulgated in the Sampling and Analysis Plan (SAP), with minor exceptions as noted below.

Environmental Sample Collection

Some sample locations and soil sample depth intervals were revised in the field to reflect current site conditions. For example, some samples proposed to be collected at depths of >1 foot were collected at the depth of auger refusal as warranted by impenetrable clay layers encountered at the site. Additionally, some surface water samples could not be collected as planned, because no surface water was present at the proposed sample location at the time of sampling. When deviations from the SI FSP occurred, the deviation was so noted in the project logbook by the field team, along with a justification for the change. The JAYCOR Project Manager also was notified immediately.

Field QC Samples

The SAP QAPjP proposed that equipment blanks, field blanks, field duplicates, and natural matrix spike samples be collected at a frequency of 5%; this protocol was followed for all field QC samples with the exception of the field blanks. Field blanks were instead collected at a frequency of one per week for the duration of the field effort (3 weeks = 3 samples). This change to the QAPjP was made at the discretion of the USATHAMA Project Chemist, with approval by the USATHAMA Project Officer. The change was documented by the Sample Documentation Officer.

Health and Safety

The HASP proposed that all SI field work be conducted in Level D personal protection. However, during a performance audit conducted by the USATHAMA Health and Safety Officer, it was requested that the IAAP-17 (Pesticide Pit) be sampled in Level C, with full Tyveks and respirators. This was requested because of the potential for organics (pesticides) to be present in subsurface soils. Additionally, the USATHAMA HSO also requested that women of child-bearing age not be permitted to sample those sites where AEC activities once took place. These directives were implemented and were so noted in the project logbook.

One subsurface soil sample could not be collected because HNu readings were above background at this location (Fire Training Pit). In accordance with the HASP, the field team left the area immediately. The response of the high HNu reading was so noted in the project logbook.

3.1.4.2 Field and System Audits

A field audit of SI activities was conducted by the USATHAMA Project Officer, Project Chemist, and HSO. The following areas of nonconformance were noted:

The subcontractor laboratory provided the wrong concentration (1M) of HCL for preserving VOA samples. The 1:1 HCL requested was not provided, though it was requested three times. The field team acquired pharmaceutical grade concentrated HCL and made the appropriate dilution with HPLC water. This was approved in the field by the Project Chemist.

The subcontractor laboratory provided clear glass jars for soil samples, rather than amber glass jars as required by USATHAMA. The laboratory was immediately notified to ship priority overnight the correct jars. Meanwhile, for one day, the clear glass jars were overwrapped in aluminum foil, and stored in the dark. This procedure was approved in the field by the Project Chemist.

The Project Chemist noted that the field team had difficulty determining which analytes and which ratio of matrix spike samples needed to be collected. Regardless, matrix spikes were collected at a frequency of 5% and analyzed for the constituents of interest, as per USATHAMA QAP guidance, and in accordance with the SI QAPjP.

JAYCOR prepared a detailed response to these audit findings. Copies of the audit findings and the response memorandum were provided to the Project File, the USATHAMA Project Officer, and the JAYCOR QA/QC files.

During the course of the SI field work, a field audit was conducted by the JAYCOR QA Coordinator. During the audit, the QA coordinator observed the field sampling procedures of each of the four sampling teams; evaluated sample documentation, packaging, and shipping activities; reviewed the project logbooks kept by each team leader; and observed equipment decontamination procedures. At the close of the audit, the QA Coordinator met with all members of the field team and discussed the audit findings. No significant deficiencies or instances of nonconformance with the FSP and QAPjP were noted, and no corrective actions were required. The auditor did note inconsistencies in the types of information each team leader was documenting in the project logbooks. All personnel were provided with a list of the information required for logbook entries, and were instructed to follow it. The QA Coordinator also noted that equipment calibration procedures and readings were not always recorded in logbooks. Team members were instructed to do so.

The QA Coordinator prepared a report of the audit findings. Copies of the audit report were provided to the Project File, the USATHAMA Project Officer, the JAYCOR Program Manager, the JAYCOR Project Manager, and the Field Team Leader.

SI field activities were also audited by representatives from PRC, the oversight contractor for the Region VII U.S. Environmental Protection Agency. PRC personnel collected split samples of all matrices sampled by JAYCOR.

After the completion of SI field work, JAYCOR conducted laboratory audits of the subcontracting laboratories. During these audits, a sample was tracked from receipt through data reporting to assure that chain-of-custody was maintained and that all written instructions regarding sample handling, preparation, extraction, analysis, and data reporting were followed. In general, both laboratories were found to be in conformance with the QAPjP prepared by each laboratory for the SI. No corrective actions were required by either laboratory. A detailed audit report was prepared for each audit that detailed the finding of the auditors. Copies of the audit reports were provided to the Project File, the USATHAMA Project Officer, and the JAYCOR QA/QC Files.

3.1.4.3 Laboratory QA Activities

Procedures to assess precision, accuracy, and completeness of SI data were presented in the SI QAPjP. Overall guidance was obtained from the document "Precision, Bias, and Method Detection Limit for Chemical and Physical Measurement", 30 March 1984, authored by the EPA's Quality Assurance Management and Special Studies Staff, and from USATHAMA. Those control charts are used by the laboratory to monitor precision and accuracy of routine analysis. These control charts (along with a discussion of trends and out-of-control situations) are submitted to USATHAMA for approval within five working days after completion of the analytical run, before data from environmental samples are allowed into the IRDMIS data base.

All SI data were subjected to Level 3 data validation procedures as mandated by the USATHAMA QAP. The majority of data were considered to be of acceptable quality, as assessed by this QA program. Unacceptable data were coded as appropriate. All Level 3 data reside on the USATHAMA IRDMIS data base, which is the repository for all data collected in association with the Installation Restoration Program.

3.1.4.4 Results of Field QC Samples

The analytical results of field duplicates, matrix spikes, and equipment rinsate samples are discussed in detail in the relevant sections of the Initial Site Evaluation.

Trip blanks were prepared and retained in each VOA cooler, during both sample collection and shipment. The results of the trip blank analysis are summarized in Appendix B.

The soil background sample results are discussed in detail in Section 3.2 Data Evaluation Criteria. All analytical results associated with the background samples are summarized in Appendix B.

The non-chlorinated water source used for equipment decontamination was Well #4, situation in Yard J of the IAAP. This well is over 1900 feet deep and has been used in previous investigations as the decontamination water source. A water sample was collected from this well and submitted for metals, explosives, VOCs, semivolatiles, pesticides/PCBs, nitrates/sulfates, and radionuclides analyses. This well was reported to contain the following contaminants: arsenic at 2.9 μg/L; barium at 191 μg/L, sulfate at 210,000; carbon tetrachloride at 1.1 μg/L, 1,3-DNB at 2.3 μg/L; and tetryl at 5.1 μg/L. All SI results for Well #4 reported above CRLs are summarized in Table 3-1a. All analytical results associated with Well #4 are presented in Appendix B. The sample collected from this well was reported to contain arsenic, barium, carbon tetrachloride, 1,3-DNB, and tetryl at reportable, but low, levels; there is not confidence that the presence of these low levels indicate contamination, but are believed to be a sampling or laboratory error. Sulfate is not a parameter of concern. Noting that the tetryl result was not significantly above the CRL, it is believed that the level also is due to sample or laboratory error, and not contamination.

Table 3-1a: Well #4 (Decon) SI Results Above CRLs

f_sample	meth	test_n	media_	site_t	depth	site_id	samp_date	i_s_c	value	meas_b	crl	dil_fact	unit_m
DECON	AX8	AS	CGW	DRUM	400.000	WELL4YARDJ	12/08/1991		2.990		2.3500	1.000	UGL
DECON	SS12	BA	CGW	DRUM	400.000	WELL4YARDJ	12/08/1991		191.000		2.8200	1.000	UGL
DECON	TT09	SO4	CGW	DRUM	400.000	WELL4YARDJ	12/08/1991		210000.000		175.0000	25.000	UGL
DECON	UM21	CCL4	CGW	DRUM	400.000	WELL4YARDJ	12/08/1991		1.100		1.0000	1.000	UGL
DECON	UW01	130NB	CGW	DRUM	400.000	WELL4YARDJ	12/08/1991		2.300		0.6100	1.000	UGL
DECON	UW01	TETRYL	CGW	DRUM	400.000	WELL4YARDJ	12/08/1991		5.100		0.6600	1.000	UGL

3.2 DATA EVALUATION CRITERIA

In order to determine which SI analytical results were assessed for the initial site evaluation, evaluation criteria were established. These criteria were developed based on standard site assessment protocols in Region VII; the determination of SI data evaluation criteria is detailed in Section 3.2.1.

For naturally occurring soil metals, average background ranges were established from soil samples collected during the Dames & Moore Endangerment Assessment of 1989 and the SI of August 1991. Any on-site level detected above the high end of the range of background concentrations was considered to warrant evaluation. On-site concentrations of metals were further compared to naturally occurring soil ranges in midwest soils as compiled by the U.S. Geological Survey to determine whether on-site concentrations were significant.

Evaluation criteria for semivolatile organic compounds, VOCs, pesticides, and explosives in soil were based on CRLs. The presence of any of these compounds at levels above the CRL was considered to warrant further evaluation.

Evaluation criteria for naturally occurring metals and radionuclides in water were based on the Maximum Contaminant Level (MCL), or Lifetime Health Advisory (HAL), if no MCL exists. Any on-site level detected above the health-based MCL or HAL was considered to warrant evaluation. Evaluation criteria for semivolatiles, VOCs, pesticides, and explosives in water were based on CRLs. The presence of any of these compounds at levels above the CRL was considered to warrant further evaluation.

3.2.1 Determination of Evaluation Concentrations

3.2.1.1. Soil Background Concentrations

During the Dames & Moore Endangerment Assessment (1989), background samples of soil were obtained and analyzed. These samples, designated SL-93, SL-94, and SL-95, were obtained primarily from the Brush Creek drainage area.

To better characterize ambient soil quality, four background soil samples were collected by JAYCOR during the August 1991 SI. Three samples were collected from off site, outside the northwest property boundary: BK-SA-01-01, BK-SA-01-02, and BK-SA-02-01. Background sample BK-SA-03-01 was collected on site, 1.5 miles from the western boundary, just inside the north fenceline, upgradient with respect to surface topography from all site operations. The Dames & Moore Endangerment Assessment and SI background samples are summarized in Table 3-2.

Background metals concentration ranges were established using monitoring data from the Dames & Moore EA and the SI. Table 3-2a presents the background metals concentrations for IAAP. Any metal detected in on-site samples above the high end of the range of background concentrations was considered to warrant evaluation. Additionally, background data published by the USGS were evaluated to support site-specific background data. The USGS data are summarized in Table 3-2b.

Table 3-2
Summary of Background Soil Samples

Sample	Location	Depth	Collected By	Date Collected
SL-93	Immediately inside northern site boundary; 3.7 miles from eastern site boundary	0.5 - 2′	D & M	1989
SL-94	1,500 ft. inside northern site boundary; 2.8 miles from eastern site boundary	0.5 - 2′	D & M	1989
SL-95	Immediately inside northern site boundary; 2.0 miles from eastern site boundary	0.5 - 2′	D & M	1989
BK-SA-01-01	Off site; 0.17 mile south of northern site boundary	0 - 12"	JAYCOR	1991
BK-SA-01-02	Same as BK-SA-01-01	0 - 3′	JAYCOR	1991
BK-SA-02-01	Off site; 0.45 mile south of northern site boundary	0 - 12"	JAYCOR	1991
BK-SA-03-01	Immediately inside northern property boundary, 1.5 miles from western site boundary	0 - 12"	JAYCOR	1991

The evaluation criteria for radionuclides in soil were established using monitoring data from the recently completed SI (August 1991). Background ranges were established; any on-site level detected above the high end of the background range was considered to warrant further evaluation. The average background radiation levels and evaluation criteria for soils are summarized in Table 3-2c. Units are picoCuries per gram (pCi/g). The evaluation criteria for semivolatiles, VOCs, pesticides, and explosives in soil were based on CRLs and are summarized in Tables 3-2d, 3-2e, 3-2f, and 3-2g, respectively.

3.2.1.2. Surface Water and Groundwater Evaluation Criteria

The evaluation criteria for metals and radionuclides in surface water and groundwater were established at the MCL, or HAL, if no MCL exists. This evaluation approach was applied because no background surface water or groundwater data are available for comparison. For all other parameters, the presence of any compound in surface water or groundwater above the CRL was considered to warrant further evaluation. Surface water and groundwater evaluation criteria for metals, radionuclides, semivolatiles, VOCs, pesticides, and explosives are summarized in Tables 3-2h, 3-2i, 3-2j, 3-2k, 3-2l, and 3-2m, respectively.

Table 3-2a
Background Soil Metals Concentrations
and Evaluation Levels

Metal	USATHAMA Analyte Code	Average Background Concentration (mg/kg)	Background Range (mg/kg)	Highest Background Level (mg/kg) (Evaluation Level)
Antimony	Sb	<19.6	<19.6	19.6
Arsenic	As	5.80	3.79-8.34	8.34
Barium	Ba	298	191-549	549
Beryllium	Be	0.825	0.663-1.14	1.14
Cadmium	Cd	0.669	0.534-0.805	0.805
Chromium (tot)	Cn	19.2	16-29.2	29.2
Copper	Cu	17.1	12.6-30.1	30.1
Lead	Pb	20.6	14-27	27
Mercury		0.21	0.062-0.495	0.495
Nickel	Ni	23.6	12.8-49.6	49.6
Selenium	Se	<0.449	<0.449	0.449
Silver	Ag	<0.803	<0.803	0.803
Zinc	Zn	62.7	50-84.7	84.7

Notes: Average concentrations are arithmetic means for all samples in which the indicated metal was detected.

Table 3-2b
Geochemical Background Elemental Concentrations
(Missouri Soils and Loess Parent Material)

Sample [1]	Study (Method)[6]	Ratio [2]	Mean [3]	Deviation[3]	Error [3]	Range	3 Times Mean
Antimony ppm(5)							
Cultivated and Uncultivated B Horizon; Eastern US	21 (1)	1:362	<150	____	____	<150-500	<450
Arsenic (ppm)							
Loess[4]	13 (6)	24:24	8.3	1.38	____	3-13	24.9
Cultivated Plow Zone (corn)	17 (6)	10:10	10	1.32	1.10	7-14	30
Cultivated Plow Zone (pasture)	17 (6)	10:10	12	1.63	1.10	7-27	36
Surface Horizon	16 (6)	1,140:1,140	8.7	1.46	1.16	2.5-72	26.1
Uncultivated B Horizon	20 (6)	50:50	13	1.27	1.21	7.2-20	39
Mean, all depth intervals			**10.4**				**31.2**
Barium (ppm)							
Loess[4]	13 (1)	24:24	840	1.30	—	500-1,000	2,520
Cultivated Plow Zone (corn)	17 (1)	10:10	810	1.28	1.14	500-1,000	2,430
Cultivated Plow Zone (pasture)	17 (1)	10:10	780	1.33	1.14	500-1,000	2,340
Surface Horizon	16 (1)	1,140:1,140	580	1.46	1.28	100-1,500	1,740
Uncultivated B Horizon	20 (1)	50:50	560	1.46	1.30	200-1,000	1,680
Mean, all depth intervals			**546**				**1,638**
Beryllium (ppm)							
Loess [4]	13 (1)	18:24	0.95	1.22	—	<1 - 1.5	2.8
Cultivated Plow Zone (corn)	17 (1)	4:10	1.2	1.26	—	<1.5 - 1.5	3.6
Cultivated Plow Zone (pasture)	17 (1)	3:10	1.1	1.31	—	<1.5 - 1.5	3.3
Surface Horizon	16 (1)	520:1,140	0.8	1.43	1.16	<1 - 2	2.4
Uncultivated B Horizon	20 (1)	46:50	1.2	1.29	—	<1 - 2	3.6
Mean, all depth intervals			1.1				3.3

Table 3-2b (Continued)

Sample [1]	Study (Method)	Ratio [2]	Mean [3]	Deviation [3]	Error [3]	Range	3 Times Mean
Cadmium (ppm)							
Cultivated Plow Zone (corn)	17 (3)	1:10	<1	—	—	<1-1.5	<3
Cultivated Plow Zone (pasture)	17 (3)	1:10	<1	—	—	<1-4.5	<3
Surface Horizon	16 (3)	12:1,140	<1	—	—	<1-11	<3
Mean, all depth intervals			**<1**				**<3**
Chromium (ppm)							
Loess [4]	13 (1)	24:24	70	1.16	—	50-100	210
Cultivated Plow Zone (corn)	17 (1)	10:10	70	1.18	1.13	50-100	210
Cultivated Plow Zone(pasture)	17 (1)	10:10	63	1.18	1.13	50-70	189
Surface Horizon	16 (1)	1,140:1,140	54	1.44	1.27	10-150	162
Uncultivated B Horizon	20 (1)	50:50	66	1.15	1.24	50-100	198
Mean, all depth intervals			**65**				**195**
Copper (ppm)							
Loess [4]	13 (1)	24:24	18	1.31	—	10-30	54
Cultivated Plow Zone (corn)	17 (1)	10:10	18	1.41	1.14	10-30	54
Cultivated Plow Zone (pasture)	17 (1)	10:10	18	1.16	1.14	15-20	54
Surface Horizon	16 (1)	1,140:1,140	13	1.55	1.28	5-150	39
Uncultivated B Horizon	20 (1)	50:50	23	1.66	1.54	10-70	66
Mean, all depth intervals			**18**				**54**
Lead (ppm) (Strong possibility for anthropogenic effect)							
Loess [4]	13 (1)	24:24	15	1.30	1.23	10-20	45
Cultivated Plow Zone (corn)	17 (1)	10:10	20	1.29	1.25	15-30	60
Cultivated Plow Zone (pasture)	17 (1)	10:10	25	1.63	1.25	15-30	75
Surface Horizon	16 (1)	1,130:1,130	20	1.38	1.22	10-70	60
Uncultivated B Horizon	20 (1)	50:50	19	1.31	1.23	15-50	57
Mean, all depth intervals			**20**				**60**

Table 3-2b (Continued)

Sample [1]	Study (Method)	Ratio [2]	Mean [3]	Deviation [3]	Error [3]	Range	3 Times Mean
Mercury (ppm)							
Loess [4]	13 (4)	23:24	0.035	0.00179	—	<0.010-0.080	0.105
Cultivated Plow Zone (corn)	17 (4)	10:10	0.051	0.00181	0.00141	0.030-0.210	0.153
Cultivated Plow Zone (pasture)	17 (4)	10:10	0.069	0.00151	0.00141	0.040-0.120	0.207
Surface Horizon	16 (4)	1,124:1,140	0.039	0.00180	0.00153	<0.010-0.800	0.117
Uncultivated B Horizon	20 (4)	50:50	0.068	0.00170	0.00182	0.030-0.260	0.204
Mean, all depth intervals			**0.0524**				**0.157**
Nickel (ppm)							
Loess [4]	13 (1)	24:24	22	1.03	—	15-30	66
Cultivated Plow Zone (corn)	17 (1)	10:10	14	1.51	1.23	7-30	42
Cultivated Low Zone (pasture)	17 (1)	10:10	14	1.23	1.23	10-	42
Surface Horizon	16 (1)	1,131:1,140	14	1.59	1.24	<5-70	42
Uncultivated B Horizon	20 (1)	50:50	23	1.49	1.26	15-70	69
Mean, all depth intervals			**17**				**52**
Selenium (ppm)							
Loess	13 (4)	19:24	0.17	2.02	—	<0.1-0.4	0.51
Cultivated Plow Zone (corn)	17 (5)	10:10	0.67	1.67	1.25	0.3-1.5	2.01
Cultivated Plow Zone (pasture)	17 (5)	10:10	0.62	1.68	1.25	0.3-1.5	1.86
Surface Horizon	16 (5)	925:1,140	0.28	2.54	1.67	<0.1-2.7	0.84
Uncultivated B Horizon	20 (5)	49:50	0.73	2.11	1.52	<0.1-3.4	22.19
Mean, all depth intervals			**0.49**				**1.48**
Silver (ppm)							
Cultivated Surface Horizon	16 (1)	4:1,140	<0.5	—	—	<0.5-3	<1.5
Uncultivated B Horizon	20 (1)	1:50	<0.5	—	—	<0.5-3	<1.5
(forest soil)			**<0.5**				**<1.5**
Mean, all depth intervals							

Table 3-2b (Continued)

Sample [1]	Study (Method)	Ratio [2]	Mean [3]	Deviation [3]	Error [3]	Range	3 Times Mean
Zinc (ppm)							
Loess [4]	13 (3)	24:24	61	1.27	—	37-90	183
Cultivated Plow Zone (corn)	17 (3)	10:10	55	1.29	1.07	34-74	165
Cultivated Plow Zone (pasture)	17 (3)	10:10	68	1.74	1.07	37-300	204
Surface Horizon	16 (3)	1,140:1,140	49	1.55	1.08	18-640	147
Uncultivated B Horizon	20 (3)	50:50	67	1.44	1.12	31-194	201
Mean, all depth intervals			**60**				**180**

Notes:

(1)All elemental concentrations are reported in ug/g (ppm) of soil
(2) Ratio indicates the number of samples in which the element was determined in relations to the total number analyzed.
(3) Means, Deviation and Error equal geometric means, geometric deviations and geometric errors, respectively. Geometric deviations are estimates of the range of variation for an element in the specified sampling class. Geometric errors are estimates of the range of variation attributable to laboratory procedures.
(4) Loess (wind-blown silts) is the dominant soil parent material at IAAP.
(5) Limited USGS data available.
(6) Study and method are detailed in Appendix A

Source:

U.S. Geogoical Survey Paper 574-F, 1975.

Table 3-2c
Background Soil Radionuclides
Concentrations and Evaluation Levels

Radionuclide	USATHAMA Analyte Code	Average Background Concentration (pCi/g)	Background Range (pCi/g)	Highest Background Level (pCi/g)
Gross Alpha	ALPHAG	3.00	1.6-3.8	3.8
Gross Beta	BETAG	9.40	9.0-9.9	9.9
Gamma Scan	GAMMAS	0.250	0.250	0.250
▪ Actinium 28	AC228	0.710	U-0.710	0.710
▪ Bismuth 214	BI214	1.45	0.870-2.030	2.030
▪ Cesium 137	CS137	0.18	0.100-0.26	0.26
▪ Lead 212	PB212	0.740	0.740	0.740
▪ Lead 214	PB214	0.790	0.780-0.800	0.800
▪ Radium 226	RA226	0.835	0.630-1.04	1.04
▪ Thallium 208	TL208	0.93	0.610-1.25	1.25

U = Undetected

Table 3-2d
Evaluation Levels for Semivolatiles in Soil

Semivolatile	USATHAMA Analyte Code	Evaluation Levels (µg/g)
Phenol	PHENOL	>0.0520
bis(2-Chloroethyl) ether	B2CLEE	>0.3600
2-Chlorophenol	2CLP	>0.0550
1,3-Dichlorobenzene	13DCLB	>0.0420
1,4-Dichlorobenzene	14DCLB	>0.0340
1,2-Dichlorobenzene	12DCLB	>0.0420
2-Methylphenol	2MP	>0.0980
2,2'- oxybis (1-Chloropropane)	B2CIPE	>0.4400
4-Methylphenol	4MP	>0.2400
N-Nitroso-di-n-dipropylamine	NNDNPA	>1.1000
Hexachloroethane	CL6ET	>1.8000
Nitrobenzene	NB	>1.8000
Isophorone	ISOPHR	>0.3900
2-Nitrophenol	2NP	>1.1000
2,4-Dimethylphenol	24DMPN	>3.0000
bis-(2-Chloroethoxy) methane	B2CEXM	>0.1900
2,4-Dichlorophenol	24DCLP	>0.0650
1,2,4-Trichlorobenzene	124TCB	>0.2200
Naphthalene	NAP	>0.7400
4-Chloroaniline	4CANIL	ND
Hexachlorobutadiene	HCBD	>0.9700
4-Chloro-3-methylphenol	4CL3C	>0.9300
2-Methylnaphthalene	2MNAP	>0.0320
Hexachlorocyclopentadiene	CL6CP	>0.5200
2,4,6-Trichlorophenol	246TCP	>0.0610
2,4,5-Trichlorophenol	245TCP	>0.4900
2-Chloronaphthalene	2CNAP	>0.2400
2-Nitroaniline	2NANIL	ND
Dimethylphthalate	DMP	>0.0630
Acenaphthylene	ANAPYL	>0.0330
2,6-Dinitrotoluene	26DNT	>0.3200
3-Nitroaniline	3NANIL	>3.0000
Acenaphthene	ANAPNE	>0.0410
2,4-Dinitrophenol	24DNP	>4.7000
4-Nitrophenol	4NP	>3.3000
Dibenzofuran	DBZFUR	>0.0380
2,4-Dinitrotoluene	24DNT	>1.4000

ND = Not detected; no CRL

Table 3-2d (Continued)

Semivolatile	USATHAMA Analyte Code	Evaluation Level (µg/g)
Diethylphthalate	DEP	>0.2400
4-Chlorophenyl-phenyl ether	4CLPPE	>0.1700
Fluorene	FLRENE	>0.0650
4-Nitroaniline	4NANIL	ND
4,6-Dinitro-2-methylphenol	46DN2C	>0.80
N-nitrosodiphenylamine	NNDPA	>0.2900
4-Bromophenyl-phenylether	4BRPPE	>0.0410
Hexachlorobenzene	CL6BZ	>0.0800
Pentachlorophenol	PCP	>0.7600
Phenanthrene	PHANTR	>0.0320
Anthracene	ANTRC	>0.7100
Carbazole	-	ND
Di-n-butylphthalate	DNBP	>1.3000
Fluoranthene	FANT	>0.0320
Pyrene	PYR	>0.0830
Butylbenzylphthalate	BBZP	>1.800
3,3' -Dichlorobenzidine	33DCBD	>1.6000
Benzo (a) anthracene	BAANTR	>0.0410
Chrysene	CHRY	>0.0320
bis (2-Ethylhexyl) phthalate	B2EHP	>0.4800
Di-n-ootylphthalate	DNOP	>0.2300
Benzo (b) fluoranthene	BBFANT	>0.3100
Benzo (k) fluoranthene	BKFANT	>0.1300
Benzo (a) pyrene	BAPYR	>1.200
Indeno (1,2,3 - cd) pyrene	ICDPYR	>2.400
Dibenz (a,h) anthracene	DBAHA	>0.3100
Benzo (g,h,i) perylene	BGHIPY	>0.1800

ND = Not detected; no CRL

Table 3-2e
Evaluation Levels for Volatile Organics in Soil

Compound	USATHAMA Analyte Code	Evaluation Level (µg/g)
1,1,1-Trichloroethane	111TCE	>0.200
1,1,2-Trichloroethane	112TCE	>0.330
1,1-Dichloroethylene	11DCE	>0.270
1,1-Dichloroethane	11DCLE	>0.490
1,2-Dichloroethylenes	12DCE	>0.320
1,2-Dichloropropane	12DCLP	>0.320
1,3-Dichlorobenzene	13DCLB	>0.530
1,3-Dichloropropane	13DCP	>0.200
Acetone	ACET	>3.300
Bromodichloromethane	BRDCLM	>0.200
Chloroethene/Vinyl Chloride	C2H3CL	>1.800
Chloroethane	C2H5CL	>0.640
Benzene	C6H6	>0.100
Carbon Tetrachloride	CCL4	>0.310
Methylene Chloride	CH2CL2	>4.400
Bromomethane	CH3BR	>0.260
Chloromethane	CH3CL	>0.960
Bromoform	CHBR3	>0.200
Chloroform	CHCL3	>0.240
Chlorobenzene/Monochlorobenzene	CLC6H5	>0.100
Dibromochloromethane	DBRCLM	>0.250
Dichlorobenzene	DCLB	>0.200
Ethylbenzene	ETC6H5	>0.190
Toluene	MEC6H5	>0.100
Methylethyl ketone/2-Butanone	MEK	>4.30
Methylisobutyl ketone	MIBK	>0.630
1,1,2,2-Tetrachloroethane	TCLEA	>0.200
Tetrachloroethylene	TCLEE	>0.160
Trichloroethylene	TRCLE	>0.230
Xylenes	XYLEN	>0.780

Table 3-2f
Evaluation Levels for Pesticides in Soil

Pesticide/PCB	USATHAMA Analyte Code	Evaluation Level (µg/g)
alpha-BHC	ABHC	>2.8
beta-BHC	BBHC	>7.1
delta-BHC	DBHC	>8.5
gamma-BHC (Lindane)	LIN	>1.0
Heptachlor	HPCL	>2.2
Aldrin	ALDRN	>1.4
Heptachlor epoxide	HPCLE	>1.3
Endosulfan I	AENSLF	>1.0
Dieldrin	DLDRN	>1.6
4,4' - DDE	PPDDE	>2.7
Endrin	ENDRN	>6.5
Endosulfan II	BENSLF	>0.7
4,4' - DDD	PPDDD	>2.7
Endosulfan sulfate	ENSO4	>1.2
4,4' - DDT	PPDDT	>3.5
Methoxychlor	MEXCLR	>35.9
Endrin ketone	ENDRNK	ND
Endrin aldehyde	ENDRNA	ND
alpha-Chlordane	ACLDAN	ND
gamma-Chlordane	GCLDAN	ND
Toxaphene	TXPHEN	>22.6
Aroclor-1016	PCB016	>100.0
Aroclor-1221	PCB221	ND
Aroclor-1232	PCB232	ND
Aroclor-1242	PCB242	ND
Aroclor-1248	PCB248	ND
Aroclor-1254	PCB254	ND
Aroclor-1260	PCB260	>47.9

ND = Not detected; no CRL

Table 3-2g
Evaluation Levels
for Explosives in Soil

Compound	USATHAMA Analyte Code	Evaluation Level (µg/g)
1,3,5-Trinitrobenzene	135TNB	>0.9220
1,3-Dinitrobenzene	13DNB	>0.5040
2,4,6-Trinitrotoluene	246TNT	>2.0000
2,4-Dinitrotoluene	24DNT	>2.5000
2,6-Dinitrotoluene	26DNT	>2.0000
Cyclotetramethylenetetranitramine	HMX	>2.0000
Nitrobenzene	NB	>1.1400
Cyclotrimethylenetrinitramine	RDX	>1.2800
N-Methyl-N,2,4,6,-Tetranitroaniline	TETRYL	>2.1100

Table 3-2h
Evaluation Levels
for Metals in Surface Water and Groundwater

Metal	USATHAMA Analyte Code	CRL (µg/L)	Evaluation Level (µg/L)
Antimony	Sb	<60	60 (MCL)
Arsenic	As	<2.35	50 (MCL)
Barium	Ba	<2.82	2000 (MCL)
Beryllium	Be	<1.12	1 (MCL)
Cadmium	Cd	6.78	5 (MCL)
Chromium (tot)	Cr	<16.8	100 (MCL)
Copper	Cu	<18.8	1300 (MCL)
Lead	Pb	<4.47	15 (MCL)
Mercury	Hg	<0.10	2 (MCL)
Nickel	Ni	32.1	100 (MCL)
Selenium	Se	<2.53	50 (MCL)
Silver	Ag	<10.0	50 (MCL)
Zinc	Zn	<18.0	5000 (MCL)

Table 3-2i
Evaluation Levels for Radionuclides
in Surface Water and Groundwater

Radionuclide	USATHAMA Analyte Code	Evaluation Criteria (pCi/L)
Gross Alpha	ALPHAG	15 (MCL)
Gross Beta	BETAG	50*
Radium 226/228	RA226/RA228	20 (MCL)

* 40 CFR; 141.26; b1

Table 3-2j
Evaluation Levels for Semivolatiles
in Surface Water and Groundwater

Semivolatiles	USATHAMA Analyte Code	Evalulation Level (µg/L)
Phenol	PHENOL	>2.20
bis(2-Chloroethyl) ether	B2CLEE	>0.68
2-Chlorophenol	2CLP	>2.80
1,3-Dichlorobenzene	13DCLB	>3.40
1,4-Dichlorobenzene	14DCLB	>1.50
1,2-Dichlorobenzene	12DCLB	>1.20
2-Methylphenol	2MP	>3.60
2,2'- oxybis (1-Chloropropane)	B2CIPE	>5.00
4-Methylphenol	4MP	>2.80
N-Nitroso-di-n-dipropylamine	NNDNPA	>6.80
Hexachloroethane	CL6ET	>8.30
Nitrobenzene	NB	>3.70
Isophorone	ISOPHR	>2.40
2-Nitrophenol	2NP	>8.20
2,4-Dimethylphenol	24DMPN	>4.40
bis-(2-Chloroethoxy) methane	B2CEXM	>6.80
2,4-Dichlorophenol	24DCLP	>8.40
1,2,4-Trichlorobenzene	124TCB	>2.40
Naphthalene	NAP	>0.50
4-Chloroaniline	4CANIL	-
Hexachlorobutadiene	HCBD	>8.70
4-Chloro-3-methylphenol	4CL3L	>8.50
2-Methylnaphthalene	2MNAP	>1.30
Hexachlorocyclopentadiene	CL6CP	>54.00
2,4,6-Trichlorophenol	246TCP	>1.70
2,4,5-Trichlorophenol	245TCP	>2.80
2-Chloronaphthalene	2CNAP	>2.60
2-Nitroaniline	2NANIL	-
Dimethylphthalate	DMP	>2.20
Acenaphthylene	ANAPYL	>5.10
2,6-Dinitrotoluene	26DNT	>6.70
3-Nitroaniline	3NANIL	>15.00
Acenaphthene	ANAPNE	>5.80
2,4-Dinitrophenol	24DNP	>5.80
4-Nitrophenol	4NP	>96
Dibenzofuran	DBZFUR	>5.10
2,4-Dinitrotoluene	24DNT	>5.80

Table 3-2j (Continued)

Semivolatiles	USATHAMA Analyte Code	Evaluation Level (µg/L)
Diethylphthalate	DEP	>5.90
4-Chlorophenyl-phenyl ether	4CLPPE	>23.00
Fluorene	FLRENE	>9.20
4-Nitroaniline	4NANIL	-
4,6-Dinitro-2-methylphenol	46DN2C	-
N-nitrosodiphenylamine	NNDPA	>3.70
4-Bromophenyl-phenylether	4BRPPE	>22.00
Hexachlorobenzene	CL6BZ	>12.00
Pentachlorophenol	PCP	>9.10
Phenanthrene	PHANTR	>9.90
Anthracene	ANTRC	>5.20
Carbazole		
Di-n-butylphthalate	DNBP	>33.00
Fluoranthene	FANT	>24.00
Pyrene	PYR	>17.00
Butylbenzylphthalate	BBZP	>28.00
3,3' -Dichlorobenzidine	33DCBD	>5.00
Benzo (a) anthracene	BAANTR	>9.80
Chrysene	CHRY	>7.40
bis (2-Ethylhexyl) phthalate	B2EHP	>7.70
Di-n-ootylphthalate	DNOP	>1.50
Benzo (b) fluoranthene	BBFANT	>10.00
Benzo (k) fluoranthene	BKFANT	>10.00
Benzo (a) pyrene	BAPYR	>14.00
Indeno (1,2,3 - cd) pyrene	ICDPYR	>21.00
Dibenz (a,h) anthracene	DBAHA	>12.00
Benzo (g,h,i) perylene	BGHIPY	>15.00

Table 3-2k
Evaluation Levels for Volatile Organics
in Surface Water and Groundwater

Compound	USATHAMA Analyte Code	Evaluation Level (μg/L)
1,1,1-Trichloroethane	111TCE	>1.00
1,1,2-Trichloroethane	112TCE	>1.00
1,1-Dichloroethylene	11DCE	>1.00
1,1-Dichloroethane	11DCLE	>1.00
1,2-Dichloroethylenes	12DCE	>5.00
1,2-Dichloropropane	12DCLP	>1.00
1,3-Dichlorobenzene	13DCLB	>1.00
1,3-Dichloropropane	13DCP	>4.80
Acetone	ACET	>8.00
Bromodichloromethane	BRDCLM	>1.00
Chloroethene/Vinyl Chloride[3]	C2H3CL	>12.00
Chloroethane	C2H5CL	>8.00
Benzene	C6H6	>1.00
Carbon Tetrachloride	CCL4	>1.00
Methylene Chloride	CH2CL2	>1.00
Bromomethane	CH3BR	>14.00
Chloromethane	CH3CL7	>1.20
Bromoform	CHBR3	>11.00
Chloroform	CHCL3	>1.00
Chlorobenzene/Monochlorobenzene	CLC6H5	>1.00
Dibromochloromethane	DBRCLM	>1.00
Dichlorobenzene	DCLB	>2.00
Ethylbenzene	ETC6H5	>1.00
Toluene	MEC6H5	>1.00
Methylethyl ketone/2-Butanone	MEK	>10.00
Methylisobutyl ketone	MIBK	>1.40
1,1,2,2-Tetrachloroethane	TCLEA	>1.50
Tetrachloroethylene	TCLEE	>1.00
Trichloroethylene	TRCLE	>1.00
Xylenes	XYLEN	>2.00

Table 3-21
Evaluation Levels for Pesticides
in Surface Water and Groundwater

Pesticide/PCB	USATHAMA Analyte Code	Evaluation Level (µg/L)
alpha-BHC	ABHC	>0.0028
beta-BHC	BBHC	>0.0077
delta-BHC	DBHC	>0.0085
gamma-BHC (Lindane)	LIN	>0.0010
Heptachlor	HPCL	>0.0022
Aldrin	ALDRN	>0.0014
Heptachlor epoxide	HPCLE	>0.0013
Endosulfan I	AENSLF	>0.0010
Dieldrin	DLDRN	>0.0016
2,2-bis(p-chlorophenyl)-1,1-dichloroethene (4,4'-DDE)	PPDDE	>0.0027
Endrin	ENDRN	>0.0065
Endosulfan II	BENSLF	>0.0007
2,2-bis(p-chlorophenyl)-1,1-dichloroethane (4,4'-DDD)	PPDDD	>0.0027
Endosulfan sulfate	ENSO4	
2,2-bis(p-chlorophenyl)-1,1,1-trichloroethane (4,4'-DDT)	PPDDT	>0.0035
Methoxychlor	MEXCLR	>0.0359
Endrin ketone	ENDRNK	
Endrin aldehyde	ENDRNA	
Chlordane	ACLDAN	>0.0684
Toxaphene	TXPHEN	>0.2260
PCBs		
Aroclor-1016	PCB016	>0.1000 (includes Aroclors 1221, 1232, 1242, & 1248)
Aroclor-1260	PCB260	0.0479 (includes Aroclor 1254)

Table 3-2m
Evaluation Levels
for Explosives in Water

Compound	USATHAMA Analyte Code	Evaluation Level (μg/L)
1,3,5-Trinitrobenzene	135TNB	>0.2100
1,3-Dinitrobenzene	13DNB	>0.4580
2,4,6-Trinitrotoluene	246TNT	>0.4260
2,4-Dinitrotoluene	24DNT	>0.3970
2,6-Dinitrotoluene	26DNT	>0.6000
Cyclotetramethylenetetranitramine	HMX	>0.5330
Nitrobenzene	NB	>0.6820
Cyclotrimethylenetrinitramine	RDX	>0.4160
N-Methyl-N,2,4,6,-Tetranitroaniline	TETRYL	>0.6310

3.3 IAAP-1 (LINE 1)

3.3.1 Site Description and History

Line 1 (IAAP-1) is situated southeast of the Administration Building, southwest of Yard A , east of Lines 4A (IAAP-5) and 5A (IAAP-6), and north of Line 2 (IAAP-2) and Line 3 (IAAP-3). Brush Creek flows in a southerly direction along the western side of Line 1. Plate 1 (E-4) illustrates the general location of Line 1 in relation to other areas; Figure 3-1 is a site plan of Line 1, showing the buildings on site.

Line 1 is an ammunition production line that has been in operation since the inception of IAAP in 1941. It produces missile warheads, cartridges, and grenades. Explosives are shipped into the plant by rail lines and off-loaded onto loading pads. The explosives are melted, and packed into metal cases. The final assembly of the finished product takes place within the plant, after which the ammunition is either shipped off site or stored.

Line 1 occupies about 190 acres and includes 91 buildings (Mason & Hanger 1976). These buildings include equipment rooms, explosive magazines, and about 22 buildings for explosive processing. The two melt buildings (1-05-1 and 1-05-2) appear to be where the highest volumes of wastes are produced. The waste is a direct result of the past practice of washing of spilled explosives from floors and equipment. Wastewater from the melt buildings is now treated by carbon adsorption in adjacent filter houses. Treated effluent is discharged to drainage ditches via NPDES-permitted outfalls (shown on Plate 2). Drainage ditches typically discharge to Brush Creek. Before the installation of the carbon column filters in the early 1970s, all process wastewater from Line 1 was discharged to the Line 1 Impoundment. (Note: The Former Line 1 Impoundment is under investigation in a previous RI/FS conducted by Dames & Moore. Follow-up sampling is being conducted at this site concurrently with the JAYCOR RI/FS. The site designation is IAAP-16.) Solvent storage areas are buildings numbered -03 (See IAAP Buildings). These areas will be investigated by soil gas surveys during the RI.

The Atomic Energy Commission operated the facility for several years beginning in 1945. When nuclear operations ceased, the line was cleaned up, and testing revealed that there was no radioactive contamination at the line (Holmberg 1975; document available in installation files).

The wastes that may be found in the vicinity of IAAP-1 are the explosives TNT, PBX, RDX, and Composition B; all of which are common feedstocks used in the production of ammunition (Bissel 1990). During the period of nuclear production at Line 1, chemicals such as Boracitol (Boric acid and TNT) and Boratol (barium nitrate and TNT) were used; however, information on the quantities of these chemicals and operations involved is limited. Other wastes that may be present at IAAP-1 are organics. IAAP records indicate that several solvents including acetone, xylene, 1,1,1-trichloroethane, and Stoddard's solvent have been used or are still in use at this line. These organics may have been discharged into the sumps before the Wastewater Treatment Plant was operative. Sumps are collection areas which receive drainage. Treatment sumps are typically made of stainless steel and collect process related discharges. Spill sumps are composed of concrete and are typically 2 by 2 feet in area. Sump locations are described in the sump inventory. The map scale is too small to adequately depict the map locations.

In general, it can be expected that sump scraps around the area may contain explosives, metals, and solvents from cleaning operations, and organics and inorganics from operations at the production line. Sump scraps are non-recoverable process wastes. Overflow of sumps may have discharged contamination into soils and sediments, and possibly transported contaminants to surface water and groundwater.

The depth to groundwater is approximately 10 feet below the land surface based on the geotechnical log for Well G-49 (Dames and Moore 1989). Plate 1 shows the location of this well within the IAAP; Figure 3-1 indicates the well is in the northwest corner of IAAP-1. The soil type beneath Line 1 is organic silt to about one foot deep, followed by fat-clay with a high plasticity, sometimes soft and moist. The soil below a depth of about seven feet is silty clay with traces of fine sand and gravel. The plasticity of the silty clay is medium. The land surface in Line 1 drains into Brush Creek on the western side of the line. The southern end of Line 1 drains the Former Line 1 Impoundment. Surface runoff from storm water may provide a potential contaminant migration pathway. The infiltration of contaminants and subsequent transport to the groundwater are possible due to the surface soil characteristics (organic silt with moderate to high permeability).

Public access to the site is restricted. The primary potential receptors of contamination are workers at Line 1, particularly those who work in the immediate vicinity of the melt buildings and solvent storage areas. Groundwater beneath the site is estimated to occur generally at about 10 feet with seasonal fluctuations ranging up to 5 feet. The potential of groundwater contamination must be considered; however, there is no evidence to suggest that this has occurred. Flora and fauna are also potential receptors, particularly those species that inhabit Brush Creek. Consumption of deer and other wild game affected by contamination may provide a vector via the food chain to human receptors.

3.3.2 Summary of Previous Investigations

Considerable investigative activities have been conducted at the Former Line 1 Impoundment; these results will be discussed in the initial site evaluation for IAAP-16. Other than NPDES outfall monitoring, no sampling prior to this SI has been conducted at Line 1. SI sample locations were selected based on a review of facility records and observations made during a pre-SI site reconnaissance. Typically, sample locations are associated with production activities. NPDES outfall monitoring data are available in installation files.

The SI at IAAP-1 focused on the surface and subsurface soils in the areas of the buildings known to generate or treat hazardous waste: oil and solvent storage (1-03-3); melt buildings (1-05-1, 1-05-2); carbon filter buildings (1-70-1); and load and storage areas. Associated drainage pathways also were sampled. SI samples are summarized below and sample locations are depicted on Figure 3-1.

Sample	Analyses	Sample Type	Depth	Location
01-SS-01-01	Metals VOCs SemiVOCs Radionuclides	G	0-6"	Along west wall of Building 1-03-3 near support pier.
01-SA-02-01	Explosives Metals VOCs SemiVOCs Radionuclides	C	0-18"	Three aliquots taken three feet south of the door to the Solvent Storage Building 1-03; 0-6, 6-12, and 12-18 inches.
01-SD-03-01	Explosives Metals VOCs SemiVOCs Radionuclides	G	0-6"	Sediment from a gulley near the south corner of Filter House 1-70-1.
01-SA-04-01	Explosives Metals VOCs SemiVOCs Radionuclides	C	0-12"	North of Melt Building 01-05-02 near above-ground sump.
01-SA-05-01	Explosives Metals VOCs SemiVOCs Radionuclides	C	6-12"	Near sump wall north of Melt Building 1-05-01.
01-SA-06-01	Explosives Metals VOCs SemiVOCs Radionuclides	C	12-18"	Adjacent to southeast wall of Filter House 1-70-1.
01-SA-07-01	VOCs SemiVOCs Radionuclides	C	18-24"	Next to #1 oil tank located ten feet south of Generator Building 1-211.
01-SW-08-01	Explosives Metals VOCs SemiVOCs Radionuclides	G	N/A	Surface water sample behind Building 1-207-2 in an outfall ditch.
01-SD-08-01	Explosives Metals VOCs SemiVOCs Radionuclides	G	0-6"	Co-located to correspond to 01-SW-08-01. Sample collected within the ditch about 6" from the water's edge at water level.
01-SD-08-02	Explosives Metals VOCs SemiVOCs Radionuclides	G	0-6"	Duplicate of 01-SD-08-01.

Table 3-3 summarizes the SI sample results reported above the CRLs; Table 3-3a reports those results above the evaluation criteria.

3.3.3 Evaluation of Site

Sample 01-SS-01-01 had reported levels of organic contaminants (volatile and semivolatile) which were less than the associated CRLs. This sample also contained detectable levels of arsenic, lead, barium, beryllium, cadmium, chromium, copper, nickel, and zinc. Based on the background soil evaluation levels (Table 3-2a), sample concentrations of arsenic (8.4 mg/kg), beryllium (1.12 mg/kg), cadmium, chromium (37.6 mg/kg) and zinc (119 mg/kg) exceeded the evaluation criteria. Cadmium was reported at 1.65 mg/kg which is elevated with respect to the background range (0.534-0.805 mg/kg) for soils. Gross alpha and beta radiation scans reported 3.400 and 2.700 picocuries/gram (pCi/g), respectively. (Evaluation levels for radionuclides in soil are listed in Table 3-2c.) With the exception of actinium-228 (0.800 compared to 0.710 pCi/g), radionuclides were reported at levels of less than the highest background levels (see Appendix B). No explosives were reported in this sample above the CRLs.

No semivolatile or volatile compounds were reported in sample 01-SA-02-01 above the associated CRLs. Low concentrations of metals were reported for sample 01-SA-02-01 including arsenic, barium, beryllium, chromium, copper, lead, nickel and zinc. The following metals exceeded their respective background levels: beryllium, chromium, and zinc. Gross alpha and beta radiation scans reported 2.600 and 3.900 pCi/g, respectively. Radionuclides were reported at values below the highest background levels (see Appendix B). Reported levels for explosives in this sample were less than the associated CRLs.

Sample 01-SD-03-01 was reported to contain arsenic, lead, barium, chromium, copper, mercury, nickel, and zinc. Of the reported metals, copper (39.8 mg/kg), lead (400 mg/kg), barium (9,900 mg/kg), chromium (140 mg/kg), and zinc (359 mg/kg) levels were found in excess of the background evaluation values (Table 3-2a). Explosives detected in this sample above the CRLs included 2,4,6-trinitrotoluene (1.90 mg/kg), HMX (160 mg/kg), and RDX (78 mg/kg). Reported levels of gross alpha and beta radiation scans were 2.100 and 1.900 pCi/g, respectively. With the exception of actinium-228 (3.400 pCi/g), detected levels of radionuclides were below the highest background levels (see Appendix B). The occurrence of metals and explosives in this sample suggests sediment contamination associated with wastewater from Filter House 1-70-1.

Sample 01-SA-04-01 was reported to contain fluoranthene (0.119 mg/kg) and pyrene (0.248 mg/kg) in levels greater than the associated CRLs (see Table 3-3a). No other organic compounds were found in concentrations above the associated CRLs. This sample also was found to contain low levels of arsenic, lead, barium, beryllium, chromium, copper, nickel and zinc. Metals reported in levels above the background evaluation criteria were arsenic (13.6 mg/kg), lead (43 mg/kg) and chromium (30.1 mg/kg). Reported levels of gross alpha and beta radiation scans were 1.800 and 5.300 pCi/g, respectively. Measured values of radionuclides ranged from 1.430 pCi/g for bismuth-214 to 0.510 pCi/g for lead-214. No explosives were reported in this sample above the CRLs.

Sample 01-SA-05-01 was reported to contain several metals in concentrations above the established evaluation levels: arsenic (8.57 mg/kg), lead (310 mg/kg), barium (12,000 mg/kg), cadmium (3.26 mg/kg), chromium (111 mg/kg), copper (74 mg/kg), and zinc (804 mg/kg). Gross alpha and beta radiation scans found 2.700 and 3.600 pCi/g, respectively. Except for actinium-228, all radionuclides were reported at levels of less than the background evaluation criteria (see Appendix B). No semivolatile or volatile organic compounds were detected at levels criteria (see Appendix B). No semivolatile or volatile organic compounds were detected at levels above the associated CRLs. With the exception of 2,4,6-trinitrotoluene (0.800 mg/kg), no explosives were reported at levels above the CRLs.

For sample 01-SA-06-01, no semivolatile or volatile organic compounds were detected at levels above the associated CRLs. This sample was found to contain low levels of arsenic, lead, barium, beryllium, chromium, copper, nickel, and zinc. Metals reported in levels above the background evaluation criteria were arsenic (8.88 mg/kg), beryllium (1.10 mg/kg), copper (36.8 mg/kg), and zinc (135 mg/kg). Reported levels of gross alpha and beta radiation were 1.500 and 1.800 pCi/g, respectively. Radionuclides were reported at levels below background (see Appendix B). No explosives were reported at levels above the CRLs; however, HMX detected at 0.880 mg/kg was flagged with a "P" indicating the measured value was laboratory quantified at less than the CRL but greater than the criteria of detection (COD).

Sample 01-SA-07-01 had reported levels of organic contaminants (volatile and semivolatile) which were less than the associated CRLs. Metal analysis was not conducted for this sample. Reported levels of gross alpha and beta radiation were 2.400 and 2.100 pCi/g, respectively. With the exception of actinium-228 (1.600 pCi/g) and lead-212 (1.200 pCi/g), detected levels of radionuclides were less than the background criteria (see Appendix B). No explosive analysis was conducted for this sample.

Sample 01-SD-08-01 was reported to contain low levels of metals including arsenic, lead, barium, beryllium, chromium, copper, nickel, and zinc. All reported metal concentrations were below the established background evaluation levels for soils (Table 3-2a). Mean values of gross alpha and beta radiation were reported below background at 2.450 and 4.700 pCi/g respectively, for duplicate measurements. With the exception of actinium-228 (0.800 compared to 0.710 pCi/g), radionuclides were reported at levels of less than background levels (see Appendix B). No explosives were reported at levels above the CRLs.

Sample 01-SW-08-01 contained reported levels of barium (8.95 µg/L), beryllium (1.12 µg/L), and cadmium (6.78 µg/L). These metals concentrations were above the established MCLs for surface water and groundwater (Table 3-4). Reported levels of gross alpha, beta and gamma radiation were 2.000 pCi/L, 3.000 pCi/L, 2.000 pCi/L, respectively. (Evaluation levels for radionuclides in surface water and groundwater are listed in Table 3-2d.) No semivolatile or volatile organic compounds were detected in levels above the associated CRLs. One unknown organic compound, however, was reported at 1,000 µg/L. No explosives were reported at levels above the CRLs.

The analytical results obtained from the SI sampling indicate metals and explosives contamination in the area associated with the Line 1 production facility. Reported levels of lead, barium, cadmium, chromium, and zinc exceeding the established background concentrations for several samples suggest site contamination from cleaning operations and other activities. Soil and sediments contaminated with explosives such as 2,4,6-TNT, HMX, and RDX demonstrates that production line wastes were released into the surrounding environs. Contamination of surface water was indicated by metal concentrations above the MCLs.

Based on historical data and current analytical findings, it is recommended that IAAP-1 (Line 1) be included in the Remedial Investigation. A summary report of all SI analytical results for this SWMU is included in Appendix B.

LEGEND

- RAILROAD TRACK
- ROAD
- WALKWAY
- FENCE
- 2-70-2 BUILDING #
- BERM (EXPLOSION PROTECTION)
- 690 TOPOGRAPHIC CONTOUR
- CONTOUR INTERVAL = 5 FEET
- INTERMITTENT STREAM

SAMPLE KEY

- SUBSURFACE SOIL SAMPLE
- MONITORING WELL
- × SOIL BORING
- O SOIL SAMPLE
- △ SURFACE WATER SAMPLE
- • SEDIMENT SAMPLE
- HYDROPUNCH

Prepared by

CDM FEDERAL PROGRAMS CORPORATION

a subsidiary of Camp Dresser & McKee Inc.

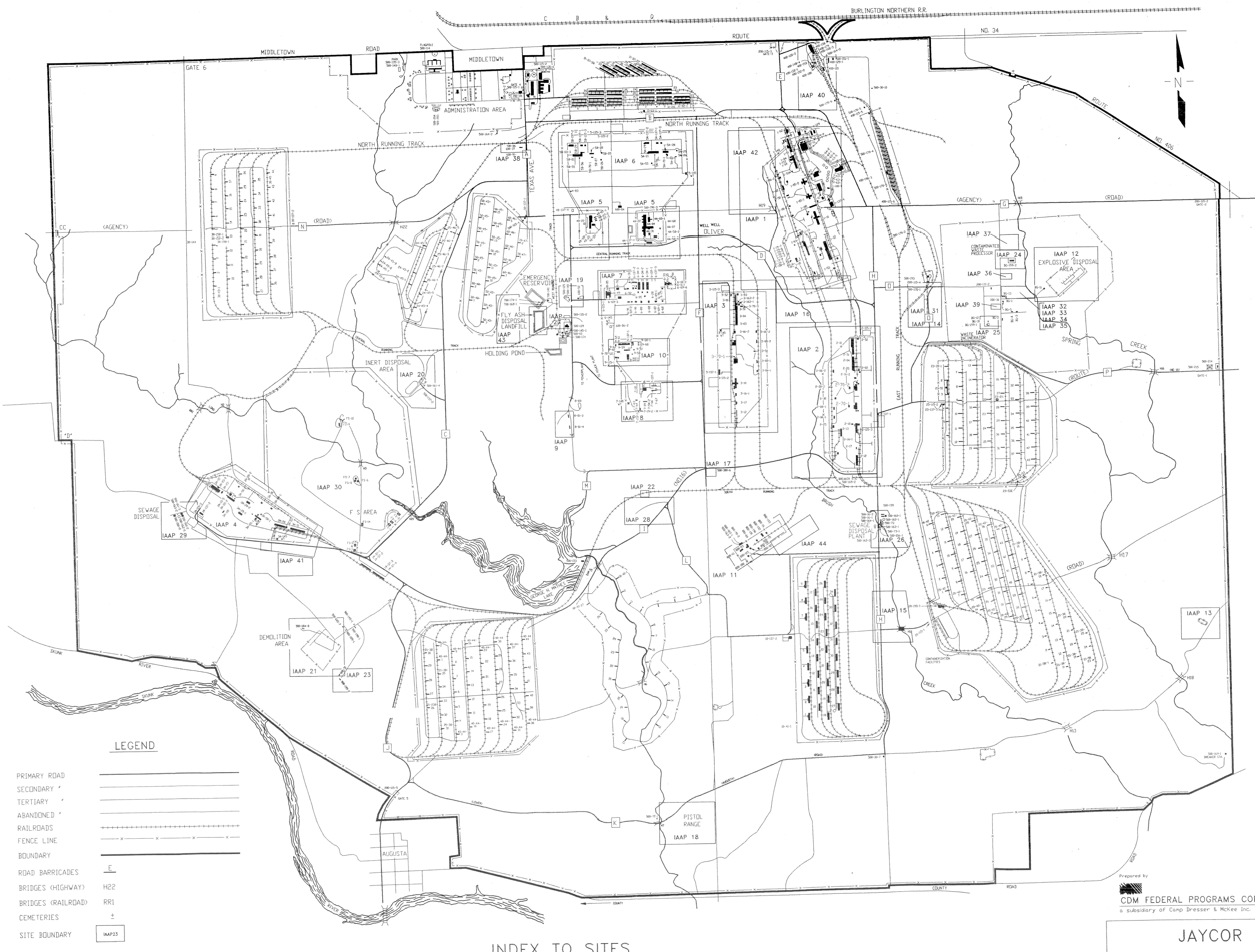
JAYCOR

IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

Site Map of IAAP 1
Line 1

SOURCE: Mason & Hanger-Silas Mason Co., Inc.			
FILE NO. IAAP1	DRWN BY: LR	PROJECT #: 7150-100	SHT. 1 OF 1
DATE 1-92			FIGURE: 3-1



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IAAP 3 D-4	IAAP 10 D-5	IAAP 17 D-4,5	IAAP 24 E-3	IAAP 31 D-3	IAAP 38 E-6	
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JAYCOR

IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

IAAP Facility Showing All Site Locations

SOURCE: Mason & Hanger-Silas Mason Co. Inc.
DATE: 1-92 | DRWN BY: LR | SHT. 1 OF 1

PLATE 1

Table 3-3

IAAP-01 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP01	SD	EXPLOSIVES	2,4,6-TNT	01-SD-03	08/06/1991	01SD0301YP	0.500	1.9	=LW02	1.92	UGG
			HMX	01-SD-03	08/06/1991	01SD0301Y	0.500	160.0	=LW02	1.27	UGG
			RDX	01-SD-03	08/06/1991	01SD0301Y	0.500	78.0	=LW02	0.98	UGG
		METALS	ARSENIC	01-SD-03	08/06/1991	01SD0301Y	0.500	6.73	=B9	2.5	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	4.34	=B9	2.5	UGG
						01SD0802YD	0.500	5.5	=B9	2.5	UGG
			BARIUM	01-SD-03	08/06/1991	01SD0301Y	0.500	9,900.0	=JS12	3.29	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	76.3	=JS12	3.29	UGG
						01SD0802YD	0.500	127.0	=JS12	3.29	UGG
			BERYLLIUM	01-SD-08	08/07/1991	01SD0801Y	0.500	0.621	=JS12	0.427	UGG
						01SD0802YD	0.500	0.741	=JS12	0.427	UGG
			CHROMIUM	01-SD-03	08/06/1991	01SD0301Y	0.500	140.0	=JS12	1.04	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	13.4	=JS12	1.04	UGG
						01SD0802YD	0.500	18.1	=JS12	1.04	UGG
			COPPER	01-SD-03	08/06/1991	01SD0301Y	0.500	39.8	=JS12	2.84	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	10.1	=JS12	2.84	UGG
						01SD0802YD	0.500	16.9	=JS12	2.84	UGG
			LEAD	01-SD-03	08/06/1991	01SD0301Y	0.500	400.0	=JD21	0.467	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	24.0	=JD21	0.467	UGG
						01SD0802YD	0.500	19.0	=JD21	0.467	UGG
			MERCURY	01-SD-03	08/06/1991	01SD0301Y	0.500	0.107	=Y9	0.05	UGG
			NICKEL	01-SD-03	08/06/1991	01SD0301Y	0.500	22.5	=JS12	2.74	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	13.6	=JS12	2.74	UGG
						01SD0802YD	0.500	17.2	=JS12	2.74	UGG
			ZINC	01-SD-03	08/06/1991	01SD0301Y	0.500	359.0	=JS12	2.34	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	29.2	=JS12	2.34	UGG
						01SD0802YD	0.500	55.5	=JS12	2.34	UGG
		RADIONUCLIDES	ACTINIUM 228	01-SD-03	08/06/1991	01SD0301Y	0.500	3.4	=99	0.0	PCG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.8	=99	0.0	PCG
			ALPHA GROSS	01-SD-03	08/06/1991	01SD0301Y	0.500	2.1	=00	0.0	PCG
				01-SD-08	08/07/1991	01SD0801Y	0.500	2.7	=00	0.0	PCG
						01SD0802YD	0.500	2.2	=00	0.0	PCG
			BISMUTH 214	01-SD-03	08/06/1991	01SD0301Y	0.500	0.26	=99	0.0	PCG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.42	=99	0.0	PCG
						01SD0802YD	0.500	0.44	=99	0.0	PCG
			GROSS BETA	01-SD-03	08/06/1991	01SD0301Y	0.500	1.9	=00	0.0	PCG
				01-SD-08	08/07/1991	01SD0801Y	0.500	4.7	=00	0.0	PCG
						01SD0802YD	0.500	4.7	=00	0.0	PCG
			LEAD 212	01-SD-03	08/06/1991	01SD0301Y	0.500	0.7	=99	0.0	PCG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.37	=99	0.0	PCG
						01SD0802YD	0.500	0.47	=99	0.0	PCG
			LEAD 214	01-SD-03	08/06/1991	01SD0301Y	0.500	0.44	=99	0.0	PCG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.49	=99	0.0	PCG
						01SD0802YD	0.500	0.55	=99	0.0	PCG
			RADIUM 226	01-SD-03	08/06/1991	01SD0301Y	0.500	0.42	=99	0.0	PCG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.38	=99	0.0	PCG
						01SD0802YD	0.500	0.41	=99	0.0	PCG
			THALLIUM 208	01-SD-03	08/06/1991	01SD0301Y	0.500	0.8	=99	0.0	PCG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.3	=99	0.0	PCG
						01SD0802YD	0.500	0.4	=99	0.0	PCG
	SO	EXPLOSIVES	2,4,6-TNT	01-SA-05	08/07/1991	01SA0501YP	1.000	0.8	=LW02	1.92	UGG

Table 3-3

IAAP-01 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
		METALS	ARSENIC	01-SA-02	08/07/1991	01SA0201Y	1.500	7.06	=B9	2.5	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	13.6	=B9	2.5	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	8.57	=B9	2.5	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	8.88	=B9	2.5	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	8.4	=B9	2.5	UGG
			BARIUM	01-SA-02	08/07/1991	01SA0201Y	1.500	266.0	=JS12	3.29	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	186.0	=JS12	3.29	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	12,000.0	=JS12	3.29	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	198.0	=JS12	3.29	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	212.0	=JS12	3.29	UGG
			BERYLLIUM	01-SA-02	08/07/1991	01SA0201Y	1.500	1.1	=JS12	0.427	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.951	=JS12	0.427	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.784	=JS12	0.427	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	1.1	=JS12	0.427	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	1.12	=JS12	0.427	UGG
			CADMIUM	01-SA-05	08/07/1991	01SA0501Y	1.000	3.26	=JS12	1.2	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	1.65	=JS12	1.2	UGG
			CHROMIUM	01-SA-02	08/07/1991	01SA0201Y	1.500	38.7	=JS12	1.04	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	30.1	=JS12	1.04	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	111.0	=JS12	1.04	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	28.5	=JS12	1.04	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	37.6	=JS12	1.04	UGG
			COPPER	01-SA-02	08/07/1991	01SA0201Y	1.500	19.8	=JS12	2.84	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	16.9	=JS12	2.84	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	74.0	=JS12	2.84	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	36.8	=JS12	2.84	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	23.2	=JS12	2.84	UGG
			LEAD	01-SA-02	08/07/1991	01SA0201Y	1.500	17.0	=JD21	0.467	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	43.0	=JD21	0.467	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	310.0	=JD21	0.467	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	20.0	=JD21	0.467	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	21.0	=JD21	0.467	UGG
			MERCURY	01-SA-05	08/07/1991	01SA0501Y	1.000	0.111	=Y9	0.05	UGG
			NICKEL	01-SA-02	08/07/1991	01SA0201Y	1.500	20.4	=JS12	2.74	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	18.8	=JS12	2.74	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	62.9	=JS12	2.74	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	19.5	=JS12	2.74	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	23.0	=JS12	2.74	UGG
			ZINC	01-SA-02	08/07/1991	01SA0201Y	1.500	92.7	=JS12	2.34	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	65.2	=JS12	2.34	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	804.0	=JS12	2.34	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	135.0	=JS12	2.34	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	119.0	=JS12	2.34	UGG
		RADIONUCLIDES	ACTINIUM 228	01-SA-02	08/07/1991	01SA0201Y	1.500	0.7	=99	0.0	PCG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.9	=99	0.0	PCG
				01-SA-07	08/06/1991	01SA0701Y	2.000	1.6	=99	0.0	PCG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.8	=99	0.0	PCG
						01SS0101Y	0.500	0.8	=99	0.0	PCG
			ALPHA GROSS	01-SA-02	08/07/1991	01SA0201Y	1.500	2.6	=00	0.0	PCG
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.8	=00	0.0	PCG
				01-SA-05	08/07/1991	01SA0501Y	1.000	2.7	=00	0.0	PCG

Table 3-3

IAAP-01 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				01-SA-06	08/06/1991	01SA0601N	1.500	1.5	=00	0.0	PCG
				01-SA-07	08/06/1991	01SA0701Y	2.000	2.4	=00	0.0	PCG
				01-SS-01	08/07/1991	01SS0101N	0.500	3.4	=00	0.0	PCG
						01SS0101Y	0.500	3.4	=00	0.0	PCG
			BISMUTH 214	01-SA-02	08/07/1991	01SA0201Y	1.500	0.4	=99	0.0	PCG
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.43	=99	0.0	PCG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.86	=99	0.0	PCG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.99	=99	0.0	PCG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.55	=99	0.0	PCG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.67	=99	0.0	PCG
						01SS0101Y	0.500	0.67	=99	0.0	PCG
			GROSS BETA	01-SA-02	08/07/1991	01SA0201Y	1.500	3.9	=00	0.0	PCG
				01-SA-04	08/07/1991	01SA0401Y	1.000	5.3	=00	0.0	PCG
				01-SA-05	08/07/1991	01SA0501Y	1.000	3.6	=00	0.0	PCG
				01-SA-06	08/06/1991	01SA0601N	1.500	1.8	=00	0.0	PCG
				01-SA-07	08/06/1991	01SA0701Y	2.000	2.1	=00	0.0	PCG
				01-SS-01	08/07/1991	01SS0101N	0.500	2.7	=00	0.0	PCG
						01SS0101Y	0.500	2.7	=00	0.0	PCG
			LEAD 212	01-SA-02	08/07/1991	01SA0201Y	1.500	0.53	=99	0.0	PCG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.58	=99	0.0	PCG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.72	=99	0.0	PCG
				01-SA-07	08/06/1991	01SA0701Y	2.000	1.2	=99	0.0	PCG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.71	=99	0.0	PCG
						01SS0101Y	0.500	0.71	=99	0.0	PCG
			LEAD 214	01-SA-02	08/07/1991	01SA0201Y	1.500	0.45	=99	0.0	PCG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.51	=99	0.0	PCG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.39	=99	0.0	PCG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.58	=99	0.0	PCG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.62	=99	0.0	PCG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.61	=99	0.0	PCG
						01SS0101Y	0.500	0.61	=99	0.0	PCG
			RADIUM 226	01-SA-02	08/07/1991	01SA0201Y	1.500	0.44	=99	0.0	PCG
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.01	=99	0.0	PCG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.56	=99	0.0	PCG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.46	=99	0.0	PCG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.55	=99	0.0	PCG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.56	=99	0.0	PCG
						01SS0101Y	0.500	0.56	=99	0.0	PCG
			THALLIUM 208	01-SA-02	08/07/1991	01SA0201Y	1.500	0.5	=99	0.0	PCG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.7	=99	0.0	PCG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.7	=99	0.0	PCG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.63	=99	0.0	PCG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.6	=99	0.0	PCG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.6	=99	0.0	PCG
						01SS0101Y	0.500	0.6	=99	0.0	PCG
		SEMIVOLATILES	BIS (2-ETHYLHEXYL) PHTHALATE	01-SS-01	08/07/1991	01SS0101YD	0.500	4.42	=LM25	0.48	UGG
			DI-N-BUTYL PHTHALATE	01-SA-07	08/06/1991	01SA0701Y	2.000	1.26	=LM25	1.3	UGG
			FLUORANTHENE	01-SA-04	08/07/1991	01SA0401Y	1.000	0.119	=LM25	0.032	UGG
			PYRENE	01-SA-04	08/07/1991	01SA0401Y	1.000	0.248	=LM25	0.083	UGG
	SW	METALS	BARIUM	01-SW-08	08/07/1991	01SW0801N	0.500	8.95	=99	2.82	UGL
			COPPER	01-SW-08	08/07/1991	01SW0801N	0.500	59.4	=99	18.8	UGL

Table 3-3

IAAP-01 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			ZINC	01-SW-08	08/07/1991	01SW0801N	0.500	39.3	=99	18.0	UGL
		RADIONUCLIDES	ALPHA GROSS	01-SW-08	08/07/1991	01SW0801Y	0.500	2.0	=00	0.0	PCL
			GAMMA SCAN / GAMMA SCREEN	01-SW-08	08/07/1991	01SW0801Y	0.500	2.0	=99	2.0	PCL
			GROSS BETA	01-SW-08	08/07/1991	01SW0801Y	0.500	3.0	=00	0.0	PCL

Table 3-3a

IAAP-01 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP01	SD	EXPLOSIVES	2,4,6-TNT	01-SD-03	08/06/1991	01SD0301YP	0.500	1.9	=LW02	1.92	UGG
			HMX	01-SD-03	08/06/1991	01SD0301Y	0.500	160.0	=LW02	1.27	UGG
			RDX	01-SD-03	08/06/1991	01SD0301Y	0.500	78.0	=LW02	0.98	UGG
		METALS	BARIUM	01-SD-03	08/06/1991	01SD0301Y	0.500	9,900.0	=JS12	3.29	UGG
			CHROMIUM	01-SD-03	08/06/1991	01SD0301Y	0.500	140.0	=JS12	1.04	UGG
			COPPER	01-SD-03	08/06/1991	01SD0301Y	0.500	39.8	=JS12	2.84	UGG
			LEAD	01-SD-03	08/06/1991	01SD0301Y	0.500	400.0	=JD21	0.467	UGG
			ZINC	01-SD-03	08/06/1991	01SD0301Y	0.500	359.0	=JS12	2.34	UGG
		RADIONUCLIDES	ACTINIUM 228	01-SD-03	08/06/1991	01SD0301Y	0.500	3.4	=99	0.0	PCG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.8	=99	0.0	PCG
	SO	EXPLOSIVES	2,4,6-TNT	01-SA-05	08/07/1991	01SA0501YP	1.000	0.8	=LW02	1.92	UGG
		METALS	ARSENIC	01-SA-04	08/07/1991	01SA0401Y	1.000	13.6	=B9	2.5	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	8.57	=B9	2.5	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	8.88	=B9	2.5	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	8.4	=B9	2.5	UGG
			BARIUM	01-SA-05	08/07/1991	01SA0501Y	1.000	12,000.0	=JS12	3.29	UGG
			CADMIUM	01-SA-05	08/07/1991	01SA0501Y	1.000	3.26	=JS12	1.2	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	1.65	=JS12	1.2	UGG
			CHROMIUM	01-SA-02	08/07/1991	01SA0201Y	1.500	38.7	=JS12	1.04	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	30.1	=JS12	1.04	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	111.0	=JS12	1.04	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	37.6	=JS12	1.04	UGG
			COPPER	01-SA-05	08/07/1991	01SA0501Y	1.000	74.0	=JS12	2.84	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	36.8	=JS12	2.84	UGG
			LEAD	01-SA-04	08/07/1991	01SA0401Y	1.000	43.0	=JD21	0.467	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	310.0	=JD21	0.467	UGG
			NICKEL	01-SA-05	08/07/1991	01SA0501Y	1.000	62.9	=JS12	2.74	UGG
			ZINC	01-SA-02	08/07/1991	01SA0201Y	1.500	92.7	=JS12	2.34	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	804.0	=JS12	2.34	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	135.0	=JS12	2.34	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	119.0	=JS12	2.34	UGG
		RADIONUCLIDES	ACTINIUM 228	01-SA-05	08/07/1991	01SA0501Y	1.000	0.9	=99	0.0	PCG
				01-SA-07	08/06/1991	01SA0701Y	2.000	1.6	=99	0.0	PCG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.8	=99	0.0	PCG
						01SS0101Y	0.500	0.8	=99	0.0	PCG
			LEAD 212	01-SA-07	08/06/1991	01SA0701Y	2.000	1.2	=99	0.0	PCG
		SEMIVOLATILES	BIS (2-ETHYLHEXYL) PHTHALATE	01-SS-01	08/07/1991	01SS0101YD	0.500	4.42	=LM25	0.48	UGG
			DI-N-BUTYL PHTHALATE	01-SA-07	08/06/1991	01SA0701Y	2.000	1.26	=LM25	1.3	UGG
			FLUORANTHENE	01-SA-04	08/07/1991	01SA0401Y	1.000	0.119	=LM25	0.032	UGG
			PYRENE	01-SA-04	08/07/1991	01SA0401Y	1.000	0.248	=LM25	0.083	UGG
	SW	RADIONUCLIDES	GAMMA SCAN / GAMMA SCREEN	01-SW-08	08/07/1991	01SW0801Y	0.500	2.0	=99	2.0	PCL

3.4 IAAP-2 (LINE 2)

3.4.1 Site Description and History

Line 2 (IAAP-2) is located southeast of the Administration Building, slightly southwest of Yard B, east of Line 3 (IAAP-3), and north of Line 800 (IAAP-11). Brush Creek drains in a southerly direction to the west of Line 2. The location of Line 2 in relation to other areas is illustrated in Plate 1 (D-4); and Figure 3-2 is a site plan of Line 2, showing the on-site buildings.

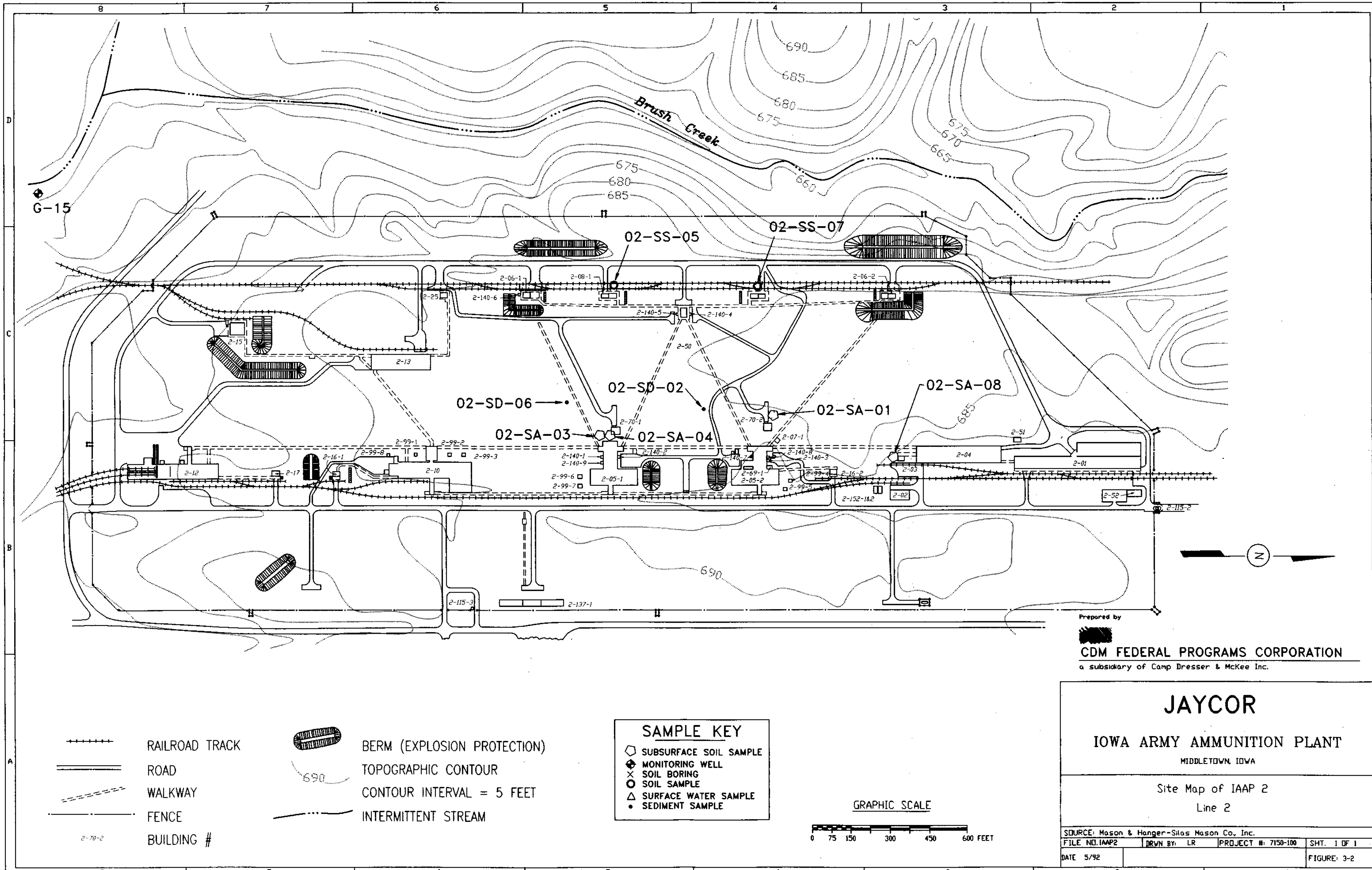
Line 2 is a production line that has been in operation since the inception of the IAAP during the early 1940s, except for a brief hiatus from 1947 to 1949. It is used to load, assemble, and pack ammunition. Explosives are shipped in by rail lines and off-loaded onto loading pads. The explosives are melted and packed into metal ammunition cases. The final assembly of the finished ammunition takes place within the plant. The ammunition is either shipped off site for use or stored on site until required.

Line 2 occupies about 140 acres and has 70 buildings and covered walkways. These buildings include equipment rooms, explosive magazines, and nine sump buildings for explosive waste processing. These sumps are listed in the sump inventory, which is available in installation records. The two melt buildings (2-50-1, 2-50-2) appear to be the areas where the highest volumes of wastes are produced during operations. The waste is mainly the result of the past practice of using water to wash explosives from equipment and floors. The two melt buildings at this line are located near two carbon column filter houses (2-70-1 and 2-70-2). The carbon column filters, now used to treat wastewater, treat the explosive-contaminated wastewater by carbon adsorption, and the effluent is discharged to Brush Creek through NPDES-permitted outfalls (shown on Plate 2). Before installation of the carbon filters, wastewater was discharged into dumpsters and transferred to the Line 800 Pink Water Lagoon (IAAP-44).

The wastes that may be associated with IAAP-2 are predominantly explosives - TNT, RDX, and Composition B. Other wastes that may be present are organics, mainly solvents. Solvents, such as acetone, toluene, and xylene have been used in the past or are still being used at the plant, may have been used at this line. These organics may have been discharged into the sumps before the wastewater treatment plant was operative. Sump scraps around the area may contain explosives or organics and inorganics from operations at the production line.

The depth to ground water is estimated to be approximately 5 feet based on the depth to groundwater at Well G-15 which was 5 feet. Well G-15 is located on the floodplain southwest of Line 2 (see Plate 2). The soil type under Line 2 is presumed to be organic silt to about 1 foot deep, followed by fat clay with a high plasticity, sometimes soft and moist. This is based on the assumption that the soils are similar to Line 1 (IAAP-1), although within the floodplain, alluvial sands and glacial drift were observed.

The surface runoff from Line 2 drains into Brush Creek, which flows in a southwesterly direction on the western side of the line. This pathway may be significant because the nature of the soil at the surface (organic silt) makes it ideal for seepage into the soil or groundwater, in the event of a spill or in the presence of excessive storm water runoff.



Brush Creek
G-15
02-SS-05
02-SS-07
02-SD-06
02-SD-02
02-SA-08
02-SA-01
02-SA-03
02-SA-04
690
685
680
675
670
665
660
RAILROAD TRACK
ROAD
WALKWAY
FENCE
BUILDING #
BERM (EXPLOSION PROTECTION)
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0 75 150 300 450 600 FEET
N
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 2
Line 2
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP2
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-2

Public access to the site is restricted. The primary potential receptors of contamination are workers at Line 2, particularly those who work in the immediate vicinity of the melt buildings and solvent storage areas. Groundwater beneath the site is estimated to occur at 5 feet with seasonal fluctuations; therefore, the possibility of groundwater contamination must beconsidered, though there is no evidence that this has occurred. Flora and fauna are also potential receptors, particularly those species that inhabit Brush Creek. Consumption of deerand other wild game affected by contamination may provide a vector for food chain uptake to human receptors.

3.4.2 Results of Previous Investigations

During the facility records search associated with the Preliminary Assessment of this site, no evidence of a direct environmental release was found. No sampling, other than the SI, has been conducted at Line 2.

The SI sampling focused on the buildings where feedstocks and wastes were handled: oil and solvent storage (2-03-1); melt buildings (2-05-1, 2-05-2); pumphouse building (2-140); radiographic building (2-100); carbon filter buildings (2-70-1, 2-70-2); and load and storage areas. SI samples are summarized below and sample locations are displayed in Figure 3-2.

Sample	Analysis	Sample Type	Depth	Location
02-SA-01-01	Explosives Metals VOCs SemiVOCs	C	12-18"	6 feet west of Filter House 2-70-2.
02-SD-02-01	Explosives Metals VOCs SemiVOCs	G	0-6"	60 feet southwest of Filter House 2-70-2 in saturated sediments.
02-SA-03-01	Explosives Metals VOCs SemiVOCs	G	0-8"	Moved from proposed staked location because of refusal, to location about 5 feet SSW of the southeast corner of the platform east of the unused water tank.
02-SA-04-01	Explosives Metals VOCs SemiVOCs	C	12-18"	Southeast of Filter House 2-70-1.
02-SS-05-01	Explosives Metals	C	0-6"	Three aliquots taken from a 20-foot area adjacent to a support pillar northeast of Building 2-08-02.
02-SD-06-01	Explosives Metals VOCs SemiVOCs	G	0-6"	Drainage ditch sediment located 25' south of an unused wastewater holding tank. (No corresponding SW sample due to a lack of water.)
02-SS-07-01	Explosives Metals	C	0-4"	Three aliquots taken from a 20 foot area adjacent to a support pillar northeast of Building 2-08-01.
02-SA-08-01	VOCs SemiVOCs	C	0-18"	Three aliquots at south end of loading dock; vertical depth aliquots of 0-6, 6-12, and 12-18 inches.

Sample	Analysis	Sample Type	Depth	Location
02-SA-08-02	VOCs SemiVOCs	C	0-18"	Duplicate of 02-SA-08-01.
02-EB-09-01	Explosives Metals VOCs SemiVOCs	G	N/A	Equipment rinsate blank of auger, bowl and spoon from sample 02-SA-01-01.

Table 3-4 summarizes the SI sample results reported above the CRLs; Table 3-4a reports those results above the evaluation criteria.

3.4.3 Evaluation of Site

Sample 02-SA-01-01 contained no organic contaminants (volatile or semivolatile) at levels above the associated CRLs. This sample contained low levels of arsenic, lead, barium, beryllium, chromium, copper, mercury, nickel, and zinc. With the exception of beryllium (1.10 mg/kg) and chromium (41.4 mg/kg), all reported metals concentrations were below established background evaluation levels (Table 3-2a). No explosives were reported in this sample above the CRLs.

Sample 02-SD-02-01 was reported to contain several metals of concern at levels above the evaluation criteria: lead (30 mg/kg); copper (63.3 mg/kg); chromium (58.1 mg/kg); zinc (216 mg/kg); and mercury (1.41 mg/kg). The level reported for lead (30 mg/kg) is 3.0 mg/kg higher relative to the evaluation criteria of 27 mg/kg; however, other metal levels are roughly two times higher than background evaluation values (see Table 3-2a). These metal concentrations suggest contamination from historical spills and overflows associated with the filter house. No semivolatile or volatile compounds were reported in this sample above the associated CRLs. Also, no explosives were reported in this sample above the CRLs.

No semivolatile or volatile compounds were reported in sample 02-SA-03-01 above the associated CRLs. Metals analysis reported values for arsenic, lead, barium, beryllium, cadmium, chromium, copper, mercury, nickel, and zinc. Of the reported metals, cadmium, copper and zinc levels were 1.5 to 3 times the background evaluation values. These reported values suggest potential contamination associated with filter house activities. No explosives were reported for sample 02-SA-03-01 above the CRLs.

Sample 02-SA-04-01 contained no organic contaminants (volatile or semivolatile) at levels above the associated CRLs with the exception of one semivolatile, pyrene. Pyrene, one of several polyaromatic hydrocarbons (PAHs), was reported at 0.173 mg/kg. PAHs are ubiquitous in the soil environment and the presence of this low level of one PAH constituent is not considered to be significant, and is likely to be of anthropogenic origin. There is no known process related source for this compound. This sample also contained low levels of arsenic, lead, barium, beryllium, chromium, copper, mercury, nickel, and zinc. Of the reported metals, only copper (103 compared to 30 mg/kg) and zinc (102 compared to 85 mg/kg) exceeded the background evaluation levels. No explosives were reported in this sample above the CRLs.

Sample 02-SS-05-01 was reported to contain low levels of metals including arsenic, barium, beryllium, chromium, copper, nickel and zinc. Reported lead concentrations (170 mg/kg) in sample 02-SS-05-01 were approximately six times greater than the background evaluation level

(27 mg/kg). Elemental concentrations of chromium (43.2 mg/kg), copper (33.4 mg/kg) and zinc (124 mg/kg) exceeded the background elevation levels. No semivolatile or volatile compounds were reported above the associated CRLs. Explosives detected in sample 02-SS-05-01 at levels above the CRLs were HMX (1.80 mg/kg) and RDX (0.63 mg/kg).

Low concentrations of metals were reported in sample 02-SD-06-01 including arsenic, barium, beryllium, chromium, copper, lead, nickel and zinc. These metal levels, however, are below both the established background evaluation levels (Table 3-2a) and background ranges reported by the USGS (Table 3-2b). No semivolatile or volatile compounds were reported in sample 02-SD-06-01 above the associated CRLs. No explosives were reported in this sample above the CRLs.

Sample 02-SS-07-01 was reported to contain low levels of the following metals: arsenic, barium, beryllium, chromium, copper, nickel and zinc. With the exception of chromium (32.9 compared to 29.2 mg/kg), all metal concentrations were within the established background ranges. No explosives were reported in this sample above the CRLs.

Sample 02-SA-08-01 was analyzed only for volatile and semivolatile compounds and no reported values were in excess of the CRLs. No volatiles or semivolatiles were reported in duplicate sample 02-SA-08-02. Both samples 02-SA-08-01 and 02-SA-08-02 contained bis-(2-ethylhexyl) phthalate in concentrations of 1.25 and 1.79 mg/kg, respectively.

Analytical results from the samples collected during the SI of IAAP-2 (Line 2) suggest the presence of contamination of soils and sediments with both metals and explosives. High levels of mercury and zinc were detected in sediment sample 02-SD-02-01. The presence of these metals at this location may indicate contamination resulting from spills and overflows. Significant levels of lead (six times greater than the established evaluation level) and explosives (HMX, RDX) in sample 02-SS-05-01 also may indicate site contamination resulting from production line operations.

Based on analytical findings, it is recommended that IAAP-2 (Line 2) be included in the Remedial Investigation. A summary report of all SI analytical results for this SWMU is included in Appendix B.

Table 3-4

IAAP-02 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP02	SD	METALS	ARSENIC	02-SD-02	08/08/1991	02SD0201Y	0.500	4.92	=B9	2.5	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	3.59	=B9	2.5	UGG
			BARIUM	02-SD-02	08/08/1991	02SD0201Y	0.500	174.0	=JS12	3.29	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	172.0	=JS12	3.29	UGG
			BERYLLIUM	02-SD-06	08/08/1991	02SD0601Y	0.500	1.07	=JS12	0.427	UGG
			CHROMIUM	02-SD-02	08/08/1991	02SD0201Y	0.500	58.1	=JS12	1.04	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	24.8	=JS12	1.04	UGG
			COPPER	02-SD-02	08/08/1991	02SD0201Y	0.500	63.3	=JS12	2.84	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	16.4	=JS12	2.84	UGG
			LEAD	02-SD-02	08/08/1991	02SD0201Y	0.500	30.0	=JD21	0.467	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	19.0	=JD21	0.467	UGG
			MERCURY	02-SD-02	08/08/1991	02SD0201Y	0.500	1.41	=Y9	0.05	UGG
			NICKEL	02-SD-02	08/08/1991	02SD0201Y	0.500	16.4	=JS12	2.74	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	17.6	=JS12	2.74	UGG
			ZINC	02-SD-02	08/08/1991	02SD0201Y	0.500	216.0	=JS12	2.34	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	59.5	=JS12	2.34	UGG
	SO	EXPLOSIVES	HMX	02-SS-05	08/08/1991	02SS0501Y	0.500	1.8	=LW02	1.27	UGG
			RDX	02-SS-05	08/08/1991	02SS0501YP	0.500	0.63	=LW02	0.98	UGG
		METALS	ARSENIC	02-SA-01	08/08/1991	02SA0101Y	1.500	3.35	=B9	2.5	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	8.78	=B9	2.5	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	5.24	=B9	2.5	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	5.16	=B9	2.5	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	7.93	=B9	2.5	UGG
			BARIUM	02-SA-01	08/08/1991	02SA0101Y	1.500	198.0	=JS12	3.29	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	232.0	=JS12	3.29	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	262.0	=JS12	3.29	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	196.0	=JS12	3.29	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	248.0	=JS12	3.29	UGG
			BERYLLIUM	02-SA-01	08/08/1991	02SA0101Y	1.500	1.1	=JS12	0.427	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.86	=JS12	0.427	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.907	=JS12	0.427	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	0.897	=JS12	0.427	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	0.905	=JS12	0.427	UGG
			CADMIUM	02-SA-03	08/08/1991	02SA0301Y	0.700	2.14	=JS12	1.2	UGG
			CHROMIUM	02-SA-01	08/08/1991	02SA0101Y	1.500	41.4	=JS12	1.04	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	36.3	=JS12	1.04	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	26.3	=JS12	1.04	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	43.2	=JS12	1.04	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	32.9	=JS12	1.04	UGG
			COPPER	02-SA-01	08/08/1991	02SA0101Y	1.500	17.2	=JS12	2.84	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	87.3	=JS12	2.84	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	103.0	=JS12	2.84	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	33.4	=JS12	2.84	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	21.4	=JS12	2.84	UGG
			LEAD	02-SA-01	08/08/1991	02SA0101Y	1.500	16.0	=JD21	0.467	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	26.0	=JD21	0.467	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	25.0	=JD21	0.467	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	170.0	=JD21	0.467	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	23.0	=JD21	0.467	UGG
			MERCURY	02-SA-01	08/08/1991	02SA0101Y	1.500	0.074	=Y9	0.05	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.068	=Y9	0.05	UGG

Table 3-4

IAAP-02 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.083	=Y9	0.05	UGG
			NICKEL	02-SA-01	08/08/1991	02SA0101Y	1.500	15.9	=JS12	2.74	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	15.2	=JS12	2.74	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	18.6	=JS12	2.74	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	22.0	=JS12	2.74	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	25.0	=JS12	2.74	UGG
			ZINC	02-SA-01	08/08/1991	02SA0101Y	1.500	66.7	=JS12	2.34	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	102.0	=JS12	2.34	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	102.0	=JS12	2.34	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	124.0	=JS12	2.34	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	73.6	=JS12	2.34	UGG
		SEMIVOLATILES	BIS (2-ETHYLHEXYL) PHTHALATE	02-SA-08	08/08/1991	02SA0801Y	1.500	1.25	=LM25	0.48	UGG
						02SA0802Y	1.500	1.79	=LM25	0.48	UGG
			DI-N-BUTYL PHTHALATE	02-SA-04	08/08/1991	02SA0401Y	1.500	6.2	>LM25	1.3	UGG
			PYRENE	02-SA-04	08/08/1991	02SA0401Y	1.500	0.173	=LM25	0.083	UGG

Table 3-4a

IAAP-02 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP02	SD	METALS	CHROMIUM	02-SD-02	08/08/1991	02SD0201Y	0.500	58.1	=JS12	1.04	UGG
			COPPER	02-SD-02	08/08/1991	02SD0201Y	0.500	63.3	=JS12	2.84	UGG
			LEAD	02-SD-02	08/08/1991	02SD0201Y	0.500	30.0	=JD21	0.467	UGG
			MERCURY	02-SD-02	08/08/1991	02SD0201Y	0.500	1.41	=Y9	0.05	UGG
			ZINC	02-SD-02	08/08/1991	02SD0201Y	0.500	216.0	=JS12	2.34	UGG
	SO	EXPLOSIVES	HMX	02-SS-05	08/08/1991	02SS0501Y	0.500	1.8	=LW02	1.27	UGG
			RDX	02-SS-05	08/08/1991	02SS0501YP	0.500	0.63	=LW02	0.98	UGG
		METALS	ARSENIC	02-SA-03	08/08/1991	02SA0301Y	0.700	8.78	=B9	2.5	UGG
			CADMIUM	02-SA-03	08/08/1991	02SA0301Y	0.700	2.14	=JS12	1.2	UGG
			CHROMIUM	02-SA-01	08/08/1991	02SA0101Y	1.500	41.4	=JS12	1.04	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	36.3	=JS12	1.04	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	43.2	=JS12	1.04	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	32.9	=JS12	1.04	UGG
			COPPER	02-SA-03	08/08/1991	02SA0301Y	0.700	87.3	=JS12	2.84	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	103.0	=JS12	2.84	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	33.4	=JS12	2.84	UGG
			LEAD	02-SS-05	08/08/1991	02SS0501Y	0.500	170.0	=JD21	0.467	UGG
			ZINC	02-SA-03	08/08/1991	02SA0301Y	0.700	102.0	=JS12	2.34	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	102.0	=JS12	2.34	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	124.0	=JS12	2.34	UGG
		SEMIVOLATILES	BIS (2-ETHYLHEXYL) PHTHALATE	02-SA-08	08/08/1991	02SA0801Y	1.500	1.25	=LM25	0.48	UGG
						02SA0802Y	1.500	1.79	=LM25	0.48	UGG
			DI-N-BUTYL PHTHALATE	02-SA-04	08/08/1991	02SA0401Y	1.500	6.2	>LM25	1.3	UGG
			PYRENE	02-SA-04	08/08/1991	02SA0401Y	1.500	0.173	=LM25	0.083	UGG

3.5 IAAP-3 (LINE 3)

3.5.1 Site Description and History

Line 3 (IAAP-3) is located in central IAAP (Plate 1; D-4), west of Brush Creek, southwest of Line 1 (IAAP-1) and north of the Pink Water Lagoon (IAAP-44), which is adjacent to Line 800. Figure 3-3 is a site plan of IAAP-3 (Line 3) illustrating the location of on-site buildings.

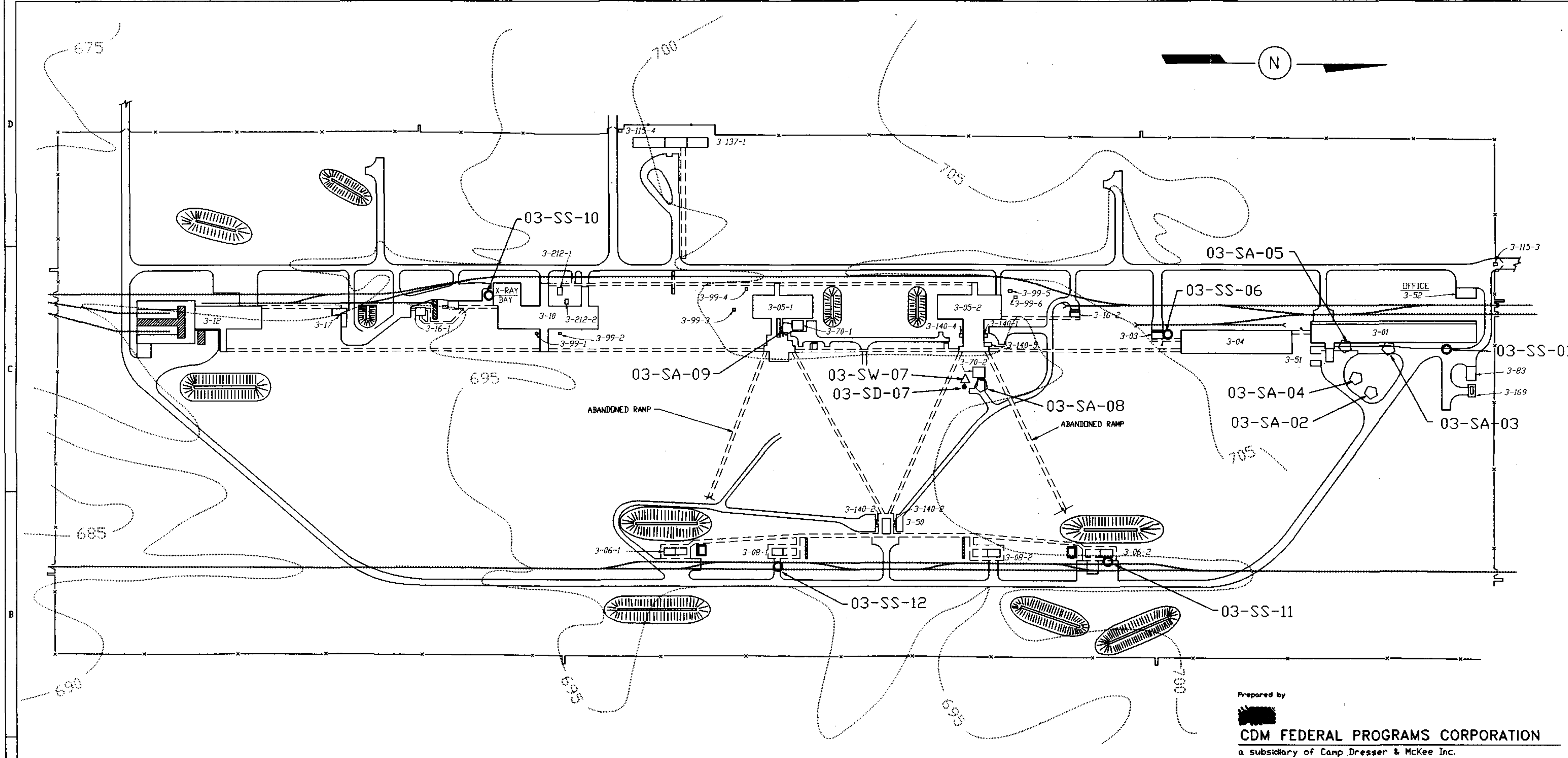
Line 3 is a production line that has been in operation since the inception of the IAAP in 1941. The line was temporarily shut down from 1945 to 1949. Line 3 produces heavy artillery and projectiles. Explosives are shipped into the plant by rail, melted, and packed into metal cases. Final assembly of the finished product takes place within the line, after which the ammunition is either shipped off-site or stored.

Line 3 occupies about 149 acres and has 56 buildings and covered walkways. The buildings include equipment rooms, explosive magazines, and nine sump buildings for explosive waste processing. The two melt buildings appear to be the areas where the highest volumes of wastes are produced during operations. The wastewater, contaminated with explosives, is a direct result of the past practice of washing spilled explosives from floors and equipment. The practice during the early years of operation of this line was to dispose of wastewater at the Pink Water Lagoon. Wastewater from the melt houses at Line 3 is now treated by carbon adsorption at Filter Houses 3-70-1 and 3-70-28. The effluent from the carbon filter columns is discharged to ditches through NPDES-permitted outfalls.

From 1977 until 1984 or 1985, metal cleaning operations were conducted at Line 3. This process consisted of several stainless steel dip tanks where ammunition casings were immersed in a sulfuric acid/hydrochloride bath, followed by a chromic acid bath, and then rinsed with water. Sludge that accumulated in the bottom of the sulfuric acid dip tank was removed, treated with sodium hydroxide, and disposed in the Line 3A pond. After metal cleaning operations were discontinued, the pond was capped. The chromic acid was recycled into the process. Rinsewater was accumulated in the settling tank where it was flocculated with alum to facilitate removal of suspended particulates. The pH of the supernatant was adjusted with lime and the treated rinsewater was discharged under a NPDES permit. Sludge from the settling tank was disposed in the Inert Disposal Area (IAAP-20).

Wastes from Line 3 were once discharged to the Former Line 1 Impoundment, IAAP-16. Contaminants associated with waste disposal from Line 3 may persist at the Former Line 1 Impoundment.

The predominant wastestreams at IAAP-3 contain explosives--TNT, PBX, RDX, and Composition B, which are the common feedstocks used in the production of ammunition. Other wastes that may be present are organics that may have been discharged into the sumps before the Wastewater Treatment Plant was operative. Sump solids may contain explosives, metals from cleaning operations, and organics and inorganics from operations at the production line. Solvents such as acetone, toluene, and xylene have been used or are still being used at the plant and may have been used at Line 3.



LEGEND

	RAILROAD TRACK
	ROAD
	WALKWAY
	FENCE
3-06-1	BUILDING #
	BERM (EXPLOSION PROTECTION)
690	TOPOGRAPHIC CONTOUR
	CONTOUR INTERVAL = 5 FEET

SAMPLE KEY

- SUBSURFACE SOIL SAMPLE
- MONITORING WELL
- × SOIL BORING
- O SOIL SAMPLE
- △ SURFACE WATER SAMPLE
- • SEDIMENT SAMPLE

GRAPHIC SCALE

0 100 200 400 600 800 FEET

Prepared by

[redacted]

CDM FEDERAL PROGRAMS CORPORATION

a subsidiary of Camp Dresser & McKee Inc.

JAYCOR

IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

Site Map of IAAP 3

Line 3

SOURCE: Mason & Hanger-Silas Mason Co., Inc.

FILE NO. IAAP3	DRWN BY: LR	PROJECT #: 7150-100	SHT. 1 OF 1
DATE 5/92			FIGURE: 3-3

The depth to groundwater is approximately 5 feet, based on the depth to groundwater at Well G-15. Well G-15 is located southeast of Line 3, and close to Brush Creek (see Plate 2). Plate 1 shows the location of the well. It should be noted that Well G-15 is located on the floodplain, west of Brush Creek, southwest of Line 2. The soil type under Line 3 is organic silt about 1 foot deep, followed by fat clay with a high plasticity, sometimes soft and moist. This is based on the assumption that the soils are relatively similar from Line 1 through Line 3, although within the floodplain, alluvial sands and glacial drift were observed.

Surface water runoff from Line 3 drains into Brush Creek, which flows in a south/southeasterly direction along the east side of the site.

On September 21, 1988, a release of contaminated wastewater occurred from the sump next to Melt Building 3-05-01 (Mason & Hanger 1988). This building contains the recirculation tank for wastewater. The main function of this recirculation tank is to allow settling of particulates. When the spill occurred, unsettled wastewater was discharged to the environment. During a site reconnaissance in March 1990, dust from metal shotblasting operations reportedly was observed outside of Building 3-01.

The potential pathways for contaminant migration are the groundwater, which is about 5 feet below the ground surface, and Brush Creek, which lies west of the plant. Also, the potential for atmospheric transport of soil-borne contaminants adsorbed to dust particles exists.

Because of the high degree of security at IAAP, only workers and authorized visitors are likely receptors of any contaminants present at Line 3, particularly in the area of the melt buildings, solvent storage areas, and X-ray building. The possibility also exists that flora and fauna in the area, particularly at Brush Creek, may become contaminated. Consumption of potentially contaminated game and fish poses a potential for food chain uptake to human receptors.

3.5.2 Summary of Previous Investigations

No sampling, other than the SI, has been conducted at Line 3.

The SI sampling scheme focused on the buildings where hazardous wastes were believed to have been generated: oil and solvent storage areas (3-03-1); melt buildings (3-05-1); radiographic building; carbon filter houses (3-70-1, 3-70-2); wastewater treatment plant (3-163-1, 3-163-2); and load and storage areas (3-12). Associated drainage pathways and surface water features also were sampled. SI samples are summarized below and sample locations are displayed on Figure 3-3.

Sample	Analyses	Sample Type	Depth	Location
03-SS-01-01	Explosives Metals VOCs SemiVOCs	C	0-6"	North of the baghouse by Building 3A-01.
03-SD-02-01	Explosives Metals VOCs SemiVOCs	C	0-12"	22 feet north of Building 3-70-3 near a discharge pipe.
03-SA-03-01	Explosives Metals VOCs SemiVOCs	C	36-48"	7 feet south of the Settling Tank 3-163-2.

Sample	Analyses	Sample Type	Depth	Location
03-SA-04-01	Explosives Metals VOCs SemiVOCs	C	0-2′	10 feet north of Building 3-70-3.
03-SA-05-01	Explosives Metals VOCs SemiVOCs	C	0-12"	24 feet south of Building 3-163-2.
03-SS-06-01	VOCs	G	0-6"	50 feet south of Building 3-04 under walkway.
03-SD-07-01	Explosives Metals VOCs SemiVOCs	G	0-6"	28 feet southeast of Building 3-70-2.
03-SW-07-01	Explosives Metals VOCs SemiVOCs	G	N/A	Corresponds to SD-07-01.
03-SA-08-01	Explosives Metals VOCs SemiVOCs	G	0-12"	Along eastern side of Building 3-70-2.
03-SA-09-01	Explosives Metals VOCs SemiVOCs	C	0-12"	Adjacent to the sump northeast of Building 3-70-1.
03-SA-09-02	Explosives Metals VOCs SemiVOCs	C	15-20"	Same location as SA-09-02; sample depth adjusted from 18-24 inches to 15-20 inches due to refusal in fill.
03-SS-10-01	Metals Radionuclides Pesticides/PCBs	G	0-6"	4 feet north of Transformer Area 3-169-6.
03-SS-11-01	Explosives Metals	C	0-6"	4 locations at 2 buildings (3-08-2 and 3-06-2).
03-SS-12-01	Explosives Metals	C	0-6"	Composite from three aliquots spaced 5′ apart near loading dock at Building 3-08-01.
03-SS-12-02	Explosives Metals	C	0-6"	Duplicate of 03-SS-12-01.

Table 3-5 summarizes the SI sample results reported above the CRLs; Table 3-5a reports those results above the evaluation criteria.

3.5.3 Evaluation of Site

Sample 03-SS-01-01 was reported to contain several metals in concentrations above the established evaluation levels: lead (52 mg/kg), silver (0.969 mg/kg), beryllium (1.86 mg/kg), chromium (244 mg/kg), copper (12,000 mg/kg), nickel (193 mg/kg), and zinc (5,600 mg/kg). Elevated levels of copper and zinc were approximately 400 and 66 times larger than their respective background evaluation levels. Although no published background levels were available, thallium levels of 67 mg/kg were also reported. No semivolatile or volatile organic compounds were detected in levels above the associated CRLs. No explosives were reported at levels above the CRLs.

For sample 03-SA-02-01, no semivolatile or volatile organic compounds were detected at levels above the associated CRLs. This sample was found to contain measurable levels of arsenic, selenium, lead, barium, beryllium, chromium, copper, mercury, nickel and zinc. The following elemental concentrations exceeded their respective background evaluation levels: selenium (0.647 mg/kg); beryllium (1.15 mg/kg); chromium (36.2 mg/kg); copper (118 mg/kg) and zinc (239 mg/kg). Copper (118 mg/kg) was reported at nearly four times the established evaluation level (30.1 mg/kg) and zinc (239 mg/kg) exceeded the background evaluation value of 84.7 mg/kg. No explosives were detected at levels above the CRLs.

Sample 03-SA-03-01 was reported to contain low levels of arsenic, lead, barium, beryllium, and nickel which were less than the established evaluation values. Elevated levels of chromium (64.4 mg/kg), copper (2,000 mg/kg), zinc (1,100 mg/kg) and mercury (3.2 mg/kg) in this sample clearly indicate site contamination associated with plant activities. With the exception of di-n-butyl phthalate (2.3 mg/kg), no semivolatile or volatile organic compounds were detected in levels above the associated CRLs. No explosives were reported at levels above the CRLs.

Sample 03-SA-04-01 was reported to contain arsenic, lead, barium, chromium, copper, nickel, and zinc. Of the reported metals, only chromium (34.2 mg/kg), copper (381 mg/kg) and mercury (10.0 mg/kg) levels were found in excess of the background evaluation values (Table 3-2a). Except for di-n-butyl phthalate (1.9 mg/kg), no semivolatile or volatile organic compounds were detected at levels above the associated CRLs. No explosives were reported at levels above the CRLs.

Sample 03-SA-05-01 contained no organic contaminants (volatile or semivolatile) at levels above the associated CRLs. Low levels of lead, barium, chromium, copper, nickel, and zinc were reported in this sample. All reported metal concentrations were below established background evaluation levels (Table 3-2a). No explosives were reported in this sample above the CRLs.

For sample 03-SS-06-01, only analyses for volatile organic compounds were conducted. No volatile organics were reported above their associated CRLs.

Sample 03-SD-07-01 was found to contain low levels of lead, barium, beryllium, chromium, copper, nickel, and zinc. Of these metals, only chromium (33.4 mg/kg), copper (53.1 mg/kg), and zinc (113 mg/kg) exceeded the background evaluation values. No semivolatile or volatile organic compounds were detected at levels above the associated CRLs. Furthermore, no explosives were reported at levels above the CRLs.

Surface water sample 03-SW-07-01, which was co-located with sediment sample 03-SD-07-01, was reported to contain barium at 73.70 μg/L which exceeds the MCL for barium of 2 μg/L (Table 3-2e). The reported concentrations of arsenic (4.19 μg/L) and zinc (176 g/L) were below the established evaluation levels (Table 3-2e). With the exception of chloromethane (3.070 μg/L), no other volatile or semivolatile compounds were reported above their respective CRLs. The detection of HMX, RDX, and Tetryl, at levels of 4 μg/L, 15 μg/L, and 5.7 μg/L respectively, indicates potential contamination resulting from production activities (Table 3-5a).

Sample 03-SA-08-01 was found to contain low levels of arsenic, lead, barium, beryllium, chromium, copper, mercury, nickel, and zinc. Of these metals, only arsenic (12.7 mg/kg) and beryllium (2.51 mg/kg) exceeded the background evaluation values. No semivolatile or volatile organic compounds were reported at levels above the associated CRLs. The explosives HMX and RDX, reported at concentrations of 21.0 mg/kg and 58.0 mg/kg respectively, were detected above their CRLs.

Sample 03-SA-09-01 (0-12" depth) and its associated depth sample 03-SA-09-02 (15-20") were reported to contain PAHs (semivolatiles) above CRLs, and detectable levels of explosives (1,3,5 TNB; 2,4,6 TNT; HMX; RDX). Also, low levels of several metals were reported for sample 03-SA-09-02 (Table 3-5). Of the metals detected, only lead (38 mg/kg) exceeded the background evaluation level. For sample 03-SA-09-02, the explosives 2,4,6-TNT, HMX, and RDX were detected in concentrations greater than CRLs.

Sample 03-SS-10-01 contained lead, copper and zinc concentrations above the established background evaluation criteria. Analyses for pesticides indicated potential, though unconfirmed, contamination for aldrin, endrin, lindane, and DDT (2,2-bis(p-chlorophenyl)-1,1,1-trichoroethane). Confirmed identification of dieldrin was reported. Reported levels of gross alpha and beta radiation were 2.100 and 13.200 pCi/g, respectively. The gross beta evaluation level exceeds the highest reported background level (9.9 pCi/g). With the exception of cesium-137, radionuclides were reported at levels below background evaluation levels.

Sample 03-SS-11-01 included lead (180 mg/kg), beryllium (2.84 mg/kg), cadmium (7.46 mg/kg), chromium (38.7 mg/kg), copper (117 mg/kg), and zinc (865 mg/kg) at concentrations above the evaluation level. Also, various explosives were reported, including 2,4,6 TNT at concentrations up to 2,600 mg/kg.

Sample 03-SS-12-01 and its duplicate 03-SS-12-02 were reported to contain low levels of metals including arsenic, lead, barium, beryllium, chromium, copper, mercury, nickel and zinc. For sample 03-SS-12-01, the following metals exceeded the background evaluation levels: lead (43 mg/kg), beryllium (1.14 mg/kg), and zinc (106 mg/kg). Results from the duplicate sample exhibited similar concentrations of lead, beryllium, and zinc. No explosives were reported for these two samples above the CRLs. Contamination may be related to production activities such as washing of spilled explosives from the floors of buildings. Elevated metals concentrations may be the result of metal cleaning operations.

Results from SI sampling of IAAP-3 (Line 3) confirm the presence of explosives and elevated metal concentrations in this production area. Explosives were detected in 4 of the 12 samples collected, indicating widespread contamination. Also, metal concentrations exceeded established background criteria for 9 of the 10 samples analyzed for metals, and semivolatiles were reported in some samples.

Site contamination identified by the SI sampling results clearly establishes the recommendation that this site warrants inclusion in the Remedial Investigation. A summary report of all analytical results associated with the SI of this site is included in Appendix B.

Table 3-5

IAAP-03 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP03	SD	METALS	BARIUM	03-SD-07	08/13/1991	03SD0701Y	0.500	237.0	=JS12	3.29	UGG
			BERYLLIUM	03-SD-07	08/13/1991	03SD0701Y	0.500	0.983	=JS12	0.427	UGG
			CHROMIUM	03-SD-07	08/13/1991	03SD0701Y	0.500	33.4	=JS12	1.04	UGG
			COPPER	03-SD-07	08/13/1991	03SD0701Y	0.500	53.1	=JS12	2.84	UGG
			LEAD	03-SD-07	08/13/1991	03SD0701Y	0.500	20.0	=JD21	0.467	UGG
			NICKEL	03-SD-07	08/13/1991	03SD0701Y	0.500	18.9	=JS12	2.74	UGG
			ZINC	03-SD-07	08/13/1991	03SD0701Y	0.500	113.0	=JS12	2.34	UGG
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	03-SA-09	08/13/1991	03SA0901Y	1.000	4.6	=LW02	2.09	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	1.9	=LW02	2.09	UGG
			2,4,6-TNT	03-SA-09	08/13/1991	03SA0901Y	1.000	76.0	=LW02	1.92	UGG
						03SA0902Y	1.800	3.4	=LW02	1.92	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	2,600.0	=LW02	1.92	UGG
			2,4-DINITROTOLUENE	03-SS-11	08/12/1991	03SS1101Y	0.500	0.57	=LW02	0.42	UGG
			2,6-DINITROTOLUENE	03-SS-11	08/12/1991	03SS1101Y	0.500	3.3	=LW02	0.4	UGG
			HMX	03-SA-08	08/13/1991	03SA0801Y	1.000	21.0	=LW02	1.27	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	8.0	=LW02	1.27	UGG
						03SA0902YP	1.800	0.88	=LW02	1.27	UGG
			NITROBENZENE	03-SS-11	08/12/1991	03SS1101Y	0.500	0.46	=LW02	0.42	UGG
			RDX	03-SA-08	08/13/1991	03SA0801Y	1.000	58.0	=LW02	0.98	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	3.1	=LW02	0.98	UGG
						03SA0902YP	1.800	0.81	=LW02	0.98	UGG
				03-SS-11	08/12/1991	03SS1101YP	0.500	0.49	=LW02	0.98	UGG
		METALS	ARSENIC	03-SA-02	08/12/1991	03SA0201Y	1.000	5.81	=B9	2.5	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	4.57	=B9	2.5	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	3.7	=B9	2.5	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	12.7	=B9	2.5	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	5.17	=B9	2.5	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	7.24	=B9	2.5	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	6.75	=B9	2.5	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	4.0	=B9	2.5	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	6.51	=B9	2.5	UGG
						03SS1202YD	0.500	5.0	=B9	2.5	UGG
			BARIUM	03-SA-02	08/12/1991	03SA0201Y	1.000	264.0	=JS12	3.29	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	252.0	=JS12	3.29	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	296.0	=JS12	3.29	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	62.7	=JS12	3.29	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	22.0	=JS12	3.29	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	150.0	=JS12	3.29	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	21.2	=JS12	3.29	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	103.0	=JS12	3.29	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	80.5	=JS12	3.29	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	196.0	=JS12	3.29	UGG
						03SS1202YD	0.500	173.0	=JS12	3.29	UGG
			BERYLLIUM	03-SA-02	08/12/1991	03SA0201Y	1.000	1.15	=JS12	0.427	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.829	=JS12	0.427	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.867	=JS12	0.427	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	2.51	=JS12	0.427	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	0.947	=JS12	0.427	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	1.86	=JS12	0.427	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	1.0	=JS12	0.427	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	2.84	=JS12	0.427	UGG

Table 3-5

IAAP-03 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SS-12	08/12/1991	03SS1201Y	0.500	1.14	=JS12	0.427	UGG
						03SS1202YD	0.500	1.13	=JS12	0.427	UGG
			CADMIUM	03-SS-11	08/12/1991	03SS1101Y	0.500	7.46	=JS12	1.2	UGG
			CHROMIUM	03-SA-02	08/12/1991	03SA0201Y	1.000	36.2	=JS12	1.04	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	64.4	=JS12	1.04	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	34.2	=JS12	1.04	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	10.9	=JS12	1.04	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	14.3	=JS12	1.04	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	19.7	=JS12	1.04	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	244.0	=JS12	1.04	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	23.5	=JS12	1.04	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	38.7	=JS12	1.04	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	28.6	=JS12	1.04	UGG
						03SS1202YD	0.500	19.7	=JS12	1.04	UGG
			COPPER	03-SA-02	08/12/1991	03SA0201Y	1.000	118.0	=JS12	2.84	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	2,000.0	=JS12	2.84	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	381.0	=JS12	2.84	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	35.1	=JS12	2.84	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	4.82	=JS12	2.84	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	16.4	=JS12	2.84	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	12,000.0	=JS12	2.84	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	30.6	=JS12	2.84	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	117.0	=JS12	2.84	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	19.3	=JS12	2.84	UGG
						03SS1202YD	0.500	17.5	=JS12	2.84	UGG
			LEAD	03-SA-02	08/12/1991	03SA0201Y	1.000	24.0	=JD21	0.467	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	17.0	=JD21	0.467	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	18.0	=JD21	0.467	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	5.5	=JD21	0.467	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	20.0	=JD21	0.467	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	38.0	=JD21	0.467	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	52.0	=JD21	0.467	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	90.0	=JD21	0.467	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	180.0	=JD21	0.467	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	43.0	=JD21	0.467	UGG
						03SS1202YD	0.500	44.0	=JD21	0.467	UGG
			MERCURY	03-SA-02	08/12/1991	03SA0201Y	1.000	0.07	=Y9	0.05	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	3.2	=Y9	0.05	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	10.0	=Y9	0.05	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.089	=Y9	0.05	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	0.1	=Y9	0.05	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	0.106	=Y9	0.05	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	0.055	=Y9	0.05	UGG
						03SS1202YD	0.500	0.055	=Y9	0.05	UGG
			NICKEL	03-SA-02	08/12/1991	03SA0201Y	1.000	27.8	=JS12	2.74	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	27.8	=JS12	2.74	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	16.1	=JS12	2.74	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	5.88	=JS12	2.74	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	7.79	=JS12	2.74	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	14.1	=JS12	2.74	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	193.0	=JS12	2.74	UGG

Table 3-5

IAAP-03 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SS-10	08/12/1991	03SS1001Y	0.500	20.0	=JS12	2.74	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	26.7	=JS12	2.74	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	19.5	=JS12	2.74	UGG
						03SS1202YD	0.500	22.1	=JS12	2.74	UGG
			SELENIUM	03-SA-02	08/12/1991	03SA0201Y	1.000	0.647	=JD20	0.449	UGG
			SILVER	03-SS-01	08/12/1991	03SS0101Y	0.500	0.969	=JS12	0.803	UGG
			THALLIUM	03-SS-01	08/12/1991	03SS0101Y	0.500	67.3	=JS12	34.3	UGG
			ZINC	03-SA-02	08/12/1991	03SA0201Y	1.000	239.0	=JS12	2.34	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	1,100.0	=JS12	2.34	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	141.0	=JS12	2.34	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	34.7	=JS12	2.34	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	24.3	=JS12	2.34	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	81.5	=JS12	2.34	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	5,600.0	=JS12	2.34	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	229.0	=JS12	2.34	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	865.0	=JS12	2.34	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	106.0	=JS12	2.34	UGG
						03SS1202YD	0.500	94.9	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-TR	03-SS-10	08/12/1991	03SS1001YU	0.500	0.1	>LH17	0.0034	UGG
			ALDRIN	03-SS-10	08/12/1991	03SS1001YU	0.500	0.008	=LH17	0.0014	UGG
			DIELDRIN	03-SS-10	08/12/1991	03SS1001YC	0.500	0.013	=LH17	0.0016	UGG
			ENDRIN	03-SS-10	08/12/1991	03SS1001YU	0.500	0.013	=LH17	0.0065	UGG
			LINDANE	03-SS-10	08/12/1991	03SS1001YU	0.500	0.001	=LH17	0.001	UGG
		RADIONUCLIDES	ALPHA GROSS	03-SS-10	08/12/1991	03SS1001N	0.500	2.1	=00	0.0	PCG
			BISMUTH 214	03-SS-10	08/12/1991	03SS1001N	0.500	1.51	=99	0.0	PCG
			CESIUM 137	03-SS-10	08/12/1991	03SS1001N	0.500	0.35	=99	0.0	PCG
			GROSS BETA	03-SS-10	08/12/1991	03SS1001N	0.500	13.2	=00	0.0	PCG
			LEAD 212	03-SS-10	08/12/1991	03SS1001N	0.500	0.58	=99	0.0	PCG
			LEAD 214	03-SS-10	08/12/1991	03SS1001N	0.500	0.6	=99	0.0	PCG
			RADIUM 226	03-SS-10	08/12/1991	03SS1001N	0.500	0.76	=99	0.0	PCG
			THALLIUM 208	03-SS-10	08/12/1991	03SS1001N	0.500	0.73	=99	0.0	PCG
		SEMIVOLATILES	2-METHYLNAPHTHALENE	03-SA-09	08/13/1991	03SA0902Y	1.800	0.472	=LM25	0.032	UGG
			ACENAPHTHENE	03-SA-09	08/13/1991	03SA0901Y	1.000	0.315	=LM25	0.041	UGG
						03SA0902Y	1.800	5.09	=LM25	0.041	UGG
			ACENAPHTHYLENE	03-SA-09	08/13/1991	03SA0902Y	1.800	0.12	=LM25	0.033	UGG
			ANTHRACENE	03-SA-09	08/13/1991	03SA0902Y	1.800	11.0	=LM25	0.71	UGG
			BENZO(A)ANTHRACENE	03-SA-09	08/13/1991	03SA0901Y	1.000	2.54	=LM25	0.48	UGG
						03SA0902Y	1.800	12.0	>LM25	0.48	UGG
			BENZO(A)PYRENE	03-SA-09	08/13/1991	03SA0901Y	1.000	2.64	=LM25	1.2	UGG
						03SA0902Y	1.800	6.2	>LM25	1.2	UGG
			BENZO(B)FLUORANTHENE	03-SA-09	08/13/1991	03SA0901Y	1.000	2.76	=LM25	0.31	UGG
						03SA0902Y	1.800	12.0	>LM25	0.31	UGG
			BENZO(G,H,I)PERYLENE	03-SA-09	08/13/1991	03SA0901Y	1.000	2.19	=LM25	0.18	UGG
						03SA0902Y	1.800	21.4	=LM25	0.18	UGG
			BENZO(K)FLUORANTHENE	03-SA-09	08/13/1991	03SA0901Y	1.000	2.3	=LM25	0.13	UGG
						03SA0902Y	1.800	20.5	=LM25	0.13	UGG
			BIS (2-ETHYLHEXYL) PHTHALATE	03-SA-09	08/13/1991	03SA0902Y	1.800	1.12	=LM25	0.48	UGG
			CHRYSENE	03-SA-09	08/13/1991	03SA0901Y	1.000	3.02	=LM25	0.032	UGG
						03SA0902Y	1.800	12.0	>LM25	0.032	UGG
			DI-N-BUTYL PHTHALATE	03-SA-02	08/12/1991	03SA0201Y	1.000	3.28	=LM25	1.3	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	2.34	=LM25	1.3	UGG

Table 3-5

IAAP-03 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SA-04	08/12/1991	03SA0401Y	2.000	1.91	=LM25	1.3	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	3.85	=LM25	1.3	UGG
						03SA0902Y	1.800	4.31	=LM25	1.3	UGG
			DIBENZ(A,H)ANTHRACENE	03-SA-09	08/13/1991	03SA0902Y	1.800	3.82	=LM25	0.31	UGG
			DIBENZOFURAN	03-SA-09	08/13/1991	03SA0902Y	1.800	2.05	=LM25	0.038	UGG
			FLUORANTHENE	03-SA-09	08/13/1991	03SA0901Y	1.000	3.92	=LM25	0.032	UGG
						03SA0902Y	1.800	6.2	>LM25	0.032	UGG
			FLUORENE	03-SA-09	08/13/1991	03SA0901Y	1.000	0.406	=LM25	0.065	UGG
						03SA0902Y	1.800	6.34	=LM25	0.065	UGG
			INDENO(1,2,3-C,D)PYRENE	03-SA-09	08/13/1991	03SA0902Y	1.800	12.5	=LM25	2.4	UGG
			NAPHTHALENE	03-SA-09	08/13/1991	03SA0902Y	1.800	2.57	=LM25	0.74	UGG
			PHENANTHRENE	03-SA-09	08/13/1991	03SA0901Y	1.000	5.7	=LM25	0.032	UGG
						03SA0902Y	1.800	12.0	>LM25	0.032	UGG
			PYRENE	03-SA-09	08/13/1991	03SA0901Y	1.000	5.96	=LM25	0.083	UGG
						03SA0902Y	1.800	6.2	>LM25	0.083	UGG
	SW	EXPLOSIVES	HMX	03-SW-07	08/14/1991	03SW0701Y	0.000	4.0	=UW01	1.3	UGL
			RDX	03-SW-07	08/14/1991	03SW0701Y	0.000	15.0	=UW01	0.63	UGL
			TETRYL	03-SW-07	08/14/1991	03SW0701Y	0.000	5.7	=UW01	0.66	UGL
		METALS	ARSENIC	03-SW-07	08/14/1991	03SW0701Y	0.000	4.19	=AX8	2.35	UGL
			BARIUM	03-SW-07	08/14/1991	03SW0701Y	0.000	73.7	=SS12	2.82	UGL
			ZINC	03-SW-07	08/14/1991	03SW0701Y	0.000	176.0	=SS12	18.0	UGL
		VOLATILES	CHLOROMETHANE	03-SW-07	08/14/1991	03SW0701Y	0.000	3.07	=UM21	1.2	UGL

Table 3-5a

IAAP-03 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP03	SD	METALS	CHROMIUM	03-SD-07	08/13/1991	03SD0701Y	0.500	33.4	=JS12	1.04	UGG
			COPPER	03-SD-07	08/13/1991	03SD0701Y	0.500	53.1	=JS12	2.84	UGG
			ZINC	03-SD-07	08/13/1991	03SD0701Y	0.500	113.0	=JS12	2.34	UGG
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	03-SA-09	08/13/1991	03SA0901Y	1.000	4.6	=LW02	2.09	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	1.9	=LW02	2.09	UGG
			2,4,6-TNT	03-SA-09	08/13/1991	03SA0901Y	1.000	76.0	=LW02	1.92	UGG
						03SA0902Y	1.800	3.4	=LW02	1.92	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	2,600.0	=LW02	1.92	UGG
			2,4-DINITROTOLUENE	03-SS-11	08/12/1991	03SS1101Y	0.500	0.57	=LW02	0.42	UGG
			2,6-DINITROTOLUENE	03-SS-11	08/12/1991	03SS1101Y	0.500	3.3	=LW02	0.4	UGG
			HMX	03-SA-08	08/13/1991	03SA0801Y	1.000	21.0	=LW02	1.27	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	8.0	=LW02	1.27	UGG
						03SA0902YP	1.800	0.88	=LW02	1.27	UGG
			NITROBENZENE	03-SS-11	08/12/1991	03SS1101Y	0.500	0.46	=LW02	0.42	UGG
			RDX	03-SA-08	08/13/1991	03SA0801Y	1.000	58.0	=LW02	0.98	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	3.1	=LW02	0.98	UGG
						03SA0902YP	1.800	0.81	=LW02	0.98	UGG
				03-SS-11	08/12/1991	03SS1101YP	0.500	0.49	=LW02	0.98	UGG
		METALS	ARSENIC	03-SA-08	08/13/1991	03SA0801Y	1.000	12.7	=B9	2.5	UGG
			BERYLLIUM	03-SA-02	08/12/1991	03SA0201Y	1.000	1.15	=JS12	0.427	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	2.51	=JS12	0.427	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	1.86	=JS12	0.427	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	2.84	=JS12	0.427	UGG
			CADMIUM	03-SS-11	08/12/1991	03SS1101Y	0.500	7.46	=JS12	1.2	UGG
			CHROMIUM	03-SA-02	08/12/1991	03SA0201Y	1.000	36.2	=JS12	1.04	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	64.4	=JS12	1.04	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	34.2	=JS12	1.04	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	244.0	=JS12	1.04	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	38.7	=JS12	1.04	UGG
			COPPER	03-SA-02	08/12/1991	03SA0201Y	1.000	118.0	=JS12	2.84	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	2,000.0	=JS12	2.84	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	381.0	=JS12	2.84	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	35.1	=JS12	2.84	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	12,000.0	=JS12	2.84	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	30.6	=JS12	2.84	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	117.0	=JS12	2.84	UGG
			LEAD	03-SA-09	08/13/1991	03SA0902Y	1.800	38.0	=JD21	0.467	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	52.0	=JD21	0.467	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	90.0	=JD21	0.467	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	180.0	=JD21	0.467	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	43.0	=JD21	0.467	UGG
						03SS1202YD	0.500	44.0	=JD21	0.467	UGG
			MERCURY	03-SA-03	08/13/1991	03SA0301Y	4.000	3.2	=Y9	0.05	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	10.0	=Y9	0.05	UGG
			NICKEL	03-SS-01	08/12/1991	03SS0101Y	0.500	193.0	=JS12	2.74	UGG
			SELENIUM	03-SA-02	08/12/1991	03SA0201Y	1.000	0.647	=JD20	0.449	UGG
			SILVER	03-SS-01	08/12/1991	03SS0101Y	0.500	0.969	=JS12	0.803	UGG
			THALLIUM	03-SS-01	08/12/1991	03SS0101Y	0.500	67.3	=JS12	34.3	UGG
			ZINC	03-SA-02	08/12/1991	03SA0201Y	1.000	239.0	=JS12	2.34	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	1,100.0	=JS12	2.34	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	141.0	=JS12	2.34	UGG

Table 3-5a

IAAP-03 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SS-01	08/12/1991	03SS0101Y	0.500	5,600.0	=JS12	2.34	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	229.0	=JS12	2.34	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	865.0	=JS12	2.34	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	106.0	=JS12	2.34	UGG
						03SS1202YD	0.500	94.9	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-TR	03-SS-10	08/12/1991	03SS1001YU	0.500	0.1	>LH17	0.0034	UGG
			ALDRIN	03-SS-10	08/12/1991	03SS1001YU	0.500	0.008	=LH17	0.0014	UGG
			DIELDRIN	03-SS-10	08/12/1991	03SS1001YC	0.500	0.013	=LH17	0.0016	UGG
			ENDRIN	03-SS-10	08/12/1991	03SS1001YU	0.500	0.013	=LH17	0.0065	UGG
			LINDANE	03-SS-10	08/12/1991	03SS1001YU	0.500	0.001	=LH17	0.001	UGG
		RADIONUCLIDES	CESIUM 137	03-SS-10	08/12/1991	03SS1001N	0.500	0.35	=99	0.0	PCG
			GROSS BETA	03-SS-10	08/12/1991	03SS1001N	0.500	13.2	=00	0.0	PCG
		SEMIVOLATILES	2-METHYLNAPHTHALENE	03-SA-09	08/13/1991	03SA0902Y	1.800	0.472	=LM25	0.032	UGG
			ACENAPHTHENE	03-SA-09	08/13/1991	03SA0901Y	1.000	0.315	=LM25	0.041	UGG
						03SA0902Y	1.800	5.09	=LM25	0.041	UGG
			ACENAPHTHYLENE	03-SA-09	08/13/1991	03SA0902Y	1.800	0.12	=LM25	0.033	UGG
			ANTHRACENE	03-SA-09	08/13/1991	03SA0902Y	1.800	11.0	=LM25	0.71	UGG
			BENZO(A)ANTHRACENE	03-SA-09	08/13/1991	03SA0901Y	1.000	2.54	=LM25	0.48	UGG
						03SA0902Y	1.800	12.0	>LM25	0.48	UGG
			BENZO(A)PYRENE	03-SA-09	08/13/1991	03SA0901Y	1.000	2.64	=LM25	1.2	UGG
						03SA0902Y	1.800	6.2	>LM25	1.2	UGG
			BENZO(B)FLUORANTHENE	03-SA-09	08/13/1991	03SA0901Y	1.000	2.76	=LM25	0.31	UGG
						03SA0902Y	1.800	12.0	>LM25	0.31	UGG
			BENZO(G,H,I)PERYLENE	03-SA-09	08/13/1991	03SA0901Y	1.000	2.19	=LM25	0.18	UGG
						03SA0902Y	1.800	21.4	=LM25	0.18	UGG
			BENZO(K)FLUORANTHENE	03-SA-09	08/13/1991	03SA0901Y	1.000	2.3	=LM25	0.13	UGG
						03SA0902Y	1.800	20.5	=LM25	0.13	UGG
			BIS (2-ETHYLHEXYL) PHTHALATE	03-SA-09	08/13/1991	03SA0902Y	1.800	1.12	=LM25	0.48	UGG
			CHRYSENE	03-SA-09	08/13/1991	03SA0901Y	1.000	3.02	=LM25	0.032	UGG
						03SA0902Y	1.800	12.0	>LM25	0.032	UGG
			DI-N-BUTYL PHTHALATE	03-SA-02	08/12/1991	03SA0201Y	1.000	3.28	=LM25	1.3	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	2.34	=LM25	1.3	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	1.91	=LM25	1.3	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	3.85	=LM25	1.3	UGG
						03SA0902Y	1.800	4.31	=LM25	1.3	UGG
			DIBENZ(A,H)ANTHRACENE	03-SA-09	08/13/1991	03SA0902Y	1.800	3.82	=LM25	0.31	UGG
			DIBENZOFURAN	03-SA-09	08/13/1991	03SA0902Y	1.800	2.05	=LM25	0.038	UGG
			FLUORANTHENE	03-SA-09	08/13/1991	03SA0901Y	1.000	3.92	=LM25	0.032	UGG
						03SA0902Y	1.800	6.2	>LM25	0.032	UGG
			FLUORENE	03-SA-09	08/13/1991	03SA0901Y	1.000	0.406	=LM25	0.065	UGG
						03SA0902Y	1.800	6.34	=LM25	0.065	UGG
			INDENO(1,2,3-C,D)PYRENE	03-SA-09	08/13/1991	03SA0902Y	1.800	12.5	=LM25	2.4	UGG
			NAPHTHALENE	03-SA-09	08/13/1991	03SA0902Y	1.800	2.57	=LM25	0.74	UGG
			PHENANTHRENE	03-SA-09	08/13/1991	03SA0901Y	1.000	5.7	=LM25	0.032	UGG
						03SA0902Y	1.800	12.0	>LM25	0.032	UGG
			PYRENE	03-SA-09	08/13/1991	03SA0901Y	1.000	5.96	=LM25	0.083	UGG
						03SA0902Y	1.800	6.2	>LM25	0.083	UGG
	SW	EXPLOSIVES	HMX	03-SW-07	08/14/1991	03SW0701Y	0.000	4.0	=UW01	1.3	UGL
			RDX	03-SW-07	08/14/1991	03SW0701Y	0.000	15.0	=UW01	0.63	UGL
			TETRYL	03-SW-07	08/14/1991	03SW0701Y	0.000	5.7	=UW01	0.66	UGL
		VOLATILES	CHLOROMETHANE	03-SW-07	08/14/1991	03SW0701Y	0.000	3.07	=UM21	1.2	UGL

3.6 IAAP-4 (LINE 3A)

3.6.1 Site Description and History

Line 3A is located in western IAAP, west of the Firing Site Area and northwest of the Demolition Area (Plate 1; C-8). Line 3A was constructed in 1941 and began operation in 1943; the line was shut down from 1945 to 1949 then resumed operation until 1989. This line is inactive. Line 3A encompasses approximately 119 acres and is surrounded by a security fence (Figure 3-4).

Artillery was loaded, assembled, and packed at this production line. Explosives were shipped into the plant, melted and packed into 155 mm artillery rounds. Final assembly of the finished munitions was conducted, then the completed product was either stored or shipped off-site.

The melt buildings appear to be the areas where the highest volume of wastes were produced; the floors of the buildings were routinely washed down and the explosives-contaminated wastewater was discharged directly into the ground surface. Other wastes that may have been produced at Line 3A include solvents and inorganics.

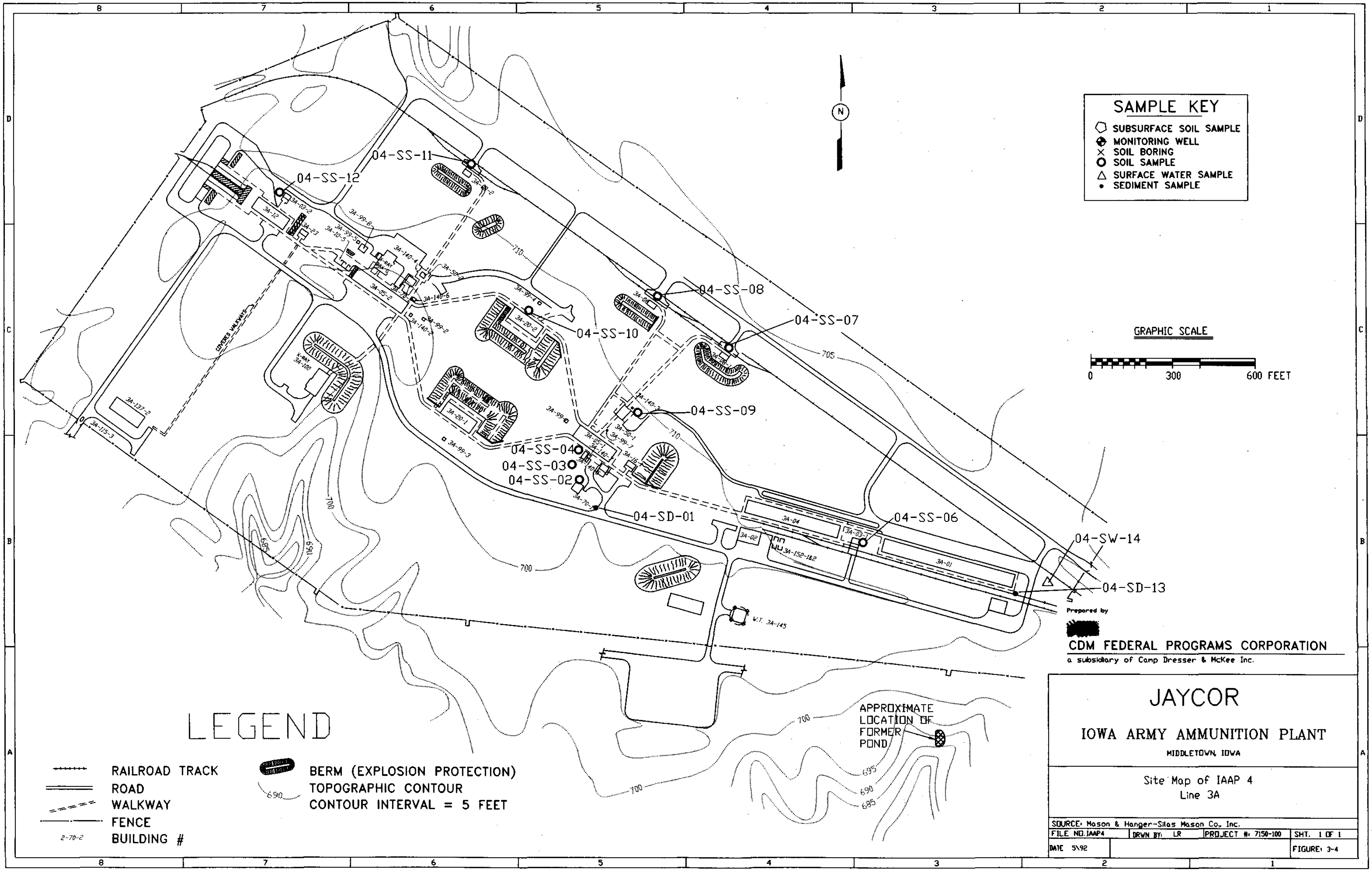
Line 3A includes a capped, closed pond, formerly used for disposal by both Line 3A and Line 3. The Line 3A pond received sludge from a metals cleaning bath, which was part of a discrete system entirely enclosed within a building at Line 3A. Metals cleaning operations were also conducted at Line 3, from 1977 until approximately 1985. The process at Line 3 included several stainless steel dip tanks where ammunition casings were immersed in a sulfuric acid/hydrochloric acid bath, followed by a chromic acid bath and water rinsing. Sludge that accumulated in the bottom of the sulfuric acid tank was removed, treated with sodium hydroxide, and disposed of in the Line 3A pond.

The surface elevation at Line 3A is approximately 702 feet above mean sea level (msl) (Dames & Moore 1979). The soils in the area consist of three feet of moist, stiff, lean clay. Below these clay layers are approximately 2 feet of moist, stiff, fat clay, followed by various clay strata. Line 3A sits on a topographic high, with the surrounding ground gently sloping away on all sides. Intermittent streams flow from Line 3A toward the Skunk River to the southwest, and to Long Creek to the northeast. Long Creek then flows into the northwest end of Mathes Lake.

Surface water runoff and soil are the primary migration pathways of concern. Surface topography directs runoff toward both Long Creek and the Skunk River. Crops and hay are grown in leased fields to the north and to the southwest of Line 3A. These fields could potentially be contaminated by surface runoff, as well as groundwater. Animals eating the crops and hay are potential receptors, as are workers planting, maintaining, and harvesting the crops. Consumption of deer and other wild game affected by contamination may provide a vehicle for food chain uptake to human receptors.

3.6.2 Summary of Previous Investigations

The only environmental investigation at this site was the 1991 SI. SI samples are summarized below and sample locations are depicted on Figure 3-4. Table 3-6 summarizes the SI sample results reported above CRLs; Table 3-6a reports those results above the evaluation criteria. A summary report of all analytical results associated with the SI of this site is included in Appendix B.


SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0
300
600 FEET
04-SS-11
04-SS-12
04-SS-08
04-SS-07
04-SS-10
04-SS-09
04-SS-04
04-SS-03
04-SS-02
04-SD-01
04-SS-06
04-SW-14
04-SD-13
COVERED WALKWAYS
V.T. 3A-145
APPROXIMATE LOCATION OF FORMER POND
LEGEND
RAILROAD TRACK
ROAD
WALKWAY
FENCE
2-70-2 BUILDING #
BERM (EXPLOSION PROTECTION)
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 4
Line 3A
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP4
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5\92
FIGURE: 3-4

Sample	Analyses	Sample Type	Depth	Location
04-SD-01-01	Metals Explosives	G	0-6"	In ditch on north side of road 5 feet from mouth of culvert. (No corresponding SW sample).
04-SS-02-01	Metals Explosives	G	0-6"	Underneath the above-ground tank north of Building 3A-70-1.
04-SS-03-01	Metals Pesticides/PCBs	C	0-6"	Inside fenced transformer area approximately 30 feet north of Building 3A-70-1. Four aliquots from the four sides that surround the two concrete transformer pads inside the fence line.
04-SS-03-02	Metals Pesticides/PCBs	C	0-6"	Duplicate of 03-01.
04-SS-04-01	Metals Explosives	C	0-6"	Northwest of Building 3A-70-1, 10 feet from southwest corner of Melt Building. Three aliquots: against building near door, 10 feet east of door, and 10 feet south of door at downspout beneath excavation slide.
04-SS-06-01	VOCs SemiVOCs	G	0-6"	Under southeast corner of solvent storage building Dock 3A-03.
04-SS-07-01	Metals Explosives	C	0-6"	In ditch under northwest corner of explosive storage Dock 3A-08. Three aliquots, one in front of each door.
04-SS-08-01	Metals Explosives	C	0-6"	In ditch between walkway of the explosive storage Dock 3A-06 and railroad tracks. Two aliquots, one in front of each door.
04-SS-09-01	Metals Explosives	C	0-6"	Approximately 25 feet north of doors to sump Building 3A-140-3. Four aliquots from stained areas outside of doors.
04-SS-10-01	Metals Explosives	G	0-6"	Approximately five feet north of Building 3A-20-2 (Bay B section).
04-SS-11-01	Metals Explosives	C	0-6"	In gravel ditch at northwest corner of explosive storage Dock 3A-08-02. Three aliquots, one in front of each door.
04-SS-12-01	VOCs SemiVOCs	G	0-6"	In depression 6 feet north of door to solvent storage Building 3A-03-02.
04-SD-13-01	Metals Explosives VOCs	G	0-6"	Drainage grate pipe near southwest corner of Building 3A-01 (possible infiltration contamination).
04-SW-14-01	Explosives	G	N/A	Grab from water standing in unidentified structure (possible old sump) off northeast corner of Building 3 A-01.
04-EB-15-01	Metals Explosives VOCs SemiVOCs Pesticides/PCBs	G	N/A	Equipment blank.

3.6.3 Evaluation of Site

Of the 14 samples collected, 9 of the 11 soil samples, both sediment samples, and the surface water sample were determined to be contaminated. The surface water was found to contain explosives, the sediments contained explosives and metals, and the soils contained explosives, metals, pesticides and semivolatiles.

Sample 04-SD-01-01 was collected from a dry drainage ditch and contained elevated levels of the metals beryllium (1.72 mg/kg), copper (96 mg/kg), chromium (71.4 mg/kg), lead (34 mg/kg), selenium (0.588 mg/kg), silver (2.12 mg/kg) and zinc (185 mg/kg), and the explosives RDX (120 mg/kg), HMX (71 mg/kg), 1,2,5-TNB (2.9 mg/kg), and 1,3-DNB (0.8 mg/kg), qualified as "P", for being measured below the CRL).

Soil sample 04-SS-02-01 was collected from beneath an above ground storage tank and contained detectable levels of the explosives HMX (0.87 mg/kg) and RDX (0.65 mg/kg). Both of these measurements were qualified at the laboratory ("P") as being detectable and less than the CRL. Because explosives were detected, and because the location of this sample is in the vicinity of a very contaminated sample (04-SS-04-01), the data are considered significant for including the area in the RI.

Soil sample 04-SS-03-01 was collected as four aliquots around a transformer pad, and found to contain elevated levels of beryllium (1.89 mg/kg), cadmium (8.42 mg/kg), copper (133 mg/kg), zinc (332 mg/kg) and the pesticide 2,2-bis (p-chlorophenyl)-1,1,1-trichloroethane (0.010 mg/kg). No PCBs were found.

Soil sample 04-SS-04-01 was one of the more contaminated samples collected at the site. It was collected by a major building, near a worker walkway. The sample contained elevated levels of the metals cadmium (1.71 mg/kg), copper (38.2 mg/kg), chromium (71.4 mg/kg), lead (240 mg/kg), mercury (0.533 mg/kg) and zinc (186 mg/kg), and the explosives 2,4,6-TNT (910 mg/kg), HMX (650 mg/kg), RDX (210 mg/kg), 2,4-DNT (0.95 mg/kg), and 1,3,5-TNB (0.59 mg/kg).

Soil sample 04-SS-06-01 was collected from under the southeast corner of solvent storage building Dock 3A-03. The sample did not contain significant levels of either volatiles or semivolatiles.

Sample 04-SS-07-01 contained elevated levels of the metals copper (67.8 mg/kg), lead (44 mg/kg) and zinc (128 mg/kg), and the explosives RDX (92 mg/kg), HMX (14 mg/kg), and nitrobenzene (0.68 mg/kg).

Sample 04-SS-08-01 exhibited elevated levels of the metals beryllium (1.99 mg/kg), cadmium (1.81 mg/kg), copper (35.7 mg/kg), lead (400 mg/kg) and zinc (250 mg/kg) and the explosive RDX (.510, qualified as "P", for being measured below the CRL).

Soil sample 04-SS-09-01 was collected in a drainage ditch, and was found to be contaminated with beryllium (1.94 mg/kg) and lead (28 mg/kg), and the following explosives: 2,4,6-TNT (6600 mg/kg), 2,4-DNT (6.9 mg/kg), 1,3,5-TNB (5.1 mg/kg), RDX (1.3 mg/kg), and 1,3-DNB (0.33, qualified as "P", for being measured below the CRL).

Soil sample 04-SS-10-01 was collected from area outside a truck loading area, and was found to be contaminated with chromium (34.3 mg/kg) and lead (49 mg/kg), and the explosives 2,4,6-TNT (22 mg/kg), RDX (16 mg/kg), and HMX (2.0 mg/kg).

Sample 04-SS-11-01 contained elevated levels of beryllium (2.27 mg/kg), copper (32 mg/kg) and lead (280 mg/kg), and the explosives RDX (97 mg/kg) and HMX (52 mg/kg).

Soil sample 04-SS-12-01 was collected from an area six feet west of building 3A-03-02 and believed to have been contaminated with organics. The sampled was found to be free of volatile contamination, and free of semivolatile contamination with the exception of bis (2-ethylhexyl) phthalate (6.2 mg/kg).

Sediment sample 04-SD-13-01 was collected from soils at the mouth of a metal grate leading to a storm sewer and contained elevated levels of the metals lead (380 mg/kg), copper (93.2 mg/kg), silver (1.05 mg/kg) and zinc (285 mg/kg).

Sample 04-SW-14-01 was collected from water located in a covered, man-made container, assumed to be a sump. The sump had metal doors as a cover and concrete walls. The depth to the water was about eight feet. The sample showed elevated levels of the explosives 2,4-DNT (0.78 μg/L) and 2,6-DNT (1.1 μg/L).

The equipment blank sample, 04-EB-15-01, was collected at the end of the sampling exercise at this site. A stainless steel spoon used during the sampling was decontaminated using the standard procedures. Distilled water was then poured over the spoon and collected in sample containers. The sample contained detectable levels of the explosives 2,6-DNT (1.3 μg/L) and 2,4,6-TNT (0.9 μg/L).

Based on the analytical results, it is recommended that this site be included in the RI.

Table 3-6

IAAP-04 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP04	SD	EXPLOSIVES	1,3,5-TRINITROBENZENE	04-SD-01	08/06/1991	04SD0101Y	0.500	2.9	=LW02	2.09	UGG
			1,3-DINITROBENZENE	04-SD-01	08/06/1991	04SD0101YP	0.500	0.8	=LW02	0.59	UGG
			HMX	04-SD-01	08/06/1991	04SD0101Y	0.500	71.0	=LW02	1.27	UGG
			RDX	04-SD-01	08/06/1991	04SD0101Y	0.500	120.0	=LW02	0.98	UGG
		METALS	ARSENIC	04-SD-01	08/06/1991	04SD0101Y	0.500	6.39	=B9	2.5	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	6.58	=B9	2.5	UGG
			BARIUM	04-SD-01	08/06/1991	04SD0101Y	0.500	211.0	=JS12	3.29	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	165.0	=JS12	3.29	UGG
			BERYLLIUM	04-SD-13	08/06/1991	04SD1301Y	0.500	1.03	=JS12	0.427	UGG
			CHROMIUM	04-SD-01	08/06/1991	04SD0101Y	0.500	71.4	=JS12	1.04	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	49.9	=JS12	1.04	UGG
			COPPER	04-SD-01	08/06/1991	04SD0101Y	0.500	96.0	=JS12	2.84	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	93.2	=JS12	2.84	UGG
			LEAD	04-SD-01	08/06/1991	04SD0101Y	0.500	34.0	=JD21	0.467	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	380.0	=JD21	0.467	UGG
			MERCURY	04-SD-01	08/06/1991	04SD0101Y	0.500	0.699	=Y9	0.05	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	0.129	=Y9	0.05	UGG
			NICKEL	04-SD-01	08/06/1991	04SD0101Y	0.500	18.1	=JS12	2.74	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	23.7	=JS12	2.74	UGG
			SELENIUM	04-SD-01	08/06/1991	04SD0101Y	0.500	0.588	=JD20	0.449	UGG
			SILVER	04-SD-01	08/06/1991	04SD0101Y	0.500	2.12	=JS12	0.803	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	1.05	=JS12	0.803	UGG
			ZINC	04-SD-01	08/06/1991	04SD0101Y	0.500	185.0	=JS12	2.34	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	285.0	=JS12	2.34	UGG
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	04-SS-04	08/06/1991	04SS0401YP	0.500	0.59	=LW02	2.09	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	5.1	=LW02	2.09	UGG
			1,3-DINITROBENZENE	04-SS-09	08/07/1991	04SS0901YP	0.500	0.33	=LW02	0.59	UGG
			2,4,6-TNT	04-SS-04	08/06/1991	04SS0401Y	0.500	910.0	=LW02	1.92	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	6,600.0	=LW02	1.92	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	22.0	=LW02	1.92	UGG
			2,4-DINITROTOLUENE	04-SS-04	08/06/1991	04SS0401Y	0.500	0.95	=LW02	0.42	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	6.9	=LW02	0.42	UGG
			HMX	04-SS-02	08/06/1991	04SS0201YP	0.500	0.87	=LW02	1.27	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	650.0	=LW02	1.27	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	14.0	=LW02	1.27	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	2.0	=LW02	1.27	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	52.0	=LW02	1.27	UGG
			NITROBENZENE	04-SS-07	08/06/1991	04SS0701Y	0.500	0.68	=LW02	0.42	UGG
			RDX	04-SS-02	08/06/1991	04SS0201YP	0.500	0.65	=LW02	0.98	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	210.0	=LW02	0.98	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	92.0	=LW02	0.98	UGG
				04-SS-08	08/06/1991	04SS0801YP	0.500	0.51	=LW02	0.98	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	1.3	=LW02	0.98	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	16.0	=LW02	0.98	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	97.0	=LW02	0.98	UGG
		METALS	ARSENIC	04-SS-02	08/06/1991	04SS0201Y	0.500	7.15	=B9	2.5	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	3.7	=B9	2.5	UGG
						04SS0302YD	0.500	3.24	=B9	2.5	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	4.97	=B9	2.5	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	7.54	=B9	2.5	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	4.35	=B9	2.5	UGG

Table 3-6

IAAP-04 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				04-SS-10	08/07/1991	04SS1001Y	0.500	5.39	=B9	2.5	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	5.4	=B9	2.5	UGG
			BARIUM	04-SS-02	08/06/1991	04SS0201Y	0.500	269.0	=JS12	3.29	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	71.3	=JS12	3.29	UGG
						04SS0302YD	0.500	15.7	=JS12	3.29	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	19.8	=JS12	3.29	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	229.0	=JS12	3.29	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	89.8	=JS12	3.29	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	71.2	=JS12	3.29	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	218.0	=JS12	3.29	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	75.6	=JS12	3.29	UGG
			BERYLLIUM	04-SS-02	08/06/1991	04SS0201Y	0.500	0.667	=JS12	0.427	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	1.89	=JS12	0.427	UGG
						04SS0302YD	0.500	1.62	=JS12	0.427	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	1.72	=JS12	0.427	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	0.91	=JS12	0.427	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	1.99	=JS12	0.427	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	1.94	=JS12	0.427	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	1.0	=JS12	0.427	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	2.27	=JS12	0.427	UGG
			CADMIUM	04-SS-03	08/06/1991	04SS0301Y	0.500	8.42	=JS12	1.2	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	1.71	=JS12	1.2	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	1.81	=JS12	1.2	UGG
			CHROMIUM	04-SS-02	08/06/1991	04SS0201Y	0.500	17.0	=JS12	1.04	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	21.2	=JS12	1.04	UGG
						04SS0302YD	0.500	11.7	=JS12	1.04	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	71.4	=JS12	1.04	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	23.1	=JS12	1.04	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	23.7	=JS12	1.04	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	16.2	=JS12	1.04	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	34.3	=JS12	1.04	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	26.0	=JS12	1.04	UGG
			COPPER	04-SS-02	08/06/1991	04SS0201Y	0.500	12.3	=JS12	2.84	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	133.0	=JS12	2.84	UGG
						04SS0302YD	0.500	33.4	=JS12	2.84	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	38.2	=JS12	2.84	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	67.8	=JS12	2.84	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	35.7	=JS12	2.84	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	9.39	=JS12	2.84	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	19.2	=JS12	2.84	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	32.0	=JS12	2.84	UGG
			LEAD	04-SS-02	08/06/1991	04SS0201Y	0.500	25.0	=JD21	0.467	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	15.0	=JD21	0.467	UGG
						04SS0302YD	0.500	18.0	=JD21	0.467	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	240.0	=JD21	0.467	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	44.0	=JD21	0.467	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	400.0	=JD21	0.467	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	28.0	=JD21	0.467	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	49.0	=JD21	0.467	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	280.0	=JD21	0.467	UGG
			MERCURY	04-SS-02	08/06/1991	04SS0201Y	0.500	0.057	=Y9	0.05	UGG

Table 3-6

IAAP-04 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				04-SS-04	08/06/1991	04SS0401Y	0.500	0.553	=Y9	0.05	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	0.139	=Y9	0.05	UGG
			NICKEL	04-SS-02	08/06/1991	04SS0201Y	0.500	15.1	=JS12	2.74	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	19.0	=JS12	2.74	UGG
						04SS0302YD	0.500	20.2	=JS12	2.74	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	6.88	=JS12	2.74	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	16.9	=JS12	2.74	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	16.8	=JS12	2.74	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	14.9	=JS12	2.74	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	19.7	=JS12	2.74	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	18.0	=JS12	2.74	UGG
			ZINC	04-SS-02	08/06/1991	04SS0201Y	0.500	57.8	=JS12	2.34	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	332.0	=JS12	2.34	UGG
						04SS0302YD	0.500	118.0	=JS12	2.34	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	186.0	=JS12	2.34	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	128.0	=JS12	2.34	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	250.0	=JS12	2.34	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	68.6	=JS12	2.34	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	76.1	=JS12	2.34	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	180.0	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-TR	04-SS-03	08/06/1991	04SS0301YC	0.500	0.01	=LH17	0.0034	UGG
						04SS0302YD	0.500	0.008	=LH17	0.0034	UGG
			BETA-ENDOSULFAN/ENDOSULFAN II	04-SS-03	08/06/1991	04SS0302YU	0.500	0.015	=LH17	0.0007	UGG
			DIELDRIN	04-SS-03	08/06/1991	04SS0302YU	0.500	0.104	=LH17	0.0016	UGG
			TOTAL PCBs	04-SS-12	08/07/1991	04SS1201NS	0.500	4.59	=LM25	0.0	UGG
		SEMIVOLATILES	BIS (2-ETHYLHEXYL) PHTHALATE	04-SS-12	08/07/1991	04SS1201Y	0.500	6.2	>LM25	0.48	UGG
	SW	EXPLOSIVES	2,4-DINITROTOLUENE	04-SW-14	08/06/1991	04SW1401Y	0.500	0.78	=UW01	0.6	UGL
			2,6-DINITROTOLUENE	04-SW-14	08/06/1991	04SW1401Y	0.500	1.1	=UW01	0.55	UGL

Table 3-6a

IAAP-04 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP04	SD	EXPLOSIVES	1,3,5-TRINITROBENZENE	04-SD-01	08/06/1991	04SD0101Y	0.500	2.9	=LW02	2.09	UGG
			1,3-DINITROBENZENE	04-SD-01	08/06/1991	04SD0101YP	0.500	0.8	=LW02	0.59	UGG
			HMX	04-SD-01	08/06/1991	04SD0101Y	0.500	71.0	=LW02	1.27	UGG
			RDX	04-SD-01	08/06/1991	04SD0101Y	0.500	120.0	=LW02	0.98	UGG
		METALS	CHROMIUM	04-SD-01	08/06/1991	04SD0101Y	0.500	71.4	=JS12	1.04	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	49.9	=JS12	1.04	UGG
			COPPER	04-SD-01	08/06/1991	04SD0101Y	0.500	96.0	=JS12	2.84	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	93.2	=JS12	2.84	UGG
			LEAD	04-SD-01	08/06/1991	04SD0101Y	0.500	34.0	=JD21	0.467	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	380.0	=JD21	0.467	UGG
			MERCURY	04-SD-01	08/06/1991	04SD0101Y	0.500	0.699	=Y9	0.05	UGG
			SELENIUM	04-SD-01	08/06/1991	04SD0101Y	0.500	0.588	=JD20	0.449	UGG
			SILVER	04-SD-01	08/06/1991	04SD0101Y	0.500	2.12	=JS12	0.803	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	1.05	=JS12	0.803	UGG
			ZINC	04-SD-01	08/06/1991	04SD0101Y	0.500	185.0	=JS12	2.34	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	285.0	=JS12	2.34	UGG
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	04-SS-04	08/06/1991	04SS0401YP	0.500	0.59	=LW02	2.09	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	5.1	=LW02	2.09	UGG
			1,3-DINITROBENZENE	04-SS-09	08/07/1991	04SS0901YP	0.500	0.33	=LW02	0.59	UGG
			2,4,6-TNT	04-SS-04	08/06/1991	04SS0401Y	0.500	910.0	=LW02	1.92	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	6,600.0	=LW02	1.92	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	22.0	=LW02	1.92	UGG
			2,4-DINITROTOLUENE	04-SS-04	08/06/1991	04SS0401Y	0.500	0.95	=LW02	0.42	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	6.9	=LW02	0.42	UGG
			HMX	04-SS-02	08/06/1991	04SS0201YP	0.500	0.87	=LW02	1.27	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	650.0	=LW02	1.27	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	14.0	=LW02	1.27	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	2.0	=LW02	1.27	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	52.0	=LW02	1.27	UGG
			NITROBENZENE	04-SS-07	08/06/1991	04SS0701Y	0.500	0.68	=LW02	0.42	UGG
			RDX	04-SS-02	08/06/1991	04SS0201YP	0.500	0.65	=LW02	0.98	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	210.0	=LW02	0.98	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	92.0	=LW02	0.98	UGG
				04-SS-08	08/06/1991	04SS0801YP	0.500	0.51	=LW02	0.98	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	1.3	=LW02	0.98	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	16.0	=LW02	0.98	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	97.0	=LW02	0.98	UGG
		METALS	BERYLLIUM	04-SS-03	08/06/1991	04SS0301Y	0.500	1.89	=JS12	0.427	UGG
						04SS0302YD	0.500	1.62	=JS12	0.427	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	1.72	=JS12	0.427	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	1.99	=JS12	0.427	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	1.94	=JS12	0.427	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	2.27	=JS12	0.427	UGG
			CADMIUM	04-SS-03	08/06/1991	04SS0301Y	0.500	8.42	=JS12	1.2	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	1.71	=JS12	1.2	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	1.81	=JS12	1.2	UGG
			CHROMIUM	04-SS-04	08/06/1991	04SS0401Y	0.500	71.4	=JS12	1.04	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	34.3	=JS12	1.04	UGG
			COPPER	04-SS-03	08/06/1991	04SS0301Y	0.500	133.0	=JS12	2.84	UGG
						04SS0302YD	0.500	33.4	=JS12	2.84	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	38.2	=JS12	2.84	UGG

Table 3-6a

IAAP-04 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				04-SS-07	08/06/1991	04SS0701Y	0.500	67.8	=JS12	2.84	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	35.7	=JS12	2.84	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	32.0	=JS12	2.84	UGG
			LEAD	04-SS-04	08/06/1991	04SS0401Y	0.500	240.0	=JD21	0.467	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	44.0	=JD21	0.467	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	400.0	=JD21	0.467	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	28.0	=JD21	0.467	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	49.0	=JD21	0.467	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	280.0	=JD21	0.467	UGG
			MERCURY	04-SS-04	08/06/1991	04SS0401Y	0.500	0.553	=Y9	0.05	UGG
			ZINC	04-SS-03	08/06/1991	04SS0301Y	0.500	332.0	=JS12	2.34	UGG
						04SS0302YD	0.500	118.0	=JS12	2.34	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	186.0	=JS12	2.34	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	128.0	=JS12	2.34	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	250.0	=JS12	2.34	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	180.0	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-TR	04-SS-03	08/06/1991	04SS0301YC	0.500	0.01	=LH17	0.0034	UGG
						04SS0302YD	0.500	0.008	=LH17	0.0034	UGG
			BETA-ENDOSULFAN/ENDOSULFAN II	04-SS-03	08/06/1991	04SS0302YU	0.500	0.015	=LH17	0.0007	UGG
			DIELDRIN	04-SS-03	08/06/1991	04SS0302YU	0.500	0.104	=LH17	0.0016	UGG
			TOTAL PCBs	04-SS-12	08/07/1991	04SS1201NS	0.500	4.59	=LM25	0.0	UGG
		SEMIVOLATILES	BIS (2-ETHYLHEXYL) PHTHALATE	04-SS-12	08/07/1991	04SS1201Y	0.500	6.2	>LM25	0.48	UGG
	SW	EXPLOSIVES	2,4-DINITROTOLUENE	04-SW-14	08/06/1991	04SW1401Y	0.500	0.78	=UW01	0.6	UGL
			2,6-DINITROTOLUENE	04-SW-14	08/06/1991	04SW1401Y	0.500	1.1	=UW01	0.55	UGL

3.7 IAAP-5 (LINES 4A AND 4B)

3.7.1 Site Description and History

Lines 4A and 4B (IAAP-5) are located in the north-central portion of the plant, between Lines 5A and 5B (IAAP-6) to the north, and Line 6 (IAAP-7) to the south. The lines occupy two separate fenced areas approximately 1000 feet apart. Line 4A encompasses 21 acres and measures approximately 900 by 1000 feet; Line 4B, located to the west of Line 4A, covers 16 acres, measuring 700 by 1000 feet (Plate 1; E-5).

Both Lines 4A and 4B were constructed in 1941 for component assembly. They are discussed separately below.

Line 4A

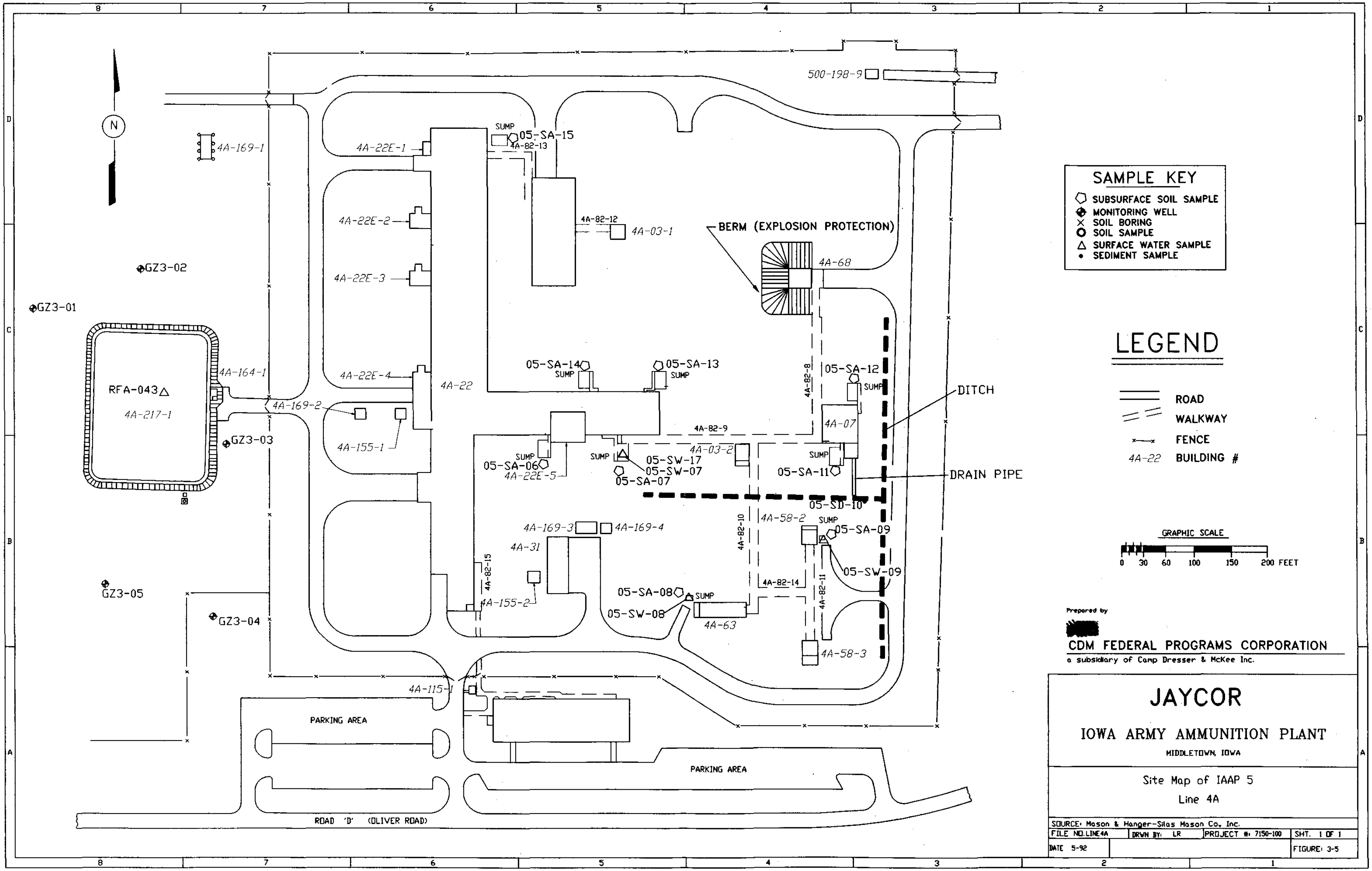
Line 4A produces detonators and was in operation between 1942 and 1945. It reopened in 1982 and was renovated in 1988 to serve as a detonator assembly facility. Line 4A was used for only a short time after renovation in 1988 and is now inactive. There are approximately 12 buildings at Line 4A including an assembly building, mixer buildings, a lead azide magazine, a detonator service magazine, an explosive preparation and storage building and rest and change houses (Figure 3-5). A 1985 report (Mason & Hanger 1985) mentions a receive and wash building, a process building and steam ejectors, although it is not clear from available maps where these are located.

Line 4A generates approximately 5200 gallons of liquid waste per day (Mason & Hanger 1985). Hazardous substances associated with production at Line 4A include: lead azide, RDX, lead styphnate, tetracene, barium nitrate, antimony sulfide, TNT, HMX, and EP Toxic metals, including lead, antimony, barium, and cerium.

According to the RCRA Part B permit application, the proportions of these substances in the wastestream probably vary depending on the product being manufactured. Red phosphorus may also occur in the wastestream (Mason & Hanger 1978). No detailed analysis of the waste material has been conducted at Line 4A.

Wastewater is transferred via steel troughs (316 stainless with a 4-inch radius) to five active treatment sumps (Mason & Hanger). These were included in the RCRA Part B Permit issued by EPA in November 1989. Documents indicate that there are a total of 14 treatment tanks with a combined capacity of 5950 gallons per day; however, only 9 treatment tanks were observed during the SI. All are constructed of 12-gauge stainless reinforced with angle iron. Only one of the tanks (next to building 4A-07) had been retrofitted with a secondary containment structure.

Chemical desensitization of the lead azide occurs periodically in the treatment sumps; acetic acid, sodium sulfate, sodium nitrite and sodium hydroxide are added as part of this process. The tanks presently contain heating coils to promote evaporation; these were added when the line was renovated in 1988. Available file information does not discuss the use of gravel filter beds at Line 4A. A sludge consisting of settled materials accumulates at the bottom of each tank but has never reached quantities requiring removal and disposal. Neither a sample of the sludge nor of the desensitized water from Line 4A has been chemically analyzed. Before these stainless steel treatment sumps were installed, wastewater was treated in concrete pits.


N
4A-169-1
GZ3-02
GZ3-01
RFA-043
4A-217-1
4A-164-1
4A-169-2
GZ3-03
GZ3-05
GZ3-04
4A-22E-1
4A-22E-2
4A-22E-3
4A-22E-4
4A-22
4A-155-1
SUMP
05-SA-15
4A-82-13
4A-82-12
4A-03-1
500-198-9
BERM (EXPLOSION PROTECTION)
4A-68
05-SA-14
05-SA-13
4A-82-8
05-SA-12
4A-07
DITCH
4A-82-9
4A-03-2
05-SA-06
4A-22E-5
05-SW-17
05-SW-07
05-SA-07
05-SA-11
DRAIN PIPE
05-SD-10
4A-169-3
4A-169-4
4A-31
4A-82-15
4A-155-2
4A-82-10
4A-58-2
05-SA-09
05-SW-09
4A-82-14
4A-82-11
05-SA-08
05-SW-08
4A-63
4A-58-3
4A-115-1
PARKING AREA
PARKING AREA
ROAD 'D' (OLIVER ROAD)
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
LEGEND
ROAD
WALKWAY
FENCE
4A-22 BUILDING #
GRAPHIC SCALE
0 30 60 100 150 200 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 5
Line 4A
SOURCE: Mason & Hanger-Silas Mason Co. Inc.
FILE NO. LINE4A
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5-92
FIGURE: 3-5

In September 1981 a spray evaporation pond was built to the west of Line 4A "to accommodate changes to the Line 4A facilities" (Mason & Hanger). Apparently the ponds intended use, which was never realized, was to receive large quantities of desensitized wastewater from the treatment sumps and act as a permanent disposal facility for the resulting sludges following accelerated evaporation. Inflow to the Hypalon-lined pond was to be controlled by a wet well, a pond level sensor and a pump transfer station. For various reasons, including its failure to comply with federal regulations, the spray evaporation pond was never used.

Also present at Line 4A are concrete holding sumps for RDX near Buildings 4A-58-2 and 4A-63. (The specific function of these sumps is not known at this time.) The IAAP NPDES permit (1984) issued by the Iowa Department of Water, Air, and Waste Management (now IDNR) describes carbon filters at one of the mixing buildings (4A-58-2) for the treatment of explosives-contaminated wastewaters prior to their release to the sanitary sewage treatment plant. It is not clear whether these wastewaters are different from those directed to the treatment sumps.

Line 4B

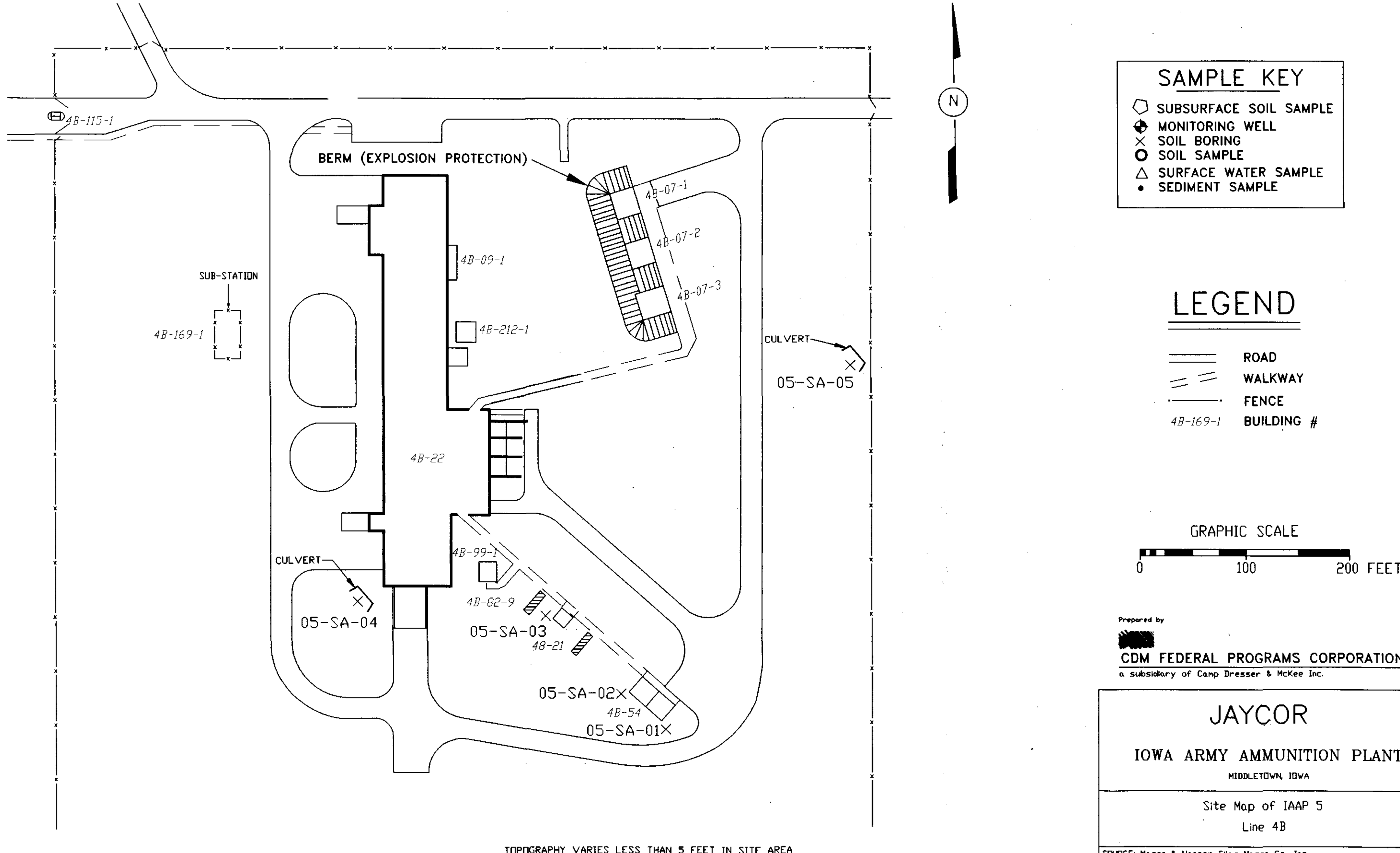
Line 4B is an assembly facility for components manufactured elsewhere (Figure 3-5a). Operations at the line began in 1941 but ceased in 1945 at the end of World War II. Production resumed in 1962. In the late 1960s the line was used for missile assembly. Line 4B is active and is considered to be in marginal use. Waste is generated in small quantities, but is not discharged to sumps.

Line 4B consists of a fuse assembly and equipment building, a detonator service magazine, change houses, and rest houses (Figure 3-5a). Hazardous substances associated with Line 4B are reported to include: TNT, RDX, composition B, and lacquer thinner. There is no documentation concerning wastewater treatment at Line 4B. One report (Ecology and Environment, Inc. 1988) mentions sumps, but none are listed in a recent sump survey (Mason & Hanger 1990), nor is Line 4B included in the RCRA Part B Permit. The only sumps located during the SI were 3 small (2'x 2') spill collection sumps. The Ecology & Environment sump report also suggests that past disposal may have involved discharge to surface and/or groundwater.

3.7.2 Summary of Previous Investigations

Information regarding the site-specific geology and hydrogeology was obtained from 17 soil borings drilled in 1967 around the assembly building at Line 4A (Building 4A-22) and from the 5 monitoring wells installed around the proposed spray evaporation pond in December 1980. The soil borings were completed to 20-25 feet and contained dark brown or gray stiff clays which locally change to a blue-gray color with depth. In the area of the evaporation pond, brown-gray clays with variable amounts of fine to medium sand and silt are present. The clays in two of the wells (GZ3-1 and GZ3-4) become siltier with depth (at 16 to 19 feet and 15 feet, respectively) (Terracon 1980). The predominance of clay in the shallow sediments at Lines 4A and 4B is characteristic of glacial till rather than silt-rich loess. However, no gravel, typical of till, has been described. Permeability of soil collected from the 5 well borings ranged from 1.3×10^{-9} to 2.4×10^{-7} cm/sec.

Water level measurements taken in the 5 shallow monitoring wells indicate that the flow direction of the shallow aquifer is southeast. Therefore, groundwater under lines 4A and 4B can be expected to flow toward Brush Creek. There are indications of seasonal fluctuations in the water table; well GZ3-3, with a reported depth to water of 11.5 feet below ground surface, was dry during sampling conducted in September 1984, and October and April 1985.



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CDM FEDERAL PROGRAMS CORPORATION

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JAYCOR

IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

Site Map of IAAP 5

Line 4B

SOURCE: Mason & Hanger-Silas Mason Co., Inc.

FILE NO. LINE4B	DRWN BY: LR	PROJECT #: 7150-100	SHT. 1 OF 1
DATE 5/92			FIGURE: 3-5a

The topography in the vicinity of Lines 4A and 4B is relatively flat with a gentle slope toward the south/southeast at Line 4A and a slight slope toward the south at Line 4B. A small drainage ditch at the southeast corner of Line 4B joins a western branch of Brush Creek approximately 1200 feet southeast of Line 4B. The segment of Brush Creek just below this confluence has been identified as a groundwater discharge zone although it is possible that groundwater recharge may occur during the drier seasons (Dames & Moore 1989). Brush Creek begins to the northeast of Lines 4A and 4B and flows roughly south to the Plant boundary, eventually joining the Skunk River.

Based on the review of IAAP documents there is no direct evidence of contaminant release(s) from Lines 4A or 4B. No analytical sampling has been conducted at Line 4B other than the SI. At Line 4A, no surface or subsurface soils have been analyzed for chemical compounds. No groundwater samples in the vicinity of the treatment sumps at 4A have been collected. Groundwater in the five monitoring wells around the spray evaporation pond was regularly sampled between 1981 and 1985 for pH, specific conductivity, total organic carbon, and total organic halogens. Gross alpha, gross beta, Ra-226, chloride, iron, manganese, sodium, sulfate, and phenol were monitored on a few occasions (and found to be below acceptable limits). Arsenic, barium, cadmium, chromium, fluorine, lead, mercury, nitrite and nitrate, selenium, silver, endrin, lindane, toxaphene, methoxychlor, silvex, and 2,4-D were analyzed in 1981: Chromium, gross alpha, and gross beta were detected in the groundwater. Although all parameters were within acceptable limits, none of those detected were known to be utilized in the processes at Lines 4A and 4B. An extensive list of explosives, metals and organics was analyzed in groundwater samples collected in October 1985. Few analytes were detected. Copper and zinc were present at acceptable levels and the concentrations of chromium and hexavalent chromium was 90 ppb and 10 ppb, respectively. The RCRA Facility Assessment Report concluded that no contamination exists in these five wells but stated that high pH, and very high levels of lead and manganese, especially in Well GZ3-4, have been detected in the past (Ecology and Environment, Inc., 1987). A sample of standing water was collected from the unused spray evaporation pond and was found to contain reportable concentrations of zinc and manganese, but no organics or other metals. Because the spray evaporation pond was never used (or permitted), the two metals detected were believed to be products of construction activities. Sampling the standing water may be warranted as part of any closure activities. Sediment and surface water from Brush Creek have been analyzed during several previous investigations. The creek which receives water from a number of SWMU's, some known to be contaminated, has shown evidence of explosives contamination (Ecology and Environment, Inc. 1987).

There is a potential for release(s) from the Line 4A sumps to soil, through spillage and overflow; to surface water and sediment through migration from the production area; and to groundwater through soil infiltration. Potential receptors would be the residential areas located near Brush Creek outside of the plant boundaries. Additionally, crops and hay are grown in areas that are hydraulically and topographically downgradient of Lines 4A and 4B.

SI sampling focused on the soils near site buildings where hazardous wastes are believed to have been handled or produced, and on the soils surrounding the treatment sumps. Associated drainage pathways and surface water features also were sampled.

The SI samples collected are summarized below, and their locations are depicted on Figures 3-5 and 3-5a. Table 3-7 summarizes the SI sample results reported above CRLs; Table 3-7a reports those results above the evaluation criteria. A summary report of all analytical results associated with the SI is included in Appendix B.

Sample	Analyses	Sample Type	Depth	Location
05-SA-01-01	Explosives Metals	C	1-2′	Next to 2′ x 2′ sump at southern corner of Building 4B-54. Three aliquots.
05-SA-02-01	Explosives Metals	C	1-2′	Next to 2′ x 2′ sump at northwest corner of Building 4B-54. Three aliquots.
05-SA-02-02	Explosives Metals	C	1-2′	Duplicate of 05-SA-02-01.
05-SA-03-01	Explosives Metals	C	1-2′	Next to 2′ x 2′ sump at northwest corner of Building 4B-21. Three aliquots.
05-SA-04-01	Explosives Metals	C	0-12"	At culvert at the southeast corner of Building 4B-22.
05-SA-05-01	Explosives Metals	C	0-12"	At culvert 175 feet east of Building 4B-07-03.
05-SA-06-01	Explosives Metals	G	3-4.5′	South of sump southwest of Building 4A-22E-5.
05-SA-07-01	Explosives Metals	G	4′	South of sump southeast of Building 4A-22E-5.
05-SW-07-02	Explosives Metals VOCs	G	N/A	Standing water in tank at sample location 05-SA-07-01. Sample voided.
05-SA-08-01	Explosives Metals	G	2′	West of sump northwest of Building 4A-63.
05-SW-08-01	Explosives Metals VOCs	G	N/A	Water standing in sump at sample location 05-SA-08-01.
05-SA-09-01	Explosives Metals	G	15-20"	East of sump approximately 100 feet south of sample location 05-SA-11-01.
05-SW-09-01	Explosives Metals VOCs	G	N/A	Water standing in sump at sample location 05-SA-09-01.
05-SD-10-01	Explosives Metals	C	0-10"	Drainage ditch downgradient of pipe outfall south of Building 4A-07.
05-SA-11-01	Explosives Metals	G	2′	South of sump located south of Building 4A-07.
05-SA-12-01	Explosives Metals	G	0-6"	North of sump located north of Building 4A-07.
05-SA-13-01	Explosives Metals	G	20"	Downgradient of sump located northeast of Building 4A-22E-5.
05-SA-14-01	Explosives Metals	G	4′	Downgradient of sump located north of Building 4A-22E-5 (approximately 100 feet west of location 05-SA-13-01).
05-SA-15-01	Explosives Metals	G	12"	East of sump located northeast of Building 4A-22E-1.
05-EB-16-01	Explosives Metals VOCs	G	N/A	Equipment blank.
05-SW-17-01	Explosives Metals VOCs	G	N/A	Resample of 05-SW-07-02.

3.7.3 Evaluation of Site

Lead, mercury, and zinc were found at levels significantly above criteria. Other metals detected at lower levels included arsenic, beryllium, copper, and chromium. Out of the 16 soil/sediment samples collected at IAAP 5, 7 exhibited relatively high levels of metals contamination. All of the samples except for two (05-SA-07 and 05-SA-08) exhibited levels slightly above criteria.

High levels of zinc were detected near 3 small sumps at Line 4B. The small sumps exist at most of the production lines; they are typically constructed outside and against some of the line buildings. No documentation of their purpose was found. However, according to IAAP environmental personnel, these sumps may have been designed to collect spills from the buildings, but were never known to have been utilized since the advent and use of the Wet-Vac in the late 1940s.

The three sumps in question at line 4B are affiliated with two buildings: building 4B-54 is a black powder rest house and building 4B-21 is a detonator service magazine. Samples collected at the sumps were found to contain zinc at the following concentrations: 05-SA-01-01, 358 mg/kg; 05-SA-02-01, 456 mg/kg (duplicate 05-SA-02-02, 357 mg/kg); and 05-SA-03-01, 290 mg/kg. The evaluation criteria for zinc in IAAP soils was established at 84.7 mg/kg. The range for zinc in surface horizon soils as compiled by the USGS is 18-640 mg/kg (Table 3-2b).

Sediment samples 05-SA-05-01 and 05-SD-10-01 were collected from intermittent flowing ditches at IAAP 5. Sample 05-SA-05-01 was collected at Line 4B from a drain pipe outfall that empties into a ditch. This pipe appears to originate at building 4B-07-03. During the SI no evidence of recent flow was noted. This sample contained only zinc and lead above the evaluation criteria, at a level of 221 mg/kg and 29 mg/kg, respectively. Sample 05-SD-10-01 was the only sample of the 11 collected at Line 4A that exhibited metals contamination significantly above the established evaluation criteria. This sample contained lead at 300 mg/kg, mercury at 0.754 mg/kg, and copper at 40.9 mg/kg. The associated evaluation criteria for these compounds are 27 and 0.495, and 30.1 mg/kg, respectively.

The moderate levels of zinc detected in some samples at IAAP-5 are within the USGS range for this compound. Furthermore, zinc is relatively stable in soil and has a low risk factor with respect to human health criteria. Therefore, no further sampling is recommended at these sample points. The lead and mercury levels at sample location 05-SD-10-01, however, should be further investigated through field screening in the Phase I RI to delineate the extent of contamination.

Table 3-7

IAAP-05 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP05	SD	METALS	ARSENIC	05-SD-10	08/07/1991	05SD1001Y	0.800	6.42	=B9	2.5	UGG
			BARIUM	05-SD-10	08/07/1991	05SD1001Y	0.800	179.0	=JS12	3.29	UGG
			BERYLLIUM	05-SD-10	08/07/1991	05SD1001Y	0.800	0.759	=JS12	0.427	UGG
			CHROMIUM	05-SD-10	08/07/1991	05SD1001Y	0.800	22.7	=JS12	1.04	UGG
			COPPER	05-SD-10	08/07/1991	05SD1001Y	0.800	40.9	=JS12	2.84	UGG
			LEAD	05-SD-10	08/07/1991	05SD1001Y	0.800	300.0	=JD21	0.467	UGG
			MERCURY	05-SD-10	08/07/1991	05SD1001Y	0.800	0.754	=Y9	0.05	UGG
			NICKEL	05-SD-10	08/07/1991	05SD1001Y	0.800	19.8	=JS12	2.74	UGG
			ZINC	05-SD-10	08/07/1991	05SD1001Y	0.800	80.3	=JS12	2.34	UGG
	SO	METALS	ARSENIC	05-SA-01	08/06/1991	05SA0101Y	1.500	4.25	=B9	2.5	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	5.71	=B9	2.5	UGG
						05SA0202YD	2.000	9.41	=B9	2.5	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	6.14	=B9	2.5	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	9.09	=B9	2.5	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	4.5	=B9	2.5	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	9.48	=B9	2.5	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	5.96	=B9	2.5	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	7.93	=B9	2.5	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	8.15	=B9	2.5	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	6.7	=B9	2.5	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	3.84	=B9	2.5	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	6.49	=B9	2.5	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	6.38	=B9	2.5	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	3.93	=B9	2.5	UGG
			BARIUM	05-SA-01	08/06/1991	05SA0101Y	1.500	221.0	=JS12	3.29	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	250.0	=JS12	3.29	UGG
						05SA0202YD	2.000	252.0	=JS12	3.29	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	122.0	=JS12	3.29	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	262.0	=JS12	3.29	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	232.0	=JS12	3.29	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	275.0	=JS12	3.29	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	210.0	=JS12	3.29	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	196.0	=JS12	3.29	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	249.0	=JS12	3.29	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	192.0	=JS12	3.29	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	275.0	=JS12	3.29	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	168.0	=JS12	3.29	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	229.0	=JS12	3.29	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	202.0	=JS12	3.29	UGG
			BERYLLIUM	05-SA-01	08/06/1991	05SA0101Y	1.500	0.716	=JS12	0.427	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	0.809	=JS12	0.427	UGG
						05SA0202YD	2.000	0.897	=JS12	0.427	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	0.63	=JS12	0.427	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	1.15	=JS12	0.427	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	0.842	=JS12	0.427	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	1.19	=JS12	0.427	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	0.67	=JS12	0.427	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	0.924	=JS12	0.427	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	1.17	=JS12	0.427	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	1.07	=JS12	0.427	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	1.22	=JS12	0.427	UGG

Table 3-7

IAAP-05 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				05-SA-13	08/07/1991	05SA1301Y	1.500	0.953	=JS12	0.427	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	1.14	=JS12	0.427	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	1.2	=JS12	0.427	UGG
			CHROMIUM	05-SA-01	08/06/1991	05SA0101Y	1.500	22.6	=JS12	1.04	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	25.0	=JS12	1.04	UGG
						05SA0202YD	2.000	25.0	=JS12	1.04	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	24.3	=JS12	1.04	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	32.9	=JS12	1.04	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	27.0	=JS12	1.04	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	23.0	=JS12	1.04	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	20.8	=JS12	1.04	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	20.9	=JS12	1.04	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	35.6	=JS12	1.04	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	31.6	=JS12	1.04	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	39.8	=JS12	1.04	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	31.2	=JS12	1.04	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	34.9	=JS12	1.04	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	39.1	=JS12	1.04	UGG
			COPPER	05-SA-01	08/06/1991	05SA0101Y	1.500	19.3	=JS12	2.84	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	17.3	=JS12	2.84	UGG
						05SA0202YD	2.000	18.0	=JS12	2.84	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	32.3	=JS12	2.84	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	26.5	=JS12	2.84	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	29.6	=JS12	2.84	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	31.2	=JS12	2.84	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	14.8	=JS12	2.84	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	16.1	=JS12	2.84	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	21.0	=JS12	2.84	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	16.9	=JS12	2.84	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	24.0	=JS12	2.84	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	15.7	=JS12	2.84	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	20.3	=JS12	2.84	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	16.7	=JS12	2.84	UGG
			LEAD	05-SA-01	08/06/1991	05SA0101Y	1.500	30.0	=JD21	0.467	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	12.0	=JD21	0.467	UGG
						05SA0202YD	2.000	28.0	=JD21	0.467	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	22.0	=JD21	0.467	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	52.0	=JD21	0.467	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	29.0	=JD21	0.467	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	20.0	=JD21	0.467	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	14.0	=JD21	0.467	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	14.0	=JD21	0.467	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	29.0	=JD21	0.467	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	15.0	=JD21	0.467	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	17.0	=JD21	0.467	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	13.0	=JD21	0.467	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	14.0	=JD21	0.467	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	12.0	=JD21	0.467	UGG
			MERCURY	05-SA-01	08/06/1991	05SA0101Y	1.500	0.16	=Y9	0.05	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	0.081	=Y9	0.05	UGG
						05SA0202YD	2.000	0.083	=Y9	0.05	UGG

Table 3-7

IAAP-05 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				05-SA-03	08/06/1991	05SA0301Y	2.000	0.12	=Y9	0.05	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	0.091	=Y9	0.05	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	0.184	=Y9	0.05	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	0.087	=Y9	0.05	UGG
			NICKEL	05-SA-01	08/06/1991	05SA0101Y	1.500	15.6	=JS12	2.74	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	21.3	=JS12	2.74	UGG
						05SA0202YD	2.000	26.1	=JS12	2.74	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	14.2	=JS12	2.74	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	31.8	=JS12	2.74	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	20.6	=JS12	2.74	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	34.1	=JS12	2.74	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	23.1	=JS12	2.74	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	18.0	=JS12	2.74	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	22.6	=JS12	2.74	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	19.8	=JS12	2.74	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	31.8	=JS12	2.74	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	15.4	=JS12	2.74	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	21.4	=JS12	2.74	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	17.2	=JS12	2.74	UGG
			ZINC	05-SA-01	08/06/1991	05SA0101Y	1.500	358.0	=JS12	2.34	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	456.0	=JS12	2.34	UGG
						05SA0202YD	2.000	357.0	=JS12	2.34	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	290.0	=JS12	2.34	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	113.0	=JS12	2.34	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	221.0	=JS12	2.34	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	76.5	=JS12	2.34	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	57.2	=JS12	2.34	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	55.2	=JS12	2.34	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	64.9	=JS12	2.34	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	55.1	=JS12	2.34	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	73.7	=JS12	2.34	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	50.0	=JS12	2.34	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	68.6	=JS12	2.34	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	44.3	=JS12	2.34	UGG
	SW	EXPLOSIVES	HMX	05-SW-08	08/08/1991	05SW0801Y	0.500	4.1	=UW01	1.3	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	91.0	=UW01	1.3	UGL
			NITROBENZENE	05-SW-07	08/07/1991	05SW0700Y	0.500	7.7	=UW01	1.13	UGL
			RDX	05-SW-08	08/08/1991	05SW0801Y	0.500	4.0	=UW01	0.63	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	9.3	=UW01	0.63	UGL
		METALS	BARIUM	05-SW-07	08/07/1991	05SW0702N	0.500	103.0	=99	2.82	UGL
				05-SW-08	08/08/1991	05SW0801N	0.500	23.4	=99	2.82	UGL
				05-SW-09	08/08/1991	05SW0901N	0.500	43.2	=99	2.82	UGL
			COPPER	05-SW-07	08/07/1991	05SW0702N	0.500	20.1	=99	18.8	UGL
			LEAD	05-SW-07	08/07/1991	05SW0702Y	0.500	39.7	=SD18	4.47	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	8.68	=SD18	4.47	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	10.9	=SD18	4.47	UGL
			ZINC	05-SW-07	08/07/1991	05SW0702N	0.500	58.8	=99	18.0	UGL
				05-SW-08	08/08/1991	05SW0801N	0.500	30.8	=99	18.0	UGL
				05-SW-09	08/08/1991	05SW0901N	0.500	95.0	=99	18.0	UGL
		VOLATILES	CARBON TETRACHLORIDE	05-SW-08	08/08/1991	05SW0801Y	0.500	1.65	=UM21	1.0	UGL

Table 3-7a

IAAP-05 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP05	SD	METALS	COPPER	05-SD-10	08/07/1991	05SD1001Y	0.800	40.9	=JS12	2.84	UGG
			LEAD	05-SD-10	08/07/1991	05SD1001Y	0.800	300.0	=JD21	0.467	UGG
			MERCURY	05-SD-10	08/07/1991	05SD1001Y	0.800	0.754	=Y9	0.05	UGG
	SO	METALS	ARSENIC	05-SA-02	08/06/1991	05SA0202YD	2.000	9.41	=B9	2.5	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	9.09	=B9	2.5	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	9.48	=B9	2.5	UGG
			BERYLLIUM	05-SA-04	08/06/1991	05SA0401Y	1.000	1.15	=JS12	0.427	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	1.19	=JS12	0.427	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	1.17	=JS12	0.427	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	1.22	=JS12	0.427	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	1.2	=JS12	0.427	UGG
			CHROMIUM	05-SA-04	08/06/1991	05SA0401Y	1.000	32.9	=JS12	1.04	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	35.6	=JS12	1.04	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	31.6	=JS12	1.04	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	39.8	=JS12	1.04	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	31.2	=JS12	1.04	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	34.9	=JS12	1.04	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	39.1	=JS12	1.04	UGG
			COPPER	05-SA-03	08/06/1991	05SA0301Y	2.000	32.3	=JS12	2.84	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	31.2	=JS12	2.84	UGG
			LEAD	05-SA-01	08/06/1991	05SA0101Y	1.500	30.0	=JD21	0.467	UGG
				05-SA-02	08/06/1991	05SA0202YD	2.000	28.0	=JD21	0.467	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	52.0	=JD21	0.467	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	29.0	=JD21	0.467	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	29.0	=JD21	0.467	UGG
			ZINC	05-SA-01	08/06/1991	05SA0101Y	1.500	358.0	=JS12	2.34	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	456.0	=JS12	2.34	UGG
						05SA0202YD	2.000	357.0	=JS12	2.34	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	290.0	=JS12	2.34	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	113.0	=JS12	2.34	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	221.0	=JS12	2.34	UGG
	SW	EXPLOSIVES	HMX	05-SW-08	08/08/1991	05SW0801Y	0.500	4.1	=UW01	1.3	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	91.0	=UW01	1.3	UGL
			NITROBENZENE	05-SW-07	08/07/1991	05SW0700Y	0.500	7.7	=UW01	1.13	UGL
			RDX	05-SW-08	08/08/1991	05SW0801Y	0.500	4.0	=UW01	0.63	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	9.3	=UW01	0.63	UGL
		METALS	LEAD	05-SW-07	08/07/1991	05SW0702Y	0.500	39.7	=SD18	4.47	UGL
		VOLATILES	CARBON TETRACHLORIDE	05-SW-08	08/08/1991	05SW0801Y	0.500	1.65	=UM21	1.0	UGL

3.8 IAAP-6 (LINES 5A AND 5B)

3.8.1 Site Description and History

Lines 5A and 5B (IAAP-6), also known as the booster line, are situated in north-central IAAP (Plate 1; E-5). Both lines are included in a larger area encompassed by a security fence. The dimensions of Line 5A are approximately 1200 by 1200 feet encompassing an area of approximately 33 acres. The dimensions of Line 5B are 1200 by 1500 feet, occupying an area of approximately 41 acres. The lines are bounded by Yard L to the north, Line 1 (IAAP-1) to the east, Lines 4A and 4B (IAAP-5) to the south, and Yard J to the west (Figure 3-6).

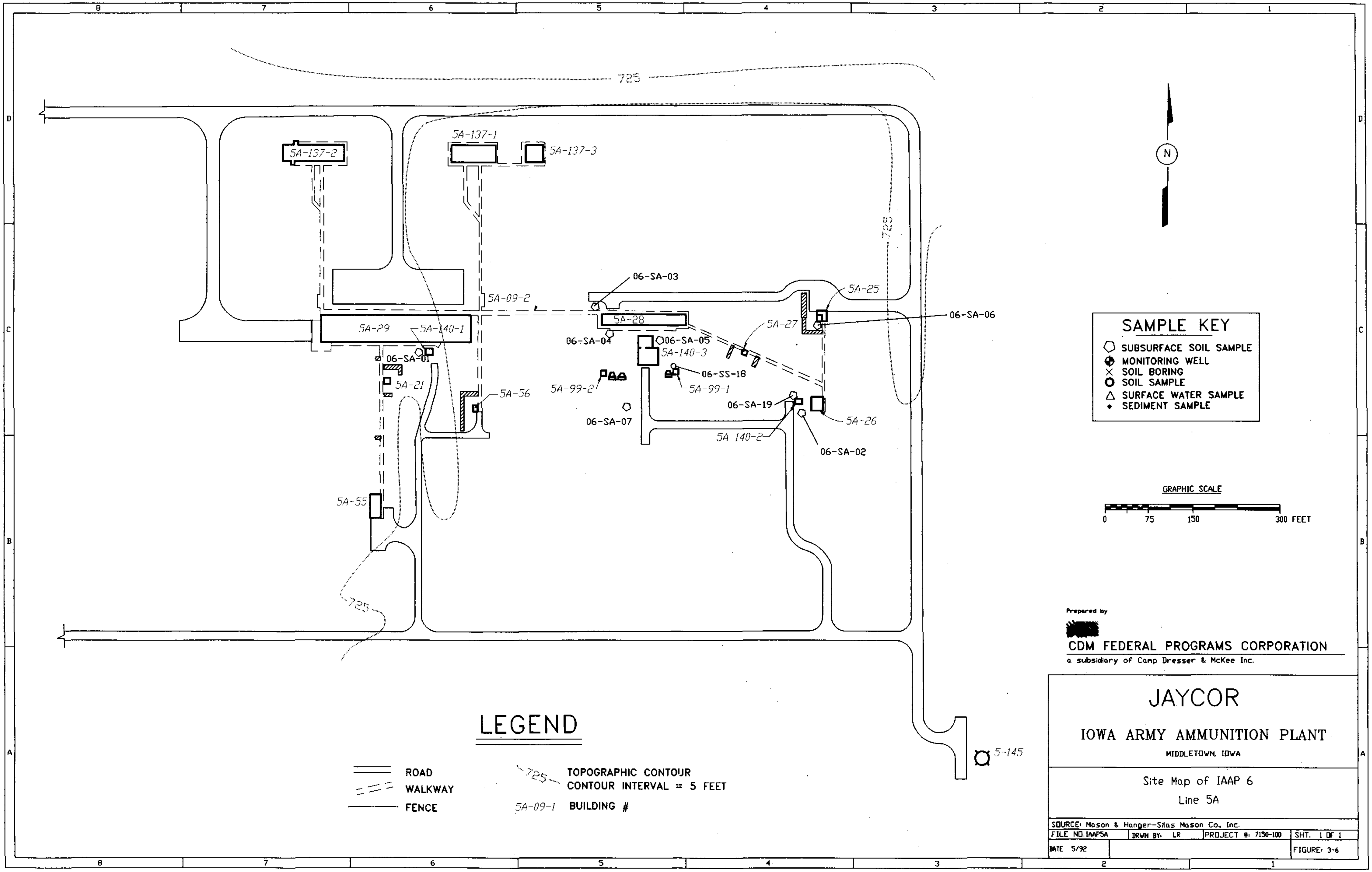
Both lines were constructed in 1941 and operated from 1942 until 1945, when production was suspended after the end of World War II. Production resumed in 1949 during the Korean War, and was intensified in 1961 during the Vietnam War. Lines 5A and 5B are no longer in use.

In the past, Lines 5A and 5B were component lines for pelletizing and assembly of explosive components. Line 5A pelletized TNT, miscellaneous demolition blocks, and grenades. Line 5B pelletized adaptor boosting tetryl. A testing platform and a firing pit are located within the site boundary.

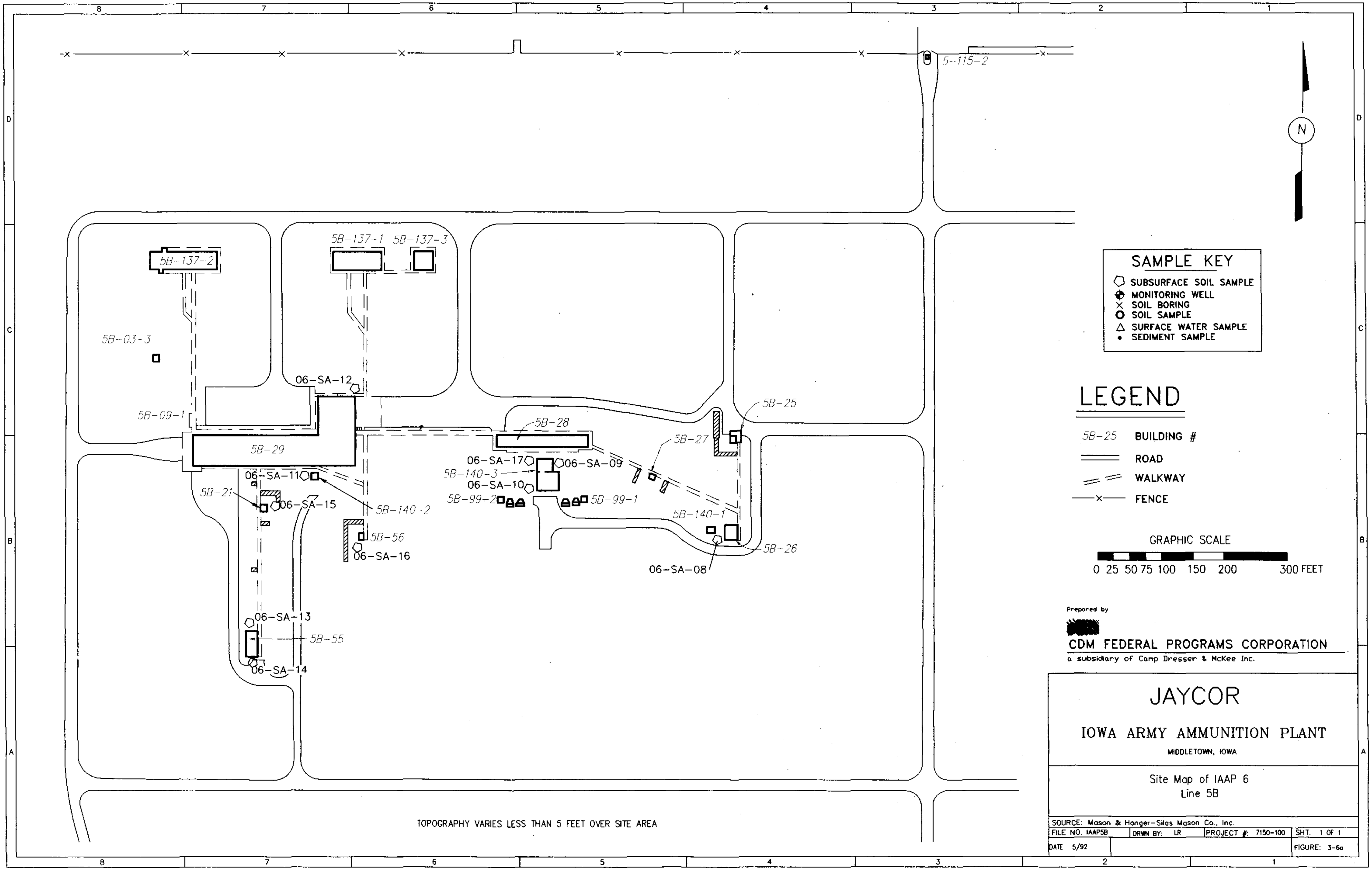
The principal explosives used at both lines were TNT and RDX. The waste material resulting from the explosive loading operation in Line 5A and 5B was explosive-contaminated wastewater. As a part of NPDES Permit No. 29-00-9-00 dated 14 July 1989, the discharge was required to be sampled immediately following the carbon filter treatment at Buildings 5A-140-3 and 5B-140-3 before being discharged into Brush Creek.

A sump inventory report prepared by Mason & Hanger-Silas Mason Co., Inc., dated 25 April 1990 and revised 11 July 1990, indicated the existence of 12 in-ground explosive wastewater collection sumps within the limits of Lines 5A and 5B. The sumps are located around existing buildings and near the pump house (also known as Building 140). These sumps are classified as inactive at the present time, according to the inventory survey. In addition, there exists a number of "small" 2 x 2 foot spill sumps at this and other production lines. These sumps are located against buildings and are generally constructed of concrete and have an inflow pipe emanating from the building.

The two nearest known stratigraphic columns were logged about 400 feet southeast of Line 5A (Drinking Water Well #3) and approximately 300 feet northwest of Line 5B (Drinking Water Well #4). The deep wells were developed in 1942 by Day & Zimmermann, Inc. (D & Z) of Philadelphia, PA. According to a plan prepared by D & Z, approximately 120 feet of clay was encountered just below the ground surface. This clay layer is underlain by about 190 feet of Keokuk and Burlington limestone, followed by about 270 feet of shale, then about 180 feet of Cedar Valley limestone, then about 25 feet of Wapsipinicon shale, then about 240 feet of Maquoketa and Galena limestone; well logs indicate that several layers of limestone, shale, and sandstone then were encountered. Well capacities of 400 to 480 gal/min were reported. No information regarding the groundwater table was indicated.



725
5A-137-1
5A-137-2
5A-137-3
725
06-SA-03
5A-25
5A-09-2
5A-28
5A-29
5A-140-1
06-SA-06
5A-27
06-SA-04
06-SA-05
5A-140-3
06-SA-01
06-SS-18
5A-21
5A-99-2
5A-99-1
5A-56
06-SA-19
06-SA-07
5A-26
5A-140-2
06-SA-02
5A-55
725
5-145
N
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0 75 150 300 FEET
LEGEND
ROAD
WALKWAY
FENCE
725 TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
5A-09-1 BUILDING #
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 6
Line 5A
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP5A
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-6



5-115-2
5B-137-1
5B-137-3
5B-137-2
5B-03-3
06-SA-12
5B-09-1
5B-29
5B-28
5B-25
5B-27
06-SA-17
06-SA-09
06-SA-11
5B-140-3
06-SA-10
5B-21
06-SA-15
5B-140-2
5B-99-2
5B-99-1
5B-140-1
5B-56
06-SA-16
5B-26
06-SA-08
06-SA-13
5B-55
06-SA-14
TOPOGRAPHY VARIES LESS THAN 5 FEET OVER SITE AREA
N
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
LEGEND
5B-25 BUILDING #
ROAD
WALKWAY
FENCE
GRAPHIC SCALE
0 25 50 75 100 150 200 300 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 6
Line 5B
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP5B
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-6a

The ground surface in the area of Lines 5A and 5B is generally flat terrain. It slopes gently toward the southeast from an elevation of 725 feet at the north and northwest boundaries of the site to about 720 feet at the southeast corner. A natural relatively low area is shown to be located near the firing pit. Surface water drainage is toward Brush Creek, which runs in a southeasterly toward the Skunk River.

The preliminary assessment did not reveal any documented evidence of a release(s) from this site. Surface water runoff would be directed by the site topography toward the southeast; infiltration would be influenced by the porosity of the soil.

Lines 5A and 5B are located in a central part of the IAAP facility, and the lines are secured with chain link fences and locked gates. Receptors would be flora and fauna in the immediate site area and in downgradient drainageways. Consumption of deer and other wild game may provide a vehicle for food chain uptake to human receptors.

3.8.2 Summary of Previous Investigations

No sampling other than the SI has been conducted at this site. SI sampling focused on surface and subsurface soils near the buildings and waste water treatment sumps. The SI samples are summarized below and their locations are depicted on Figures 3-6 and 3-6a. Table 3-8 summarizes the SI sample results reported above CRLs; Table 3-8a reports those results above exceedance criteria.

Sample	Analyses	Sample Type	Depth	Location
06-SA-01-01	Explosives Metals	C	0-12"	At sump south of Building 5A-140-1. Three aliquots.
06-SA-02-01	Explosives Metals	C	0-12"	At sump south of Building 5A-140-2. Three aliquots.
06-SA-03-01	Explosives Metals	C	0-12"	At sump north of Building 5A-28. Three aliquots.
06-SA-04-01	Explosives Metals	C	0-18"	At sump southwest of Building 5A-28. Three aliquots.
06-SA-05-01	Explosives Metals	C	0-12"	At sump southeast of Building 5A-28. Three aliquots.
06-SA-06-01	Explosives Metals	G	0-6"	At 2' x 2' sump northeast of Building 5A-82-10.
06-SA-06-02	Explosives Metals	G	3'	Duplicate of 06-SA-06-01.
06-SA-07-01	Explosives Metals	C	0-12"	At drainage ditch south of Building 5A-28. Three aliquots.
06-SA-08-01	Explosives Metals	C	0-12"	At tank south of Building 5B-140-1. Three aliquots.
06-SA-09-01	Explosives Metals	C	0-12"	At tank east of Building 5B-140-3. Three aliquots.
06-SA-10-01	Explosives Metals	C	0-12"	At tank west of Building 5B-140-3. Three aliquots.

Sample	Analyses	Sample Type	Depth	Location
06-SA-10-02	Explosives Metals	C	0-12"	Duplicate of sample 06-SA-10-01. Three aliquots.
06-SA-11-01	Explosives Metals	C	0-8"	At tank west of Building 5B-140-02. Three aliquots.
06-SA-12-01	Explosives Metals	C	0-12"	At tank at southwest corner of Building 5B-82-6. Three aliquots.
06-SA-13-01	Explosives Metals	C	0-12"	At 2' x 2' sump north of Building 5B-55. Three aliquots.
06-SA-14-01	Explosives Metals	C	0-12"	At 2' x 2' sump south of Building 5B-55. Three aliquots.
06-SA-15-01	Explosives Metals	C	0-6"	At 2' x 2' sump east of Building 5B-21. Three aliquots.
06-SA-16-01	Explosives Metals	C	0-12"	At 2' x 2' sump northwest of Building 5B-56. Three aliquots.
06-SA-17-01	Explosives Metals	C	0-12"	At 5' x 6' concrete sump (with steel grate) south of Building 5B-28. Three aliquots.
06-SS-18-01	Explosives Metals	G	0-6"	From area of stained surface soil located immediately south of vacuum separators adjacent to Building 5A-99-2.
06-SA-19-01	Explosives Metals	C	0-12"	From stained surface soils just off the northwest corner of Building 5A-140-2.

3.8.3 Evaluation of Site

Metals concentrations above the evaluation criteria were detected at all of the sample locations. Metals detected included arsenic, beryllium, chromium, copper, cadmium, lead, mercury, selenium, and zinc. Eight of the 19 samples collected had levels significantly above the evaluation criteria for metals. All samples in which significant metals were detected were collected at either process sumps, or the small (2 x 2 foot) "spill" sumps. The metals detected at these sumps, their concentration range (mg/kg), and the number of times detected () were:

zinc	217-1360	(6)
lead	68-370	(5)
cadmium	2.28-32.1	(5)
copper	53.0-65.7	(2)
mercury	0.751	(1)
beryllium	2.6	(1)

The zinc levels reported above the evaluation criteria were within the USGS background range for surface soil (18-640 mg/kg) in all but one sample; 06-SA-15-01, in which zinc was detected at 1360 mg/kg. Lead was found above the maximum USGS range for surface soils (10-70 mg/kg) in four of the five samples exhibiting lead contamination. Cadmium was detected above the criteria in five samples; the USGS range for cadmium in surface soils is <1-11 mg/kg. Copper, mercury, and beryllium were all below the maximum of the USGS range for each compound.

Explosives contamination was detected at 7 of the 19 SI sample locations. The explosives detected above CRLs, their concentration range above the CRL (mg/kg), and the number of locations with detections above the CRLs () were:

TNT	3.1-2500	(6)
HMX	1.5-120	(3)
RDX	1.6-5.3	(3)
DNT	1.5-1.7	(2)
NB	3.5	(1)

The highest concentrations of explosives were detected at locations 06-SA-02 and 06-SA-19, adjacent to Building 5A-140-1. The highest concentrations of all explosives were detected at Line 5B, with five of nine samples containing explosives. Line 5A had only two of ten samples which contained only two explosives each, HMX and RDX.

IAAP-6 should be further investigated during the Phase I RI to determine the extent of the metals and explosives contamination. It is suggested Phase I sampling efforts be concentrated on the sump locations and near Buildings 5B-140-3 and 5A-140-1, since these appear to have the greatest concentrations of contamination. A soil gas survey should be conducted surrounding the solvent storage building (5B-03-3). A summary report of all analytical results associated with this site is included in Appendix B.

Table 3-8

IAAP-06 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP06	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	06-SA-02	08/08/1991	06SA0201YP	1.000	0.36	=LW02	2.09	UGG
				06-SA-05	08/12/1991	06SA0501YP	1.000	0.46	=LW02	2.09	UGG
				06-SA-19	08/12/1991	06SA1901YP	1.000	1.5	=LW02	2.09	UGG
			1,3-DINITROBENZENE	06-SA-19	08/12/1991	06SA1901YP	1.000	0.35	=LW02	0.59	UGG
			2,4,6-TNT	06-SA-01	08/12/1991	06SA0101Y	0.500	6.4	=LW02	1.92	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	1,700.0	=LW02	1.92	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	3.1	=LW02	1.92	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	13.0	=LW02	1.92	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	2,500.0	=LW02	1.92	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	370.0	=LW02	1.92	UGG
			2,4-DINITROTOLUENE	06-SA-02	08/08/1991	06SA0201Y	1.000	1.7	=LW02	0.42	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	1.5	=LW02	0.42	UGG
			HMX	06-SA-09	08/08/1991	06SA0901Y	1.000	120.0	=LW02	1.27	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	17.0	=LW02	1.27	UGG
						06SA1002Y	1.000	29.0	=LW02	1.27	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	1.5	=LW02	1.27	UGG
			NITROBENZENE	06-SA-19	08/12/1991	06SA1901Y	1.000	3.5	=LW02	0.42	UGG
			RDX	06-SA-02	08/08/1991	06SA0201YP	1.000	0.68	=LW02	0.98	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	1.6	=LW02	0.98	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	4.8	=LW02	0.98	UGG
						06SA1002Y	1.000	5.3	=LW02	0.98	UGG
				06-SA-19	08/12/1991	06SA1901YP	1.000	0.59	=LW02	0.98	UGG
		METALS	ARSENIC	06-SA-01	08/12/1991	06SA0101Y	0.500	3.2	=B9	2.5	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	6.06	=B9	2.5	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	3.63	=B9	2.5	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	12.3	=B9	2.5	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	3.31	=B9	2.5	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	6.19	=B9	2.5	UGG
						06SA0602Y	3.000	9.29	=B9	2.5	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	5.42	=B9	2.5	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	5.9	=B9	2.5	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	6.44	=B9	2.5	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	3.69	=B9	2.5	UGG
						06SA1002YD	1.000	3.43	=B9	2.5	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	3.88	=B9	2.5	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	5.27	=B9	2.5	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	4.89	=B9	2.5	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	5.39	=B9	2.5	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	6.04	=B9	2.5	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	10.6	=B9	2.5	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	4.85	=B9	2.5	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	7.95	=B9	2.5	UGG
			BARIUM	06-SA-01	08/12/1991	06SA0101Y	0.500	418.0	=JS12	3.29	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	276.0	=JS12	3.29	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	338.0	=JS12	3.29	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	356.0	=JS12	3.29	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	224.0	=JS12	3.29	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	171.0	=JS12	3.29	UGG
						06SA0602Y	3.000	263.0	=JS12	3.29	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	347.0	=JS12	3.29	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	345.0	=JS12	3.29	UGG

Table 3-8

IAAP-06 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				06-SA-09	08/08/1991	06SA0901Y	1.000	402.0	=JS12	3.29	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	309.0	=JS12	3.29	UGG
						06SA1002Y	1.000	373.0	=JS12	3.29	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	300.0	=JS12	3.29	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	216.0	=JS12	3.29	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	294.0	=JS12	3.29	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	261.0	=JS12	3.29	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	151.0	=JS12	3.29	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	197.0	=JS12	3.29	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	317.0	=JS12	3.29	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	422.0	=JS12	3.29	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	271.0	=JS12	3.29	UGG
			BERYLLIUM	06-SA-01	08/12/1991	06SA0101Y	0.500	2.6	=JS12	0.427	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	0.762	=JS12	0.427	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	0.762	=JS12	0.427	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	1.42	=JS12	0.427	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	2.09	=JS12	0.427	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	0.762	=JS12	0.427	UGG
						06SA0602Y	3.000	1.16	=JS12	0.427	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	0.969	=JS12	0.427	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	0.932	=JS12	0.427	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	0.9	=JS12	0.427	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	0.961	=JS12	0.427	UGG
						06SA1002Y	1.000	0.924	=JS12	0.427	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.887	=JS12	0.427	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	0.784	=JS12	0.427	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	1.04	=JS12	0.427	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	0.985	=JS12	0.427	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	0.932	=JS12	0.427	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	1.05	=JS12	0.427	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.889	=JS12	0.427	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	0.901	=JS12	0.427	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	1.15	=JS12	0.427	UGG
			CADMIUM	06-SA-05	08/12/1991	06SA0501Y	1.000	2.32	=JS12	1.2	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	3.78	=JS12	1.2	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	32.1	=JS12	1.2	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	6.53	=JS12	1.2	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	2.28	=JS12	1.2	UGG
			CHROMIUM	06-SA-01	08/12/1991	06SA0101Y	0.500	22.5	=JS12	1.04	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	25.4	=JS12	1.04	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	20.4	=JS12	1.04	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	34.7	=JS12	1.04	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	18.6	=JS12	1.04	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	25.7	=JS12	1.04	UGG
						06SA0602Y	3.000	21.8	=JS12	1.04	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	26.5	=JS12	1.04	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	33.6	=JS12	1.04	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	34.6	=JS12	1.04	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	33.9	=JS12	1.04	UGG
						06SA1002Y	1.000	33.0	=JS12	1.04	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	34.8	=JS12	1.04	UGG

Table 3-8

IAAP-06 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				06-SA-12	08/08/1991	06SA1201Y	1.000	36.0	=JS12	1.04	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	48.5	=JS12	1.04	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	35.0	=JS12	1.04	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	44.0	=JS12	1.04	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	44.9	=JS12	1.04	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	31.4	=JS12	1.04	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	23.6	=JS12	1.04	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	31.5	=JS12	1.04	UGG
			COPPER	06-SA-01	08/12/1991	06SA0101Y	0.500	13.5	=JS12	2.84	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	12.2	=JS12	2.84	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	20.9	=JS12	2.84	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	21.3	=JS12	2.84	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	15.7	=JS12	2.84	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	65.7	=JS12	2.84	UGG
						06SA0602Y	3.000	16.2	=JS12	2.84	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	22.1	=JS12	2.84	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	23.3	=JS12	2.84	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	20.4	=JS12	2.84	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	18.5	=JS12	2.84	UGG
						06SA1002Y	1.000	21.6	=JS12	2.84	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	19.2	=JS12	2.84	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	25.0	=JS12	2.84	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	40.1	=JS12	2.84	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	21.8	=JS12	2.84	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	53.0	=JS12	2.84	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	32.1	=JS12	2.84	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	19.3	=JS12	2.84	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	18.7	=JS12	2.84	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	18.8	=JS12	2.84	UGG
			LEAD	06-SA-01	08/12/1991	06SA0101Y	0.500	27.0	=JD21	0.467	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	17.0	=JD21	0.467	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	68.0	=JD21	0.467	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	25.0	=JD21	0.467	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	23.0	=JD21	0.467	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	370.0	=JD21	0.467	UGG
						06SA0602Y	3.000	32.0	=JD21	0.467	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	30.0	=JD21	0.467	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	18.0	=JD21	0.467	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	51.0	=JD21	0.467	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	15.0	=JD21	0.467	UGG
						06SA1002YD	1.000	32.0	=JD21	0.467	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	11.0	=JD21	0.467	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	16.0	=JD21	0.467	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	220.0	=JD21	0.467	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	83.0	=JD21	0.467	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	320.0	=JD21	0.467	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	28.0	=JD21	0.467	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	45.0	=JD21	0.467	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	32.0	=JD21	0.467	UGG
			MERCURY	06-SA-03	08/12/1991	06SA0301Y	1.000	0.103	=Y9	0.05	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	0.077	=Y9	0.05	UGG

Table 3-8

IAAP-06 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.058	=Y9	0.05	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	0.751	=Y9	0.05	UGG
						06SA0602Y	3.000	0.063	=Y9	0.05	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	0.074	=Y9	0.05	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	0.072	=Y9	0.05	UGG
				06-SA-10	08/08/1991	06SA1002YD	1.000	0.061	=Y9	0.05	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	0.155	=Y9	0.05	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	0.067	=Y9	0.05	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	0.173	=Y9	0.05	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	0.108	=Y9	0.05	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	0.061	=Y9	0.05	UGG
			NICKEL	06-SA-01	08/12/1991	06SA0101Y	0.500	38.1	=JS12	2.74	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	12.8	=JS12	2.74	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	21.7	=JS12	2.74	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	34.8	=JS12	2.74	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	9.91	=JS12	2.74	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	17.1	=JS12	2.74	UGG
						06SA0602Y	3.000	20.6	=JS12	2.74	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	16.9	=JS12	2.74	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	21.7	=JS12	2.74	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	31.9	=JS12	2.74	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	15.7	=JS12	2.74	UGG
						06SA1002Y	1.000	15.6	=JS12	2.74	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	13.1	=JS12	2.74	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	26.4	=JS12	2.74	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	23.3	=JS12	2.74	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	18.2	=JS12	2.74	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	26.4	=JS12	2.74	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	21.2	=JS12	2.74	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	18.0	=JS12	2.74	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	18.5	=JS12	2.74	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	20.8	=JS12	2.74	UGG
			SELENIUM	06-SA-01	08/12/1991	06SA0101Y	0.500	0.762	=JD20	0.449	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	0.801	=JD20	0.449	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	0.62	=JD20	0.449	UGG
						06SA0602Y	3.000	1.06	=JD20	0.449	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	0.669	=JD20	0.449	UGG
						06SA1002YD	1.000	0.756	=JD20	0.449	UGG
			ZINC	06-SA-01	08/12/1991	06SA0101Y	0.500	60.2	=JS12	2.34	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	51.1	=JS12	2.34	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	169.0	=JS12	2.34	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	118.0	=JS12	2.34	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	217.0	=JS12	2.34	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	783.0	=JS12	2.34	UGG
						06SA0602Y	3.000	64.0	=JS12	2.34	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	187.0	=JS12	2.34	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	76.6	=JS12	2.34	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	92.9	=JS12	2.34	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	75.0	=JS12	2.34	UGG
						06SA1002Y	1.000	102.0	=JS12	2.34	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	71.1	=JS12	2.34	UGG

Table 3-8

IAAP-06 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				06-SA-12	08/08/1991	06SA1201Y	1.000	80.6	=JS12	2.34	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	391.0	=JS12	2.34	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	276.0	=JS12	2.34	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	1,360.0	=JS12	2.34	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	588.0	=JS12	2.34	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	69.7	=JS12	2.34	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	88.8	=JS12	2.34	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	74.9	=JS12	2.34	UGG

Table 3-8a

IAAP-06 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP06	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	06-SA-02	08/08/1991	06SA0201YP	1.000	0.36	=LW02	2.09	UGG
				06-SA-05	08/12/1991	06SA0501YP	1.000	0.46	=LW02	2.09	UGG
				06-SA-19	08/12/1991	06SA1901YP	1.000	1.5	=LW02	2.09	UGG
			1,3-DINITROBENZENE	06-SA-19	08/12/1991	06SA1901YP	1.000	0.35	=LW02	0.59	UGG
			2,4,6-TNT	06-SA-01	08/12/1991	06SA0101Y	0.500	6.4	=LW02	1.92	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	1,700.0	=LW02	1.92	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	3.1	=LW02	1.92	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	13.0	=LW02	1.92	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	2,500.0	=LW02	1.92	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	370.0	=LW02	1.92	UGG
			2,4-DINITROTOLUENE	06-SA-02	08/08/1991	06SA0201Y	1.000	1.7	=LW02	0.42	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	1.5	=LW02	0.42	UGG
			HMX	06-SA-09	08/08/1991	06SA0901Y	1.000	120.0	=LW02	1.27	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	17.0	=LW02	1.27	UGG
						06SA1002Y	1.000	29.0	=LW02	1.27	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	1.5	=LW02	1.27	UGG
			NITROBENZENE	06-SA-19	08/12/1991	06SA1901Y	1.000	3.5	=LW02	0.42	UGG
			RDX	06-SA-02	08/08/1991	06SA0201YP	1.000	0.68	=LW02	0.98	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	1.6	=LW02	0.98	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	4.8	=LW02	0.98	UGG
						06SA1002Y	1.000	5.3	=LW02	0.98	UGG
				06-SA-19	08/12/1991	06SA1901YP	1.000	0.59	=LW02	0.98	UGG
		METALS	ARSENIC	06-SA-04	08/12/1991	06SA0401Y	1.500	12.3	=B9	2.5	UGG
				06-SA-06	08/12/1991	06SA0602Y	3.000	9.29	=B9	2.5	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	10.6	=B9	2.5	UGG
			BERYLLIUM	06-SA-01	08/12/1991	06SA0101Y	0.500	2.6	=JS12	0.427	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	1.42	=JS12	0.427	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	2.09	=JS12	0.427	UGG
				06-SA-06	08/12/1991	06SA0602Y	3.000	1.16	=JS12	0.427	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	1.15	=JS12	0.427	UGG
			CADMIUM	06-SA-05	08/12/1991	06SA0501Y	1.000	2.32	=JS12	1.2	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	3.78	=JS12	1.2	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	32.1	=JS12	1.2	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	6.53	=JS12	1.2	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	2.28	=JS12	1.2	UGG
			CHROMIUM	06-SA-04	08/12/1991	06SA0401Y	1.500	34.7	=JS12	1.04	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	33.6	=JS12	1.04	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	34.6	=JS12	1.04	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	33.9	=JS12	1.04	UGG
						06SA1002Y	1.000	33.0	=JS12	1.04	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	34.8	=JS12	1.04	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	36.0	=JS12	1.04	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	48.5	=JS12	1.04	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	35.0	=JS12	1.04	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	44.0	=JS12	1.04	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	44.9	=JS12	1.04	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	31.4	=JS12	1.04	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	31.5	=JS12	1.04	UGG
			COPPER	06-SA-06	08/12/1991	06SA0601Y	0.500	65.7	=JS12	2.84	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	40.1	=JS12	2.84	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	53.0	=JS12	2.84	UGG

Table 3-8a

IAAP-06 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				06-SA-16	08/08/1991	06SA1601Y	1.000	32.1	=JS12	2.84	UGG
			LEAD	06-SA-03	08/12/1991	06SA0301Y	1.000	68.0	=JD21	0.467	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	370.0	=JD21	0.467	UGG
						06SA0602Y	3.000	32.0	=JD21	0.467	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	30.0	=JD21	0.467	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	51.0	=JD21	0.467	UGG
				06-SA-10	08/08/1991	06SA1002YD	1.000	32.0	=JD21	0.467	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	220.0	=JD21	0.467	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	83.0	=JD21	0.467	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	320.0	=JD21	0.467	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	28.0	=JD21	0.467	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	45.0	=JD21	0.467	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	32.0	=JD21	0.467	UGG
			MERCURY	06-SA-06	08/12/1991	06SA0601Y	0.500	0.751	=Y9	0.05	UGG
			SELENIUM	06-SA-01	08/12/1991	06SA0101Y	0.500	0.762	=JD20	0.449	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	0.801	=JD20	0.449	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	0.62	=JD20	0.449	UGG
						06SA0602Y	3.000	1.06	=JD20	0.449	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	0.669	=JD20	0.449	UGG
						06SA1002YD	1.000	0.756	=JD20	0.449	UGG
			ZINC	06-SA-03	08/12/1991	06SA0301Y	1.000	169.0	=JS12	2.34	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	118.0	=JS12	2.34	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	217.0	=JS12	2.34	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	783.0	=JS12	2.34	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	187.0	=JS12	2.34	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	92.9	=JS12	2.34	UGG
				06-SA-10	08/08/1991	06SA1002Y	1.000	102.0	=JS12	2.34	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	391.0	=JS12	2.34	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	276.0	=JS12	2.34	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	1,360.0	=JS12	2.34	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	588.0	=JS12	2.34	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	88.8	=JS12	2.34	UGG

3.9 IAAP-7 (LINE 6)

3.9.1 Site Description and History

IAAP-7, the Line 6 detonator production line area, encompasses approximately 30 acres and is located near the center of the IAAP facility (Plate 1; E-5). The Line 6 area is bounded to the north by Lines 4A and 4B, to the east by Line 3, to the south by Line 9, and to the west by the power plant and Yard J. Line 6 measures approximately 800 feet by 1,600 feet (Figure 3-7).

Line 6 was constructed in 1941 and operated until 1981; the line is now used only for the assembly of small detonators. The Line 6 facility includes approximately 34 buildings involved in the production, storage, and shipping of detonators, relays, and hand grenade fuses. Additional buildings, such as guard houses and a compressor building, are also located within the fenced area. Only one building is used in current line operations, and no wastewater is generated.

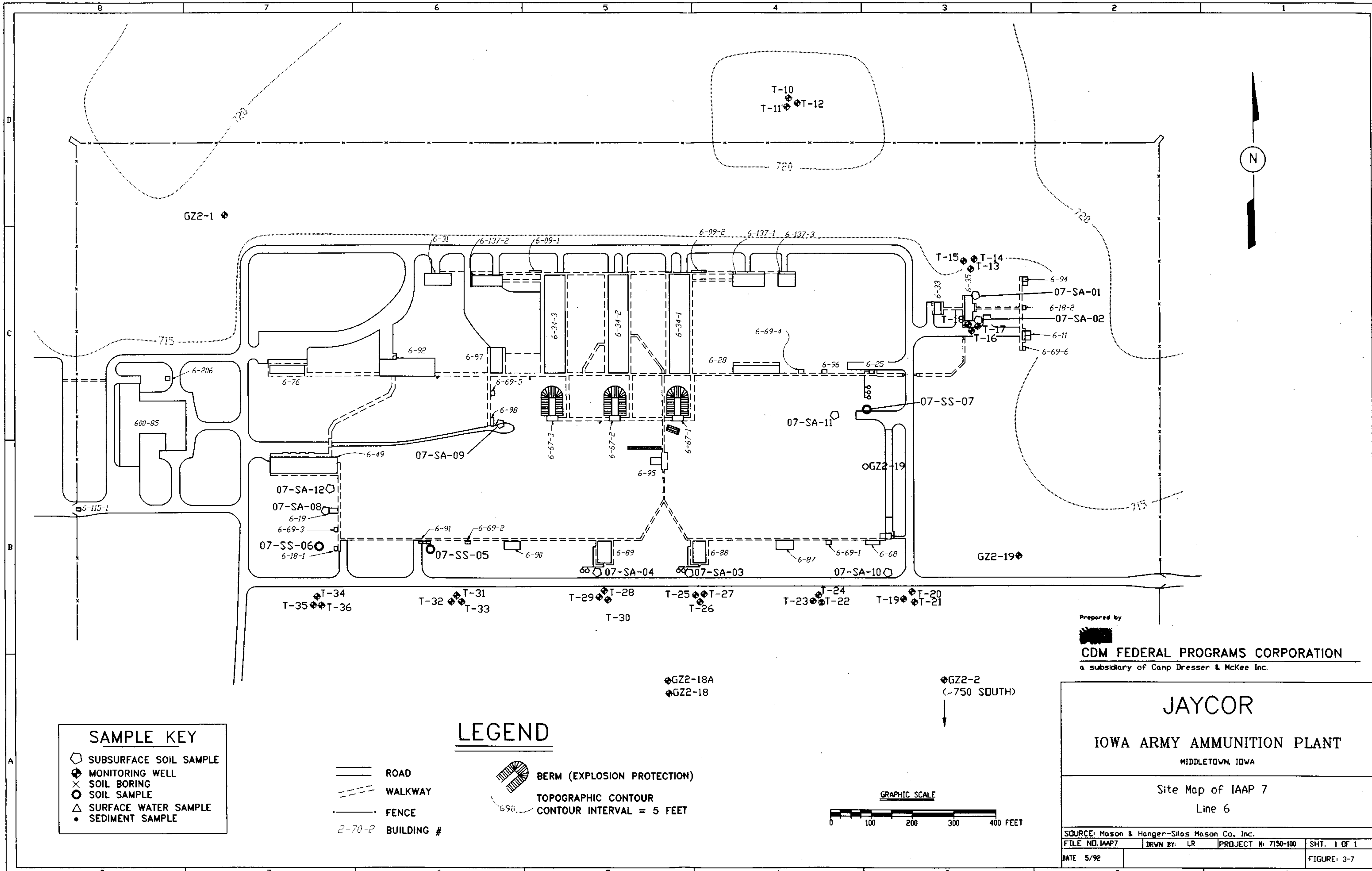
Past operations at Line 6 resulted in the generation of wastewater and wastewater treatment sludge resulting from the treatment of waste black powder. The primary waste stream was related to the production of detonators and included the following materials: lead azide, lead styphnate, tetracene, RDX, barium nitrate, antimony sulfide, and mercury fulminate (RCRA Part B permit application 1988).

During the production phases of the facility, the proportions of these materials was variable, depending on the specific product that was manufactured. Materials introduced into the waste stream during the treatment (desensitizing) process of the generated wastewater included the following: acetic acid, sodium sulfate, sodium nitrate, sodium hydroxide, and ceric ammonium nitrate.

Production rates varied during the years of operation, with increased activity occurring during World War II, the Korean War, and the Vietnam War. No records of waste generation or discharge quantities were available. For a short period of time after 1981, operations involving the treatment of waste black powder (gun powder) were conducted in Building 6-68. This was stopped sometime in late 1989. The EPA and IDNR have made the determination that the dissolved black powder residue and wastewater generated by the waste black powder treatment operation are not hazardous wastes and can be land applied on the installation for use as a soil nutrient. The ingredients of black powder (gun powder) are potassium nitrate, charcoal, and sulfur.

The wastewater from line operations was pumped into treatment sumps located throughout the facility. Each treatment sump contained at least one stainless steel tank which measured 3 feet in diameter, by 4 feet in height, and was buried to a depth of 3.5 feet and had a hinged cover for access and inspection. Currently, there are 10 tanks at Line 6. One tank each is located at Buildings 6-18-1, 6-35, and 6-91; two tanks each are located at Buildings 6-88 and 6-89; and three tanks are located at Building 6-25 (RCRA Part B permit application 1988). In addition to these tanks, there were 7 gravel filter beds located at Buildings 6-18-1, 6-25, 6-35, 6-68, 6-88, 6-89, and 6-91. These filter beds were removed in 1984 (COE Line 6 Closure Plan 1992).

Wastewater flowed from the operation areas through stainless steel troughs to the treatment sumps where the wastewater was desensitized (treated). Once the wastewater was desensitized,



T-10
T-11
T-12
720
GZ2-1
715
6-31
6-137-2
6-09-1
6-09-2
6-137-1
6-137-3
T-15
T-14
T-13
6-94
07-SA-01
6-18-2
07-SA-02
6-11
6-69-6
T-17
T-16
6-33
6-35
6-34-3
6-34-2
6-34-1
6-69-4
6-28
6-96
6-25
6-92
6-97
6-206
6-76
600-85
6-69-5
6-98
07-SS-07
07-SA-11
6-67-3
6-67-2
6-67-1
6-49
07-SA-09
6-95
GZ2-19
07-SA-12
07-SA-08
6-19
6-69-3
07-SS-06
6-18-1
6-115-1
6-91
6-69-2
07-SS-05
6-90
6-89
07-SA-04
6-88
07-SA-03
6-87
6-69-1
6-68
07-SA-10
GZ2-19
T-34
T-35
T-36
T-31
T-32
T-33
T-28
T-29
T-30
T-25
T-27
T-26
T-24
T-23
T-22
T-20
T-19
T-21
GZ2-18A
GZ2-18
GZ2-2
(~750 SOUTH)
N
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
LEGEND
ROAD
WALKWAY
FENCE
2-70-2 BUILDING #
BERM (EXPLOSION PROTECTION)
690
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
GRAPHIC SCALE
0
100
200
300
400 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 7
Line 6
SOURCE: Mason & Hanger-Silas Mason Co. Inc.
FILE NO. IAAP7
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-7

the sumps were emptied into filter beds. Initially, during the first years of operation, these filter beds were referred to as Seepage Pits. The filter beds operated in the same manner as a septic system tile field, allowing the desensitized wastewater to percolate downward into the surrounding soils. The limestone gravel in the filter beds was supposed to raise the pH of the water. However, overflow out of the filter beds was apparently a problem and at some point prior to 1981, surface drainage ditches were created which directed the water leaving the filter beds into tributaries of Brush Creek.

Building 6-68 contains 20 RCRA permitted aboveground tanks that were used for the treatment of waste black powder (EBASCO 1988). Waste black powder exhibits the hazardous waste characteristic of reactivity. These tanks are constructed of stainless steel and each has a capacity of 15 gallons. Black powder was added to the tank from the top in cloth bags. The tanks were placed on carts to keep them raised above the concrete floor. The concrete floor was covered with an 1/8-inch lead sheet and had a 6-inch concrete curb to provide for secondary containment.

Two in-ground tanks outside of Building No. 6-68 were used for the treatment of supernatant liquids generated during the treatment of waste black powder. The wastewaters were transferred to treatment tanks through a 6-inch by 6-inch stainless steel trough. The tanks were protected from overfilling through the use of high level alarms. The wastewaters treated in these tanks generated sludge exhibiting the hazardous waste characteristic of reactivity. These wastes are identified by the EPA hazardous waste code D003 (EBASCO 1988). It is not documented how the waste treatment sludge has been handled.

Since the waste black powder operation was stopped, the two in-ground tanks have been removed and replaced with a RCRA-approved secondary containment sump. The sump contains two stainless steel tanks and has not been put into service. In addition, the tanks have been removed from two sumps located at Building 6-35; open pits remain.

In addition to the 20 RCRA permitted tanks, Line 6 also has a RCRA permitted hazardous waste storage facility. Building 600-86 contains two container storage units. These units are rooms that are used to store spent solvents and spent solutions containing cyanide.

The geology of the site consists of approximately 75 to 140 feet of unconsolidated materials (loess and glacial till) overlying Mississippian-age shale and/or carbonate bedrock. The unconsolidated materials and bedrock are described as a single low permeability groundwater system with a downward flow component. Measured lateral groundwater flow velocities generally are less than 20 feet per year.

A total of 32 groundwater monitoring wells are located within or just outside the Line 6 production area security fence. The shallow (loess/till interface) groundwater monitoring wells indicated groundwater movement toward the center of the site and southerly. Wells which have been installed mid-depth in the glacial till and also into bedrock indicated groundwater flow to be northwesterly.

Drainage ditches within the Line 6 area transport surface water runoff into tributaries of Brush Creek. Potential receptors of contamination originating from Line 6 include IAAP Line 6 workers, through direct contact (ingestion or dust inhalation), aquatic and animal species within

Brush Creek, and in the Brush Creek watershed, and humans who may eat these aquatic and animal species.

3.9.2 Summary of Past Investigations

In December 1983, samples of filter bed gravel were obtained and analyzed for EP toxicity for lead. One gravel filter bed sample from Building 6-88 showed a concentration of 68 ppm, which exceeded the EP toxicity standard at that time for lead. In 1984 the gravel filter beds located at Buildings 6-18-1, 6-25, 6-35, 6-68, 6-88, 6-89, and 6-91 were removed and disposed of as hazardous waste. RCRA hazardous waste code D008 was assigned to filter bed material from Building 6-88; all other filter bed material is RCRA listed waste K046.

During the period November 1981 through October 1984, monitoring wells GZ2-1, GZ2-2, GZ2-18, GZ2-18A, and GZ2-19 were sampled several times by AEHA. Samples were analyzed for metals, several pesticides, chloride, fluoride, nitrates, sodium, sulfates, phenol, total organic carbon, and total organic halogens. Analytical data presented in AEHA's Groundwater Quality Assessment Report dated June 1985 did not indicate contaminants above detection limits or generally acceptable background levels for the locality (AEHA 1985).

During August 1986 a RCRA Facility Assessment (RFA) was conducted by Ecology and Environment, Inc. (E&E). Several areas under consideration for this RI/FS were sampled during the RFA, including IAAP-7 (Line 6).

Nine samples (5 soil and 4 sediment samples) were collected from seven locations (2 directly north and 5 directly south) at Line 6. Samples from Line 6 were analyzed for metals and explosives (RDX, HMX, 1,3,5-TNB, 1,3-DNB, and 2,4,6-TNT). All samples collected on the south side (in or very near the drainage ditches servicing the line) of Line 6 indicated elevated levels of lead; concentrations ranged from 66 mg/kg to 4,300 mg/kg (E&E 1987).

Also during the RFA, groundwater samples were collected from four wells (GZ2-1, GZ2-18, GZ2-18A, and GZ2-19) adjacent to Line 6. Samples were analyzed for EPA HSL compounds and explosives (RDX; HMX; 1,3,5-TNB; 1,3-DNB; and 2,4,6-TNT). No contaminants were reported above the detection limits (E&E 1987).

In mid-1988, 27 groundwater monitoring wells were installed (nine sets of three nested wells each). Wells were installed to monitor the major aquifers at the site, one well at 25, 70, and approximately 140 feet below ground surface for each well set. Nine wells were installed on the northeast side (well numbers T-10, T-11, T-12, T-13, T-14, T-15, T-16, T-17, and T-18) and 18 wells were installed on the south side (well numbers T-19, T-20, T-21, T-22, T-23, T-24, T-25, T-26, T-27, T-28, T-29, T-30, T-31, T-32, T-33, T-34, T-35, and T-36) of Line 6. Each well was sampled and analyzed for metals and several other organic and inorganic compounds, to include but not limited to lead, lead azide and lead styphnate, with duplicate samples collected for lead. No contaminants, except one cyanide detection, were reported above the detection limits (Terracon 1989).

Groundwater sampling performed in 1988 did not show significant contaminant levels. Except for cyanide, which was detected at 2 ppb in bedrock well T-30, the other detected constituents were below the listed criteria or standards and/or typically found in the natural environment (i.e. metals) (Terracon 1989). It is not known if cyanide is an actual contaminant or was detected due to sampling and/or analytical error.

There are four additional groundwater monitoring wells near Line 6 production area, which were sampled several times between 1981 and 1987 (GZ2-1, GZ2-18, GZ2-18A, and GZ2-19). Samples from these wells were analyzed for metals, explosives and several additional organic and inorganic analytes. No contaminants were reported above the detection limits.

During 1990, a removal action was performed by the U.S. Army Corps of Engineers (COE), with oversight by the EPA, to remove soil lead contamination from the ditches south of Line 6. The drainage ditches were remediated to 100 mg/kg, pursuant to EPA direction. Soils from the removal were transported off-site for disposal. It is not known where these soils were taken for ultimate disposal.

The COE is preparing a formal RCRA closure of parts of Line 6. This closure action will include the removal of tanks, troughs, and associated pipe; removal of remaining potentially contaminated filter beds; and removal of potentially contaminated soil within the small drainageways that direct drainage from the filter beds to the major drainage ditches.

During the SI, soil samples were collected from 12 locations within Line 6, and one groundwater sample was collected from an existing well. The SI sampling scheme was designed to characterize soil quality for explosives and metals around the sumps, filter beds, and drainageways of Line 6. SI samples are summarized below; sample locations are depicted on Figure 3-7.

Sample	Analyses	Sample Type	Depth	Location
07-SA-01-01	Explosives Metals	G	0-6"	Sample site is area of excavated sump north of Building 6-82-35. Sample was collected at the lowest possible point of the sump.
07-SA-01-02	Explosives Metals	G	0-6"	Duplicate of 07-SA-01-01.
07-SA-02-01	Explosives Metals	C	0-12"	Sample site is gravel filter bed associated with excavated sump from south of Building 6-82-33 adjacent to (east of) Building 6-35.
07-SA-03-01	Explosives Metals	C	0-12"	Sample site is in drainage ditch 2 feet south of sump associated with Building 6-88.
07-SA-04-01	Explosives Metals	C	0-12"	Sample is at bottom of ditch 4 feet south of sump at Building 6-89. Sample was collected at a depth of 1 foot.
07-SA-05-01	Explosives Metals	G	0-6"	Sample site is 4 feet east of gravel filter bed associated with sump located at Building 6-91.
07-SA-06-01	Explosives Metals	G	0-6"	Sample site is in small ditch 10 feet east of gravel filter bed located at Building 6-18-1.
07-SA-07-01	Explosives Metals	C	0-6"	Sample site is in ditch 16 feet south of sumps, south/southwest of Building 6-25.
07-SA-08-01	Explosives Metals	C	0-12"	Sample site is 4 feet west of 2' x 2' sump, west of Building 6-19.

Sample	Analyses	Sample Type	Depth	Location
07-SA-09-01	Explosives Metals	C	0-12"	Sample site is 2' x 2' sump east of Building 6-98.
07-SA-10-01	Explosives Metals	C	0-12"	Sample site is drainage ditch 20 feet south of former filter bed located at Building 6-68.
07-SA-11-01	Explosives Metals	C	0-12"	Sample site is drainage ditch 20 feet west of sump at Building 6-82-30 in area of sparse vegetation.
07-SA-12-01	Explosives Metals	C	0-12"	Sample site is surface drainage 9 feet south and west of sump located at Building 6-49.
07-SA-13-01	-	-	-	No sample.
07-GW-14-01	Cyanide	G	-	Resample well T-30 to confirm cyanide contamination. Depth of well = 149 feet.
07-EB-15-01	Explosives Metals	G	N/A	Equipment blank.

Table 3-9 summarizes all results that were reported above CRLs; Table 3-9a presents those results that were reported above the evaluation criteria.

Analytical results of soil samples revealed concentrations of metals above the evaluation criteria in all but one sample location, 07-SA-10. Sample locations containing the most elements above the evaluation criteria were 07-SA-01 and 07-SA-09; both locations are sumps. The metals and their concentrations are presented in Table 3-9a. The remaining sample locations contained lower concentrations of one or two metals each. Lead was detected most frequently, at seven locations; zinc was detected at four locations. Lead was detected above the project established evaluation criteria (27 mg/kg) in two of four samples collected from drainage ditches which previously have been excavated in 1990. Concentrations were, however, below the 100 mg/kg action level established for that excavation.

No explosives were reported above CRLs.

The groundwater sample (07-GW-14-01) collected from the existing monitoring well (T-30) was a confirmation sample for cyanide, which was originally detected at a concentration of 2 ppb in 1988. No cyanide contamination was reported in this sample.

3.9.3 Evaluation of Site

As demonstrated by the SI sampling and previous sampling, there appears to be no explosives contamination of soils within Line 6. Groundwater samples from the SI sampling and previous sampling indicate that there is no contamination in the groundwater directly below Line 6.

SI data indicate that the lead contaminated soils at the south edge of Line 6 identified during the 1986 RFA have been remediated to 100 mg/kg as required by EPA during the 1990 COE removal action; other soil samples throughout the site reveal several metals (barium, chromium, lead, and nickel) above their respective evaluation criteria. The sample locations exhibiting this metals contamination are 07-SA-01, 07-SA-04, 07-SA-07, 07-SA-09, and 07-SA-11 (Figure 3-7).

Based on SI and past sampling results, particularly the detection of lead at elevated levels, it is recommended that this site be retained for further investigation as part of the Phase I Remedial Investigation. Phase I RI tasks will focus on identifying the nature and extent of metals contamination in areas other than the gravel filter beds and drainage ditches that have been remediated by the COE and the areas included in the on-going COE Line 6 closure. A summary report of all SI analytical results associated with this site is included in Appendix B.

Table 3-9

IAAP-07 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP07	SO	EXPLOSIVES	HMX	07-SA-12	08/12/1991	07SA1201YP	1.000	0.77	=LW02	1.27	UGG
		METALS	ARSENIC	07-SA-01	08/13/1991	07SA0101Y	0.800	16.9	=B9	2.5	UGG
						07SA0102YD	0.800	5.09	=B9	2.5	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	3.84	=B9	2.5	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	7.78	=B9	2.5	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	6.51	=B9	2.5	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	5.2	=B9	2.5	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	4.26	=B9	2.5	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	4.23	=B9	2.5	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	4.21	=B9	2.5	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	6.08	=B9	2.5	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	7.51	=B9	2.5	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	3.29	=B9	2.5	UGG
			BARIUM	07-SA-01	08/13/1991	07SA0101Y	0.800	860.0	=JS12	3.29	UGG
						07SA0102YD	0.800	1,600.0	=JS12	3.29	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	347.0	=JS12	3.29	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	203.0	=JS12	3.29	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	207.0	=JS12	3.29	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	245.0	=JS12	3.29	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	244.0	=JS12	3.29	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	146.0	=JS12	3.29	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	217.0	=JS12	3.29	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	252.0	=JS12	3.29	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	208.0	=JS12	3.29	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	283.0	=JS12	3.29	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	272.0	=JS12	3.29	UGG
			BERYLLIUM	07-SA-01	08/13/1991	07SA0101Y	0.800	0.95	=JS12	0.427	UGG
						07SA0102YD	0.800	0.929	=JS12	0.427	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	0.966	=JS12	0.427	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	0.87	=JS12	0.427	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	0.848	=JS12	0.427	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	1.04	=JS12	0.427	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	0.999	=JS12	0.427	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	2.91	=JS12	0.427	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	1.03	=JS12	0.427	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	0.937	=JS12	0.427	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	0.941	=JS12	0.427	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	0.906	=JS12	0.427	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	1.06	=JS12	0.427	UGG
			CHROMIUM	07-SA-01	08/13/1991	07SA0101Y	0.800	214.0	=JS12	1.04	UGG
						07SA0102YD	0.800	466.0	=JS12	1.04	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	37.5	=JS12	1.04	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	27.0	=JS12	1.04	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	23.9	=JS12	1.04	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	28.4	=JS12	1.04	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	28.7	=JS12	1.04	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	30.2	=JS12	1.04	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	31.4	=JS12	1.04	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	39.0	=JS12	1.04	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	32.4	=JS12	1.04	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	30.6	=JS12	1.04	UGG

Table 3-9

IAAP-07 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				07-SA-12	08/12/1991	07SA1201Y	1.000	29.3	=JS12	1.04	UGG
			COPPER	07-SA-01	08/13/1991	07SA0101Y	0.800	24.2	=JS12	2.84	UGG
						07SA0102YD	0.800	25.4	=JS12	2.84	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	22.1	=JS12	2.84	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	14.4	=JS12	2.84	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	18.6	=JS12	2.84	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	16.3	=JS12	2.84	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	41.0	=JS12	2.84	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	121.0	=JS12	2.84	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	29.8	=JS12	2.84	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	98.3	=JS12	2.84	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	20.3	=JS12	2.84	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	19.7	=JS12	2.84	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	17.2	=JS12	2.84	UGG
			LEAD	07-SA-01	08/13/1991	07SA0101Y	0.800	170.0	=JD21	0.467	UGG
						07SA0102YD	0.800	250.0	=JD21	0.467	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	20.0	=JD21	0.467	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	20.0	=JD21	0.467	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	93.0	=JD21	0.467	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	47.0	=JD21	0.467	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	16.0	=JD21	0.467	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	820.0	=JD21	0.467	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	39.0	=JD21	0.467	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	230.0	=JD21	0.467	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	13.0	=JD21	0.467	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	140.0	=JD21	0.467	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	28.0	=JD21	0.467	UGG
			MERCURY	07-SA-01	08/13/1991	07SA0101Y	0.800	2.1	=Y9	0.05	UGG
						07SA0102YD	0.800	2.0	=Y9	0.05	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	0.071	=Y9	0.05	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	0.072	=Y9	0.05	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	0.138	=Y9	0.05	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	9.2	=Y9	0.05	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	0.247	=Y9	0.05	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	0.087	=Y9	0.05	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	0.783	=Y9	0.05	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	130.0	=Y9	0.05	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	0.083	=Y9	0.05	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	0.076	=Y9	0.05	UGG
			NICKEL	07-SA-01	08/13/1991	07SA0101Y	0.800	128.0	=JS12	2.74	UGG
						07SA0102YD	0.800	328.0	=JS12	2.74	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	23.5	=JS12	2.74	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	19.4	=JS12	2.74	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	26.0	=JS12	2.74	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	14.5	=JS12	2.74	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	17.7	=JS12	2.74	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	7.7	=JS12	2.74	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	20.3	=JS12	2.74	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	25.1	=JS12	2.74	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	17.0	=JS12	2.74	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	14.6	=JS12	2.74	UGG

Table 3-9

IAAP-07 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				07-SA-12	08/12/1991	07SA1201Y	1.000	15.8	=JS12	2.74	UGG
			SELENIUM	07-SA-12	08/12/1991	07SA1201Y	1.000	0.657	=JD20	0.449	UGG
			SILVER	07-SA-01	08/13/1991	07SA0102YD	0.800	1.93	=JS12	0.803	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	137.0	=JS12	0.803	UGG
			ZINC	07-SA-01	08/13/1991	07SA0101Y	0.800	94.8	=JS12	2.34	UGG
						07SA0102YD	0.800	114.0	=JS12	2.34	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	91.7	=JS12	2.34	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	53.0	=JS12	2.34	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	60.8	=JS12	2.34	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	71.8	=JS12	2.34	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	124.0	=JS12	2.34	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	50.1	=JS12	2.34	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	157.0	=JS12	2.34	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	397.0	=JS12	2.34	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	66.1	=JS12	2.34	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	71.0	=JS12	2.34	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	77.1	=JS12	2.34	UGG

Table 3-9a

IAAP-07 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP07	SO	EXPLOSIVES	HMX	07-SA-12	08/12/1991	07SA1201YP	1.000	0.77	=LW02	1.27	UGG
		METALS	ARSENIC	07-SA-01	08/13/1991	07SA0101Y	0.800	16.9	=B9	2.5	UGG
			BARIUM	07-SA-01	08/13/1991	07SA0101Y	0.800	860.0	=JS12	3.29	UGG
						07SA0102YD	0.800	1,600.0	=JS12	3.29	UGG
			BERYLLIUM	07-SA-07	08/13/1991	07SA0701Y	0.500	2.91	=JS12	0.427	UGG
			CHROMIUM	07-SA-01	08/13/1991	07SA0101Y	0.800	214.0	=JS12	1.04	UGG
						07SA0102YD	0.800	466.0	=JS12	1.04	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	37.5	=JS12	1.04	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	30.2	=JS12	1.04	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	31.4	=JS12	1.04	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	39.0	=JS12	1.04	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	32.4	=JS12	1.04	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	30.6	=JS12	1.04	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	29.3	=JS12	1.04	UGG
			COPPER	07-SA-06	08/12/1991	07SA0601Y	0.500	41.0	=JS12	2.84	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	121.0	=JS12	2.84	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	98.3	=JS12	2.84	UGG
			LEAD	07-SA-01	08/13/1991	07SA0101Y	0.800	170.0	=JD21	0.467	UGG
						07SA0102YD	0.800	250.0	=JD21	0.467	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	93.0	=JD21	0.467	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	47.0	=JD21	0.467	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	820.0	=JD21	0.467	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	39.0	=JD21	0.467	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	230.0	=JD21	0.467	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	140.0	=JD21	0.467	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	28.0	=JD21	0.467	UGG
			MERCURY	07-SA-01	08/13/1991	07SA0101Y	0.800	2.1	=Y9	0.05	UGG
						07SA0102YD	0.800	2.0	=Y9	0.05	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	9.2	=Y9	0.05	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	0.783	=Y9	0.05	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	130.0	=Y9	0.05	UGG
			NICKEL	07-SA-01	08/13/1991	07SA0101Y	0.800	128.0	=JS12	2.74	UGG
						07SA0102YD	0.800	328.0	=JS12	2.74	UGG
			SELENIUM	07-SA-12	08/12/1991	07SA1201Y	1.000	0.657	=JD20	0.449	UGG
			SILVER	07-SA-01	08/13/1991	07SA0102YD	0.800	1.93	=JS12	0.803	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	137.0	=JS12	0.803	UGG
			ZINC	07-SA-01	08/13/1991	07SA0101Y	0.800	94.8	=JS12	2.34	UGG
						07SA0102YD	0.800	114.0	=JS12	2.34	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	91.7	=JS12	2.34	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	124.0	=JS12	2.34	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	157.0	=JS12	2.34	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	397.0	=JS12	2.34	UGG

3.10 IAAP-8 (LINE 7)

3.10.1 Site Description and History

Line 7, IAAP-8, is located in the central portion of the site and is situated within a larger area that is enclosed by a security fence (Plate 1; D-5). Line 7 encompasses approximately 9 acres and its dimensions are 500 by 800 feet (Figure 3-8).

Line 7 was constructed in 1941 and has been inactive since 1970. Line 7 was a fuse and blank load, assemble, and pack (LAP) facility, where artillery primers, rocket igniters, and time fuses were assembled during World War II and the Korean War. During the early 1960s, Line 7 produced blank ammunition used in ceremonies. After 1965 and during the Vietnam War, M65 and M84 time fuses for mortars were produced at Line 7 (COE 1989).

TNT, RDX, and Composition B were the primary materials utilized. Other chemicals used during Line 7 operations primarily included acetone, toluene, xylene, ethanol, and varnish, which were used as polishing agents in fuse production. In addition, gun powder (a mixture of charcoal, sulfur, and potassium nitrate) was used in munitions preparation. Gun powder has a high accidental explosion hazard which is due to its great sensitivity to ignition by flame, incandescent particles, or electric spark (COE 1989).

During production operations, wastes from building washdowns were discharged to gravel-lined sumps, then allowed to leach into the ground. Overflow ran off to the natural drainageways in the area.

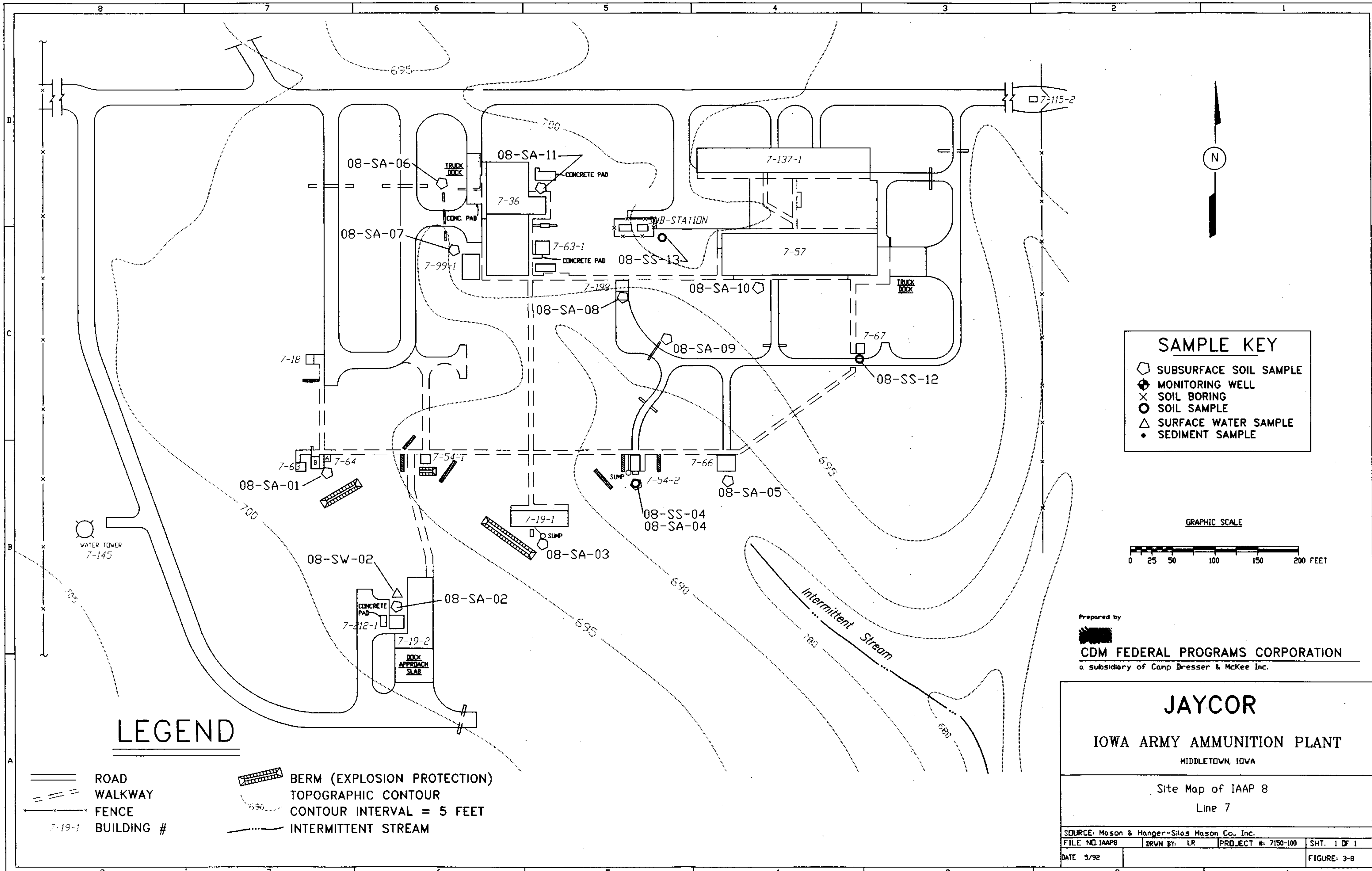
The equipment that remained in the buildings after the closure of Line 7 was disassembled and washed with hot water. It is not known how this wash water was disposed. No solvents were used in the cleaning operation. This equipment has an XXX decontamination rating, which indicates that the equipment has been examined and approved after decontamination but still should not be exposed to open flames or high-temperature heating devices. This equipment is not to be considered toxically safe. The buildings of Line 7 also received an XXX decontamination rating after a thorough washdown with high pressure firehoses.

The Line 7 area appears to be situated on a divide with groundwater flowing in both a southeasterly direction and a southwesterly direction away from the Line 7 area (ERG 1982). General site drainage is to the south and southeast. During periods of heavy rainfall, surface drainage is into an intermittent stream which then flows into Brush Creek.

No site-specific information concerning geology and hydrogeology was available in the documentation used to prepare this report.

It was reported in a field trip report dated 13-14 August 1990 (author unknown) that a large amount of gun powder was noted in the Line 7 area. This report also stated that in the pelletting bays south of Building 7-36, buckets of powder were spilled and then swept out the door of the building. Sumps that potentially may contain tetryl and RDX were noted as having potential overflow problems. At Building 7-36, the east side press bay was reported to have oil on the ground. This was a result of a hydraulic system breakdown.

During the site visit preceding the SI on 22 May 1991, no indication of gun powder contamination was observed as was noted in the 1990 trip report. In addition, no oil staining was observed in the vicinity of Building 7-36.



695
700
7-115-2
N
08-SA-06
TRUCK DOCK
08-SA-11
CONCRETE PAD
7-36
7-137-1
CONC. PAD
SUB-STATION
08-SA-07
7-63-1
7-57
7-99-1
CONCRETE PAD
08-SS-13
7-198
08-SA-10
TRUCK DOCK
08-SA-08
7-67
08-SA-09
7-18
08-SS-12
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
7-62
7-64
7-54-1
7-66
695
08-SA-01
SUMP
7-54-2
08-SA-05
700
08-SS-04
08-SA-04
7-19-1
GRAPHIC SCALE
0 25 50 100 150 200 FEET
WATER TOWER
7-145
SUMP
08-SA-03
08-SW-02
690
Intermittent Stream
705
CONCRETE PAD
08-SA-02
7-212-1
695
7-19-2
DOCK APPROACH SLAB
685
680
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 8
Line 7
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP8
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-8
LEGEND
ROAD
WALKWAY
FENCE
7-19-1 BUILDING #
BERM (EXPLOSION PROTECTION)
TOPOGRAPHIC CONTOUR
690
CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM

During Line 7 operations, no precautions were taken to contain any of the waste; therefore, there is a potential for surface water and groundwater contamination as a result of past spills, washdown activities, and sump overflows.

Pasture land is located to the east, southeast, and south of Line 7. Row crops and hay are grown to the west and south. The pasture land, crops, and hay may be affected by contamination originating at Line 7. Since there are no surface water features and Line 7 is no longer in operation, the possibility for aquatic or human receptors is remote. There is the possibility of animal species within and outside the line to come into contact with the limited contamination that exists at and may migrate from Line 7. Bioaccumulation potential of all compounds of concern will be discussed in the Risk Assessment Protocol Document (Section 4.2.1).

3.10.2 Summary of Previous Investigations

No sampling other than the SI has been conducted at Line 7. The SI sampling effort focused on the collection sumps and the gravel-lined sumps; the drainage ditches downgradient from Line 7 were also sampled. During the SI, 15 surface and near surface soil samples and one standing surface water sample were collected.

SI samples are summarized below and sample locations are depicted on Figure 3-8. Table 3-10 summarizes all results that were reported above the CRLs; Table 3-10a presents those results that were reported above the evaluation criteria.

Sample	Analyses	Sample Type	Depth	Location
08-SA-01-01	Explosives Metals VOCs SemiVOCs	G	0-12"	Composite sample taken from excavated sump located south of Building 7-64.
08-SA-02-01	Explosives Metals VOCs SemiVOCs	C	0-12"	Composite sample from excavated sump located north of Building 7-212-1.
08-SW-02-01	Explosives Metals VOCs SemiVOCs	G	N/A	From standing water in hole of excavated sump at location 08-SA-02-01.
08-SA-03-01	Explosives Metals VOCs SemiVOCs	C	0-12"	Composite sample from excavated sump located south of Building 7-19-1(B).
08-SA-03-02	Explosives Metals VOCs SemiVOCs	C	0-12"	Duplicate of sample 08-SA-03-01.
08-SA-04-01	Explosives Metals VOCs SemiVOCs	C	0-12"	Composite sample from excavated sump located near southwest corner of Building 7-54-2.
08-SS-04-02	Explosives Metals VOCs SemiVOCs	C	0-6"	Areal composite of three areas of stained gravel from excavated sump near Building 7-54-2.

Sample	Analyses	Sample Type	Depth	Location
08-SA-05-01	Explosives Metals VOCs SemiVOCs	C	0-12"	Sample from outfall of sump located south of Building 7-66.
08-SA-06-01	Explosives Metals VOCs SemiVOCs	C	0-12"	Sample from drainage ditch 20 feet west of Truck Dock.
08-SA-07-01	Explosives Metals VOCs SemiVOCs	C	0-12"	Sample from drainage ditch 20 feet west of northwest corner of Building 7-99-1.
08-SA-08-01	Explosives Metals VOCs SemiVOCs	C	0-16"	Sample from directly in front of loading dock at Building 7-198.
08-SA-09-01	Explosives Metals VOCs SemiVOCs	C	0-12"	Sample from drainage ditch 60 feet southeast of Building 7-198 at entrance to culvert.
08-SA-10-01	Explosives Metals VOCs SemiVOCs	C	0-12"	Sample from southwest side of loading dock at Building 7-57.
08-SA-11-01	Explosives Metals VOCs SemiVOCs	C	0-12"	Sample from bottom of hole of excavated sump on east side of Building 7-36.
08-SS-12-01	Explosives Metals VOCs SemiVOCs	G	0-6"	Areal composite from drainage pathway west of Building 7-67 in apparent washdown area.
08-SS-13-01	Pesticides/PCBs	G	0-6"	From stained surface soil off concrete transformer pad 7-169-1.
08-EB-14-01	Explosives Metals VOCs SemiVOCs	G	N/A	Equipment blank.
08-FB-01-01	Explosives Metals VOCs SemiVOCs Nitrates Sulfates	G	N/A	Field blank.

3.10.3 Evaluation of Site

Concentrations of several metals in the SI soil samples were above the evaluation levels for metals in soil (Table 3-2a). Chromium, copper, lead, and zinc were reported above the evaluation criteria in several samples each. Arsenic, beryllium, mercury, and selenium were detected slightly above the evaluation criteria in one sample each.

Metals concentrations identified in surface water sample 08-SW-02-01 were below project established evaluation criteria presented in Table 3-2e, for all metals except for barium. Barium was detected in the surface water sample at approximately 50 times the maximum contaminant level (MCL). Barium, however, is not found in corresponding soil sample 08-SA-02-01 or other Line 7 soil samples above established background concentrations. High barium in soil and water is a naturally occurring phenomenon at IAAP.

Several polycyclic aromatic hydrocarbons (PAHs) were detected in soil samples 08-SA-05-01, 08-SA-07-01 and 08-SA-10-01 at concentrations between 1 and 2 mg/kg. These low concentrations of PAHs in soil samples are not considered to be significant.

Toluene was detected in soil samples 08-SA-04-01 and 08-SA-07-01 at concentrations less than 0.5 mg/kg (ppm). Sample 08-SA-04-01 was a composite sample from a former sump. Sample 08-SA-07-01 was a grab sample from a drainage ditch. These sample locations are not connected by surface water drainage pathways, thereby eliminating the possibility that these sample locations have cross-contaminated each other. Based on concentrations of toluene detected in these samples, risk to human health is well below acceptable limits for lifetime exposure. Since toluene has been identified as a process solvent and these two detections may be indicative of more pervasive contamination, it is recommended that these sample locations be further investigated.

Tetryl was detected at 8.8 µg/L in surface water sample 08-SW-02-01. No effluent has been discharged to the sumps since the sumps were excavated after the closing of this line in 1970. The standing water which was sampled as 08-SW-02-01 was accumulated rain water, the source of this contamination must be runoff from the surrounding soils. In contradiction to this tetryl detection, the adjacent soil sample 08-SA-02-01 revealed no explosives contamination. Based on the contradictory results of these two samples it is believed that confirmatory sampling for tetryl is warranted.

PCB 1260 was detected at 2 mg/kg in sample 08-SS-13-01. The action level for PCB spills and leaks, regulated under Toxic Substance Control Act (TSCA), is based on source concentrations being greater than 50 ppm. Cleanup criteria for soil remediation is 1 ppm. The transformers at Line 7 currently contain non-PCB oils, and the original source concentration of PCBs is unknown. The transformer area of Line 7 is restricted and direct contact and migration of PCBs from the area is unlikely; however, confirmation sampling of soils adjacent to the transformers would be prudent.

Di-N-butyl phthalate was detected at 2.57 mg/kg in sample 08-SA-10-01. Phthalates are common laboratory contaminants; this detection does not indicate significant or pervasive contamination. Furthermore, there is no identifiable source for this compound. Therefore, this detection does not warrant further investigation.

Review of the SI data indicates possible low level contamination in isolated areas. The detections of toluene and tetryl may be artifacts of the laboratory rather than environmental contamination; however, based on analytical results from the SI, it is recommended that this site be included in the RI for confirmation sampling. More specifically, the areas where tetryl and PCBs were detected should be visually inspected, field screened where appropriate and sampled to determine the extent and degree of any contamination. Soil gas sampling is recommended for the areas around sample locations 08-SA-04 and 08-SA-07. Surface water sampling is also recommended to confirm explosives and metals in the sump water at sampling location 08-SW-02.

Table 3-10

IAAP-08 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP08	SO	METALS	ARSENIC	08-SA-03	08/14/1991	08SA0301Y	1.000	4.62	=B9	2.5	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	3.37	=B9	2.5	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	4.67	=B9	2.5	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	5.42	=B9	2.5	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	8.78	=B9	2.5	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	7.08	=B9	2.5	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	6.35	=B9	2.5	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	5.38	=B9	2.5	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	6.72	=B9	2.5	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	5.65	=B9	2.5	UGG
			BARIUM	08-SA-01	08/15/1991	08SA0101Y	1.000	17.7	=JS12	3.29	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	83.8	=JS12	3.29	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	160.0	=JS12	3.29	UGG
						08SA0302YD	1.000	133.0	=JS12	3.29	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	94.8	=JS12	3.29	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	212.0	=JS12	3.29	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	233.0	=JS12	3.29	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	192.0	=JS12	3.29	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	239.0	=JS12	3.29	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	231.0	=JS12	3.29	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	220.0	=JS12	3.29	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	97.1	=JS12	3.29	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	148.0	=JS12	3.29	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	171.0	=JS12	3.29	UGG
			BERYLLIUM	08-SA-03	08/14/1991	08SA0302YD	1.000	0.682	=JS12	0.427	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.595	=JS12	0.427	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.725	=JS12	0.427	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.884	=JS12	0.427	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	1.15	=JS12	0.427	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.822	=JS12	0.427	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	1.0	=JS12	0.427	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.837	=JS12	0.427	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.605	=JS12	0.427	UGG
			CHROMIUM	08-SA-01	08/15/1991	08SA0101Y	1.000	4.85	=JS12	1.04	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	16.0	=JS12	1.04	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	22.7	=JS12	1.04	UGG
						08SA0302YD	1.000	28.9	=JS12	1.04	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	14.2	=JS12	1.04	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	29.3	=JS12	1.04	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	46.0	=JS12	1.04	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	499.0	=JS12	1.04	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	28.6	=JS12	1.04	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	30.3	=JS12	1.04	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	29.8	=JS12	1.04	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	14.5	=JS12	1.04	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	18.9	=JS12	1.04	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	19.0	=JS12	1.04	UGG
			COPPER	08-SA-02	08/14/1991	08SA0201Y	1.000	7.42	=JS12	2.84	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	15.0	=JS12	2.84	UGG
						08SA0302YD	1.000	22.4	=JS12	2.84	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	8.14	=JS12	2.84	UGG

Table 3-10

IAAP-08 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-05	08/15/1991	08SA0501Y	1.000	66.6	=JS12	2.84	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	37.0	=JS12	2.84	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	332.0	=JS12	2.84	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	16.8	=JS12	2.84	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	20.1	=JS12	2.84	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	16.1	=JS12	2.84	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	9.93	=JS12	2.84	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	27.7	=JS12	2.84	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	21.2	=JS12	2.84	UGG
			LEAD	08-SA-01	08/15/1991	08SA0101Y	1.000	3.4	=JD21	0.467	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	5.43	=JD21	0.467	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	11.3	=JD21	0.467	UGG
						08SA0302YD	1.000	10.2	=JD21	0.467	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	9.1	=JD21	0.467	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	69.0	=JD21	0.467	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	21.0	=JD21	0.467	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	31.0	=JD21	0.467	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	14.3	=JD21	0.467	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	16.0	=JD21	0.467	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	19.0	=JD21	0.467	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	7.45	=JD21	0.467	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	38.0	=JD21	0.467	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	38.0	=JD21	0.467	UGG
			MERCURY	08-SA-05	08/15/1991	08SA0501Y	1.000	0.226	=Y9	0.05	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.112	=Y9	0.05	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	2.3	=Y9	0.05	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.074	=Y9	0.05	UGG
			NICKEL	08-SA-01	08/15/1991	08SA0101Y	1.000	6.93	=JS12	2.74	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	9.78	=JS12	2.74	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	13.9	=JS12	2.74	UGG
						08SA0302YD	1.000	15.4	=JS12	2.74	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	9.11	=JS12	2.74	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	19.0	=JS12	2.74	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	18.5	=JS12	2.74	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	14.6	=JS12	2.74	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	17.8	=JS12	2.74	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	18.8	=JS12	2.74	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	18.8	=JS12	2.74	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	9.76	=JS12	2.74	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	14.5	=JS12	2.74	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	15.8	=JS12	2.74	UGG
			SELENIUM	08-SA-05	08/15/1991	08SA0501Y	1.000	0.694	=JD20	0.449	UGG
			ZINC	08-SA-01	08/15/1991	08SA0101Y	1.000	24.7	=JS12	2.34	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	29.5	=JS12	2.34	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	52.1	=JS12	2.34	UGG
						08SA0302YD	1.000	75.3	=JS12	2.34	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	51.6	=JS12	2.34	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	276.0	=JS12	2.34	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	343.0	=JS12	2.34	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	155.0	=JS12	2.34	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	63.3	=JS12	2.34	UGG

Table 3-10

IAAP-08 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901Y	1.000	57.5	=JS12	2.34	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	355.0	=JS12	2.34	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	29.1	=JS12	2.34	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	148.0	=JS12	2.34	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	59.6	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-TR	08-SS-13	08/15/1991	08SS1301Y	0.500	0.1	>LH17	0.0034	UGG
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	08-SA-05	08/15/1991	08SA0501N	1.000	1.9	=LM25	0.064	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	1.46	=LM25	0.064	UGG
			ALDRIN	08-SS-13	08/15/1991	08SS1301YU	0.500	0.011	=LH17	0.0014	UGG
			DIELDRIN	08-SS-13	08/15/1991	08SS1301YU	0.500	0.045	=LH17	0.0016	UGG
			PCB 1260	08-SS-13	08/15/1991	08SS1301YC	0.500	2.06	=LH17	0.0479	UGG
		SEMIVOLATILES	2-METHYLNAPHTHALENE	08-SA-07	08/14/1991	08SA0701Y	1.000	0.459	=LM25	0.032	UGG
			BENZO(A)ANTHRACENE	08-SA-05	08/15/1991	08SA0501Y	1.000	0.307	=LM25	0.48	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.172	=LM25	0.48	UGG
			CHRYSENE	08-SA-05	08/15/1991	08SA0501Y	1.000	0.479	=LM25	0.032	UGG
			DI-N-BUTYL PHTHALATE	08-SA-10	08/14/1991	08SA1001Y	1.000	2.57	=LM25	1.3	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	4.72	=LM25	1.3	UGG
			FLUORANTHENE	08-SA-05	08/15/1991	08SA0501Y	1.000	0.14	=LM25	0.032	UGG
			PHENANTHRENE	08-SA-07	08/14/1991	08SA0701Y	1.000	0.758	=LM25	0.032	UGG
			PYRENE	08-SA-05	08/15/1991	08SA0501Y	1.000	0.279	=LM25	0.083	UGG
		VOLATILES	TOLUENE	08-SA-04	08/15/1991	08SA0401Y	1.000	0.491	=LM23	0.1	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.173	=LM23	0.1	UGG
	SW	EXPLOSIVES	TETRYL	08-SW-02	08/14/1991	08SW0201Y	0.000	8.8	=UW01	0.66	UGL
		METALS	ARSENIC	08-SW-02	08/14/1991	08SW0201Y	0.000	3.59	=AX8	2.35	UGL
			BARIUM	08-SW-02	08/14/1991	08SW0201Y	0.000	103.0	=SS12	2.82	UGL
			ZINC	08-SW-02	08/14/1991	08SW0201Y	0.000	124.0	=SS12	18.0	UGL

Table 3-10a

IAAP-08 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP08	SO	METALS	ARSENIC	08-SA-07	08/14/1991	08SA0701Y	1.000	8.78	=B9	2.5	UGG
			BERYLLIUM	08-SA-07	08/14/1991	08SA0701Y	1.000	1.15	=JS12	0.427	UGG
			CHROMIUM	08-SA-05	08/15/1991	08SA0501Y	1.000	29.3	=JS12	1.04	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	46.0	=JS12	1.04	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	499.0	=JS12	1.04	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	30.3	=JS12	1.04	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	29.8	=JS12	1.04	UGG
			COPPER	08-SA-05	08/15/1991	08SA0501Y	1.000	66.6	=JS12	2.84	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	37.0	=JS12	2.84	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	332.0	=JS12	2.84	UGG
			LEAD	08-SA-05	08/15/1991	08SA0501Y	1.000	69.0	=JD21	0.467	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	31.0	=JD21	0.467	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	38.0	=JD21	0.467	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	38.0	=JD21	0.467	UGG
			MERCURY	08-SA-07	08/14/1991	08SA0701Y	1.000	2.3	=Y9	0.05	UGG
			SELENIUM	08-SA-05	08/15/1991	08SA0501Y	1.000	0.694	=JD20	0.449	UGG
			ZINC	08-SA-05	08/15/1991	08SA0501Y	1.000	276.0	=JS12	2.34	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	343.0	=JS12	2.34	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	155.0	=JS12	2.34	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	355.0	=JS12	2.34	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	148.0	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-TR	08-SS-13	08/15/1991	08SS1301Y	0.500	0.1	>LH17	0.0034	UGG
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	08-SA-05	08/15/1991	08SA0501N	1.000	1.9	=LM25	0.064	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	1.46	=LM25	0.064	UGG
			ALDRIN	08-SS-13	08/15/1991	08SS1301YU	0.500	0.011	=LH17	0.0014	UGG
			DIELDRIN	08-SS-13	08/15/1991	08SS1301YU	0.500	0.045	=LH17	0.0016	UGG
			PCB 1260	08-SS-13	08/15/1991	08SS1301YC	0.500	2.06	=LH17	0.0479	UGG
		SEMIVOLATILES	2-METHYLNAPHTHALENE	08-SA-07	08/14/1991	08SA0701Y	1.000	0.459	=LM25	0.032	UGG
			BENZO(A)ANTHRACENE	08-SA-05	08/15/1991	08SA0501Y	1.000	0.307	=LM25	0.48	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.172	=LM25	0.48	UGG
			CHRYSENE	08-SA-05	08/15/1991	08SA0501Y	1.000	0.479	=LM25	0.032	UGG
			DI-N-BUTYL PHTHALATE	08-SA-10	08/14/1991	08SA1001Y	1.000	2.57	=LM25	1.3	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	4.72	=LM25	1.3	UGG
			FLUORANTHENE	08-SA-05	08/15/1991	08SA0501Y	1.000	0.14	=LM25	0.032	UGG
			PHENANTHRENE	08-SA-07	08/14/1991	08SA0701Y	1.000	0.758	=LM25	0.032	UGG
			PYRENE	08-SA-05	08/15/1991	08SA0501Y	1.000	0.279	=LM25	0.083	UGG
		VOLATILES	TOLUENE	08-SA-04	08/15/1991	08SA0401Y	1.000	0.491	=LM23	0.1	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.173	=LM23	0.1	UGG
	SW	EXPLOSIVES	TETRYL	08-SW-02	08/14/1991	08SW0201Y	0.000	8.8	=UW01	0.66	UGL

3.11 IAAP-9 (LINE 8)

3.11.1 Site Description and History

Line 8 (IAAP-9) is located in the central part of the IAAP along the north branch of Long Creek, and encompasses an area measuring 1200 by 2500 feet. Plate 1 depicts the location of IAAP-9 (D-5); Figure 3-9 is a site map.

Line 8 was constructed in 1941 and was used during World War II to produce Amatol (NH_4 $N0_3$/TNT). Under government contract after World War II, the Emergency Export Company utilized the ammonium nitrate crystallization equipment to produce fertilizer for use associated with the Marshall Plan. Subsequent activities were fuse and rocket igniter load, assemble and pack (LAP) operations. Prior to the closing of production activities, around 1950, Line 8 consisted of four process buildings, a gate house, and a tank farm which was used to store ammonium nitrate liquor. After production activities were stopped, two of the process buildings were determined to be contaminated and were subsequently burned. In addition, the tank farm (which contained 13 above ground tanks) was dismantled. No information regarding the size of the tanks or any documentation regarding their disposal has been found.

Currently, no process activities are performed at Line 8. Building 8-83-3, one of the two remaining process buildings, contains an office which is used for ammunition surveillance activities. No other buildings are in use. Specific feedstock materials and wastes is not known. It is known that these buildings, like other lines at IAAP, were periodically washed down.

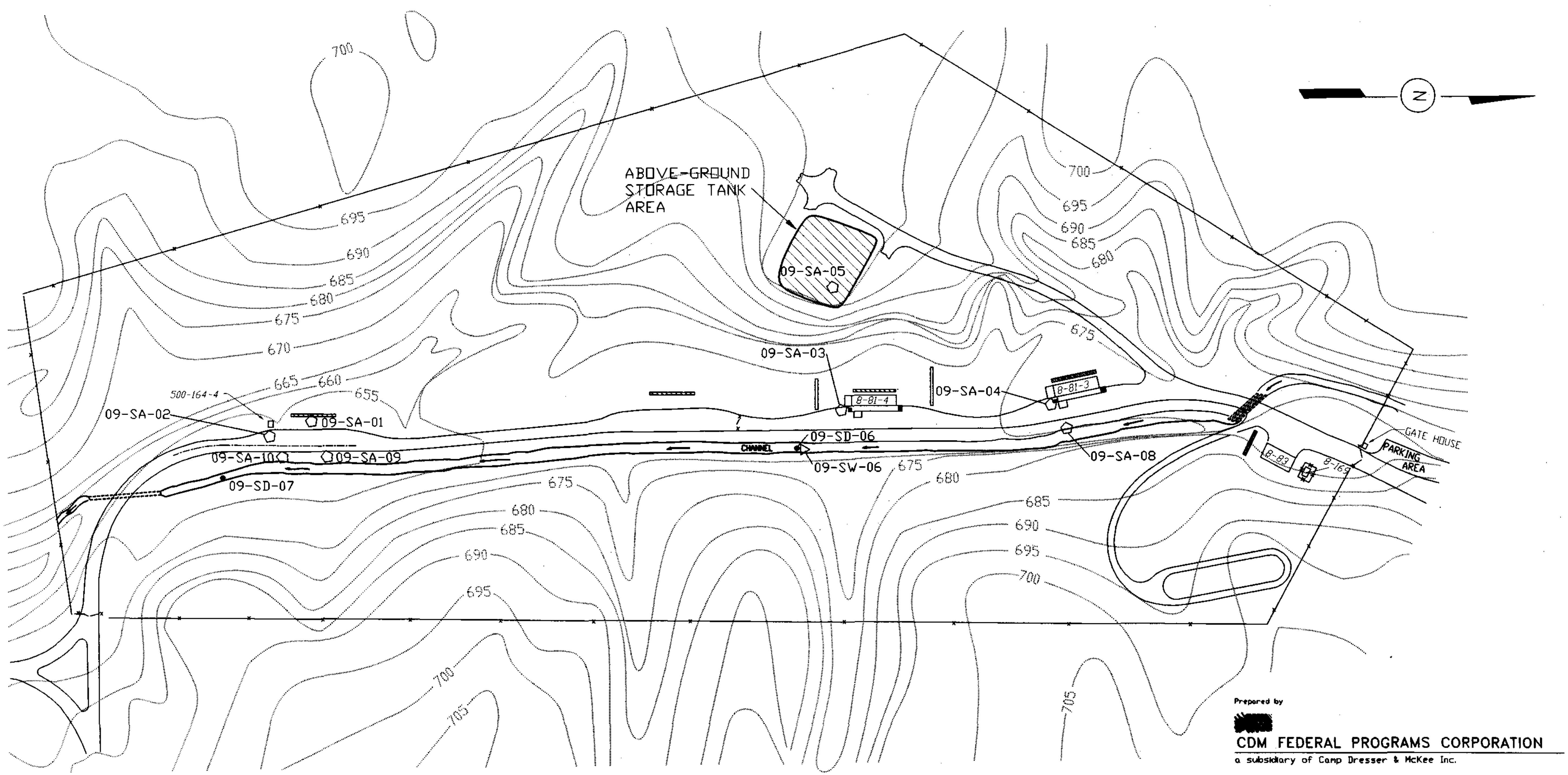
No site-specific geology or hydrogeology is available for the Line 8 facility. For the purposes of this report, it is assumed that similar site conditions exist within the Line 8 facility as are found elsewhere at the IAAP. Therefore, groundwater within the uppermost aquifer is believed to flow toward the adjacent creek in an east/southeasterly direction.

Surface features within the Line 8 facility increase steeply in a western direction. All surface runoff in the area of Line 8 flows to the east into the north branch of Long Creek, which is immediately adjacent to the Line 8 service road. Long Creek empties into Mathes Lake directly south of the Line 8 boundary (Plate 2).

According to a field trip report dated 13-14 August 1990, no spills are known to have occurred in the Line 8 area; however, the inspectors noted the odor of ammonia in the air. The report also stated that the potential existed for residual explosive contamination to be present in the Line 8 area.

The power plant and coal piles that fuel the plant are located north (upgradient) of Line 8. Before the containment lagoon at the power plant was built, rainwater runoff from the coal piles washed leachate containing iron and sulfur down into a ravine east of Line 8. To collect this runoff, a dam was emplaced across Long Creek, approximately adjacent to Building 8-81-3. Particulates settled as a red sludge, which contained up to 27 percent iron. Occasionally, this material was scraped up and taken to a landfill for burial (COE 1989).

Surface water runoff and percolation of contaminants to shallow groundwater are potential migration pathways for residual contaminants that may be present as a result of past operational practices at Line 8. Because the site is isolated in the central portion of the facility and no workers are present, the potential for direct contact with wastes is minimal. However, flora and fauna in the site vicinity and in downgradient areas may be affected by contamination.



LEGEND

═══	ROAD
——·——	FENCE
2-70-2	BUILDING #
690	TOPOGRAPHIC CONTOUR CONTOUR INTERVAL = 5 FEET

GRAPHIC SCALE

0 150 300 600 FEET

SAMPLE KEY

- SUBSURFACE SOIL SAMPLE
- MONITORING WELL
- SOIL BORING
- SOIL SAMPLE
- SURFACE WATER SAMPLE
- SEDIMENT SAMPLE

Prepared by

CDM FEDERAL PROGRAMS CORPORATION
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JAYCOR

IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

Site Map of IAAP 9
Line 8

SOURCE: Mason & Hanger-Silas Mason Co., Inc.

FILE NO. IAAP2	DRWN BY: LR	PROJECT #: 7150-100	SHT. 1 OF 1
DATE 5/92			FIGURE: 3-9

3.11.2 Summary of Previous Investigations

Line 8 is within the Long Creek watershed. According to historical study which was conducted along the Long Creek watershed, analytes found in groundwater, surface water, sediment, and soil were generally indicative of background levels (SCS 1982; U.S. Army Armament Readiness Command 1983).

An environmental contamination survey of the IAAP was performed during the period from 1 February 1981 to 31 October 1981 to determine the extent of contamination and its potential to migrate beyond installation boundaries. Groundwater, surface water, sediment, and soil samples were collected and analyzed for explosives, anions, metals, priority pollutant organic chemicals, pesticides and PCBs. Within Line 8, no samples were found to contain levels of contaminants which exceeded U.S. EPA criteria for human health or aquatic life. However, two soil samples were found to contain lead concentrations of 55 mg/kg and 270 mg/kg. The higher levels that were found at these two locations may be a local variation in soil conditions due to naturally occurring lead in the rock units. Analyses of the surface waters and sediments downstream of this area showed that the lead was not migrating to either of these media.

The SI samples are summarized below, and their locations are shown on Figure 3-9. Table 3-11 summarizes the SI sample results reported above CRLs; Table 3-11a reports those results above evaluation criteria.

Sample	Analyses	Sample Type	Depth	Location
09-SA-01-01	Metals Explosives Nitrates Sulfates	C	0-12"	Areal composite of two aliquots; one 40 feet southeast and one 7 feet north of the old foundation next to Building 500-164-4.
09-SA-01-02	Metals Explosives Nitrates Sulfates	C	0-12"	Duplicate of 09-SA-01-01.
09-SA-02-01	Metals Explosives Nitrates Sulfates	C	0-12"	Areal composite of two aliquots east of the old foundation located approximately 250 yards north Building 500-164-4.
09-SA-03-01	Metals Explosives Nitrates Sulfates	C	0-12"	Areal composite to two aliquots downgradient and on the east side of Building 8-81-4.
09-SA-04-01	Metals Explosives Nitrates Sulfates	C	0-12"	Areal composite of two aliquots located downgradient and on the north and south sides of Building 8-81-3.
09-SA-05-01	Metals Explosives Nitrates Sulfates VOCs SemiVOCs	C	0-12"	Areal composite of four aliquots from within the downgradient side of the tank farm area, 100 yards southwest of Building 8-81-4.

Sample	Analyses	Sample Type	Depth	Locations
09-SW-06-01	Metals Explosives Nitrates Sulfates	G	0-6"	Sample collected in stream below outfall approximately 75 feet southeast of Building 8-81-4.
09-SD-06-01	Metals Explosives Nitrates Sulfates	G	0-6"	Corresponds to 09-SW-06-01.
09-SD-07-01	Metals Explosives Nitrates Sulfates	G	0-6"	In streambed approximately 100 feet southeast of Building 500-164-4 (no corresponding SW sample).
09-SA-08-01	Metals Explosives Nitrates Sulfates	G	0-6"	Grab sample of soil at mouth of culvert discharging immediately east of Building 8-81-3.
09-SA-09-01	Metals Explosives Nitrates Sulfates	G	0-12"	Grab sample from sediment inside the mouth of the pipe discharging east of Building 500-164-4.
09-SA-10-01	Metals Explosives Nitrates Sulfates	G	0-12"	Grab sample from sediment inside the mouth of the pipe discharging east of the remnant building foundation immediately north of Building 500-164-4.

3.11.3 Evaluation of Site

The SI sampling scheme was designed to characterize on-site soils and possible migration pathways into neighboring creek sediments and surface water. SI sample results indicate that the surface water contained elevated levels of metals and explosives, both sediment samples had elevated levels of metals, five of the nine soil samples had elevated levels of metals and one contained semivolatiles.

Analytical results of samples 09-SA-01-01, 09-SA-01-02, 09-SA-02-01, and 09-SA-04-01 did not indicate any explosives, metals, or nitrates and sulfates above the established exceedance levels. Sample 09-SA-10-02, the duplicate sample contained chromium (39.8 mg/kg), copper (36.5 mg/kg), lead (56 mg/kg) and zinc (87.8 mg/kg).

Soil sample 09-SA-03-01 contained chromium (38 mg/kg), lead at 400 mg/kg, and zinc at 568 mg/kg.

Soil samples 09-SD-06-01 and 09-SD-07-01 were reported to contain elevated levels of arsenic. The level of arsenic detected in the samples was 32.1 mg/kg and 18 mg/kg, respectively. 09-SD-06-01 also contained beryllium (1.42 mg/kg).

Sample 09-SA-05-01 was reported to contain low levels of the PAHs: benzo[ghi]perylene (1.97 mg/kg); chrysene (0.458 mg/kg); fluoranthane (0.053); and pyrene (0.333 mg/kg). The presence of these compounds at these low levels is not considered to be significant these compounds are obiquitions in the environment and are likely to be of anthropogenic origin. There is no known process related source.

Soil samples 09-SA-08-01 contained levels of beryllium (1.59 mg/kg), copper (43.6 mg/kg) lead (35 mg/kg), mercury (1.3 mg/kg) and zinc (102 mg/kg).

Soil sample 09-SA-09-01 contained elevated levels of arsenic (8.57 mg/kg), beryllium (1.18 mg/kg), lead (570 mg/kg) and copper (58.7 mg/kg).

Soil sample 09-SA-10-01 contained mercury (0.775 mg/kg)

Surface water sample 09-SW-06-01 contained barium (55.7 mg/kg) and low levels of the explosives 2,4-DNT and 2,6-DNT at 0.81 μg/L and 1.4 μg/L, respectively. The MCLs for the DNT isomers are 1.0 μg/L; therefore, the presence of these compounds at these low levels in surface water is not considered to be significant.

SI sampling confirmed the elevated lead concentrations in soil found in 1981. Additional metals also were detected, as were semivolatiles and explosives. Therefore, it is recommended that Line 8 be included in the Phase I RI.

Table 3-11

IAAP-09 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP09	SD	ANIONS	NITRITE, NITRATE - NONSPECIFIC	09-SD-06	08/09/1991	09SD0601Y	0.500	5.36	=KF17	1.0	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	2.93	=KF17	1.0	UGG
			SULFATE	09-SD-06	08/09/1991	09SD0601Y	0.500	40.3	=KT07	5.0	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	13.5	=KT07	5.0	UGG
		METALS	ARSENIC	09-SD-06	08/09/1991	09SD0601Y	0.500	32.1	=B9	2.5	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	18.0	=B9	2.5	UGG
			BARIUM	09-SD-06	08/09/1991	09SD0601Y	0.500	114.0	=JS12	3.29	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	187.0	=JS12	3.29	UGG
			BERYLLIUM	09-SD-06	08/09/1991	09SD0601Y	0.500	1.42	=JS12	0.427	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	0.72	=JS12	0.427	UGG
			CHROMIUM	09-SD-06	08/09/1991	09SD0601Y	0.500	16.2	=JS12	1.04	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	15.1	=JS12	1.04	UGG
			COPPER	09-SD-06	08/09/1991	09SD0601Y	0.500	16.1	=JS12	2.84	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	10.8	=JS12	2.84	UGG
			LEAD	09-SD-06	08/09/1991	09SD0601Y	0.500	23.0	=JD21	0.467	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	14.0	=JD21	0.467	UGG
			MERCURY	09-SD-07	08/12/1991	09SD0701Y	0.500	0.082	=Y9	0.05	UGG
			NICKEL	09-SD-06	08/09/1991	09SD0601Y	0.500	29.4	=JS12	2.74	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	28.0	=JS12	2.74	UGG
			ZINC	09-SD-06	08/09/1991	09SD0601Y	0.500	64.0	=JS12	2.34	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	69.8	=JS12	2.34	UGG
	SO	ANIONS	NITRITE, NITRATE - NONSPECIFIC	09-SA-01	08/12/1991	09SA0101Y	1.000	1.57	=KF17	1.0	UGG
						09SA0102YD	1.000	1.35	=KF17	1.0	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	2.6	=KF17	1.0	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	6.31	=KF17	1.0	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	1.59	=KF17	1.0	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	16.4	=KF17	1.0	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	2.13	=KF17	1.0	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	3.5	=KF17	1.0	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	6.69	=KF17	1.0	UGG
			SULFATE	09-SA-01	08/12/1991	09SA0101Y	1.000	51.3	=KT07	5.0	UGG
						09SA0102YD	1.000	52.2	=KT07	5.0	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	17.1	=KT07	5.0	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	34.7	=KT07	5.0	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	29.2	=KT07	5.0	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	71.7	=KT07	5.0	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	18.4	=KT07	5.0	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	116.0	=KT07	5.0	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	14.6	=KT07	5.0	UGG
		METALS	ARSENIC	09-SA-01	08/12/1991	09SA0101Y	1.000	4.42	=B9	2.5	UGG
						09SA0102YD	1.000	4.64	=B9	2.5	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	5.0	=B9	2.5	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	3.78	=B9	2.5	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	6.09	=B9	2.5	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	8.57	=B9	2.5	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	2.97	=B9	2.5	UGG
			BARIUM	09-SA-01	08/12/1991	09SA0101Y	1.000	74.7	=JS12	3.29	UGG
						09SA0102YD	1.000	99.5	=JS12	3.29	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	149.0	=JS12	3.29	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	86.2	=JS12	3.29	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	52.8	=JS12	3.29	UGG

Table 3-11

IAAP-09 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				09-SA-05	08/09/1991	09SA0501Y	1.000	68.8	=JS12	3.29	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	111.0	=JS12	3.29	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	100.0	=JS12	3.29	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	78.0	=JS12	3.29	UGG
			BERYLLIUM	09-SA-01	08/12/1991	09SA0101Y	1.000	0.941	=JS12	0.427	UGG
						09SA0102YD	1.000	0.995	=JS12	0.427	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	0.622	=JS12	0.427	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	0.862	=JS12	0.427	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	1.59	=JS12	0.427	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	1.18	=JS12	0.427	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	0.91	=JS12	0.427	UGG
			CADMIUM	09-SA-03	08/09/1991	09SA0301Y	1.000	5.19	=JS12	1.2	UGG
			CHROMIUM	09-SA-01	08/12/1991	09SA0101Y	1.000	16.4	=JS12	1.04	UGG
						09SA0102YD	1.000	39.8	=JS12	1.04	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	22.9	=JS12	1.04	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	38.0	=JS12	1.04	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	17.7	=JS12	1.04	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	20.5	=JS12	1.04	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	19.3	=JS12	1.04	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	15.2	=JS12	1.04	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	11.0	=JS12	1.04	UGG
			COPPER	09-SA-01	08/12/1991	09SA0101Y	1.000	7.9	=JS12	2.84	UGG
						09SA0102YD	1.000	36.5	=JS12	2.84	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	14.3	=JS12	2.84	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	53.2	=JS12	2.84	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	8.38	=JS12	2.84	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	11.9	=JS12	2.84	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	43.6	=JS12	2.84	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	58.7	=JS12	2.84	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	17.8	=JS12	2.84	UGG
			LEAD	09-SA-01	08/12/1991	09SA0101Y	1.000	29.0	=JD21	0.467	UGG
						09SA0102YD	1.000	56.0	=JD21	0.467	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	13.0	=JD21	0.467	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	400.0	=JD21	0.467	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	26.0	=JD21	0.467	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	27.0	=JD21	0.467	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	35.0	=JD21	0.467	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	570.0	=JD21	0.467	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	18.0	=JD21	0.467	UGG
			MERCURY	09-SA-01	08/12/1991	09SA0101Y	1.000	0.057	=Y9	0.05	UGG
						09SA0102YD	1.000	0.068	=Y9	0.05	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	0.191	=Y9	0.05	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	1.3	=Y9	0.05	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	0.336	=Y9	0.05	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	0.775	=Y9	0.05	UGG
			NICKEL	09-SA-01	08/12/1991	09SA0101Y	1.000	15.9	=JS12	2.74	UGG
						09SA0102YD	1.000	41.2	=JS12	2.74	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	15.3	=JS12	2.74	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	24.0	=JS12	2.74	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	13.2	=JS12	2.74	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	15.4	=JS12	2.74	UGG

Table 3-11

IAAP-09 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				09-SA-08	08/12/1991	09SA0801Y	1.000	25.2	=JS12	2.74	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	17.7	=JS12	2.74	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	15.0	=JS12	2.74	UGG
			ZINC	09-SA-01	08/12/1991	09SA0101Y	1.000	61.1	=JS12	2.34	UGG
						09SA0102YD	1.000	87.8	=JS12	2.34	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	84.5	=JS12	2.34	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	568.0	=JS12	2.34	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	37.5	=JS12	2.34	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	49.5	=JS12	2.34	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	102.0	=JS12	2.34	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	90.0	=JS12	2.34	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	59.0	=JS12	2.34	UGG
		PEST-PCBS	TOTAL PCBs	09-SA-05	08/09/1991	09SA0501NS	1.000	2.03	=LM25	0.0	UGG
		SEMIVOLATILES	BENZO(G,H,I)PERYLENE	09-SA-05	08/09/1991	09SA0501Y	1.000	1.97	=LM25	0.18	UGG
			CHRYSENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.458	=LM25	0.032	UGG
			FLUORANTHENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.053	=LM25	0.032	UGG
			PYRENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.333	=LM25	0.083	UGG
	SW	ANIONS	NITRITE, NITRATE - NONSPECIFIC	09-SW-06	08/09/1991	09SW0601Y	0.500	165.0	=LL8	10.0	UGL
			SULFATE	09-SW-06	08/09/1991	09SW0601Y	0.500	160,000.0	=TT09	175.0	UGL
		EXPLOSIVES	2,4-DINITROTOLUENE	09-SW-06	08/09/1991	09SW0601Y	0.500	0.81	=UW01	0.6	UGL
			2,6-DINITROTOLUENE	09-SW-06	08/09/1991	09SW0601Y	0.500	1.4	=UW01	0.55	UGL
		METALS	BARIUM	09-SW-06	08/09/1991	09SW0601N	0.500	55.7	=99	2.82	UGL
			ZINC	09-SW-06	08/09/1991	09SW0601N	0.500	107.0	=99	18.0	UGL

Table 3-11a

IAAP-09 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP09	SD	ANIONS	NITRITE, NITRATE - NONSPECIFIC	09-SD-06	08/09/1991	09SD0601Y	0.500	5.36	=KF17	1.0	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	2.93	=KF17	1.0	UGG
			SULFATE	09-SD-06	08/09/1991	09SD0601Y	0.500	40.3	=KT07	5.0	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	13.5	=KT07	5.0	UGG
		METALS	ARSENIC	09-SD-06	08/09/1991	09SD0601Y	0.500	32.1	=B9	2.5	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	18.0	=B9	2.5	UGG
			BERYLLIUM	09-SD-06	08/09/1991	09SD0601Y	0.500	1.42	=JS12	0.427	UGG
	SO	ANIONS	NITRITE, NITRATE - NONSPECIFIC	09-SA-01	08/12/1991	09SA0101Y	1.000	1.57	=KF17	1.0	UGG
						09SA0102YD	1.000	1.35	=KF17	1.0	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	2.6	=KF17	1.0	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	6.31	=KF17	1.0	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	1.59	=KF17	1.0	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	16.4	=KF17	1.0	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	2.13	=KF17	1.0	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	3.5	=KF17	1.0	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	6.69	=KF17	1.0	UGG
			SULFATE	09-SA-01	08/12/1991	09SA0101Y	1.000	51.3	=KT07	5.0	UGG
						09SA0102YD	1.000	52.2	=KT07	5.0	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	17.1	=KT07	5.0	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	34.7	=KT07	5.0	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	29.2	=KT07	5.0	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	71.7	=KT07	5.0	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	18.4	=KT07	5.0	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	116.0	=KT07	5.0	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	14.6	=KT07	5.0	UGG
		METALS	ARSENIC	09-SA-09	08/09/1991	09SA0901Y	1.000	8.57	=B9	2.5	UGG
			BERYLLIUM	09-SA-08	08/12/1991	09SA0801Y	1.000	1.59	=JS12	0.427	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	1.18	=JS12	0.427	UGG
			CADMIUM	09-SA-03	08/09/1991	09SA0301Y	1.000	5.19	=JS12	1.2	UGG
			CHROMIUM	09-SA-01	08/12/1991	09SA0102YD	1.000	39.8	=JS12	1.04	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	38.0	=JS12	1.04	UGG
			COPPER	09-SA-01	08/12/1991	09SA0102YD	1.000	36.5	=JS12	2.84	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	53.2	=JS12	2.84	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	43.6	=JS12	2.84	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	58.7	=JS12	2.84	UGG
			LEAD	09-SA-01	08/12/1991	09SA0101Y	1.000	29.0	=JD21	0.467	UGG
						09SA0102YD	1.000	56.0	=JD21	0.467	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	400.0	=JD21	0.467	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	35.0	=JD21	0.467	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	570.0	=JD21	0.467	UGG
			MERCURY	09-SA-08	08/12/1991	09SA0801Y	1.000	1.3	=Y9	0.05	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	0.775	=Y9	0.05	UGG
			ZINC	09-SA-01	08/12/1991	09SA0102YD	1.000	87.8	=JS12	2.34	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	568.0	=JS12	2.34	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	102.0	=JS12	2.34	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	90.0	=JS12	2.34	UGG
		PEST-PCBS	TOTAL PCBs	09-SA-05	08/09/1991	09SA0501NS	1.000	2.03	=LM25	0.0	UGG
		SEMIVOLATILES	BENZO(G,H,I)PERYLENE	09-SA-05	08/09/1991	09SA0501Y	1.000	1.97	=LM25	0.18	UGG
			CHRYSENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.458	=LM25	0.032	UGG
			FLUORANTHENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.053	=LM25	0.032	UGG
			PYRENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.333	=LM25	0.083	UGG

Table 3-11a

IAAP-09 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
	SW	ANIONS	NITRITE, NITRATE - NONSPECIFIC	09-SW-06	08/09/1991	09SW0601Y	0.500	165.0	=LL8	10.0	UGL
			SULFATE	09-SW-06	08/09/1991	09SW0601Y	0.500	160,000.0	=TT09	175.0	UGL
		EXPLOSIVES	2,4-DINITROTOLUENE	09-SW-06	08/09/1991	09SW0601Y	0.500	0.81	=UW01	0.6	UGL
			2,6-DINITROTOLUENE	09-SW-06	08/09/1991	09SW0601Y	0.500	1.4	=UW01	0.55	UGL

3.12 IAAP-10 (LINE 9)

3.12.1 Site Description and History

Line 9 is situated in central IAAP and is enclosed within the security fence that encompasses Line 6 (IAAP-7) and Line 7 (IAAP-8) (Plate 1; D-5). The dimensions of Line 9 are 500 by 800 feet, covering an area of about 9 acres. It is bounded by Line 6 to the north, Line 3 (IAAP-4) to the east, Line 7 (IAAP-8) to the south, and the Power Plant to the west.

Line 9 was built in 1942 for use as a component production facility during World War II. During the Vietnam War, the facility produced mines and mine fuses. At the present time, the line is an ammunition LAP facility. The buildings are generally used for mixing, loading, testing, packing, and shipping (Figure 3-10).

The explosives processed at this facility include TNT, RDX, Composition B, and PBX, and the solvents used include acetone, 1,1,1-trichloroethane, xylene, and lacquer thinner.

Wastes being produced at this facility include sump scrap, acetone, xylene, lacquer thinner, and 1,1,1-trichloroethane. Explosives-contaminated washdown water is transported by truck to Line 3A, where it is treated in carbon column filters. Waste explosives generated at Line 9 are treated in the Explosive Waste Incinerator (IAAP-25) located at the Explosive Disposal Area.

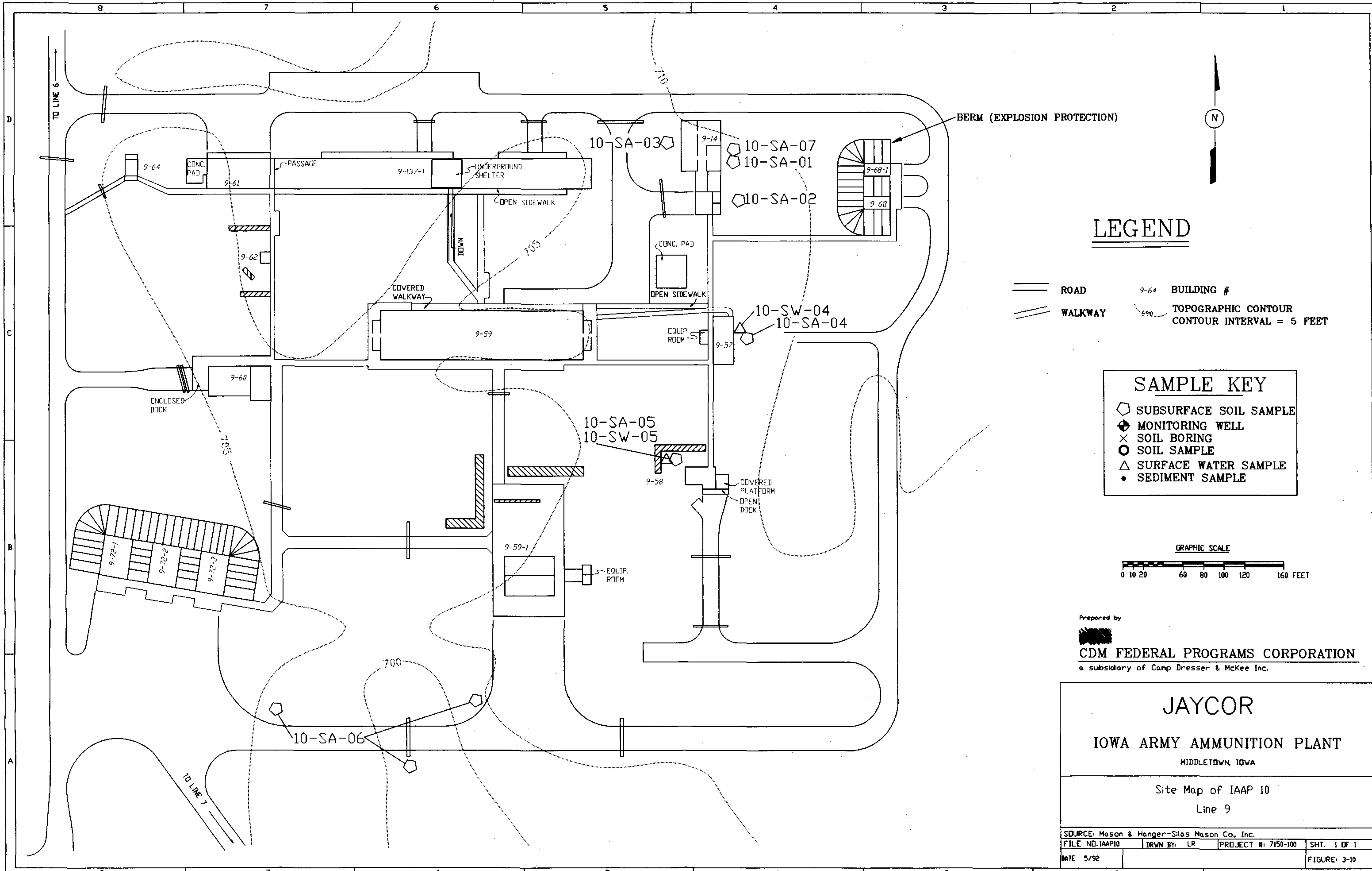
A subsurface investigation conducted in 1972 indicated that the upper 26 feet of the soil at the site consists of fat clay with occasional sand and gravel. The water table was encountered at a depth of 15 feet below ground surface according to a boring log prepared by US Army Corp of Engineers.

The logs of two water supply wells located to the southeast (Well #2) and to the northwest (Well #1) indicate that the site is underlain by approximately 95 feet of clay, below which several layers of shale and limestone were encountered. The shale included Hampton and Kinderhook-Maple Hill formations. The limestone formation includes the Keokuk, Burlington, English River, Cedar Valley, Maquoketa, and Galena formations. Sandstone was encountered at a depth of about 1040 feet below surface. The pumping capacity of drinking Well #1 was recorded at 400 gal/min.

The ground surface at Line 9 slopes toward the south and southeast, from an elevation of about 710 msl at the northwest end of the facility to about 705 msl feet at the southeast corner.

Topographic maps of the area appear to indicate that the drainage path of Line 9 runs southward toward Line 7, and then discharges into Mathes Lake.

The primary migration route is the surface water pathway. The surface topography of Line 9 indicates the existence of a natural low area in the central part of this line. The potential migration pathway of surface water is toward Mathes Lake. The migration of shallow groundwater is believed to follow the same pathway. The vertical migration may cause contaminants to reach the groundwater table located approximately 15 feet below ground surface. Flora and fauna in the area also are potential receptors.


TO LINE 6
TO LINE 7
BERM (EXPLOSION PROTECTION)
N
LEGEND
ROAD
WALKWAY
9-64 BUILDING #
690 TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0 10 20 60 80 100 120 160 FEET
10-SA-03
10-SA-07
10-SA-01
10-SA-02
10-SW-04
10-SA-04
10-SA-05
10-SW-05
10-SA-06
710
705
700
9-64
9-61
9-62
9-60
9-137-1
9-14
9-68-1
9-68
9-59
9-57
9-58
9-59-1
9-72-1
9-72-2
9-72-3
CONC. PAD
PASSAGE
UNDERGROUND SHELTER
OPEN SIDEWALK
DOWN
COVERED WALKWAY
EQUIP. ROOM
ENCLOSED DOCK
COVERED PLATFORM
OPEN DOCK
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 10
Line 9
SOURCE: Mason & Hanger-Silas Mason Co. Inc.
FILE NO. IAAP10
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-10

3.12.2 Summary of Previous Investigations

No sampling other than the SI has been conducted at Line 9. SI sampling focused on the buildings where hazardous wastes were known to be generated or used. Associated treatment sumps and drainage pathways also were sampled. The SI samples collected and their locations are as follows:

Sample	Analyses	Sample Type	Depth	Location
10-SA-01-01	Explosives Metals VOCs	G	4'	Bottom of excavated sump pit east of building 9-14.
10-SA-02-01	Explosives Metals	C	0-12"	Bottom of excavated sump pit S.E. of building 9-14.
10-SA-02-02	Explosives Metals	C	0-12"	Duplicate of 10-SA-02-01.
10-SA-03-01	Explosives Metals	C	0-12"	Bottom of excavated sump pit west of building 9-14.
10-SA-04-01	Explosives Metals	C	0-12"	Bottom of excavated sump pit east of building 9-57.
10-SW-04-01	Explosives Metals	G	0-6"	Grab sample of standing water at bottom of excavated sump pit east of building 9-57.
10-SA-05-01	Explosives Metals VOCs	C	0-12"	Bottom of excavated sump pit N.W. of building 9-58.
10-SW-05-01	Explosives Metals VOCs	G	N/A	Grab sample of standing water at bottom of excavated sump pit N.W. of building 9-58. (Corresponds to SW-05-01.)
10-SA-06-01	Explosives Metals	C	0-12"	Composite sample from 2 storm water drainages and at the culvert outfall past their convergence, approximately 150 feet S.W. of building 9-59-1.
10-SA-07-01	Explosives Metals	C	0-18"	Next to old gravel filter bed; three aliquots at 6, 12, and 18 inches, east of building 9-14.

Table 3-12 summarizes the SI sample results reported above CRLs; Table 3-12a reports those results above evaluation criteria. Appendix B is the report of all analytical data associated with the SI.

3.12.3 Evaluation of Site

Metals and explosives were detected at IAAP-10. Of the nine samples collected at the site, all but one exhibited levels of metals and/or explosives above the established evaluation criteria.

Six soil samples were collected at IAAP 10; five were associated with excavated sumps. Of those five, four contained metals above criteria. The metals detected include; lead, chromium, zinc, mercury, arsenic, beryllium, and copper.

Two other soil samples were collected in addition to the sump samples. One soil sample (10-SA-06) was collected as a composite from a storm drainage and contained chromium at 41.5 mg/kg. The last soil sample (10-SA-07) was collected next to an old gravel filter bed and also contained low levels of chromium at 35 mg/kg.

No volatile compounds were reported in any samples above the CRLs.

The two surface water samples (10-SW-04-01 and 10-SW-05-01) were collected in association with the soil samples 10-SA-04-01 and 10-SA-05-01, respectively. Both these water samples were collected from the standing water at the bottom of the two excavated sump pits (Figure 3-10). Both water samples contained lead, beryllium, and chromium above evaluation criteria. Sample 10-SW-05-01 also contained nickel. Furthermore, the SI water samples contained explosives. The explosive constituents detected and their respective concentrations are summarized on Table 3-12a.

Based on the SI analytical results, it is recommended that this site be further investigated during the Phase I RI to delineate the extent of soil and water contamination originating at the sumps. Soil gas samples should be collected around the loading building (9-59) and equipment room/primer mixer prep building (9-57).

Table 3-12

IAAP-10 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP10	SO	METALS	ARSENIC	10-SA-01	08/13/1991	10SA0101Y	4.000	3.89	=B9	2.5	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	5.53	=B9	2.5	UGG
						10SA0202Y	1.000	5.44	=B9	2.5	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	20.3	=B9	2.5	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	3.97	=B9	2.5	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	7.03	=B9	2.5	UGG
			BARIUM	10-SA-01	08/13/1991	10SA0101Y	4.000	124.0	=JS12	3.29	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	215.0	=JS12	3.29	UGG
						10SA0202Y	1.000	201.0	=JS12	3.29	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	211.0	=JS12	3.29	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	311.0	=JS12	3.29	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	421.0	=JS12	3.29	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	205.0	=JS12	3.29	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	272.0	=JS12	3.29	UGG
			BERYLLIUM	10-SA-02	08/13/1991	10SA0201Y	1.000	0.919	=JS12	0.427	UGG
						10SA0202Y	1.000	0.837	=JS12	0.427	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	1.16	=JS12	0.427	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	101.0	=JS12	0.427	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	1.02	=JS12	0.427	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	1.0	=JS12	0.427	UGG
			CHROMIUM	10-SA-01	08/13/1991	10SA0101Y	4.000	21.0	=JS12	1.04	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	35.4	=JS12	1.04	UGG
						10SA0202Y	1.000	28.2	=JS12	1.04	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	37.7	=JS12	1.04	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	67.9	=JS12	1.04	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	47.8	=JS12	1.04	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	41.5	=JS12	1.04	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	35.0	=JS12	1.04	UGG
			COPPER	10-SA-01	08/13/1991	10SA0101Y	4.000	14.5	=JS12	2.84	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	24.1	=JS12	2.84	UGG
						10SA0202Y	1.000	25.8	=JS12	2.84	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	106.0	=JS12	2.84	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	32.8	=JS12	2.84	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	31.4	=JS12	2.84	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	16.9	=JS12	2.84	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	19.6	=JS12	2.84	UGG
			LEAD	10-SA-01	08/13/1991	10SA0101Y	4.000	9.11	=JD21	0.467	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	60.0	=JD21	0.467	UGG
						10SA0202Y	1.000	39.0	=JD21	0.467	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	25.3	=JD21	0.467	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	77.3	=JD21	0.467	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	570.0	=JD21	0.467	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	15.0	=JD21	0.467	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	17.3	=JD21	0.467	UGG
			MERCURY	10-SA-01	08/13/1991	10SA0101Y	4.000	0.378	=Y9	0.05	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	4.4	=Y9	0.05	UGG
						10SA0202Y	1.000	10.0	>Y9	0.05	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	3.2	=Y9	0.05	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.148	=Y9	0.05	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	0.099	=Y9	0.05	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	0.075	=Y9	0.05	UGG

Table 3-12

IAAP-10 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			NICKEL	10-SA-01	08/13/1991	10SA0101Y	4.000	16.0	=JS12	2.74	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	21.6	=JS12	2.74	UGG
						10SA0202Y	1.000	20.1	=JS12	2.74	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	37.2	=JS12	2.74	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	41.9	=JS12	2.74	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	31.1	=JS12	2.74	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	17.8	=JS12	2.74	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	17.9	=JS12	2.74	UGG
			ZINC	10-SA-01	08/13/1991	10SA0101Y	4.000	58.7	=JS12	2.34	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	93.7	=JS12	2.34	UGG
						10SA0202Y	1.000	98.8	=JS12	2.34	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	170.0	=JS12	2.34	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	125.0	=JS12	2.34	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	123.0	=JS12	2.34	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	51.9	=JS12	2.34	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	70.9	=JS12	2.34	UGG
	SW	EXPLOSIVES	1,3-DINITROBENZENE	10-SW-05	08/13/1991	10SW0501Y	0.500	2.1	=UW01	0.61	UGL
			HMX	10-SW-05	08/13/1991	10SW0501Y	0.500	6.8	=UW01	1.3	UGL
			RDX	10-SW-04	08/21/1991	10SW0401Y	0.500	2.7	=UW01	0.63	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	3.4	=UW01	0.63	UGL
		METALS	ARSENIC	10-SW-04	08/21/1991	10SW0401Y	0.500	18.7	=AX8	2.35	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	44.9	=AX8	2.35	UGL
			BARIUM	10-SW-04	08/21/1991	10SW0401Y	0.500	234.0	=SS12	2.82	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	996.0	=SS12	2.82	UGL
			BERYLLIUM	10-SW-04	08/21/1991	10SW0401Y	0.500	2.0	=SS12	1.12	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	5.33	=SS12	1.12	UGL
			CHROMIUM	10-SW-04	08/21/1991	10SW0401Y	0.500	84.1	=SS12	16.8	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	227.0	=SS12	16.8	UGL
			COPPER	10-SW-04	08/21/1991	10SW0401Y	0.500	38.1	=SS12	18.8	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	96.1	=SS12	18.8	UGL
			LEAD	10-SW-04	08/21/1991	10SW0401Y	0.500	450.0	=SD18	4.47	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	660.0	=SD18	4.47	UGL
			NICKEL	10-SW-04	08/21/1991	10SW0401Y	0.500	50.2	=SS12	32.1	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	122.0	=SS12	32.1	UGL
			ZINC	10-SW-04	08/21/1991	10SW0401Y	0.500	246.0	=SS12	18.0	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	806.0	=SS12	18.0	UGL

Table 3-12a

IAAP-10 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP10	SO	METALS	ARSENIC	10-SA-03	08/13/1991	10SA0301Y	1.000	20.3	=B9	2.5	UGG
			BERYLLIUM	10-SA-03	08/13/1991	10SA0301Y	1.000	1.16	=JS12	0.427	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	101.0	=JS12	0.427	UGG
			CHROMIUM	10-SA-02	08/13/1991	10SA0201Y	1.000	35.4	=JS12	1.04	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	37.7	=JS12	1.04	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	67.9	=JS12	1.04	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	47.8	=JS12	1.04	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	41.5	=JS12	1.04	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	35.0	=JS12	1.04	UGG
			COPPER	10-SA-03	08/13/1991	10SA0301Y	1.000	106.0	=JS12	2.84	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	32.8	=JS12	2.84	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	31.4	=JS12	2.84	UGG
			LEAD	10-SA-02	08/13/1991	10SA0201Y	1.000	60.0	=JD21	0.467	UGG
						10SA0202Y	1.000	39.0	=JD21	0.467	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	77.3	=JD21	0.467	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	570.0	=JD21	0.467	UGG
			MERCURY	10-SA-02	08/13/1991	10SA0201Y	1.000	4.4	=Y9	0.05	UGG
						10SA0202Y	1.000	10.0	>Y9	0.05	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	3.2	=Y9	0.05	UGG
			ZINC	10-SA-02	08/13/1991	10SA0201Y	1.000	93.7	=JS12	2.34	UGG
						10SA0202Y	1.000	98.8	=JS12	2.34	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	170.0	=JS12	2.34	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	125.0	=JS12	2.34	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	123.0	=JS12	2.34	UGG
	SW	EXPLOSIVES	1,3-DINITROBENZENE	10-SW-05	08/13/1991	10SW0501Y	0.500	2.1	=UW01	0.61	UGL
			HMX	10-SW-05	08/13/1991	10SW0501Y	0.500	6.8	=UW01	1.3	UGL
			RDX	10-SW-04	08/21/1991	10SW0401Y	0.500	2.7	=UW01	0.63	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	3.4	=UW01	0.63	UGL
		METALS	BERYLLIUM	10-SW-04	08/21/1991	10SW0401Y	0.500	2.0	=SS12	1.12	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	5.33	=SS12	1.12	UGL
			CHROMIUM	10-SW-05	08/13/1991	10SW0501Y	0.500	227.0	=SS12	16.8	UGL
			LEAD	10-SW-04	08/21/1991	10SW0401Y	0.500	450.0	=SD18	4.47	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	660.0	=SD18	4.47	UGL
			NICKEL	10-SW-05	08/13/1991	10SW0501Y	0.500	122.0	=SS12	32.1	UGL

3.13 IAAP-11 (LINE 800)

3.13.1 Site Description and History

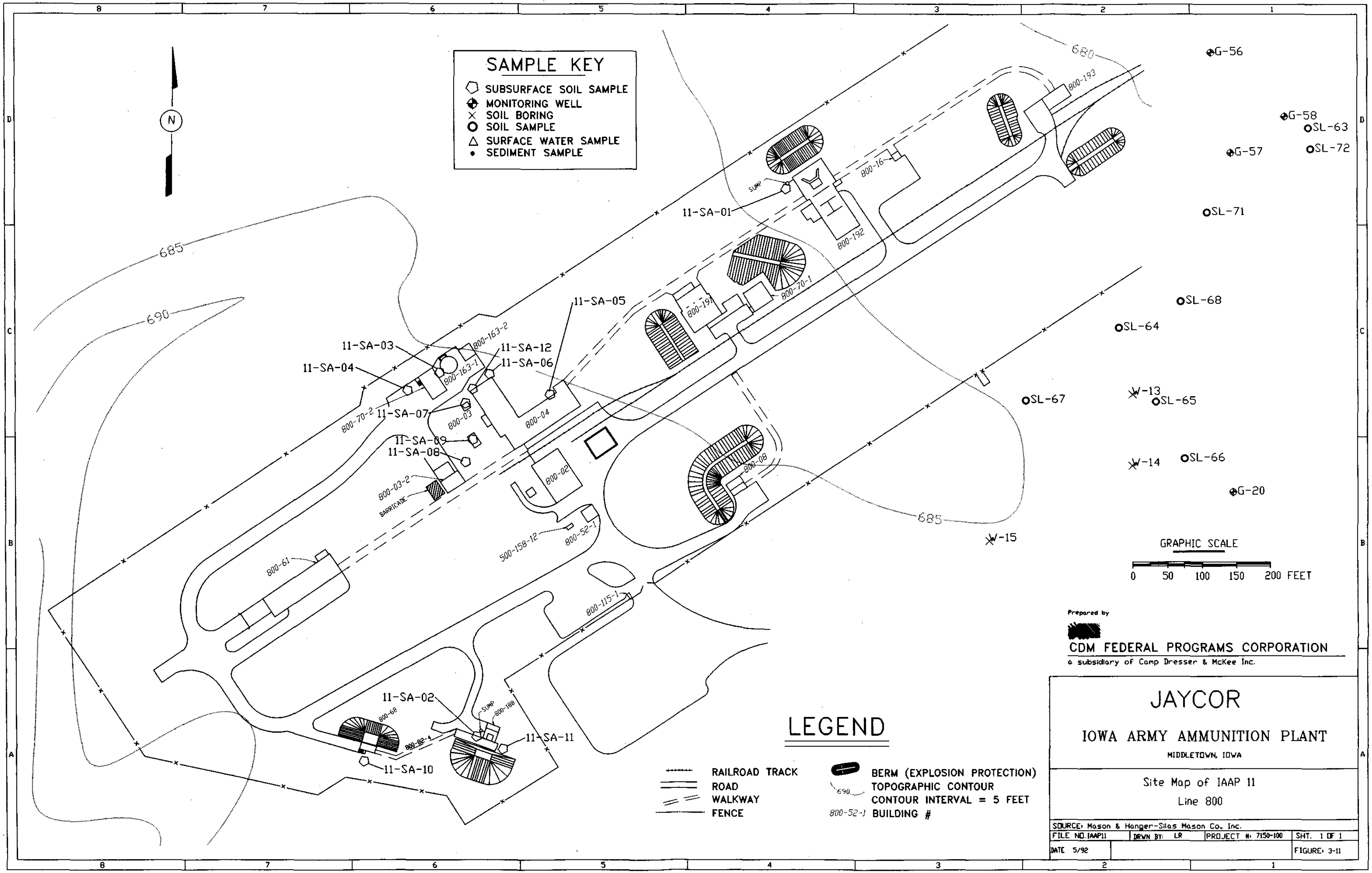
Line 800 (IAAP-11) is located within the Brush Creek watershed, approximately 2000 feet west of Brush Creek, southeast of Yard O, northwest of Yard E, and west of the Sewage Disposal Plant (IAAP-26). Plate 1 depicts the location of IAAP-11 (C-4); Figure 3-11 is a site map. The line measures 450 by 1700 feet, and is made up of 18 buildings.

Line 800 has been in operation at IAAP since the inception of the plant. From 1943 to 1955, the primary function of the line was ammunition renovation, where the explosives filler is washed from the projectiles, and blank salute ammunition was loaded.

The wastestream at Line 800 is explosives-contaminated wastewater that may have been washed from building floors, which was a common practice until carbon filters were installed at IAAP in the early 1970s. Wastes were generated by metal cleaning operations at Line 800, which were identical to metal cleaning operations at Line 3. Waste sludge from the metal cleaning bath was disposed at the former Blue Sludge Lagoon at the Inert Disposal Area (IAAP-20). The lagoon also received metal cleaning sludge from identical operations at Line 3. (Note: The former Blue Sludge Lagoon has been excavated, and the wastes placed in the Sludge Drying Beds, which also is within the Inert Disposal Area.)

The majority of explosive-contaminated wastewater generated by Line 800 operations was discharged to the Line 800 Pink Water Lagoon. The Line 800 Pink Water Lagoon, northeast of this line, was initially operated as an unlined pit, and became a permanent impoundment with the construction of a containment berm. This lagoon was a leaching field, originally constructed to encompass approximately four acres. The lagoon was constructed in 1943 and was used until 1945. The lagoon also received wastes from 1951 to 1955. Currently, the pond is not used for wastewater disposal, and holds only accumulated sediments and standing water. Sampling results indicate that significant quantities of explosives residue still remain in the sediments of the Pink Water Lagoon, and also in the soils around the southwest corner of the impoundment. A detailed discussion of waste handling practices and past investigations at the Line 800 Pink Water Lagoon (IAAP-44) is provided in Sections 3.4.6.1 and 3.4.6.2.

There are three wells within the boundary of Line 800 that can be used to characterize the geology of the line: G-56, G-57, and G-58. The geology at Line 800 and the Pink Water Lagoon is characterized as overburden consisting of 20 to 58 feet of clay-rich till with some sand and silt. The clays are very stiff and appear to be of relatively low permeability. There is a layer of sand ranging from 11 to 19 feet thick. A very hard, silty shale layer, 1 to 5 feet thick, was encountered just above bedrock in several borings. The bedrock underlying this area has been identified as the Warsaw Formation, which consists of fossiliferous limestone interbedded with layers of shale clay and silt. The bedrock surface appears to be weathered, resulting in variable depth to the top of the rock. Underweathered rock appears to have very few fractures; however, the upper weathered portion of the limestone bedrock exhibits enhanced permeability. No open voids were observed at the locations drilled to a maximum depth of 80 feet below ground surface (Dames & Moore 1989).


SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
N
685
690
680
11-SA-01
11-SA-02
11-SA-03
11-SA-04
11-SA-05
11-SA-06
11-SA-07
11-SA-08
11-SA-09
11-SA-10
11-SA-11
11-SA-12
800-193
800-16
800-192
800-70-1
800-19
800-163-2
800-163-1
800-03
800-04
800-70-2
800-03-2
BARRICADE
800-02
800-08
800-52-1
500-158-12
800-61
800-115-1
800-68
800-82-4
800-188
SUMP
G-56
G-58
SL-63
G-57
SL-72
SL-71
SL-68
SL-64
SL-67
W-13
SL-65
W-14
SL-66
G-20
W-15
GRAPHIC SCALE
0 50 100 150 200 FEET
LEGEND
RAILROAD TRACK
ROAD
WALKWAY
FENCE
BERM (EXPLOSION PROTECTION)
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
800-52-1 BUILDING #
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 11
Line 800
SOURCE: Mason & Hanger-Silas Mason Co. Inc.
FILE NO. IAAP11
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-11

The limestone bedrock generally occurs at depths across the site ranging from 44 to 58 feet. Contamination within the limestone bedrock is confirmed in Well G-44 to a depth of 79 feet. Further, detection of explosives in Well G-44 confirms contaminant migration in bedrock to a distance of at least 450 feet from the lagoon. Potential contamination beyond this point has not been evaluated, although monitoring of Well G-50 (located approximately 2100 feet downgradient of Well G-44) indicates that contaminants have not reached Brush Creek.

3.13.2 Summary of Previous Investigations

Before the Pink Water Lagoon was constructed, wastewater was poured on the ground at Line 800 and allowed to infiltrate or run off into surface drainageways. There is some evidence to suggest that the area was furrowed to increase evaporation and infiltration. It appears that the lagoon was later used as a settling pond to reduce particulates prior to the discharge of effluent to surface drainage. No known water treatment process was employed at the lagoon or at Line 800. Explosives detected in the till aquifer of wells around Line 800 and Pink Water Lagoon were RDX, HMX, 2,4,6-TNT, 2,4-DNT, 2,6-DNT, 1,3,5-TNB and 1,3-DNB; tetryl, HMX, and 1,3-DNB were not detected. Metals were not detected at elevated levels in groundwater.

Explosives concentrations are much greater in the till than in the underlying bedrock aquifer. In both aquifers, RDX is present at the greatest concentrations, ranging to 36,000 μg/L in the till, and to 238 μg/L in the bedrock aquifer. Two other explosives frequently detected at concentrations exceeding those of other explosives are 1,3,5-TNB and 2,4,6-TNT. Explosives are present throughout the entire saturated thickness of the till, as demonstrated by the occurrence of explosives-contamination in groundwater below the till.

The SI sampling scheme was designed to characterize soil in areas of Line 800 where wastes may have been discharged. The SI samples are summarized below. SI sample locations are depicted on Figure 3-11. Table 3-13 summarizes the SI sample results reported above CRLs; Table 3-13a reports those results above exceedance criteria. A summary report of all analytical results associated with the SI of this site is included in Appendix B.

Sample	Analyses	Sample Type	Depth	Location
11-SA-01-01	Metals Explosives	G	4'	North of Building 800-192, one foot west of the sump.
11-SA-02-01	Metals Explosives	C	0-12"	North of Building 800-188, and one foot west of sump.
11-SA-03-01	Metals Explosives	C	3-4'	East of Building 800-70-2 and west of tank 800-163-1.
11-SA-03-02	Metals Explosives	C	3-4'	Duplicate of 11-SA-03-01.
11-SA-04-01	Metals Explosives	C	0-12"	Two feet west of the aboveground storage, west of Building 800-70-2.
11-SA-05-01	Metals Explosives	G	6-12"	18' north of Building 800-03-02.
11-SA-06-01	Metals Explosives	C	4-12"	Twenty feet north of Building 800-4.

Sample	Analyses	Sample Type	Depth	Location
11-SA-07-01	Metals Explosives VOCs	G	0-12"	Located directly beneath the middle of the concrete floor in solvent storage building 800-03.
11-SA-08-01	Metals Explosives VOCs	C	0-12"	Three locations in drainage ditch trending north off Building 800-03-02.
11-SA-09-01	Metals Pesticides/PCBs	C	0-6"	Four aliquots located around the concrete transformer pad by Building 800-169-2.
11-SA-10-01	Metals Explosives	C	2-12"	One foot west of concrete drainage trough associated with a sump located west of Building 800-68.
11-SA-11-01	Metals Explosives VOCs SemiVOCs	G	0-6"	Immediately off sidewalk, just east of Building 800-188.
11-SA-12-01	Metals Explosives VOCs	G	12"	Sixteen feet southwest of sample 11-SA-06-01, along drainage path.
11-EB-13-01	Metals Explosives VOCs SemiVOCs	G	N/A	Equipment blank.

Elevated concentrations of metals were found at four sample locations; explosives were found at one sample location; organics were found at two sample locations.

3.13.3 Evaluation of Site

The SI confirmed contamination at the site, with a total of five SI samples exceeding contaminant criteria. Contaminants identified during previous investigations were confirmed during the SI, and include metals, volatiles, semivolatiles, pesticides and PCBs.

Soil sample 11-SA-03-01 contained an elevated level of chromium (30.7 mg/kg).

Soil sample 11-SA-04-01 contained elevated levels of the metals chromium (39.1 mg/kg) and silver (1.39 mg/kg).

Sample 11-SA-05-01 contained elevated levels of the metals chromium (43.4 mg/kg), copper (45.8 mg/kg), lead (140 mg/kg), and zinc (104 mg/kg).

Sample 11-SA-06-01 contained elevated levels of the metals beryllium (1.26 mg/kg), chromium (42.9 mg/kg), copper (34.6 mg/kg), and zinc (157 mg/kg).

Sample 11-SA-07-01 contained elevated levels of the metals arsenic (10.3 mg/kg), chromium (34.4 mg/kg), and zinc (88.6 mg/kg).

Three samples (11-SA-08-01, 11-SA-09-01, and 11-SA-12-01) were collected in proximity to each other, and all contain elevated levels of the metals chromium, copper, and zinc. In addition, sample 11-SA-12-01 contained lead (34 mg/kg) and nickel (57 mg/kg); sample 11-SA-08-01 had a detectable level of 1,1,1-TCE; and sample 11-SA-09-01, collected around a transformer pad, had detectable levels of PCBs and pesticides.

Soil sample 11-SA-10-01 contained elevated levels of chromium (34.7 mg/kg) and zinc (101 mg/kg).

Sample 11-SA-11-01 contained elevated levels of the metal beryllium (2.39 mg/kg), and detectable levels of the explosives HMX and RDX, and the semivolatile di-n-butyl phthalate.

Samples 11-SA-01-01, 11-SA-02-01, 11-SA-03-01, 11-SA-03-02, and 11-SA-04-01 were all analyzed for metals and explosives, and contained parameter levels below the evaluation criteria. Samples 11-SA-06-01 and 11-SA-07-01 were analyzed for metals, explosives, and volatiles, and also contained parameter levels below the exceedance criteria.

Based on SI results, it is recommended that Line 800 (IAAP-11) be included in the Phase I RI.

Table 3-13

IAAP-11 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP11	SO	EXPLOSIVES	HMX	11-SA-11	08/12/1991	11SA1101Y	1.000	7.4	=LW02	1.27	UGG
			RDX	11-SA-11	08/12/1991	11SA1101Y	1.000	6.4	=LW02	0.98	UGG
		METALS	ARSENIC	11-SA-02	08/08/1991	11SA0201Y	1.000	3.58	=B9	2.5	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	4.26	=B9	2.5	UGG
						11SA0302YD	4.000	4.21	=B9	2.5	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	6.13	=B9	2.5	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	4.28	=B9	2.5	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	4.97	=B9	2.5	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	10.3	=B9	2.5	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	4.54	=B9	2.5	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	6.6	=B9	2.5	UGG
			BARIUM	11-SA-01	08/08/1991	11SA0101Y	4.000	56.1	=JS12	3.29	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	137.0	=JS12	3.29	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	237.0	=JS12	3.29	UGG
						11SA0302YD	4.000	242.0	=JS12	3.29	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	467.0	=JS12	3.29	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	304.0	=JS12	3.29	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	291.0	=JS12	3.29	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	331.0	=JS12	3.29	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	179.0	=JS12	3.29	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	181.0	=JS12	3.29	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	279.0	=JS12	3.29	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	25.5	=JS12	3.29	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	247.0	=JS12	3.29	UGG
			BERYLLIUM	11-SA-03	08/08/1991	11SA0301Y	4.000	0.959	=JS12	0.427	UGG
						11SA0302YD	4.000	0.969	=JS12	0.427	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	1.14	=JS12	0.427	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	1.06	=JS12	0.427	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	1.26	=JS12	0.427	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.973	=JS12	0.427	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.85	=JS12	0.427	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	1.1	=JS12	0.427	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	0.948	=JS12	0.427	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	2.39	=JS12	0.427	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.846	=JS12	0.427	UGG
			CHROMIUM	11-SA-01	08/08/1991	11SA0101Y	4.000	16.1	=JS12	1.04	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	17.4	=JS12	1.04	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	30.7	=JS12	1.04	UGG
						11SA0302YD	4.000	30.1	=JS12	1.04	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	39.1	=JS12	1.04	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	43.4	=JS12	1.04	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	42.9	=JS12	1.04	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	34.4	=JS12	1.04	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	78.1	=JS12	1.04	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	31.9	=JS12	1.04	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	34.7	=JS12	1.04	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	19.1	=JS12	1.04	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	91.4	=JS12	1.04	UGG
			COPPER	11-SA-01	08/08/1991	11SA0101Y	4.000	6.72	=JS12	2.84	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	11.0	=JS12	2.84	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	19.6	=JS12	2.84	UGG

Table 3-13

IAAP-11 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						11SA0302YD	4.000	19.6	=JS12	2.84	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	25.0	=JS12	2.84	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	45.8	=JS12	2.84	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	34.6	=JS12	2.84	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	24.8	=JS12	2.84	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	116.0	=JS12	2.84	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	56.2	=JS12	2.84	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	20.5	=JS12	2.84	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	19.2	=JS12	2.84	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	178.0	=JS12	2.84	UGG
			LEAD	11-SA-01	08/08/1991	11SA0101Y	4.000	5.75	=JD21	0.467	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	10.0	=JD21	0.467	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	20.0	=JD21	0.467	UGG
						11SA0302YD	4.000	19.0	=JD21	0.467	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	25.0	=JD21	0.467	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	140.0	=JD21	0.467	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	16.0	=JD21	0.467	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	23.0	=JD21	0.467	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	24.0	=JD21	0.467	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	46.0	=JD21	0.467	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	15.0	=JD21	0.467	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	13.0	=JD21	0.467	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	34.0	=JD21	0.467	UGG
			MERCURY	11-SA-03	08/08/1991	11SA0302YD	4.000	0.075	=Y9	0.05	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	0.067	=Y9	0.05	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	0.088	=Y9	0.05	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.083	=Y9	0.05	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	0.074	=Y9	0.05	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.132	=Y9	0.05	UGG
			NICKEL	11-SA-01	08/08/1991	11SA0101Y	4.000	12.4	=JS12	2.74	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	9.99	=JS12	2.74	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	16.2	=JS12	2.74	UGG
						11SA0302YD	4.000	16.3	=JS12	2.74	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	16.3	=JS12	2.74	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	18.5	=JS12	2.74	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	32.0	=JS12	2.74	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	32.3	=JS12	2.74	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	39.1	=JS12	2.74	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	16.8	=JS12	2.74	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	23.0	=JS12	2.74	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	11.6	=JS12	2.74	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	57.5	=JS12	2.74	UGG
			SILVER	11-SA-04	08/07/1991	11SA0401Y	1.000	1.39	=JS12	0.803	UGG
			ZINC	11-SA-01	08/08/1991	11SA0101Y	4.000	23.9	=JS12	2.34	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	37.8	=JS12	2.34	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	63.1	=JS12	2.34	UGG
						11SA0302YD	4.000	63.8	=JS12	2.34	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	75.4	=JS12	2.34	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	104.0	=JS12	2.34	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	157.0	=JS12	2.34	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	88.6	=JS12	2.34	UGG

Table 3-13

IAAP-11 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				11-SA-08	08/08/1991	11SA0801Y	0.500	757.0	=JS12	2.34	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	555.0	=JS12	2.34	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	101.0	=JS12	2.34	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	41.9	=JS12	2.34	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	1,200.0	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	11-SA-09	08/08/1991	11SA0901YU	0.500	0.011	=LH17	0.0027	UGG
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	11-SA-09	08/08/1991	11SA0901YC	0.500	0.065	=LH17	0.0034	UGG
			CHLORDANE	11-SA-09	08/08/1991	11SA0901YC	0.500	0.259	=LH17	0.0684	UGG
			DIELDRIN	11-SA-09	08/08/1991	11SA0901YU	0.500	0.005	=LH17	0.0016	UGG
			ENDRIN	11-SA-09	08/08/1991	11SA0901YU	0.500	0.036	=LH17	0.0065	UGG
			HEPTACHLOR	11-SA-09	08/08/1991	11SA0901YU	0.500	0.008	=LH17	0.0022	UGG
			HEPTACHLOR EPOXIDE	11-SA-09	08/08/1991	11SA0901YC	0.500	0.004	=LH17	0.0013	UGG
			PCB 1260	11-SA-09	08/08/1991	11SA0901YC	0.500	0.112	=LH17	0.0479	UGG
		SEMIVOLATILES	DI-N-BUTYL PHTHALATE	11-SA-11	08/12/1991	11SA1101Y	1.000	6.2	>LM25	1.3	UGG
		VOLATILES	1,1,1-TRICHLOROETHANE	11-SA-08	08/08/1991	11SA0801Y	0.500	0.83	=LM23	0.2	UGG

Table 3-13a

IAAP-11 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP11	SO	EXPLOSIVES	HMX	11-SA-11	08/12/1991	11SA1101Y	1.000	7.4	=LW02	1.27	UGG
			RDX	11-SA-11	08/12/1991	11SA1101Y	1.000	6.4	=LW02	0.98	UGG
		METALS	ARSENIC	11-SA-07	08/08/1991	11SA0701Y	1.000	10.3	=B9	2.5	UGG
			BERYLLIUM	11-SA-06	08/08/1991	11SA0601Y	1.000	1.26	=JS12	0.427	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	2.39	=JS12	0.427	UGG
			CHROMIUM	11-SA-03	08/08/1991	11SA0301Y	4.000	30.7	=JS12	1.04	UGG
						11SA0302YD	4.000	30.1	=JS12	1.04	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	39.1	=JS12	1.04	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	43.4	=JS12	1.04	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	42.9	=JS12	1.04	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	34.4	=JS12	1.04	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	78.1	=JS12	1.04	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	31.9	=JS12	1.04	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	34.7	=JS12	1.04	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	91.4	=JS12	1.04	UGG
			COPPER	11-SA-05	08/07/1991	11SA0501Y	1.000	45.8	=JS12	2.84	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	34.6	=JS12	2.84	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	116.0	=JS12	2.84	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	56.2	=JS12	2.84	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	178.0	=JS12	2.84	UGG
			LEAD	11-SA-05	08/07/1991	11SA0501Y	1.000	140.0	=JD21	0.467	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	46.0	=JD21	0.467	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	34.0	=JD21	0.467	UGG
			NICKEL	11-SA-12	08/08/1991	11SA1201Y	1.000	57.5	=JS12	2.74	UGG
			SILVER	11-SA-04	08/07/1991	11SA0401Y	1.000	1.39	=JS12	0.803	UGG
			ZINC	11-SA-05	08/07/1991	11SA0501Y	1.000	104.0	=JS12	2.34	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	157.0	=JS12	2.34	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	88.6	=JS12	2.34	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	757.0	=JS12	2.34	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	555.0	=JS12	2.34	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	101.0	=JS12	2.34	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	1,200.0	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	11-SA-09	08/08/1991	11SA0901YU	0.500	0.011	=LH17	0.0027	UGG
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	11-SA-09	08/08/1991	11SA0901YC	0.500	0.065	=LH17	0.0034	UGG
			CHLORDANE	11-SA-09	08/08/1991	11SA0901YC	0.500	0.259	=LH17	0.0684	UGG
			DIELDRIN	11-SA-09	08/08/1991	11SA0901YU	0.500	0.005	=LH17	0.0016	UGG
			ENDRIN	11-SA-09	08/08/1991	11SA0901YU	0.500	0.036	=LH17	0.0065	UGG
			HEPTACHLOR	11-SA-09	08/08/1991	11SA0901YU	0.500	0.008	=LH17	0.0022	UGG
			HEPTACHLOR EPOXIDE	11-SA-09	08/08/1991	11SA0901YC	0.500	0.004	=LH17	0.0013	UGG
			PCB 1260	11-SA-09	08/08/1991	11SA0901YC	0.500	0.112	=LH17	0.0479	UGG
		SEMIVOLATILES	DI-N-BUTYL PHTHALATE	11-SA-11	08/12/1991	11SA1101Y	1.000	6.2	>LM25	1.3	UGG
		VOLATILES	1,1,1-TRICHLOROETHANE	11-SA-08	08/08/1991	11SA0801Y	0.500	0.83	=LM23	0.2	UGG

3.14 IAAP-12 (EXPLOSIVE DISPOSAL AREA EAST BURN PADS)

3.14.1 Site Description and History

The Explosive Disposal Area (EDA) east burn pads are located in the northeast corner of IAAP, approximately one mile from the installation boundary. The burn pads are situated approximately 2,000 feet southeast of the Contaminated Waste Processor (IAAP-24). Plate 1 depicts the location of IAAP-12 (E-2); Figure 3-12 is a site map.

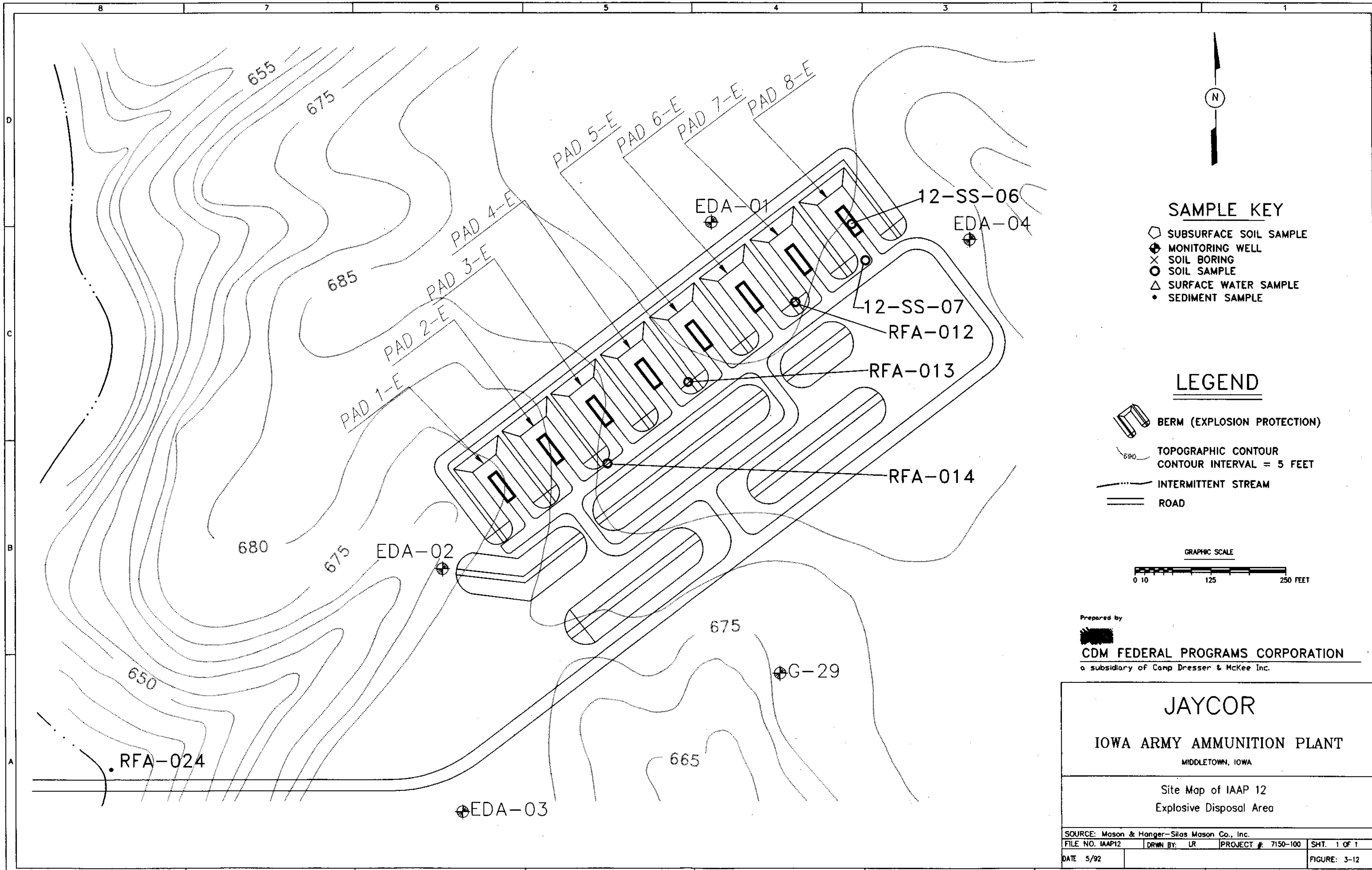
The EDA consists of eight raised earthen burning pads enclosed in a fenced area of approximately 12 acres. Historical activities at the EDA included open burning of explosives-contaminated metals, propellant explosive and pyrotechnic (PEP)-contaminated materials. Each pad is bermed on three sides to restrict the horizontal movement of metal projectiles. The pads were in operation until 1982, when the Explosive Waste Incinerator (IAAP-25) was constructed to take over the burning of many explosives-contaminated items. The burn pads are a RCRA-regulated treatment unit and are addressed in a Part B Permit Application. However, due to changes in Iowa's air pollution regulations, variances must be obtained through the Iowa Department of Natural Resources to allow any burning at the pads. After the site's closure in 1982, variances were obtained for permitted burns in 1988, 1990, and 1991. The last open burn events were conducted January 1991 through March 1992. All open burning that occurred under these variances was conducted in metal containment vessels; no open burning was conducted on the ground surface, as was the past practice.

In several past studies, the name Explosive Disposal Area has referred to an extensive general area in the northeast corner of IAAP where all open burning/open detonation activity in the facility takes place. This general area encompasses the following SWMUs:

Contaminated Waste Processor (IAAP-24)
Explosive Waste Incinerator (IAAP-25)
Burn Cages (IAAP-32)
Burn Cage Ash Disposal Landfill (IAAP-33)
West Burn Pads (IAAP-34)
West Burn Pads Landfill (IAAP-35)
North Burn Pads (IAAP-36)
North Burn Pads Landfill (IAAP-37)
Fire Training Pit (IAAP-39)

IAAP-12 will reference only the easternmost burning pads described above.

The elevations of the sites within the EDA range from 650 to 700 feet (EBASCO 1989). The geology in this vicinity is consistent with the facility geology as a whole. The sediments overlying the bedrock consists of 8 to 27 feet of clay-rich glacial deposits with some sand and silt. The clays are relatively impermeable, with permeabilities of 7.3×10^{-6} cm/sec for the surface loess layer, and 6.3×10^{-9} cm/sec for the remaining till fraction. Underlying the sediments are the Warsaw and Keokuk formations, consisting of fossiliferous limestone intercalated with layers of shaley clay and silt. The base of the unit is composed of gray and blue cherty limestones, which are less permeable than the upper bedrock layers (Army Munitions Command 1985; AEHA 1985).



655
675
685
680
675
650
675
665
PAD 1-E
PAD 2-E
PAD 3-E
PAD 4-E
PAD 5-E
PAD 6-E
PAD 7-E
PAD 8-E
EDA-01
EDA-02
EDA-03
EDA-04
G-29
12-SS-06
12-SS-07
RFA-012
RFA-013
RFA-014
RFA-024
N
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
LEGEND
BERM (EXPLOSION PROTECTION)
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM
ROAD
GRAPHIC SCALE
0 10 125 250 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 12
Explosive Disposal Area
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP12
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-12

Two aquifers underlie the site. The shallow alluvial aquifer consists of loess and till deposits which overlie the bedrock limestone units. The water table is situated near the surface, as the water retention characteristics of the materials are high. In the vicinity of the EDA, hydraulic conductivities are: 0.09 ft/day at well EDA-01; 4.8 ft/day at well EDA-02; 0.7 ft/day at well EDA-03; 0.5 ft/day at well EDA-04; and 0.19 ft/day at well G-29. Monitoring well locations are depicted on Plate 2.

The underlying limestone aquifer, locally separated from the upper unconsolidated layers by Pennsylvanian shales, transmits water through fractures, joints, and bedding planes. This results in varied groundwater velocity and direction. In the vicinity of the EDA, flow direction at the top of the aquifer is southerly. At this level, direction is determined by the strike of the fractures transmitting water. At deeper levels, flow is regionally controlled, moving in a southeasterly direction towards the Mississippi River.

The surface water feature nearest the EDA SWMUs is Spring Creek, a perennial stream which runs through the EDA from north to south, and provides drainage to the area. The creek flows directly into the Mississippi River less than one mile above the confluence of the Skunk and Mississippi Rivers. (This confluence is approximately 6 miles from the southeast corner of the IAAP property.) Spring Creek originates north of the facility, flows through the facility, receives effluent from the sewage treatment facility of West Burlington, Iowa, then enters the Mississippi River. The floodplain of the stream valley is approximately 400 feet wide (EBASCO 1989; AEHA 1985).

Surface runoff from the western portion of the EDA east burn pads moves west, toward wells EDA-02 and EDA-03. Surface runoff from the eastern portions of the area moves east toward well EDA-04. Wells EDA-02 and EDA-04 are located in a possible recharge area, so it is likely that any contamination is due to the percolation of surface water affected by open burning activities.

Groundwater recharge from precipitation occurs in the broad, flat fields that lie along the stream divides. Recharge is expected to be low due to the low permeability of the soil. While no quantitative evidence substantiating groundwater recharge from Spring Creek exists, the upper bedrock aquifer may be recharged during runoff events in drought seasons. Recharge would occur in the lower reaches of the creek where deep stream incisions have exposed bedrock.

Public access to IAAP is restricted, and the EDA is in a remote area of the facility. Shallow groundwater beneath the area is known to be contaminated, as are soils in the area. Flora and fauna are potential receptors of contamination, particularly those species that inhabit the vicinity of Spring Creek. Consumption of deer and other game affected by contamination may provide a vehicle for food chain uptake to human receptors.

3.14.2 Summary of Previous Investigations

A groundwater study of the EDA was performed by the AMC from February 1984 to March 1985. The study involved sampling the 5 monitoring wells surrounding the EDA east burn pads for explosive and organic compounds. Monitoring well EDA-02 revealed low concentrations of 2,4,6-TNT, however, the remaining wells registered concentrations below the U.S. Army suggested interim drinking water limit of 44 μg/L. HMX and 2,4-DNT were also identified only in EDA-02. RDX was found in wells EDA-02 and EDA-04 at levels above the Army interim drinking water limit of 35 µg/L.

A Dames & Moore facility-wide groundwater investigation from late 1985 to early 1986 revealed elevated levels of RDX and HMX in EDA area wells. Groundwater sample results revealed RDX at 149 µg/L in well EDA-02, and both HMX and RDX in well EDA-04 at 35 µg/L and 24 µg/L, respectively.

Ecology and Environment, Inc. performed a contamination assessment of the EDA as part of a RCRA Facility Assessment (RFA) in 1987. Seven samples were collected around the EDA: three sediment (RFA-23, -24 and -25) and four soil samples (RFA-10, -12, -13, and -14). RFA-12, -13, -14 and -24 are located on Figure 3-12. Sample RFA-23 is located in the Spring Creek sediment approximately one-third mile northwest of the site. Sample RFA-10 is located in the soils, immediately west of RFA-23. And sample RFA-25 is located in the Spring Creek sediments approximately one-third mile southeast of the EDA.

These RFA samples showed significant levels of contamination: RDX (93,000 - 2,000,000 µg/kg); HMX (34,000 - 430,000 µg/kg); 1,3,5 trinitrobenzene (13,000 - 480,000 µg/kg); and TNT (34,000 - 9,700,000 µg/kg). Additionally, soil and sediment samples revealed barium levels ranging from 43,000 µg/kg to 1,600,000 µg/kg; lead from 6,600 µg/kg to 57,000 µg/kg; and zinc from 21,000 µg/kg to 150,000 µg/kg. Sediment samples collected from Spring Creek showed no significant levels of the aforementioned compounds; however, chromium was present at high levels in all downgradient samples.

The SI sampling scheme was designed to confirm or deny soil and/or groundwater contamination previously measured in this area. Four groundwater samples and two surface soil samples were collected for analysis of explosives, metals, volatiles and semivolatiles. The SI samples confirmed elevated levels of metals and explosives in the groundwater and soil. Additionally, one groundwater showed traces of volatiles and one soil sample showed traces of semivolatiles. SI sample results are discussed in Section 3.14.3. SI sample locations are depicted in Figure 3-12. Table 3-14 summarizes the SI sample results reported above CRLs; Table 3-14a reports those results above exceedance criteria. A summary report of all analytical results is included in Appendix B.

Sample	Analyses	Sample Type	Depth	Location
12-GW-02-01	Metals Explosives VOCs SemiVOCs	G	22.1′	Sample from well located on the western side of the pads.
12-GW-03-01	Metals Explosives VOCs SemiVOCs	G	14.1′	Sample from well located on the eastern side of the pads.
12-GW-04-01	Metals Explosives VOCs SemiVOCs	G	13.5′	Sample from well located on the northern side of the pads.

Sample	Analyses	Sample Type	Depth	Location
12-GW-05-01	Metals Explosives VOCs SemiVOCs	G	22.9'	Sample from well located southwest of the pad area.
12-SS-06-01	Metals Explosives VOCs SemiVOCs	C	6"	Areal composite of four aliquots located at burn pad 8-E.
12-SS-07-01	Metals Explosives VOCs SemiVOCs	C	6"	Areal composite of four aliquots located in the ditch at pad 8-E. All samples were south and west of sample 12-SS-06-01.

3.14.3 Evaluation of Site

During the 1991 SI, groundwater at the EDA was found to contain elevated levels of explosives, metals and volatiles. All four area wells were contaminated with explosives. EDA-02, EDA-03 and EDA-04 all contained the two explosives HMX (1.5 to 50.0 µg/L) and RDX (3.6 to 140 µg/L), and EDA-01 contained 2,4-DNT (1.1 µg/L) and 2,6-DNT (5.4 µg/L). All four wells also contained elevated levels of barium (72.1 to 128 µg/L). Wells EDA-01, EDA-02 and EDA-04 contained zinc at elevated levels of 513, 293 and 253 µg/L, respectively. EDA-02 was the only well found to contain volatiles: chloromethane (4.21 µg/L) and chloroform (1.30 µg/L).

Sample 12-SS-06-01 contained a very high level of barium (8300 mg/kg) and elevated levels of chromium, copper, lead and zinc. It also contained the following semivolatiles: 3,5-dinitroaniline (8.46 mg/kg), anthracene (2.51 mg/kg), bis (2-ethylhexyl) phthalate (1.35 mg/kg) di-N-butyl phthalate (4.51 mg/kg), phenanthrene (2.48 mg/kg), and pyrene (1.67 mg/kg). Sample 12-SS-06-01 also contained high levels of the following explosives: 2,4,6-TNT (6000 mg/kg), HMX (3700 mg/kg), RDX (7700 mg/kg) and 1,3,5-trinitrobenzene (27 mg/kg).

Sample 12-SS-07-01 contained a very high level of barium (2200 mg/kg) and elevated levels of arsenic, chromium, copper, lead, nickel, and zinc. It also contained the following semivolatiles: 3,5-dinitroanaline (3 mg/kg), fluoranthene (0.128 mg/kg), phenanthrene (0.331 mg/kg), and pyrene (0.383 mg/kg). Sample 12-SS-07-01 also contained elevated levels of the following explosives: 1,3,5-trinitrobenzene (4.9 mg/kg), 2,4,6-TNT (69 mg/kg), 2,6-dinitrotoluene (0.58 mg/kg), HMX (830 mg/kg), nitrobenzene (0.82 mg/kg) and RDX (510 mg/kg).

The SI confirmed contamination at the site, with all of six SI samples exceeding contaminant criteria. Contaminants identified during previous investigations were confirmed during the SI, and include explosives, metals, volatiles and semivolatiles. As a result of this contamination, this site is recommended for further investigation during the RI.

Table 3-14

IAAP-12 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP12	GW	EXPLOSIVES	2,4-DINITROTOLUENE	EDA-01	08/22/1991	12GW0401Y	13.500	1.1	=UW01	0.6	UGL
			2,6-DINITROTOLUENE	EDA-01	08/22/1991	12GW0401Y	13.500	5.4	=UW01	0.55	UGL
			HMX	EDA-02	08/23/1991	12GW0201Y	22.000	9.4	=UW01	1.3	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.5	=UW01	1.3	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	50.0	=UW01	1.3	UGL
			RDX	EDA-02	08/23/1991	12GW0201Y	22.000	140.0	=UW01	0.63	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	3.6	=UW01	0.63	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	23.0	=UW01	0.63	UGL
		METALS	ARSENIC	EDA-01	08/22/1991	12GW0401Y	13.500	3.04	=AX8	2.35	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	3.04	=AX8	2.35	UGL
			BARIUM	EDA-01	08/22/1991	12GW0401Y	13.500	89.2	=SS12	2.82	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	128.0	=SS12	2.82	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	104.0	=SS12	2.82	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	72.1	=SS12	2.82	UGL
			ZINC	EDA-01	08/22/1991	12GW0401Y	13.500	513.0	=SS12	18.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	293.0	=SS12	18.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	34.4	=SS12	18.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	253.0	=SS12	18.0	UGL
		VOLATILES	CHLORFORM	EDA-02	08/23/1991	12GW0201Y	22.000	1.3	=UM21	1.0	UGL
			CHLOROMETHANE	EDA-02	08/23/1991	12GW0201Y	22.000	4.21	=UM21	1.2	UGL
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	12-SS-06	08/13/1991	12SS0601Y	0.500	27.0	=LW02	2.09	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	4.9	=LW02	2.09	UGG
			2,4,6-TNT	12-SS-06	08/13/1991	12SS0601Y	0.500	6,000.0	=LW02	1.92	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	69.0	=LW02	1.92	UGG
			2,6-DINITROTOLUENE	12-SS-07	08/13/1991	12SS0701Y	0.500	0.58	=LW02	0.4	UGG
			HMX	12-SS-06	08/13/1991	12SS0601Y	0.500	3,700.0	=LW02	1.27	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	830.0	=LW02	1.27	UGG
			NITROBENZENE	12-SS-07	08/13/1991	12SS0701Y	0.500	0.82	=LW02	0.42	UGG
			RDX	12-SS-06	08/13/1991	12SS0601Y	0.500	7,700.0	=LW02	0.98	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	510.0	=LW02	0.98	UGG
		METALS	ARSENIC	12-SS-06	08/13/1991	12SS0601Y	0.500	5.81	=B9	2.5	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	8.99	=B9	2.5	UGG
			BARIUM	12-SS-06	08/13/1991	12SS0601Y	0.500	8,300.0	=JS12	3.29	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	2,200.0	=JS12	3.29	UGG
			BERYLLIUM	12-SS-06	08/13/1991	12SS0601Y	0.500	0.773	=JS12	0.427	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	1.09	=JS12	0.427	UGG
			CHROMIUM	12-SS-06	08/13/1991	12SS0601Y	0.500	44.9	=JS12	1.04	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	89.9	=JS12	1.04	UGG
			COPPER	12-SS-06	08/13/1991	12SS0601Y	0.500	52.2	=JS12	2.84	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	53.9	=JS12	2.84	UGG
			LEAD	12-SS-06	08/13/1991	12SS0601Y	0.500	34.0	=JD21	0.467	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	51.0	=JD21	0.467	UGG
			MERCURY	12-SS-06	08/13/1991	12SS0601Y	0.500	0.127	=Y9	0.05	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.077	=Y9	0.05	UGG
			NICKEL	12-SS-06	08/13/1991	12SS0601Y	0.500	33.5	=JS12	2.74	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	67.8	=JS12	2.74	UGG
			ZINC	12-SS-06	08/13/1991	12SS0601Y	0.500	126.0	=JS12	2.34	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	121.0	=JS12	2.34	UGG
		SEMIVOLATILES	3,5-DINITROANILINE	12-SS-06	08/13/1991	12SS0601Y	0.500	8.47	=LM25	1.6	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	3.0	=LM25	1.6	UGG
			ANTHRACENE	12-SS-06	08/13/1991	12SS0601Y	0.500	2.51	=LM25	0.71	UGG

Table 3-14

IAAP-12 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			BIS (2-ETHYLHEXYL) PHTHALATE	12-SS-06	08/13/1991	12SS0601Y	0.500	1.35	=LM25	0.48	UGG
			DI-N-BUTYL PHTHALATE	12-SS-06	08/13/1991	12SS0601Y	0.500	4.51	=LM25	1.3	UGG
			FLUORANTHENE	12-SS-07	08/13/1991	12SS0701Y	0.500	0.128	=LM25	0.032	UGG
			PHENANTHRENE	12-SS-06	08/13/1991	12SS0601Y	0.500	2.48	=LM25	0.032	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.331	=LM25	0.032	UGG
			PYRENE	12-SS-06	08/13/1991	12SS0601Y	0.500	1.67	=LM25	0.083	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.383	=LM25	0.083	UGG

Table 3-14a

IAAP-12 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP12	GW	EXPLOSIVES	2,4-DINITROTOLUENE	EDA-01	08/22/1991	12GW0401Y	13.500	1.1	=UW01	0.6	UGL
			2,6-DINITROTOLUENE	EDA-01	08/22/1991	12GW0401Y	13.500	5.4	=UW01	0.55	UGL
			HMX	EDA-02	08/23/1991	12GW0201Y	22.000	9.4	=UW01	1.3	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.5	=UW01	1.3	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	50.0	=UW01	1.3	UGL
			RDX	EDA-02	08/23/1991	12GW0201Y	22.000	140.0	=UW01	0.63	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	3.6	=UW01	0.63	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	23.0	=UW01	0.63	UGL
		VOLATILES	CHLORFORM	EDA-02	08/23/1991	12GW0201Y	22.000	1.3	=UM21	1.0	UGL
			CHLOROMETHANE	EDA-02	08/23/1991	12GW0201Y	22.000	4.21	=UM21	1.2	UGL
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	12-SS-06	08/13/1991	12SS0601Y	0.500	27.0	=LW02	2.09	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	4.9	=LW02	2.09	UGG
			2,4,6-TNT	12-SS-06	08/13/1991	12SS0601Y	0.500	6,000.0	=LW02	1.92	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	69.0	=LW02	1.92	UGG
			2,6-DINITROTOLUENE	12-SS-07	08/13/1991	12SS0701Y	0.500	0.58	=LW02	0.4	UGG
			HMX	12-SS-06	08/13/1991	12SS0601Y	0.500	3,700.0	=LW02	1.27	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	830.0	=LW02	1.27	UGG
			NITROBENZENE	12-SS-07	08/13/1991	12SS0701Y	0.500	0.82	=LW02	0.42	UGG
			RDX	12-SS-06	08/13/1991	12SS0601Y	0.500	7,700.0	=LW02	0.98	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	510.0	=LW02	0.98	UGG
		METALS	ARSENIC	12-SS-07	08/13/1991	12SS0701Y	0.500	8.99	=B9	2.5	UGG
			BARIUM	12-SS-06	08/13/1991	12SS0601Y	0.500	8,300.0	=JS12	3.29	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	2,200.0	=JS12	3.29	UGG
			CHROMIUM	12-SS-06	08/13/1991	12SS0601Y	0.500	44.9	=JS12	1.04	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	89.9	=JS12	1.04	UGG
			COPPER	12-SS-06	08/13/1991	12SS0601Y	0.500	52.2	=JS12	2.84	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	53.9	=JS12	2.84	UGG
			LEAD	12-SS-06	08/13/1991	12SS0601Y	0.500	34.0	=JD21	0.467	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	51.0	=JD21	0.467	UGG
			NICKEL	12-SS-07	08/13/1991	12SS0701Y	0.500	67.8	=JS12	2.74	UGG
			ZINC	12-SS-06	08/13/1991	12SS0601Y	0.500	126.0	=JS12	2.34	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	121.0	=JS12	2.34	UGG
		SEMIVOLATILES	3,5-DINITROANILINE	12-SS-06	08/13/1991	12SS0601Y	0.500	8.47	=LM25	1.6	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	3.0	=LM25	1.6	UGG
			ANTHRACENE	12-SS-06	08/13/1991	12SS0601Y	0.500	2.51	=LM25	0.71	UGG
			BIS (2-ETHYLHEXYL) PHTHALATE	12-SS-06	08/13/1991	12SS0601Y	0.500	1.35	=LM25	0.48	UGG
			DI-N-BUTYL PHTHALATE	12-SS-06	08/13/1991	12SS0601Y	0.500	4.51	=LM25	1.3	UGG
			FLUORANTHENE	12-SS-07	08/13/1991	12SS0701Y	0.500	0.128	=LM25	0.032	UGG
			PHENANTHRENE	12-SS-06	08/13/1991	12SS0601Y	0.500	2.48	=LM25	0.032	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.331	=LM25	0.032	UGG
			PYRENE	12-SS-06	08/13/1991	12SS0601Y	0.500	1.67	=LM25	0.083	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.383	=LM25	0.083	UGG

3.15 IAAP-13 (INCENDIARY DISPOSAL AREA)

3.15.1 Site Description and History

The Incendiary Disposal Area (IAAP-13) is located near the eastern plant boundary, east of Yard D. Plate 1 depicts the location of IAAP-13 and its proximity to other sites (C-1); Figure 3-13 is a site map.

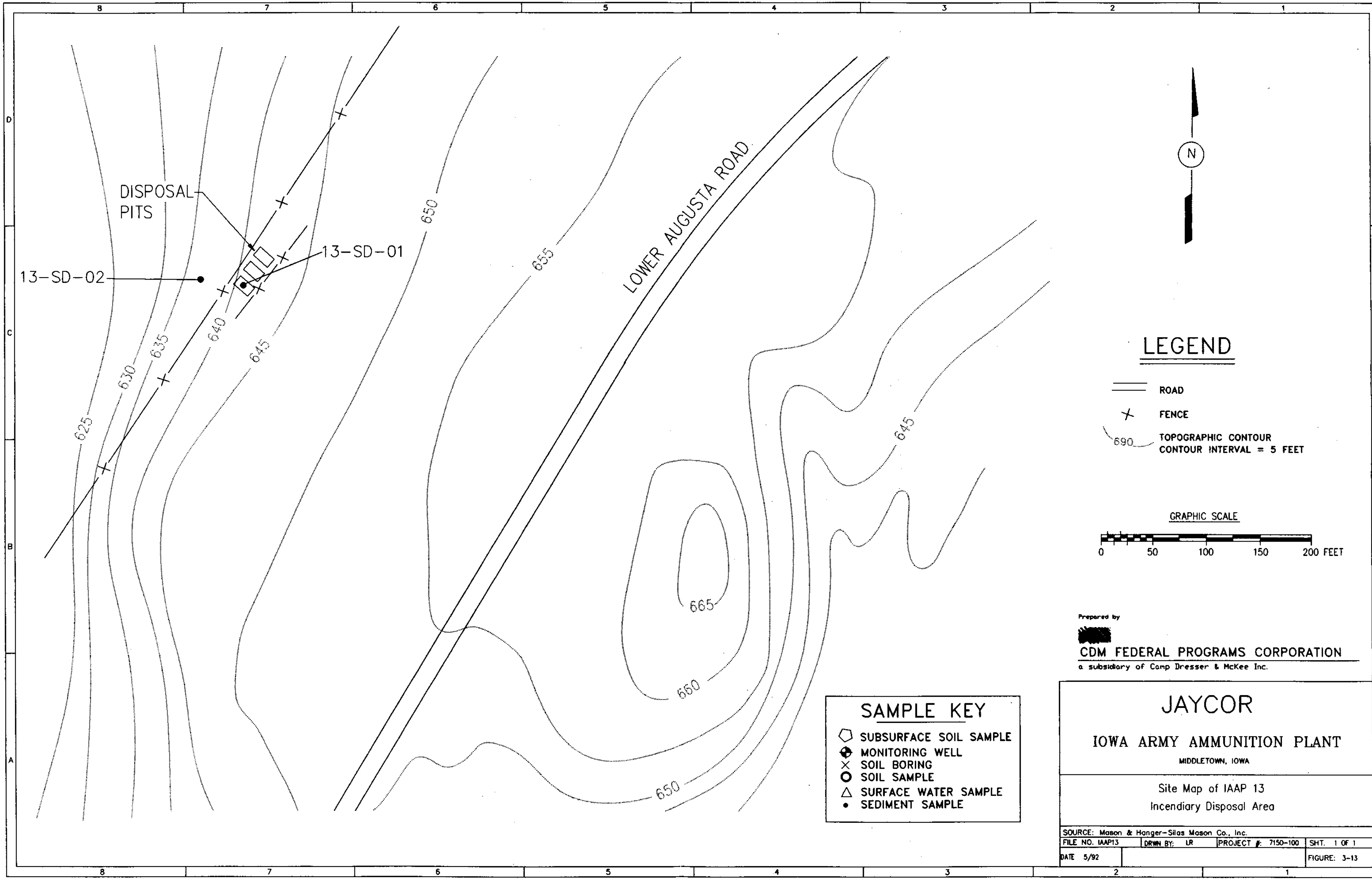
The site measures 40 by 60 feet and consists of three 10- by 5-foot burn pits and numerous other depressions. This site was identified as a possible source of contamination based upon the recollection of a former installation employee, who stated that incendiary material may possibly have been buried at this site during the mid-1940s (Ecology and Environment 1987). The site was reported to have been small and surrounded by a barbed wire fence. The exact size, location, and materials buried at this site cannot be determined because there are no records of disposal activity ever being performed in this area. IAAP documents indicate that magnesium fuses may have been the material disposed of at this site. If disposal did occur in this area, the contaminants likely to be present are explosives and other feedstocks commonly used at IAAP, as well as metals.

The geology of this area, in general, is characterized by unconsolidated deposits of glacial origin with a lacustrine deposit located near IAAP-13. The unconsolidated deposits are described as a layer of silt with sand (loess) overlaying glacial till. The glacial till is primarily Nebraskan and Kansan in age (Terracon 1987).

Three bedrock aquifers are located under the IAAP. The shallowest Mississippian-aged bedrock aquifer is generally interconnected with surficial deposits but also has a layer of Pennsylvanian shales, which discontinuously separates the two aquifers throughout the site. The Mississippian aquifer is mainly composed of carbonate rocks, limestone, and dolomite. Included within the Mississippian aquifer is the Warsaw Formation, a mainly shale formation that acts as a aquiclude within the aquifer and locally affects the yield of the Mississippian. The Devonian aquifer is found below the Mississippian aquifer with a thick unit composed predominantly of shale separating the two. The Cambrian-Ordovician aquifer is separated from the overlying Devonian aquifer by a thick shale and dolomite interval (Terracon 1987). Locally, a bedrock valley is believed to exist below this site. Wells G-25 and G-26 were drilled down below 300 feet without encountering bedrock or groundwater initially (ERG 1981).

The surface drainage from IAAP-13 flows in a southwesterly direction for about 2000 feet and empties into Spring Creek. A number of small tributaries surround the site, which enable surface water runoff to enter Spring Creek at several points. Spring Creek enters the plant boundary from the northeast corner, flowing in a south-southeasterly direction, then exiting the southeast corner of the plant boundary. Spring Creek drains approximately 15 percent of the total plant area.

Surface water runoff flows toward Spring Creek, which is 2000 feet southwest of the site. Any surface contamination present may be transported via this pathway. Groundwater in this drainage area is generally shallow, reported at <10 feet in some areas, and if soil contaminants are present, migration to groundwater may be possible via percolation. Bedrock in this area is exposed where Spring Creek is incised.


DISPOSAL PITS
13-SD-01
13-SD-02
625
630
635
640
645
650
655
660
665
LOWER AUGUSTA ROAD
N
LEGEND
ROAD
FENCE
690
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
GRAPHIC SCALE
0 50 100 150 200 FEET
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 13
Incendiary Disposal Area
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP13
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-13

Access to IAAP is restricted and IAAP-13 is in an extremely remote area of the facility. Potential receptors are flora and fauna in the area, particularly those species that inhabit Spring Creek.

3.15.2 Summary of Previous Investigations

No sampling other than the SI has been done at IAAP-13.

The SI sampling effort for IAAP-13 focused on the three rectangular pits at the site believed to have been the burial or burn pits for the incendiary material. Three other of the many crater-like depressions surrounding the site were also sampled for explosives and metals. SI samples are summarized below and sample locations are depicted on Figure 3-13.

Sample	Analyses	Sample Type	Depth	Location
13-SD-01-01	Explosives Metals	Composite	0-6"	Composite of 3 aliquots, one collected from each of 3 rectangular pits believed to be disposal pits.
13-SD-02-01	Explosives Metals	Composite	0-6"	Composite of 3 aliquots, one collected from each of three crater-like pits surrounding the site.

3.15.3 Evaluation of Site

Review of the SI data indicates near background levels for nearly all metals and no apparent explosive contamination. All SI results reported above CRLs are summarized in Table 3-15. Those results above the evaluation criteria are presented in Table 3-15a.

The composite soil sample taken of the three possible burial or burn pits at the site (13-SD-01-01) were reported to contain lead, chromium, and copper at levels above their evaluation criteria levels. Lead in this sample was reported at 88.0 mg/kg; chromium at 33.1 mg/kg; and copper at 33.3 mg/kg. These concentrations, however, are within the naturally occurring range of lead, chromium, and copper in uncultivated B Horizon soils as compiled by USGS (Table 3-2b). No other metals or explosives were reported in this sample above the evaluation criteria.

The soil sample taken from the crater-like depressions (13-SD-02-01) surrounding the site were also reported to contain one metal, lead, above the established criteria. Lead in this sample was reported at 90.0 mg/kg. This level is above the established evaluation criteria level of 27 mg/kg but is within the naturally occurring range of lead in uncultivated B Horizon soils as compiled by USGS for the area (Table 3-2b). Levels for other metals and explosives were not reported for this sample above the evaluation criteria.

Historic groundwater sampling of Well G-26 (and its respective boring [S-15]) is over 800 feet from IAAP-13 and is upgradient with respect to groundwater flow and surface topography. Groundwater and subsurface soil samples taken at G-26 in 1981 and 1985 appeared to indicate elevated levels of explosives and metals. However, when these data were reviewed for the initial site evaluation, CRLs used in both the 1981 and 1985 analyses were found to be well above established health-based standards. Therefore, these data are considered unreliable.

IAAP-13 cannot be identified as a source for any possible historic contamination found in Well G-26. This historic information was reviewed because this was the only sampling conducted in the site vicinity.

Soil samples taken at IAAP-13 during the SI indicate background levels for most metal contaminants of concern. Levels of lead detected fall within the naturally occurring range of uncultivated B Horizon soils in the region. IAAP-13 is located in a remote part of the plant; therefore, the potential for direct contact is minimal. Surface migration should be limited by the distance of 2000 feet to the nearest point of Brush Creek. No explosive contamination was reported in the samples taken during the SI.

The SI data do not indicate contamination at IAAP-13 that is significant enough to warrant inclusion in the RI.

Table 3-15

IAAP-13 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP13	SD	METALS	ARSENIC	13-SD-01	08/16/1991	13SD0101Y	0.500	4.95	=B9	2.5	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	5.14	=B9	2.5	UGG
			BARIUM	13-SD-01	08/16/1991	13SD0101Y	0.500	105.0	=JS12	3.29	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	142.0	=JS12	3.29	UGG
			BERYLLIUM	13-SD-01	08/16/1991	13SD0101Y	0.500	0.612	=JS12	0.427	UGG
			CHROMIUM	13-SD-01	08/16/1991	13SD0101Y	0.500	33.1	=JS12	1.04	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	31.7	=JS12	1.04	UGG
			COPPER	13-SD-01	08/16/1991	13SD0101Y	0.500	33.3	=JS12	2.84	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	24.8	=JS12	2.84	UGG
			LEAD	13-SD-01	08/16/1991	13SD0101Y	0.500	88.0	=JD21	0.467	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	90.0	=JD21	0.467	UGG
			MERCURY	13-SD-01	08/16/1991	13SD0101Y	0.500	0.407	=Y9	0.05	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	0.175	=Y9	0.05	UGG
			NICKEL	13-SD-01	08/16/1991	13SD0101Y	0.500	18.3	=JS12	2.74	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	19.2	=JS12	2.74	UGG
			ZINC	13-SD-01	08/16/1991	13SD0101Y	0.500	59.8	=JS12	2.34	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	73.6	=JS12	2.34	UGG

Table 3-15a

IAAP-13 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP13	SD	METALS	CHROMIUM	13-SD-01	08/16/1991	13SD0101Y	0.500	33.1	=JS12	1.04	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	31.7	=JS12	1.04	UGG
			COPPER	13-SD-01	08/16/1991	13SD0101Y	0.500	33.3	=JS12	2.84	UGG
			LEAD	13-SD-01	08/16/1991	13SD0101Y	0.500	88.0	=JD21	0.467	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	90.0	=JD21	0.467	UGG

3.16 IAAP-14 (BOXCAR UNLOADING AREA)

3.16.1 Site Description and History

The Boxcar Unloading Area consists of two areas (eastern and western unloading areas) located adjacent to the railroad tracks in Yard B. The yard is situated approximately 750 feet west of the southwesternmost corner of the Explosive Disposal Area (EDA). Plate 1 depicts the location of IAAP-14 (D-3); Figure 3-14 is a site map.

The Boxcar Unloading Area is utilized as an unloading and temporary storage area for dunnage lumber. The rail cars at times also transported boxes of explosives; therefore, minute amounts of explosives may have come into contact with the dunnage (Denz 1990). The area began receiving shipments in the 1940s and continues to do so. However, in recent years, explosives have been transported primarily by trucks.

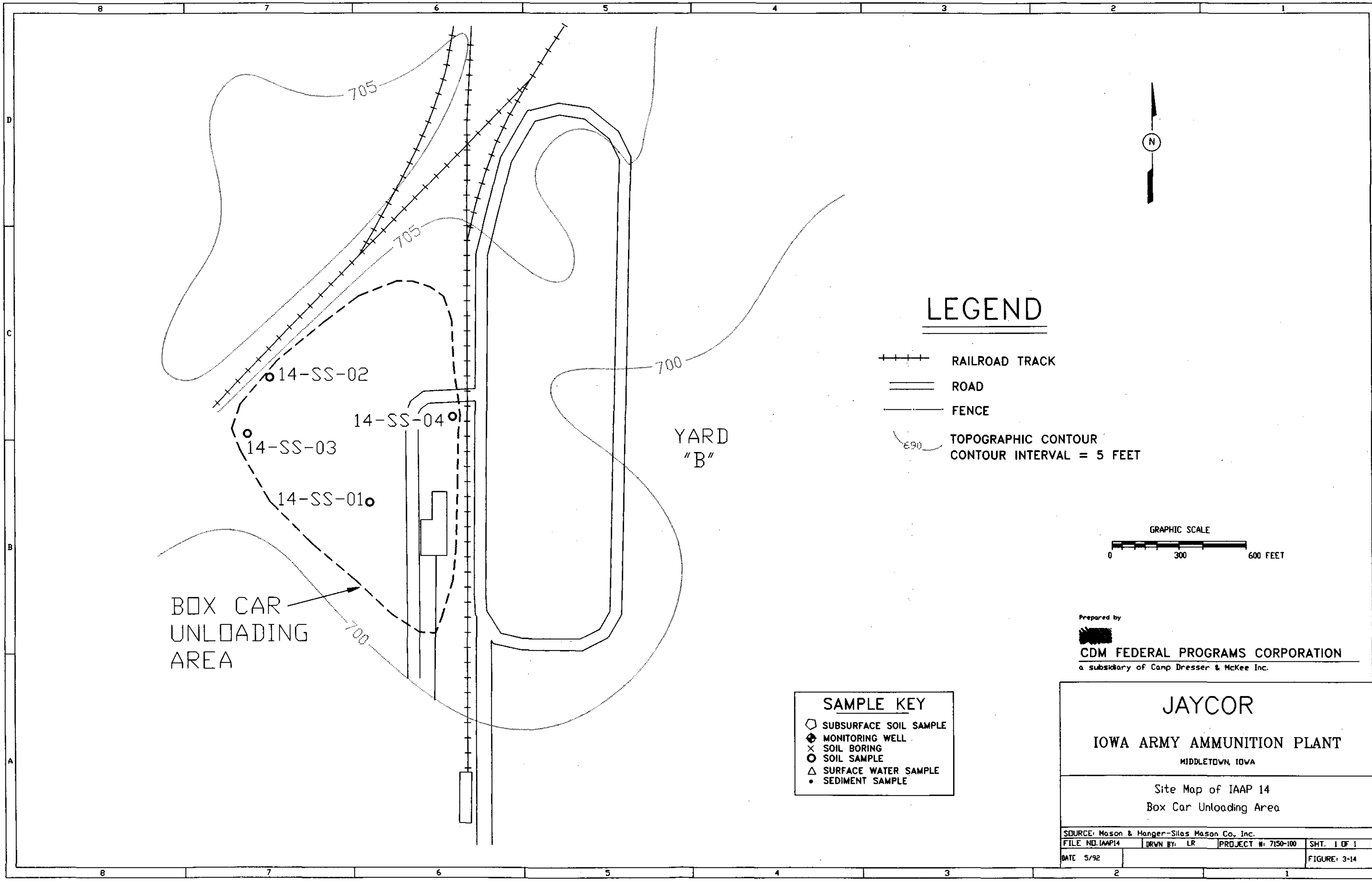
The topography in the vicinity of the EDA, which lies approximately 3,000 feet east/northeast of IAAP-14, consists of gently undulating flat terrain, with steeper slopes forming drainageways to the south. Elevations range from 650 to 700 feet above mean level (AEHA 1985).

The sediments overlying the bedrock in the area consist of 8 to 27 feet of clay-rich glacially generated material with some sand and silt. The clays are relatively impermeable, with hydraulic conductivities of 7.3×10^{-6} cm/sec for the surface loess layer and 6.3×10^{-9} for the remaining till fraction. Underlying the sediments are the Warsaw and Keokuk formations, consisting of fossiliferous limestone intercalated with layers of shaly clay and silt. The base of the unit is composed of gray and blue cherty limestones, which are less permeable than the upper bedrock layers (Army Munitions Command 1985; AEHA 1988).

The system of aquifers underlying the EDA is consistent with the remainder of the IAAP. Two water-transmitting hydrogeologic zones underlie the site. The water table (alluvial) aquifer consists of loess and till deposits which overlie the bedrock limestone units of the area. The water table occurs at <10 in many areas of the IAAP, as the water retention characteristics of the materials are high. No water level measurements in the specific site area are available.

The underlying limestone aquifer, locally separated from the upper unconsolidated layers by Pennsylvanian Shales, transmits water through fractures, joints, and bedding planes. This results in varied groundwater velocity and direction. In the vicinity of the EDA, flow direction at the top of the aquifer is southerly. At this level, flow direction is determined by the strike of the fractures transmitting water. At deeper levels, however, flow is regionally controlled, moving in a southeasterly direction toward the Mississippi River.

The surface water feature nearest to the Boxcar Unloading Area is Spring Creek, a perennial stream which runs on the east side of IAAP-14 through the EDA from north to south, and drains the area. Spring Creek is approximately 1 mile east of IAAP-14. The creek flows directly into the Mississippi River less than one mile above the confluence of the Skunk and Mississippi rivers. (This confluence is approximately 6 miles from the southeast corner of the IAAP property.) Spring Creek originates north of the facility and receives effluent from the sewage treatment facility of West Burlington, Iowa. The floodplain of the stream valley is approximately 400 feet wide (EBASCO 1988; AEHA 1985). Brush Creek flows north to south through IAAP and is approximately 1 mile west of IAAP-14.



705
705
700
700
14-SS-02
14-SS-04
14-SS-03
14-SS-01
YARD "B"
BOX CAR UNLOADING AREA
N
LEGEND
RAILROAD TRACK
ROAD
FENCE
690
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
GRAPHIC SCALE
0
300
600 FEET
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 14
Box Car Unloading Area
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP14
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-14

Groundwater recharge from precipitation occurs in the broad, flat fields that lie along the stream divides. Recharge is expected to be low due to the low permeability of the soil. While no quantitative evidence substantiating groundwater recharge from Spring Creek exists, the upper bedrock aquifer may be recharged during runoff events in drought seasons. Specifically, recharge would occur in the lower reaches of the creek where deep stream incisions have exposed bedrock (Army Munitions Command 1985; EBASCO 1988).

Public access to IAAP is restricted, and the Boxcar Unloading Area is in a remote area of the facility. Flora and fauna are potential receptors of contamination, particularly those species that inhabit the vicinity of Spring Creek. Consumption of deer and other wild game affected by contamination may provide a vehicle for food chain uptake to human receptors.

3.16.2 Summary of Previous Investigations

In 1987, Ecology and Environment, Inc. performed a contamination assessment of the Boxcar Unloading Area as part of a RCRA Facility Assessment (RFA). Samples obtained from soils in the Boxcar Unloading Area revealed numerous semivolatile organic compounds at two sample locations. Explosive compounds detected in the area were at minimal levels. Numerous metals were detected at below background levels.

The SI sampling scheme was designed to characterize soil quality over a large area where boxcars were unloaded and where discarded ammunition boxes are stored. Associated drainage pathways also were sampled. SI samples are summarized below and sample locations are depicted on Figure 3-16.

Sample	Analyses	Sample Type	Depth	Location
14-SS-01-01	Explosives Metals	C	0-6"	Three locations: one from center of western unloading area; one each from northern and central portions of eastern area.
14-SS-02-01	Explosives Metals	C	0-6"	Three locations: one each from northern and southern edges of the western area; one from southern of eastern area.
14-SS-03-01	Explosives Metals	C	0-6"	Four aliquots collected from bare areas surrounding discarded ammunition boxes.
14-SD-04-01	Explosives Metals SemiVOCs	G	0-6"	Mouth of culvert south of gravel road.

Table 3-16 summarizes the SI sample results reported above CRLs; Table 3-16a reports those results above evaluation criteria.

3.16.3 Evaluation of Site

Sample 14-SS-01-01 was reported to contain low levels of several metals. All concentrations were near established evaluation levels. Lead was reported at 29 mg/kg and zinc was detected at 96.7

mg/kg. These concentrations are not significantly elevated with respect to the background levels of 29 and 84 for these compounds. No explosives were reported in this sample above the CRLs.

Sample 14-SS-02-01 was reported to contain several metals at levels above established criteria: Copper at 276 mg/kg; lead at 140 mg/kg; and zinc at 415 mg/kg. Though barium was detected at 1050 mg/kg, this is not believed to represent site contamination as anamolously high barium in soil is a documented natural occurrence in the site vicinity. No explosives were reported in this sample above the CRLs.

Sample 14-SS-03-01 was reported to contain some metals of concern; however, all concentrations reported were below evaluation levels. Nitrobenzene was reported in this sample at the CRL.

Sample 14-SD-04-01 contained low levels of arsenic, barium, chromium, copper, lead, nickel, and zinc. Zinc was reported at 236 mg/kg, which is above the highest background level of 84.7 mg/kg. This concentration is within the naturally occurring range for surface horizon soils, as compiled by the USGS (Table 3-2b). Lead was reported at 30 mg/kg, which is at the background level of 27. No explosives were reported in this sample above the CRLs. Sample 14-SS-04-01 also contained <1.0 mg/kg of the PAH pyrene. PAHs are widespread in the environment; the occurrence of this compound at this location is not considered to be significant.

Analytical results from the samples collected during the SI of IAAP-14 indicate that no significant contamination is present in the wide area encompassed by the composite sampling scheme. Elevated levels of only three metals were detected only in sample 14-SS-02-01, indicating that metals contamination is not widespread. Furthermore, according to data from the RFA of 1987, only barium, chromium, and zinc were detected in soil samples collected at this site, and the reported levels were within established background ranges.

Based on past and current analytical results and current site conditions, it is recommended that this site does not warrant inclusion in the Remedial Investigation. A summary report of all analytical results associated with the SI of this site is included in Appendix B.

Table 3-16

IAAP-14 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP14	SD	METALS	ARSENIC	14-SD-04	08/15/1991	14SD0401Y	0.300	7.68	=B9	2.5	UGG
			BARIUM	14-SD-04	08/15/1991	14SD0401Y	0.300	237.0	=JS12	3.29	UGG
			BERYLLIUM	14-SD-04	08/15/1991	14SD0401Y	0.300	0.75	=JS12	0.427	UGG
			CHROMIUM	14-SD-04	08/15/1991	14SD0401Y	0.300	13.3	=JS12	1.04	UGG
			COPPER	14-SD-04	08/15/1991	14SD0401Y	0.300	14.8	=JS12	2.84	UGG
			LEAD	14-SD-04	08/15/1991	14SD0401Y	0.300	30.0	=JD21	0.467	UGG
			NICKEL	14-SD-04	08/15/1991	14SD0401Y	0.300	10.0	=JS12	2.74	UGG
			SELENIUM	14-SD-04	08/15/1991	14SD0401Y	0.300	0.685	=JD20	0.449	UGG
			ZINC	14-SD-04	08/15/1991	14SD0401Y	0.300	236.0	=JS12	2.34	UGG
		SEMIVOLATILES	PYRENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.452	=LM25	0.083	UGG
	SO	EXPLOSIVES	NITROBENZENE	14-SS-03	08/15/1991	14SS0301Y	0.500	0.47	=LW02	0.42	UGG
		METALS	ARSENIC	14-SS-01	08/15/1991	14SS0101Y	0.500	3.24	=B9	2.5	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	6.8	=B9	2.5	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	4.36	=B9	2.5	UGG
			BARIUM	14-SS-01	08/15/1991	14SS0101Y	0.500	54.9	=JS12	3.29	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	1,050.0	=JS12	3.29	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	87.8	=JS12	3.29	UGG
			BERYLLIUM	14-SS-01	08/15/1991	14SS0101Y	0.500	2.05	=JS12	0.427	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	0.71	=JS12	0.427	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	1.01	=JS12	0.427	UGG
			CADMIUM	14-SS-03	08/15/1991	14SS0301Y	0.500	1.7	=JS12	1.2	UGG
			CHROMIUM	14-SS-01	08/15/1991	14SS0101Y	0.500	13.1	=JS12	1.04	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	22.2	=JS12	1.04	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	11.7	=JS12	1.04	UGG
			COPPER	14-SS-01	08/15/1991	14SS0101Y	0.500	8.74	=JS12	2.84	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	276.0	=JS12	2.84	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	32.4	=JS12	2.84	UGG
			LEAD	14-SS-01	08/15/1991	14SS0101Y	0.500	29.0	=JD21	0.467	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	140.0	=JD21	0.467	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	29.0	=JD21	0.467	UGG
			MERCURY	14-SS-02	08/15/1991	14SS0201Y	0.500	0.072	=Y9	0.05	UGG
			NICKEL	14-SS-01	08/15/1991	14SS0101Y	0.500	8.88	=JS12	2.74	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	24.0	=JS12	2.74	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	17.0	=JS12	2.74	UGG
			ZINC	14-SS-01	08/15/1991	14SS0101Y	0.500	96.7	=JS12	2.34	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	415.0	=JS12	2.34	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	223.0	=JS12	2.34	UGG

Table 3-16a

IAAP-14 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP14	SD	METALS	LEAD	14-SD-04	08/15/1991	14SD0401Y	0.300	30.0	=JD21	0.467	UGG
			SELENIUM	14-SD-04	08/15/1991	14SD0401Y	0.300	0.685	=JD20	0.449	UGG
			ZINC	14-SD-04	08/15/1991	14SD0401Y	0.300	236.0	=JS12	2.34	UGG
		SEMIVOLATILES	PYRENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.452	=LM25	0.083	UGG
	SO	EXPLOSIVES	NITROBENZENE	14-SS-03	08/15/1991	14SS0301Y	0.500	0.47	=LW02	0.42	UGG
		METALS	BARIUM	14-SS-02	08/15/1991	14SS0201Y	0.500	1,050.0	=JS12	3.29	UGG
			BERYLLIUM	14-SS-01	08/15/1991	14SS0101Y	0.500	2.05	=JS12	0.427	UGG
			CADMIUM	14-SS-03	08/15/1991	14SS0301Y	0.500	1.7	=JS12	1.2	UGG
			COPPER	14-SS-02	08/15/1991	14SS0201Y	0.500	276.0	=JS12	2.84	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	32.4	=JS12	2.84	UGG
			LEAD	14-SS-01	08/15/1991	14SS0101Y	0.500	29.0	=JD21	0.467	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	140.0	=JD21	0.467	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	29.0	=JD21	0.467	UGG
			ZINC	14-SS-01	08/15/1991	14SS0101Y	0.500	96.7	=JS12	2.34	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	415.0	=JS12	2.34	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	223.0	=JS12	2.34	UGG

3.17 IAAP-15 (OLD FLY ASH WASTE PILE)

3.17.1 Site Description and History

The Old Fly Ash Waste Pile (IAAP-15) is in the southeastern sector of IAAP east of Plant Road H, between Yards E and D (Plate 1; C-3). IAAP-26 (Sewage Treatment Plant) is located approximately one-half mile north (upstream) of IAAP-15. The east boundary of the site slopes steeply down to Brush Creek; the top of the site is approximately 40 vertical feet above the creek.

Based on U.S. Army Corps of Engineers' estimate appearing in MCA Project No. T02700, Brush Creek Watershed Pollution Abatement Revision 1, 1 September 1977, the fly ash pile has a top surface area of 3.5 acres, a bottom surface area of 5.3 acres, and a maximum height of 45 feet (Figure 3-15). It is an open area where fly ash from the Main Heating Plant and the Building 1-62 Heating Plant has been deposited since 1940. Ash was dumped directly into the ground surface. Sludge from the Sewage Disposal Plant has been deposited on the landfill once or twice a year since the early 1940s. (The Sewage Disposal Plant [IAAP-26] is located about one-half mile north of the site.) The majority of the surface of the Fly Ash Pile is vegetated, except in some areas where soil erosion appears to have taken place.

In 1976, dumping of fly ash at this site was terminated. Since the termination of dumping, no remedial or closure action has been taken, allowing weathering to occur. The vegetation on the surface of the fill is in equilibrium with the weathering and erosion processes, and can therefore be described as stable.

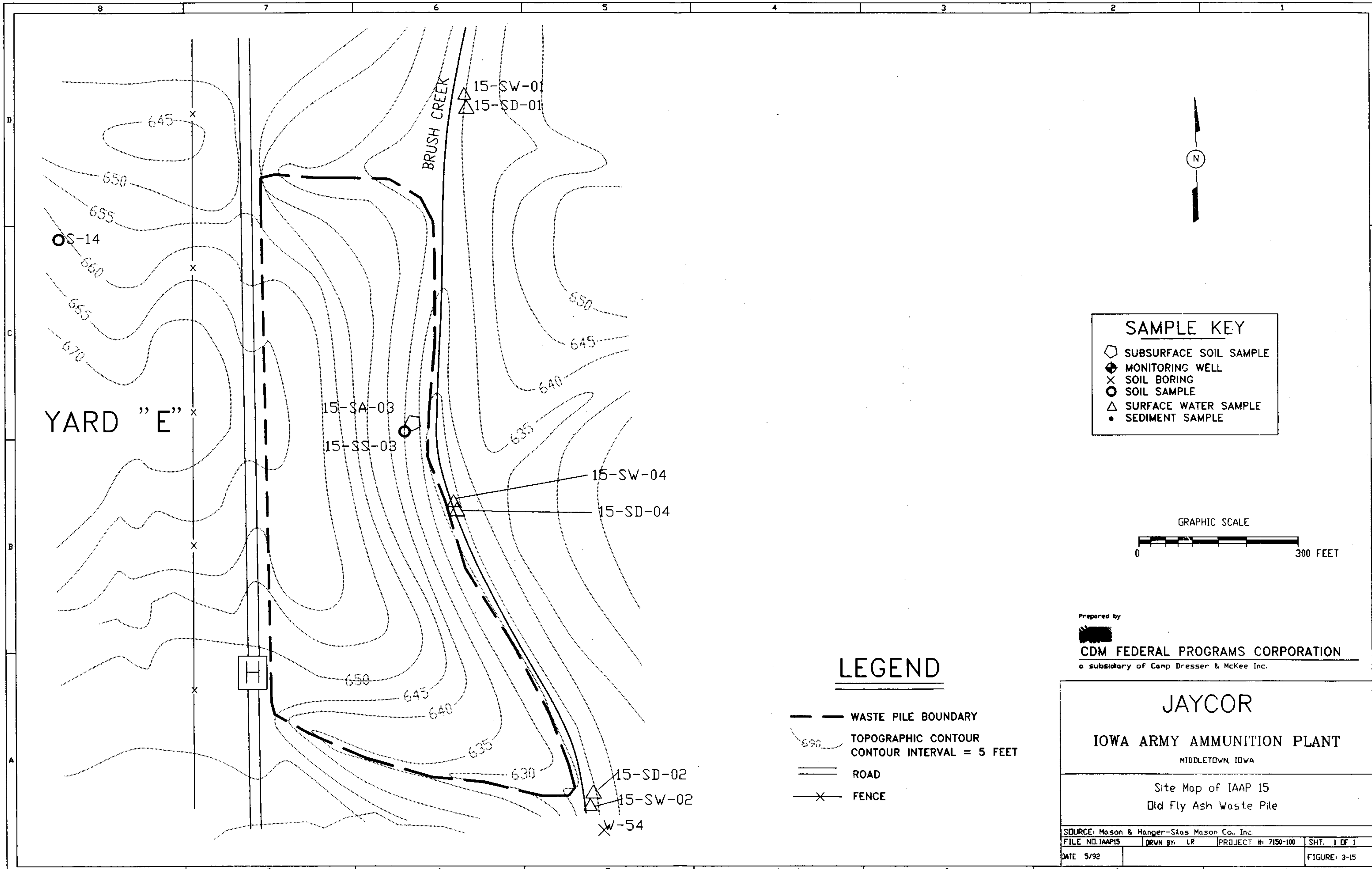
There is no record of the total amount of fly ash and sludge deposited in this SWMU between 1940 and 1976, nor is there any record of analytical data for the material disposed here. There is the possibility that other waste may have been deposited at this site during the early years of its operation, although no documentation was found to that effect.

The geology around the area can be described by geotechnical logs for Wells G-51 and G-53 (Plate 2). These wells are upstream and downstream, respectively, of IAAP-15 at distances of about 2500 and 3000 feet. The soil around these wells is composed of fine sand and organic silt to about 5 feet deep, with elastic silt, sometimes stiff and moist between 5 and 10 feet deep below the surface. Groundwater is between 5 and 7 feet below the surface.

The land slopes steeply to the east into Brush Creek, and creates a path for runoff from the SWMU to enter Brush Creek. The slope of the land and the unconsolidated nature of the SWMU make seepage through the pile possible. Leachate flowing laterally from the sides of the pile is also likely, which would allow the leachate to enter Brush Creek.

Surface runoff and leachate from this fly ash pile probably has entered Brush Creek. At Brush Creek, the receptors of any contaminants present would be fish and other wildlife, including deer that drink water from this stream. Consumption of deer and other wildlife affected by contamination may provide a vehicle for food chain uptake to human receptors. However, there is no record of widespread fishing on this creek.

The fly ash pile has developed a natural vegetative cover and therefore the probability of particulate matter being blown by wind is low. Because the site is situated in a sparsely populated region, any airborne particles are likely to settle before receptors are encountered. However, workers in the area may be exposed to the fly ash by direct dermal contact and by inhalation of dust being blown by the wind on dry days.



BRUSH CREEK
15-SW-01
15-SD-01
645
650
655
S-14
660
665
670
YARD "E"
15-SA-03
15-SS-03
650
645
640
635
15-SW-04
15-SD-04
650
645
640
635
630
15-SD-02
15-SW-02
W-54
H
N
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0
300 FEET
LEGEND
WASTE PILE BOUNDARY
690
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
ROAD
FENCE
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 15
Old Fly Ash Waste Pile
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP15
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-15

13.17.2 Summary of Previous Investigations

Historic information available for this SWMU indicates that some metals are present in the fly ash pile. These metals include zinc, iron, and copper. Sulfur has also been detected in this SWMU during the Endangerment Assessment conducted by Dames & Moore in 1987. The concentration of metals found in the fly ash pile were below RCRA-regulated levels. As a result, the fly ash cannot be classed as toxic under RCRA. Metals found in groundwater samples (Dames & Moore 1987) at Wells G-50 and G-51 (1500 feet upstream) were: arsenic, 8 µg/L; barium, 180 to 270 µg/L; and copper 1.5 µg/L. Metals found in groundwater samples at Wells G-52 and G-53 (2500 feet downstream) were: arsenic, 10 µg/L; barium, 155 to 210 µg/L; and copper, 1.7 to 2.8 µg/L. No explosives were detected during the Dames & Moore study.

It should be noted that some of these samples were taken at areas adjacent to this and other SWMUs, and therefore the results may reflect contamination from more than one source.

A total of eight samples were taken at IAAP-15 during the SI for nitrates, sulfates, and metals analyses. Based on previous analysis, sample locations were chosen to support definitive characterization of the fly ash pile and to determine the presence of leachate or runoff contaminants in Brush Creek. Composite surface scoop and soil auger samples were taken from three bare ash spots starting at the bottom of the side slope close to the stream near the southern SWMU boundary, halfway up the side slope about 100 feet north of the first location, and at the top of the pile about 100 feet north of the second sample location. Surface water and sediment samples were taken at the upstream end (north) where Brush Creek enters the site area and downstream (south) where Brush Creek exits the site area. Surface water and sediment samples were also taken in an area of apparent liquid leachate adjacent to a half-submerged, rusted barrel at a point halfway between the upstream and downstream sample locations. SI samples are summarized below and sample locations are depicted on Figure 3-15.

Table 3-15 summarizes all SI results reported above the CRL for this site; Table 3-15a presents all SI results reported above exceedance criteria. A field blank was prepared at this site. Analytical results for all QC samples are summarized in Appendix C.

Sample	Analyses	Sample Type	Depth	Location
15-SW-01-01	Nitrates Metals Sulfates	G	0-6"	Approximately 50 feet upstream (north) of where Brush Creek enters the site area.
15-SD-01-01	Nitrates Metals Sulfates	G	0-6"	Corresponds to SW-01-01.
15-SW-02-01	Nitrates Metals Sulfates	G	0-6"	Downstream (south) boundary of Brush Creek and the site area.
15-SD-02-01	Nitrates Metals Sulfates	G	0-6"	Corresponds to SW-02-01.

Sample	Analyses	Sample Type	Depth	Location
15-SS-03-01	Nitrates Metals Sulfates	C	0-6"	Composite of three aliquots, one from each on three bare ash spots starting at the top of the side slope close to the stream near southern SWMU boundary, halfway up the side slope approximately 100 feet north of the first location, and at the top of the pile approximately 100 feet north of the second sample location.
15-SA-03-01	Nitrates Metals Sulfates	C	3'	Aliquots at same locations as sample 15-SS-03-01.
15-SW-04-01	Nitrates Metals Sulfates	G	0-6"	Stained area adjacent to barrel located at the toe of the east side of the pile.
15-SD-04-01	Nitrates Metals Sulfates	G	0-6"	Corresponds to SW-04-01.
15-FB-01-02	Nitrates Metals Sulfates	N/A	N/A	Field blank.

3.17.3 Evaluation of Site

Surface soil and soil auger samples were found to contain arsenic, beryllium, cadmium, selenium, and zinc at concentrations above the associated exceedance levels. However, with the exception of beryllium, metal concentrations were within the ranges established by the USGS for soils of the type found at IAAP (Table 3-2b). These metals were not found in surface water or sediment samples. The ash pile is composed solely of ash to a depth of 45 feet and no soil was present to sample. The USGS background concentration data was used to provide a maximum permissible benchmark for evaluation of contamination of the site.

Sediment samples were found to contain silver at concentrations above the exceedance level, including one anomalously-high level at location 15-SD-02. Silver was not found in surface water or soil samples.

Sulfates were also found at levels ranging from 105 to 170 µg/g in soil samples, and 70 to 1500 mg/L in water samples. Sulfates are a constituent of fly ash, and it is expected that high levels of this constituent would be present in both the soil and adjacent surface water. However, sulfates are found in natural waters in concentrations ranging from a few tenths of a milligram per liter up to several thousand milligrams per liter. Sulfates are not a contaminant of concern and pose no significant health risk at these levels. Elevated levels of barium were found in surface water samples; this reflects the high level of naturally-occurring barium in the soil and is not a matter of concern.

Soil samples taken in 1981 at a location east of IAAP-15 (marked S-14, Figure 3-15) indicate the presence of explosives, nitrates, metals (Ba, Cd, Cr, Cu, Pb, Zn, etc.), and various other compounds. However, this data is over 10 years old and not verifiable as to analytical method or reporting limit. The site is over 450 feet from the ash pile and over 700 feet from Brush Creek; it is separated from the ash pile by cultural features (a road and ditch). It is unlikely that this site has any relevance to IAAP-15.

Surface water samples taken in 1983 and 1985 from Brush Creek where it exits the southern edge of the ash pile (marked W-54, Figure 3-15) indicate the presence of explosives, solvents (e.g., TCE), chloroform, and metals (As, Cr, Cu, Hg, and Zn). Due to the fact that no explosives were found in the groundwater by Dames & Moore in 1987, sampling for explosives was not conducted during the SI. No sediment samples were collected from Brush Creek in past sampling events.

The fact that metals found in the soil samples did not appear in surface water or sediment samples above the exceedance levels indicates that the ash pile is stable and that metals are not leaching from the ash pile to Brush Creek. The top of the ash pile is relatively level and completely vegetated. The slope of the pile is heavily vegetated, and the ash is not easily disturbed. Removal of the fly ash pile would require the movement of approximately 319,000 yd^3 of ash. This action would disturb the stability of the existing pile, would strip away the stabilizing vegetation, and would increase ash runoff into Brush Creek. Removal action would not be cost-effective and would likely exacerbate erosion of the face of the fly ash landfill, which now is minimal because of heavy vegetation.

The absence of silver in the soil and surface water samples is strong evidence that the ash pile is not contributing to the silver in the sediment, and that the source of the silver lies elsewhere upstream. The most likely source of silver is from the Sewage Treatment Plant (IAAP-26) and/or the associated sludge beds which lie upstream of the site. It is possible that silver particles were carried down during pre-drought periods of high stream flow, precipitated out (or were trapped), and have not been moved further due to low stream flow during drought periods. Accordingly, it is recommended that the ash pile itself be eliminated from the RI.

It is further recommended that a limited number of samples be taken during the RI to screen for explosives immediately upstream of IAAP-15, at the interface between the ash pile and Brush Creek, and downstream. This will determine if the ash pile is a source of explosives contamination. Finally, since explosives were found during the SI in samples from IAAP-26 (See Section 3.28), extensive surface water sampling should be conducted on Brush Creek as part of the ecological assessment to confirm the existence and sources of explosives contamination.

Table 3-17

IAAP-15 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP15	SD	ANIONS	NITRITE, NITRATE - NONSPECIFIC	15-SD-02	08/21/1991	15SD0201Y	0.500	2.12	=KF17	1.0	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	1.02	=KF17	1.0	UGG
			SULFATE	15-SD-01	08/21/1991	15SD0101Y	0.500	17.1	=KT07	5.0	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	14.0	=KT07	5.0	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	180.0	=KT07	5.0	UGG
		METALS	ARSENIC	15-SD-04	08/21/1991	15SD0401Y	0.500	5.82	=B9	2.5	UGG
			BARIUM	15-SD-01	08/21/1991	15SD0101Y	0.500	144.0	=JS12	3.29	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	121.0	=JS12	3.29	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	77.6	=JS12	3.29	UGG
			CHROMIUM	15-SD-01	08/21/1991	15SD0101Y	0.500	15.7	=JS12	1.04	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	24.5	=JS12	1.04	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	11.7	=JS12	1.04	UGG
			COPPER	15-SD-01	08/21/1991	15SD0101Y	0.500	9.87	=JS12	2.84	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	9.11	=JS12	2.84	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	5.72	=JS12	2.84	UGG
			LEAD	15-SD-01	08/21/1991	15SD0101Y	0.500	9.1	=JD21	0.467	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	9.68	=JD21	0.467	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	16.0	=JD21	0.467	UGG
			MERCURY	15-SD-01	08/21/1991	15SD0101Y	0.500	0.077	=Y9	0.05	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	1.0	>Y9	0.05	UGG
			NICKEL	15-SD-01	08/21/1991	15SD0101Y	0.500	9.83	=JS12	2.74	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	6.64	=JS12	2.74	UGG
			SILVER	15-SD-01	08/21/1991	15SD0101Y	0.500	2.73	=JS12	0.803	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	14.5	=JS12	0.803	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	2.17	=JS12	0.803	UGG
			ZINC	15-SD-01	08/21/1991	15SD0101Y	0.500	34.4	=JS12	2.34	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	42.2	=JS12	2.34	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	32.6	=JS12	2.34	UGG
	SO	ANIONS	NITRITE, NITRATE - NONSPECIFIC	15-SA-03	08/16/1991	15SA0301Y	3.000	31.0	=KF17	1.0	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	38.0	=KF17	1.0	UGG
			SULFATE	15-SA-03	08/16/1991	15SA0301Y	3.000	105.0	=KT07	5.0	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	170.0	=KT07	5.0	UGG
		METALS	ARSENIC	15-SA-03	08/16/1991	15SA0301Y	3.000	17.5	=B9	2.5	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	18.6	=B9	2.5	UGG
			BARIUM	15-SA-03	08/16/1991	15SA0301Y	3.000	139.0	=JS12	3.29	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	196.0	=JS12	3.29	UGG
			BERYLLIUM	15-SA-03	08/16/1991	15SA0301Y	3.000	3.36	=JS12	0.427	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	4.31	=JS12	0.427	UGG
			CADMIUM	15-SS-03	08/16/1991	15SS0301Y	0.500	2.53	=JS12	1.2	UGG
			CHROMIUM	15-SA-03	08/16/1991	15SA0301Y	3.000	27.9	=JS12	1.04	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	31.5	=JS12	1.04	UGG
			COPPER	15-SA-03	08/16/1991	15SA0301Y	3.000	34.1	=JS12	2.84	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	39.4	=JS12	2.84	UGG
			LEAD	15-SA-03	08/16/1991	15SA0301Y	3.000	29.0	=JD21	0.467	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	37.0	=JD21	0.467	UGG
			MERCURY	15-SA-03	08/16/1991	15SA0301Y	3.000	0.104	=Y9	0.05	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	0.15	=Y9	0.05	UGG
			NICKEL	15-SA-03	08/16/1991	15SA0301Y	3.000	30.0	=JS12	2.74	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	36.7	=JS12	2.74	UGG
			SELENIUM	15-SA-03	08/16/1991	15SA0301Y	3.000	2.34	=JD20	0.449	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	2.31	=JD20	0.449	UGG

Table 3-17

IAAP-15 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			ZINC	15-SA-03	08/16/1991	15SA0301Y	3.000	271.0	=JS12	2.34	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	431.0	=JS12	2.34	UGG
	SW	ANIONS	NITRITE, NITRATE - NONSPECIFIC	15-SW-01	08/21/1991	15SW0101Y	0.500	5,300.0	=LL8	10.0	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	5,300.0	=LL8	10.0	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	4,200.0	=LL8	10.0	UGL
			SULFATE	15-SW-01	08/21/1991	15SW0101Y	0.500	70,000.0	=TT09	175.0	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	82,000.0	=TT09	175.0	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	1500,000.0	=TT09	175.0	UGL
		METALS	ARSENIC	15-SW-01	08/21/1991	15SW0101Y	0.500	2.66	=AX8	2.35	UGL
			BARIUM	15-SW-01	08/21/1991	15SW0101Y	0.500	81.9	=SS12	2.82	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	79.3	=SS12	2.82	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	85.7	=SS12	2.82	UGL
			BERYLLIUM	15-SW-04	08/21/1991	15SW0401Y	0.500	1.44	=SS12	1.12	UGL
			ZINC	15-SW-01	08/21/1991	15SW0101Y	0.500	69.5	=SS12	18.0	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	74.3	=SS12	18.0	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	73.5	=SS12	18.0	UGL

Table 3-17a

IAAP-15 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP15	SD	ANIONS	NITRITE, NITRATE - NONSPECIFIC	15-SD-02	08/21/1991	15SD0201Y	0.500	2.12	=KF17	1.0	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	1.02	=KF17	1.0	UGG
			SULFATE	15-SD-01	08/21/1991	15SD0101Y	0.500	17.1	=KT07	5.0	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	14.0	=KT07	5.0	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	180.0	=KT07	5.0	UGG
		METALS	MERCURY	15-SD-02	08/21/1991	15SD0201Y	0.500	1.0	>Y9	0.05	UGG
			SILVER	15-SD-01	08/21/1991	15SD0101Y	0.500	2.73	=JS12	0.803	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	14.5	=JS12	0.803	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	2.17	=JS12	0.803	UGG
	SO	ANIONS	NITRITE, NITRATE - NONSPECIFIC	15-SA-03	08/16/1991	15SA0301Y	3.000	31.0	=KF17	1.0	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	38.0	=KF17	1.0	UGG
			SULFATE	15-SA-03	08/16/1991	15SA0301Y	3.000	105.0	=KT07	5.0	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	170.0	=KT07	5.0	UGG
		METALS	ARSENIC	15-SA-03	08/16/1991	15SA0301Y	3.000	17.5	=B9	2.5	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	18.6	=B9	2.5	UGG
			BERYLLIUM	15-SA-03	08/16/1991	15SA0301Y	3.000	3.36	=JS12	0.427	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	4.31	=JS12	0.427	UGG
			CADMIUM	15-SS-03	08/16/1991	15SS0301Y	0.500	2.53	=JS12	1.2	UGG
			CHROMIUM	15-SS-03	08/16/1991	15SS0301Y	0.500	31.5	=JS12	1.04	UGG
			COPPER	15-SA-03	08/16/1991	15SA0301Y	3.000	34.1	=JS12	2.84	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	39.4	=JS12	2.84	UGG
			LEAD	15-SA-03	08/16/1991	15SA0301Y	3.000	29.0	=JD21	0.467	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	37.0	=JD21	0.467	UGG
			SELENIUM	15-SA-03	08/16/1991	15SA0301Y	3.000	2.34	=JD20	0.449	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	2.31	=JD20	0.449	UGG
			ZINC	15-SA-03	08/16/1991	15SA0301Y	3.000	271.0	=JS12	2.34	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	431.0	=JS12	2.34	UGG
	SW	ANIONS	NITRITE, NITRATE - NONSPECIFIC	15-SW-01	08/21/1991	15SW0101Y	0.500	5,300.0	=LL8	10.0	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	5,300.0	=LL8	10.0	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	4,200.0	=LL8	10.0	UGL
			SULFATE	15-SW-01	08/21/1991	15SW0101Y	0.500	70,000.0	=TT09	175.0	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	82,000.0	=TT09	175.0	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	1500,000.0	=TT09	175.0	UGL
		METALS	BERYLLIUM	15-SW-04	08/21/1991	15SW0401Y	0.500	1.44	=SS12	1.12	UGL

3.18 IAAP-16 (FORMER LINE 1 IMPOUNDMENT)

3.18.1 Site Description and History

The Former Line 1 Impoundment and the Line 800 Pink Water Lagoon (IAAP-44) were the focus of an RI/FS conducted by Dames & Moore in 1989. Some of the information used by Dames & Moore in preparing the risk assessment associated with this study was historical sampling data obtained from 1981 through 1986. After review, EPA determined that the data was too old to support conclusions. Although IAAP-16 was not originally under consideration for the current investigation, it has since been included to obtain additional samples so that updated data can be available to reevaluate the risk assessment. The historical information associated with past investigations at this unit is summarized below.

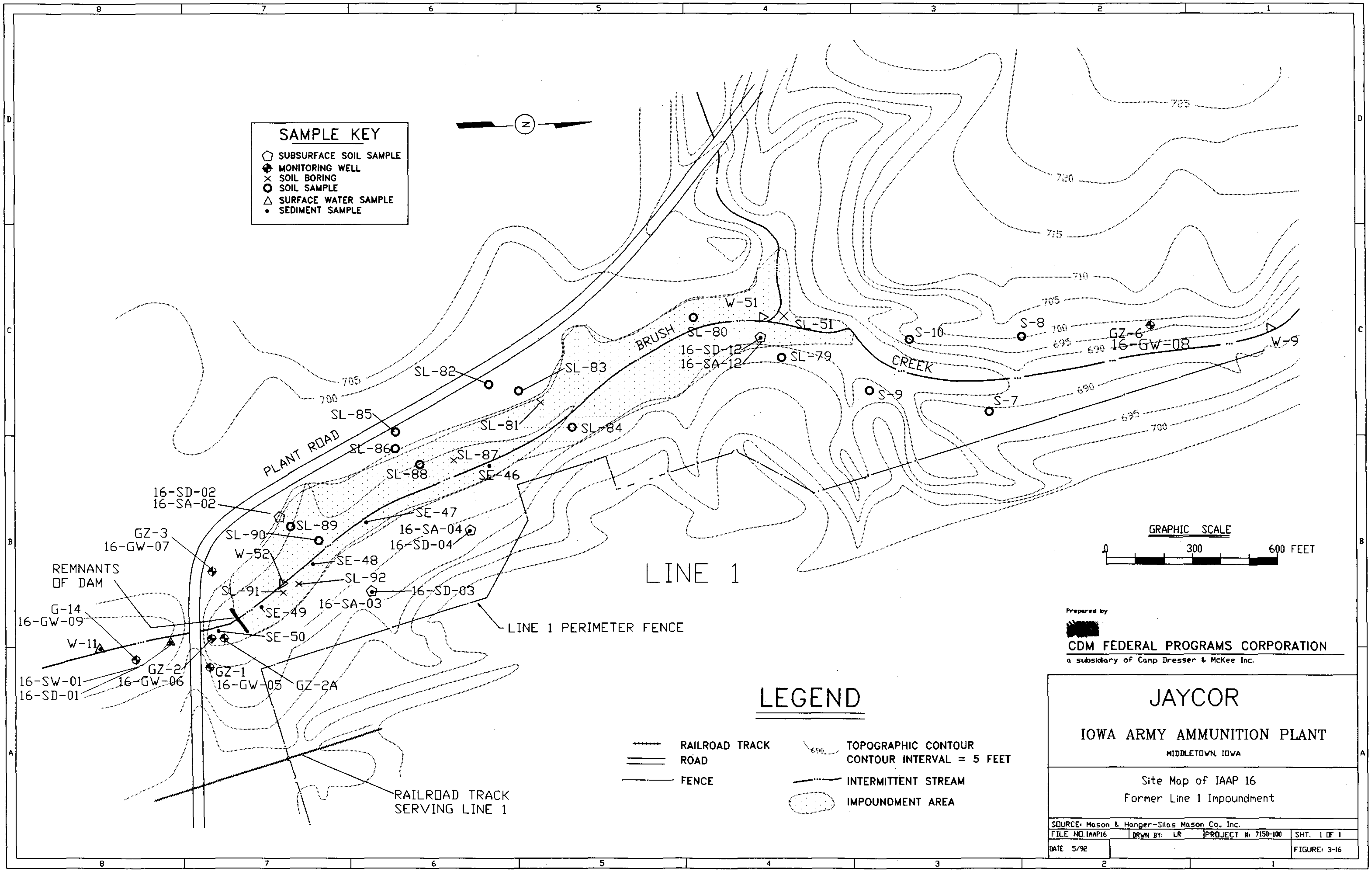
IAAP-16 is located southwest of Line 1 and along Brush Creek in the northeastern portion of IAAP. Plate 1 (D,E-4) depicts Line 1 and its location relative to other SWMUs. Figure 3-16 is a map of IAAP-16.

The Former Line 1 Impoundment was formed by damming a portion of the upper reaches of Brush Creek. The primary function of the impoundment was to allow settling of particulate matter from explosives-contaminated wastewater before it discharged downstream. The wastes included explosives wastes, primarily 2,4,6-TNT, coal pile runoff, and condensate from a coal-fired power plant. No known treatment process was employed at the Line 1 Impoundment other than the intermittent addition of fly ash to adsorb explosives components and reduce color. It was estimated that the impoundment encompassed an area approximately 3.6 acres in size and extended approximately 1300 feet upstream from the dam during average flow conditions. Periods of high flows and high water levels may have increased the size of the impoundment to as much as 7.5 acres, extending up to 2400 feet upstream of the dam. The impoundment allowed wastewater contaminants to infiltrate into the soil or continue into Brush Creek. In 1957, the dam was breached, allowing Brush Creek to return to natural flow and vegetation.

Contaminated sediments still remain in the former impoundment area and that, along with wastewater discharges from Line 1, may be contributing to surface water and sediment contamination downstream of this area. In particular, contaminated sediments have the potential to be eroded during periods of high precipitation and scour.

From 1948 to 1975, Line 1 was operated by the Atomic Energy Commission. During this time, nuclear weapons were present at Line 1. Radioactive materials were brought into the line in sealed containers, and were tested for leaks before use. If leaks were detected, corrective action was taken. All buildings involved in the radioactive material operations were surveyed before AEC's operations were discontinued in July 1975, and were found to be uncontaminated with radioactive wastes (Holmberg 1975). During the period from 1948 to 1975, it was reported that Line 1 generated the greatest volume of explosives waste and wastewater at IAAP.

The groundwater flow direction is towards Brush Creek. Artesian conditions were observed in shallow soil borings, indicating that Brush Creek was a groundwater discharge zone in this area.


SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
N
725
720
715
710
705
700
695
690
705
700
BRUSH
CREEK
PLANT ROAD
W-51
SL-80
SL-51
16-SD-12
16-SA-12
SL-79
S-10
S-8
GZ-6
16-GW-08
W-9
S-9
S-7
SL-82
SL-83
SL-85
SL-81
SL-84
SL-86
SL-87
SL-88
SE-46
16-SD-02
16-SA-02
SE-47
SL-89
16-SA-04
16-SD-04
GZ-3
16-GW-07
SL-90
W-52
SE-48
SL-92
REMNANTS OF DAM
SL-91
16-SD-03
16-SA-03
SE-49
G-14
16-GW-09
SE-50
LINE 1
LINE 1 PERIMETER FENCE
W-11
GZ-2
16-GW-06
GZ-1
16-GW-05
GZ-2A
16-SW-01
16-SD-01
RAILROAD TRACK SERVING LINE 1
GRAPHIC SCALE
0
300
600 FEET
LEGEND
RAILROAD TRACK
ROAD
FENCE
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM
IMPOUNDMENT AREA
Prepared by
[redacted]
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 16
Former Line 1 Impoundment
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP16
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-16

It is possible that during dry periods, artesian conditions may not exist and surface water in Brush Creek, in the immediate vicinity of the Former Line 1 Impoundment, may discharge into the surrounding soils. Localized shallow groundwater contamination along Brush Creek can occur under these conditions, due either to leaching of contaminants from contaminated shallow soils or infiltration of surface water previously contaminated by surface sources, which may include contaminated sediments within the Brush Creek stream bed or from industrial wastewater discharges.

The geology at the Former Line 1 Impoundment has been tentatively characterized from shallow boreholes drilled in the vicinity during previous studies. The overburden consists of dark brown to black sandy silt sediments, underlain by up to 50 feet of sandy, silty clay till, and/or silty clay loess, with alluvial deposits in the valley bottom. Bedrock was not penetrated by any of the borings at the site during the boring. However, limestone outcrops have been observed in the creek valley, a short distance south of the Former Line 1 Impoundment. No geologic measurement of the limestone outcrop was made that could be used to assess the character of the bedrock underlying the Line 1 area.

The land slopes gently from Line 1 towards Brush Creek, which may induce runoff flow to Brush Creek. The runoff water could be a source of contaminant recharge for Brush Creek.

Surface water and groundwater in the vicinity of the Line 1 Impoundment are not used as a potable water supply source. Consumption of fish and game from the area represents a possible pathway to humans, although fishing and hunting are controlled by IAAP. Inhalation of airborne soils or sediments that may be contaminated is unlikely.

3.18.2 Summary of Previous Investigations

As a result of receiving contaminated wastewater, considerable amounts of particulate material contaminated by explosives were deposited in the impoundment. Based on previous sampling and analysis, significant quantities of explosives apparently remain in the steam sediments of Brush Creek. Sampling and analysis results in previous years also show that explosives residues are still present in soils along the banks of the creek. Because the sediments were not removed from the upper sector of Brush Creek, the remaining explosive-contaminated sediments may still be contributing contaminants to the stream. These sediments are subject to erosion and scour during periods of high stream flow, possibly contributing to pollution of Brush Creek.

RDX and HMX are the only explosives detected in the shallow groundwater. Based on currently available data, groundwater is not contaminated by metals. The explosives concentration in groundwater range up to 445 $\mu g/L$. In the immediate vicinity of the Former Line 1 Impoundment, only two wells (GZ-2 and GZ-2a), have exhibited detectable levels of explosives. These two wells are immediately adjacent to Brush Creek downstream of the former dam, which indicates that groundwater contamination associated with the Former Line 1 Impoundment is limited to the immediate vicinity of the former impoundment in Brush Creek.

RDX is the only explosive that has been detected in surface water samples from Brush Creek. The concentrations have ranged up to 185 $\mu g/L$. Metals were not detected at elevated levels in surface water samples from Brush Creek. The concentrations of RDX in Brush Creek were generally observed to decrease toward the south, suggesting an RDX source toward the north. Dominant RDX sources include contaminated groundwater discharging to Brush Creek near the

Former Line 1 Impoundment, erosion of contaminated sediments from the Former Line 1 Impoundment, and contaminated wastewater discharged from permitted NPDES wastewater discharges along Brush Creek, north of the Line 1 Impoundment. As discussed earlier, the waste discharged into the Former Line 1 Impoundment included explosives waste, primarily 2,4,6-TNT.

The predominant explosives detected in soils and sediments were RDX and HMX, at concentrations up to 400 and 61 mg/kg, respectively. Few of the soil and sediment samples showed other explosives above detection limits; however, other explosives detected were tetryl; 1,3-DNB; 2,4-DNT; 2,6-DNT; 1,3,5-TNB; and 2,4,6-TNT. The greatest concentration of RDX was observed in the soil and sediment samples from the Brush Creek valley, extending for a distance of approximately 1000 feet along Brush Creek. Concentrations of RDX and HMX decrease laterally away from Brush Creek, but are still elevated at distances of 200 feet west of Brush Creek. Dames and Moore observed topographic symmetry along Brush Creek and suggested that the symmetry indicated that sediment deposition east of Brush Creek had occurred, which was similar in magnitude to the sediment deposition on the west side of the creek. Therefore, elevated explosives concentrations are estimated to be present up to 200 feet east of Brush Creek, yielding a total lateral distance of 400 feet.

Detectable explosives are present only in samples from shallow sampling depths not exceeding one to two feet. Exceptions are along the Brush Creek stream bed, where the depth of contamination was frequently observed to extend to four feet. Barium was detected at elevated levels (up to 903 mg/kg) in near-surface soil samples located near the former dam. This area has historically exhibited the highest contaminant concentrations.

3.18.3 Follow-up Sampling

EPA directed that follow-up sampling include resampling the wells from which data were evaluated to support the Dames & Moore Risk Assessment, as well as collecting limited soil, sediment, and surface water samples. In addition, during the previous studies, samples were only analyzed for explosives and metals; the EPA has requested that VOC analysis be included during this round of sampling.

The groundwater wells to be sampled as part of the Former Line 1 Impoundment study are listed in Table 3-18. Monitoring well locations are depicted on Plate 2. Samples will be obtained following the groundwater sampling protocols as described in the QAPjP (Appendix A). The well construction details and associated boring logs are presented in Appendix C.

Soil, sediment, and surface water samples will be obtained from areas around the Former Line 1 Impoundment in an attempt to further define the extent of the contamination at this unit. Proposed sample locations are illustrated on Figure 3-16 and summarized in Table 3-18.

One sediment and surface water sample (16-SW-01-01 and 16-SD-01-01) will be obtained in the Brush Creek stream bed 250 feet south of the former dam location. This area will additionally be sampled at intervals of 0-2 feet and 4-6 feet (16-SA-01-01 and 16-SA-01-02 respectively). No downgradient samples were obtained during the Dames & Moore study. This additional sample will provide data to assist in determining the extent of the downgradient contamination emanating from the Former Line 1 Impoundment.

Soil samples will be obtained in at least 2 locations (16-SA-03-01 and 02 and 16-SA-04-01 and 02) east of Brush Creek in the area of the Former Line 1 Impoundment. The samples will be taken 400 feet and 800 feet north of the former dam, approximately 200 feet east of the creek bed. The samples will be taken at intervals of 0-2 feet and 4-6 feet. The Dames & Moore study did not confirm the lateral extent of contaminated soil/sediments east of the creek bed. The report estimated that the contaminated soils extended 200 feet east, on the basis that the contamination ran 200 feet west of the creek bed. Therefore, total lateral distance of explosive-contaminated soils was estimated to be 400 feet. These samples will help further define the actual extent of contamination.

Soil samples (16-SA-02-01 and 16-SA-02-02) will be obtained from the southwest corner of the Former Line 1 Impoundment, approximately 250 feet north of the former dam location and adjacent to Plant Road to the west. The samples will be obtained at intervals of 0-2 feet and 2-4 feet. In the Dames & Moore study, shallow explosives soil contamination was detected up to 200 feet west of the southwest corner of the former impoundment location. The sampling effort did not define the extent of the contamination in this area. These additional samples should further define the extent of explosives contamination in this area.

Table 3-18
Proposed Sample Locations; IAAP-16 Follow-up Sampling

Sample	Analyses	Sample Type	Depth	Location
16-SW-01-01	Explosives Metals VOCs	G	N/A	250 feet south of the former dam location.
16-SD-01-01	Explosives Metals VOCs	G	0-6"	Corresponds to 16-SW-01-01.
16-SD-02-01	Explosives Metals VOCs	G	0-6"	250 feet north of the former dam and adjacent to Plant Road to the west.
16-SA-02-02	Explosives Metals VOCs	G	36"	Corresponds to 16-SD-02-01.
16-SD-03-01	Explosives Metals VOCs	G	0-6"	400 feet north of the former dam and 200 feet east of the Brush Creek bed.
16-SA-03-02	Explosives Metals VOCs	G	36"	Corresponds to 16-SD-03-01.
16-SD-04-01	Explosives Metals VOCs	G	0-6"	800 feet north of the former dam and 200 feet east of the Brush Creek bed.
16-SA-04-02	Explosives Metals VOCs	G	36"	Corresponds to 16-SD-04-01.
16-GW-05-01	Explosives Metals VOCs	G	N/A	Well GZ-1. Depth of well = 49 feet.
16-GW-06-01	Explosives Metals VOCs	G	N/A	Well GZ-2. Depth of well = 30 feet.
16-GW-07-01	Explosives Metals VOCs	G	N/A	Well GZ-3. Depth of well = 46 feet.
16-GW-08-01	Explosives Metals VOCs	G	N/A	Well GZ-6. Depth of well = 47 feet.
16-GW-09-01	Explosives Metals VOCs	G	N/A	Well G-14. Depth of well = 38 feet.
16-GW-10-01	Explosives Metals VOCs	G	N/A	Well G-15. Depth of well = 18 feet.
16-GW-11-01	Explosives Metals VOCs	G	N/A	Well G-51. Depth of well = 16 feet.

Sample	Analyses	Sample Type	Depth	Location
16-GW-12-01	Explosives Metals VOCs	G	N/A	Well G-49. Depth of well = 32 feet.
16-SD-13-01	Explosives Metals VOCs	G	0-6"	East of Brush Creek where the creek and the tributary merge, which is approximately 2200 feet north of the dam.
16-SA-13-02	Explosives Metals VOCs	G	36"	Corresponds to 16-SD-12-01.

3.19 IAAP-17 (PESTICIDE PIT)

3.19.1 Site Description and History

The Pesticide Pit (IAAP-17) is situated in the central portion of IAAP, north of Yard O and west of the Winnabago School House (Building 500-30-6) (Plate 1; D-4,5). The pit is 8 feet square and 2 to 3 feet deep (Figure 3-17). The Winnabago School House is being considered as a possible historical site (Ecology and Environment, Inc. 1987).

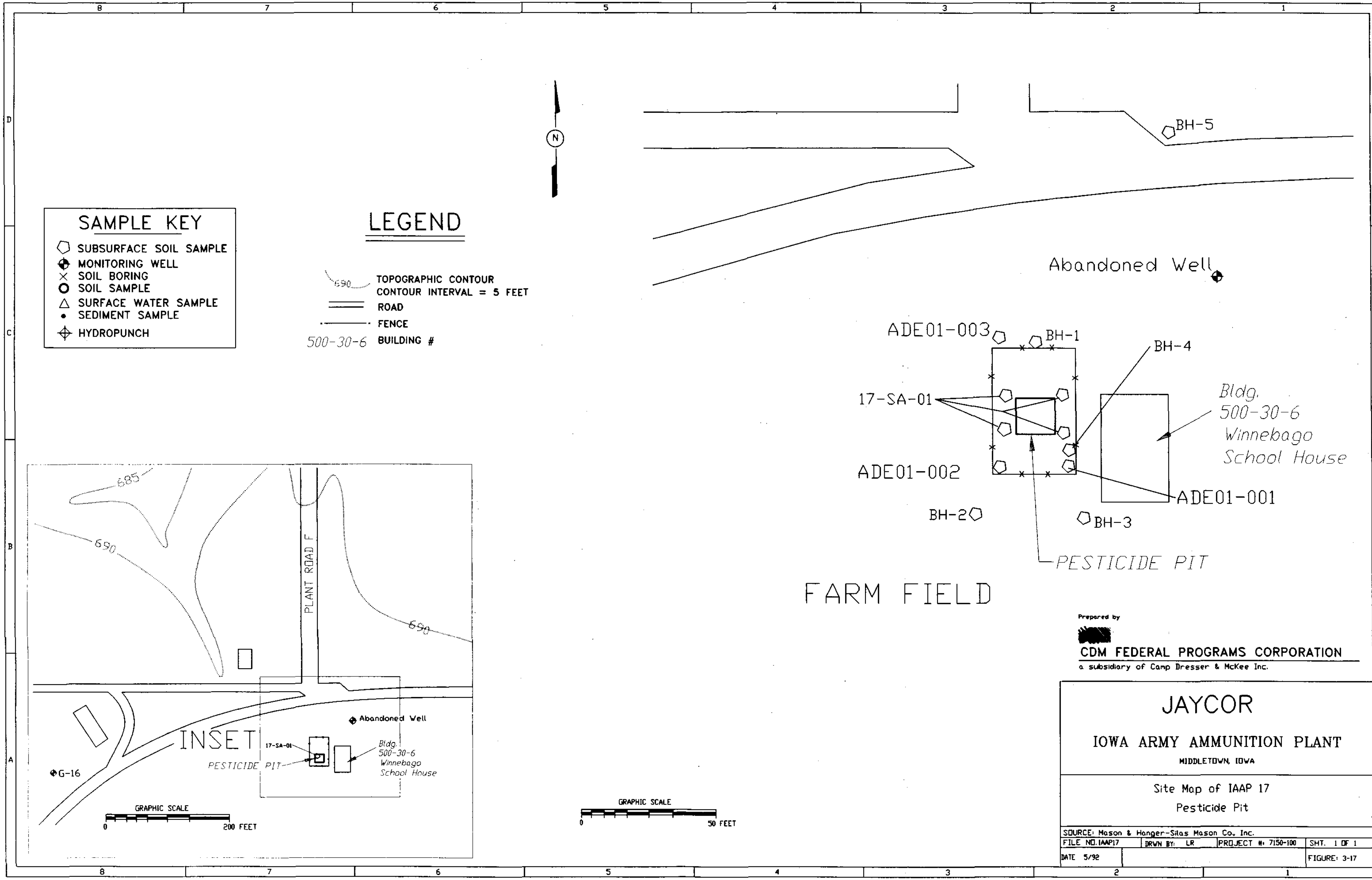
The Pesticide Pit was used for treatment and disposal of residual amounts of pesticides and herbicides from 1968 to 1974. The pit was constructed of plywood, lined with polyester resin (Hypalon), filled with limestone and covered by an open-sided shelter. The pit was capped with clay sometime during the late 1970s to early 1980s. The pit area is presently enclosed with a security fence to restrict access and the site surface is covered with significant vegetation, including trees.

During an entomological study performed in June 1973 (Department of the Army 1974), the pit was reported to be full of industrial and pesticidal chemicals. The rinsings from pesticide containers had been poured into the pit; the containers were crushed and buried in the sanitary landfill. Typical types of containers included frame-mounted and manually carried insecticide sprayers. In addition to pesticide rinses, 165 gallons of stripper, oakite and composition No. R-6 were emptied into the pit in early 1973. Plans to empty twenty-nine, 5-gallon cans of chemical "Retard", (produced by Ansul Co. for the controlled growth of grass, trees, shrubs and ivy) into the pit had been approved for disposal at the time of the 1973 study, but no documentation has been found to verify whether this occurred. During a second entomological survey performed in 1974, the pit was empty except for 1 or 2 inches of dry sludge. The polyester resin on the bottom of the pit appeared to be cracked and unable to hold any liquid which might be emptied into it.

The ground surface elevation at the pesticide pit is approximately 692 feet above msl. Groundwater was encountered 5 to 6 feet below ground surface during drilling operations associated with an AEHA study in 1975. After standing overnight, water levels in all borings had risen to a level 2 to 4 feet below the ground surface. Based upon stabilized water level measurements, the ground water table has a slope of 1.5 percent or less. Groundwater flow beneath the site was determined to be to the south/southeast.

Water levels were taken three separate times at the closest monitoring well in the vicinity (G-16), which is 20 feet deep and located 400 feet west of the pit. From March 1981 through July 1983 water levels ranged from 5.0 feet to 4.73 feet below ground surface (elevations of 688.87 to 688.6 above msl).

The soil in the site area is medium to high plastic, well-graded, clayey silt, and practically impermeable (1.9×10^{-8} cm/sec) (AEHA 1975). Boring logs for well G-16 (400 feet away from the pesticide pit) show that the top 7 feet of soil consists of moist silty clay with fragments of bricks, nails, and other miscellaneous materials. This is underlain by 13 feet of moist to very moist, silty clays, dark grey to dark brown in color. Water was encountered at 10 feet below ground surface during sampling and had risen to 4 feet below ground surface after 24 hours. Surface water appears to flow 1000 feet in a northeast direction to a seasonal wash which, in


SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
HYDROPUNCH
LEGEND
690
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
ROAD
FENCE
500-30-6
BUILDING #
N
BH-5
Abandoned Well
ADE01-003
BH-1
BH-4
17-SA-01
Bldg.
500-30-6
Winnebago
School House
ADE01-002
ADE01-001
BH-2
BH-3
PESTICIDE PIT
FARM FIELD
685
690
PLANT ROAD F
690
INSET
Abandoned Well
17-SA-01
PESTICIDE PIT
Bldg.
500-30-6
Winnebago
School House
G-16
GRAPHIC SCALE
0
200 FEET
GRAPHIC SCALE
0
50 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 17
Pesticide Pit
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP17
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-17

turn, flows approximately one-half mile east to Brush Creek (USGS 1981 and 1964). The liner on the bottom of the pit was reported in 1974 to be cracked; any liquids dumped into the pit had the potential to seep through the cracks and into the soil below. The water level below the pit has been documented to be as shallow as 2 feet below ground surface; based on this information it was concluded that the potential for groundwater contamination existed.

The pit was covered by an open-sided shelter during the time of operation. However, the potential for overflow and runoff during periods of intense rain may have contaminated soil surrounding the pit, sediment, and surface water along the drainage pathways that lead to Brush Creek.

Crops and hay are grown in leased fields to the north and south of the pesticide pit.

3.19.2 Summary of Previous Investigations

The Winnabago School House well, which is located approximately 40 feet east of the pit has reportedly been contaminated with pesticides; however, no documentation exists to support this claim except internal EPA memorandums (Ecology and Environment Inc. 1987).

An entomological study was performed by USAEHA from September 1974 to March 1975 (AEHA 1975) to evaluate pesticide disposal practices at the pesticide pit. Five soil and sediment samples were taken near the pesticide pit with the results reported in the Interim Report dated September 1974 - January 1975. The samples were analyzed for routine pesticides and special analyses were performed for the phenoxy herbicides and for monuron and diuron. Concentrations of silvex ranged from 4.52 to 18.52 ppm. Elevated levels of 2,4-D; 2,4,5-T; DDD; DDE; and DDT compounds were also detected in the samples.

As a result of the sampling performed above, 16 additional samples were taken on 25-26 November 1974 to further assess the extent of pesticide contamination associated with the pesticide disposal pit. These samples were collected from 5 soil borings, 2 surface soil locations, and from the west branch of Brush Creek. All samples were analyzed for chlorophenoxy herbicides. In addition, locations BH-1, BH-3, BH-4, and BH-5, as well as a surface soil sample (unknown location) were analyzed for routine pesticides. The results of analysis of the soil and sediment samples did not reflect the high levels of chlorophenoxy herbicides reported in the interim report. The difference in contaminants and concentrations is attributed to the fact that samples were collected at different locations. The analyses of groundwater samples collected from each of the 5 borings showed concentrations of detected pesticides well below EPA Proposed Interim Primary Drinking Water Standards. Surface soil samples taken inside and outside the fenced area surrounding the pit showed elevated levels of DDD, DDE, and DDT compounds as well as trans-chlordane and Noachlor.

Dames & Moore conducted a groundwater sampling program near the pesticide pit from September 24 to October 13, 1985. Well G-16 was sampled; G-16 is located approximately 400 feet west, presumably upgradient, of IAAP-17. Only chloroform was found above criteria in well G-16 (5.57 μg/L).

An additional well was proposed, downgradient from the site, to determine if the abandoned well was contaminated by surface water inflow or if the groundwater had been contaminated directly. This well was never installed.

During the RCRA Facility Assessment conducted by Ecology and Environment, Inc., soil and groundwater samples were collected at the pit during a site visit in August 1986. According to the RFA report, surface soil samples showed significant levels of 4,4-DDE and 4,4-DDT down-slope from the site (Figure 3-17). The occurrence of DDT was also significant in the background surface soil sample taken up-slope from the site. No significant levels of organic compounds from the pesticide analysis for groundwater (sampling included well G-16 and the abandoned well) were determined at the site.

The site investigation (SI) at the pesticide pit consisted of collecting one confirmatory sample to verify previous studies. The one sample was a composite of four aliquots collected at each corner of the 8 X 8 foot pit, and at a depth of 24-40 inches, dependant on auger refusal. The sample design was an attempt to collect soil adjacent to the bottom of the historic pit (2-3 feet below ground surface). The sample collected is summarized below and the sample location is depicted on Figure 3-17.

Sample	Analyses	Sample Type	Depth	Location
17-SA-01-01	Explosives Metals Pesticides/PCBs	C	24-40"	Composite of four samples collected at the four corners of the pesticide pit.

Table 3-19 summarizes the SI sample results reported above CRLs; Table 3-19a reports those results above evaluation criteria. Appendix B is a report of all data associated with the SI.

3.19.3 Evaluation of Site

Analysis of the composite sample 17-SA-01-01 showed three compounds significantly above the evaluation criteria, and five other compounds just above the criteria. Of the three compounds significantly above criteria, two were metals; barium and chromium were detected at concentrations of 1120 and 58.9 mg/kg, respectively. The third compound was DDT, which was detected at a confirmed level of 0.007 mg/kg. The five other compounds detected at lower levels, but above criteria included: arsenic (9.66 mg/kg), selenium (0.764 mg/kg), beryllium (1.48 mg/kg), copper (31.3 mg/kg), and nickel (56.6 mg/kg).

Even though the SI data indicated only limited evidence of contamination, the historical data from both the Army and the EPA shows that pesticides have been present at this site and may be migrating to some degree. This site should be included in the Phase I RI in order to confirm whether the pesticides and herbicides detected over the years are migrating or simply degrading naturally. Establishment of the groundwater gradient in the immediate area of IAAP-17, and the collection of discrete groundwater samples is recommended. In addition, a soil sample below the pesticide pit should be collected.

Table 3-19

IAAP-17 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP17	SO	METALS	ARSENIC	17-SA-01	08/15/1991	17SA0101Y	3.400	9.66	=B9	2.5	UGG
			BARIUM	17-SA-01	08/15/1991	17SA0101Y	3.400	1,120.0	=JS12	3.29	UGG
			BERYLLIUM	17-SA-01	08/15/1991	17SA0101Y	3.400	1.48	=JS12	0.427	UGG
			CHROMIUM	17-SA-01	08/15/1991	17SA0101Y	3.400	58.9	=JS12	1.04	UGG
			COPPER	17-SA-01	08/15/1991	17SA0101Y	3.400	31.3	=JS12	2.84	UGG
			LEAD	17-SA-01	08/15/1991	17SA0101Y	3.400	13.0	=JD21	0.467	UGG
			MERCURY	17-SA-01	08/15/1991	17SA0101Y	3.400	0.138	=Y9	0.05	UGG
			NICKEL	17-SA-01	08/15/1991	17SA0101Y	3.400	56.6	=JS12	2.74	UGG
			SELENIUM	17-SA-01	08/15/1991	17SA0101Y	3.400	0.764	=JD20	0.449	UGG
			ZINC	17-SA-01	08/15/1991	17SA0101Y	3.400	68.2	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-TR	17-SA-01	08/15/1991	17SA0101YC	3.400	0.007	=LH17	0.0034	UGG

Table 3-19a

IAAP-17 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP17	SO	METALS	ARSENIC	17-SA-01	08/15/1991	17SA0101Y	3.400	9.66	=B9	2.5	UGG
			BARIUM	17-SA-01	08/15/1991	17SA0101Y	3.400	1,120.0	=JS12	3.29	UGG
			BERYLLIUM	17-SA-01	08/15/1991	17SA0101Y	3.400	1.48	=JS12	0.427	UGG
			CHROMIUM	17-SA-01	08/15/1991	17SA0101Y	3.400	58.9	=JS12	1.04	UGG
			COPPER	17-SA-01	08/15/1991	17SA0101Y	3.400	31.3	=JS12	2.84	UGG
			NICKEL	17-SA-01	08/15/1991	17SA0101Y	3.400	56.6	=JS12	2.74	UGG
			SELENIUM	17-SA-01	08/15/1991	17SA0101Y	3.400	0.764	=JD20	0.449	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-TR	17-SA-01	08/15/1991	17SA0101YC	3.400	0.007	=LH17	0.0034	UGG

3.20 IAAP-18 (POSSIBLE DEMOLITION SITE)

3.20.1 Site Description and History

The Possible Demolition Site, IAAP-18, was apparently used during the 1940s and possibly in to the early 1950s as a demolition area for ammunition items. This demolition area was located south of Plant Road K (lower Augusta Road) near Yard 6 and directly across the road east from the pistol range (Plate 1; B-5). The exact size of the site is unknown, but is believed to encompass as much as 15 acres (Figure 3-18).

There are no site records to substantiate demolition activities or the kind of ammunition items disposed at the site. The specific wastes that may be present at this site are unknown; however, the contaminants likely to be present are explosives commonly used at IAAP, as well as metals.

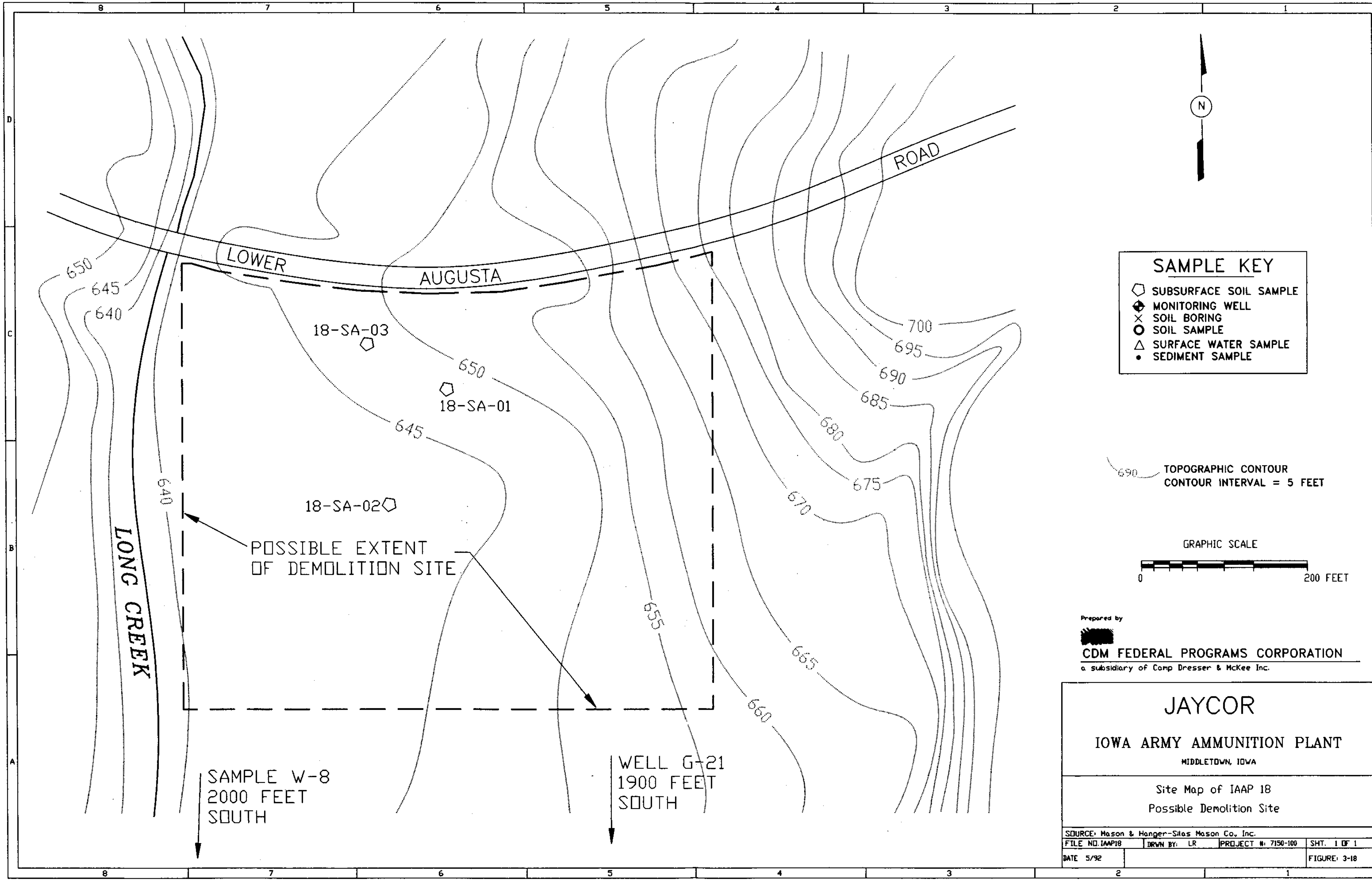
In general, the geology of IAAP is characterized by unconsolidated materials of glacial origin having a clayey silt with sand (loess) overlaying glacial till. The glacial till is described as being primarily Nebraskan and Kansan age. The bedrock sequence is believed to consist primarily of limestone intercalated with varying thicknesses of shale and sandstones and is of Paleozoic age.

The average hydraulic conductivity for this type of geology is a range of 10^{-3} to 10^{-5} cm/sec. Conductivities from wells in the general area substantiate this range. A southwestern groundwater flow with a similar hydraulic conductivity range is expected at this site.

Three bedrock aquifers are located beneath IAAP. The shallowest bedrock aquifer, the Mississippian, is generally separated from surficial deposits by an aquiclude of Pennsylvanian shales locally. The Warsaw Formation, a shallow unit within the Mississippian Aquifer, acts as an aquiclude and affects the local yield of the Mississippian. The Devonian aquifer is found below the Mississippian aquifer with a thick unit composed predominantly of shale separating the two. The Cambrian-Ordovician aquifer is separated from the overlying Devonian aquifer by a thick shale and dolomite interval (Terracon 1987).

The surface drainage of this area flows southwest toward Long Creek which is 100 to 200 feet from the site's estimated western boundary. A number of tributaries of Long Creek flow by the site and offer a possible contamination pathway of surface runoff from contaminated soil at the site to the surface water of Long Creek. Long Creek enters the plant from off site at two locations. One point of entry is located along the northwest portion of the northern boundary; the other branch enters about halfway along the western boundary of the plant area. These two branches merge and then flow into Mathes Lake, which is located approximately in the center of the plant. Surface water from the lake continues to flow in a southeasterly direction, flowing by IAAP-18 and exiting the plant area along its southern boundary approximately 2500 feet downstream.

If soil contaminants are present, migration to groundwater may occur via percolation. Groundwater beneath IAAP is generally shallow, and is reported at <10 feet in some areas. Flora and fauna are potential receptors, particularly those that inhabit nearby Long Creek and downgradient locations.



LOWER AUGUSTA ROAD
LONG CREEK
18-SA-03
18-SA-01
18-SA-02
POSSIBLE EXTENT OF DEMOLITION SITE
SAMPLE W-8 2000 FEET SOUTH
WELL G-21 1900 FEET SOUTH
650
645
640
655
660
665
670
675
680
685
690
695
700
N
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
GRAPHIC SCALE
0
200 FEET
Prepared by
[redacted]
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 18
Possible Demolition Site
SOURCE: Mason & Hanger-Silas Mason Co. Inc.
FILE NO. IAAP18
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-18

3.20.2 Summary of Previous Investigations

Soil sampling 300 feet downgradient of IAAP-18 during a contamination survey at Location S-6 in 1981 detected some above-average levels of lead. Lead was reported in this sample at 270 mg/kg. Explosives also were reported at this sampling site. Analysis of water downstream from IAAP-18 reported nondetectable levels of lead and other contaminants except for 2,4-DNT. A 2,4-DNT concentration of 2 µg/L was found 2000 feet downstream of the site in the water at surface sampling Site W-8, but this level of contamination cannot be directly attributed to any contaminant migration from IAAP-18 (Ecology and Environment 1987). Data from two sampling sites (Well G-21 and surface sample W-8) located approximately 2000 feet downstream of this site show that no contamination from either groundwater or surface water is leaving the IAAP installation.

The SI sampling effort for IAAP-18 focused on sampling the most likely locations for demolition pits and their respective drainage paths to intermittent streams that flow into Long Creek. Aerial photographs from the late 1950s and from 1963 were used to locate any possible demolition pits and surface drainage pathways in the area. SI samples are summarized below and sample locations are depicted on Figure 3-18. SI samples were analyzed for explosives and metals.

Sample	Analyses	Sample Type	Depth	Location
18-SA-01-01	Metals Explosives	G	18"	Approximately 150 feet south of Road K across from the pistol range and the suspected control site for the demolition area. Sample location is believed to approximate the location of one of the demolition pits.
18-SA-02-01	Metals Explosives	G	18"	Approximately 250 feet south of Road K across from the pistol range and 150 east of Long Creek. Sample location believed to approximate where a demolition pit was located; also located where surface drainage was likely to run off-site to Long Creek.
18-SA-03-01	Metals Explosives	G	18"	Approximately 25 feet south of Road K across from the pistol range. Sample located to intercept surface migration of contaminants toward Long Creek.

3.20.3 Evaluation of Site

All SI results reported above CRLs are summarized in Table 3-20; no results were reported above evaluation criteria. Review of the SI data obtained at IAAP-18 indicates near background levels for all metals of concern. No metals were reported above the established evaluation levels. No explosives were reported above CRLs.

Soil samples 18-SA-01-01 and 18-SA-02-01 were taken at suspected demolition pit areas. Sample 18-SA-01-01 had chromium reported at 35.8 mg/kg which is slightly higher than the established evaluation level of 29.2 mg/kg, but well within the naturally occurring range of chromium in uncultivated B Horizon soils as compiled by USGS (Table 3-26) for the area. These samples had no other metals above the established evaluation criteria. No explosives were reported above CRLs.

Soil sample 18-SA-03-01 was taken at a likely surface migration pathway also had no metals above the established evaluation criteria. No explosives were reported above CRLs.

Data from sample location S-6, which is 300 feet downgradient of IAAP-18, indicated the presence of metals and explosives in soil. CRLs were found to be above our evaluation criteria for the metals and explosives analyzed for Sample S-6. Although elevated levels of barium, cadmium, chromium, copper, lead, and numerous explosives (including DNT and TNT) were found in this sample, these results are considered unreliable in our evaluation because of the elevated CRLs. This sampling location is within the banks of Long Creek about 1000 feet before Long Creek exits the plant (Plate 2). Data from sample locations S-6 and W-8 may indicate possible contamination from upstream sources.

The SI data do not indicate contamination at IAAP-18 that is significant enough to warrant inclusion in the RI. With soil samples showing neither metals or explosives contamination, IAAP-18 is not considered to be a potential source of metals and explosives contamination at historic sample location S-6. Additional sampling in nearby Long Creek within the area of IAAP-18 will be conducted in support of the ecological assessment for the base-wide Risk Assessment. Any significant contamination along this reach of Long Creek should be identified during this study.

Table 3-20

IAAP-18 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP18	SO	METALS	ARSENIC	18-SA-01	08/16/1991	18SA0101Y	1.500	5.9	=B9	2.5	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	5.27	=B9	2.5	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	4.9	=B9	2.5	UGG
			BARIUM	18-SA-01	08/16/1991	18SA0101Y	1.500	140.0	=JS12	3.29	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	250.0	=JS12	3.29	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	260.0	=JS12	3.29	UGG
			CHROMIUM	18-SA-01	08/16/1991	18SA0101Y	1.500	35.8	=JS12	1.04	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	26.2	=JS12	1.04	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	21.7	=JS12	1.04	UGG
			COPPER	18-SA-01	08/16/1991	18SA0101Y	1.500	20.1	=JS12	2.84	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	17.8	=JS12	2.84	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	12.2	=JS12	2.84	UGG
			LEAD	18-SA-01	08/16/1991	18SA0101Y	1.500	14.0	=JD21	0.467	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	19.0	=JD21	0.467	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	19.0	=JD21	0.467	UGG
			MERCURY	18-SA-01	08/16/1991	18SA0101Y	1.500	0.061	=Y9	0.05	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	0.053	=Y9	0.05	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	0.083	=Y9	0.05	UGG
			NICKEL	18-SA-01	08/16/1991	18SA0101Y	1.500	15.1	=JS12	2.74	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	14.4	=JS12	2.74	UGG
			ZINC	18-SA-01	08/16/1991	18SA0101Y	1.500	66.7	=JS12	2.34	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	47.0	=JS12	2.34	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	44.9	=JS12	2.34	UGG

Table 3-20a

IAAP-18 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP18	SO	METALS	CHROMIUM	18-SA-01	08/16/1991	18SA0101Y	1.500	35.8	=JS12	1.04	UGG

3.21 IAAP-19 (CONTAMINATED CLOTHING LAUNDRY)

3.21.1 Site Description and History

The Contaminated Clothing Laundry (Building 500-125) is located in the west-central portion of IAAP, approximately 1000 feet directly north of the Main Power Plant, west of Line 6 (IAAP-7) on Plant Road A (Plate 1; E-5).

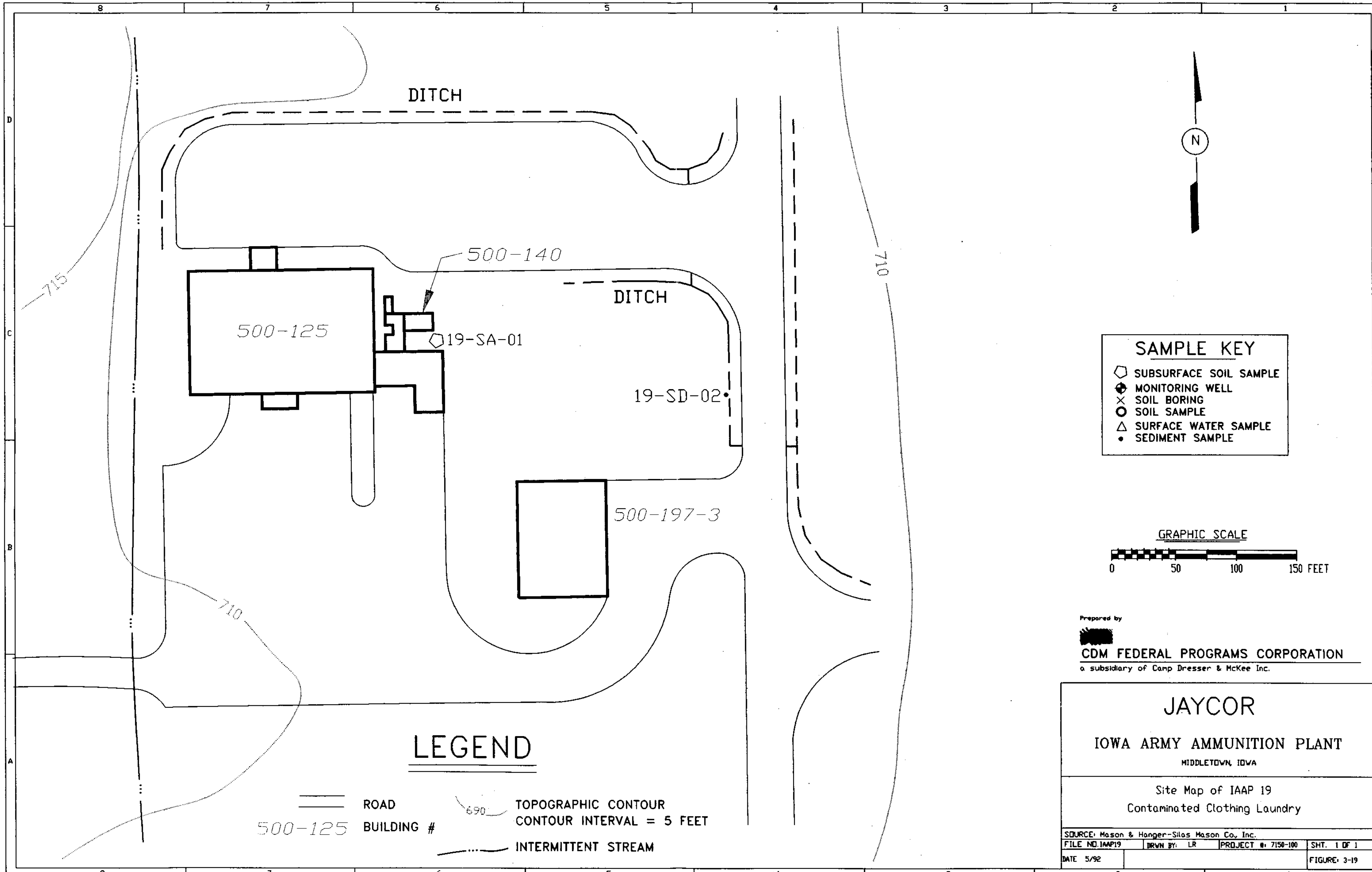
Building 500-125 measures 51 by 82 feet (Figure 3-19). The laundry has been in operation since the 1940s. Clothing washed at the laundry includes coveralls, underwear, and towels used by production and maintenance personnel. The only wastestream originating from the laundry is wash water, which may have been contaminated as a result of washing items potentially containing minute amounts of explosives. Approximately 8000 gallons of wash water per day is discharged to a settling basin, which is used to collect clothing fibers such as lint. Settled wash water is discharged via a large concrete weir, to the main sewage treatment plant (STP) sanitary sewage system (IAAP-26). Waste wash water has been treated at the STP since 1982. Visual site inspections (Ecology and Environment 1987; CDM FPC 1991) determined that wastes were not currently being discharged to the environment, and there was no visual evidence, such as stressed vegetation, that discharge into the surface water had occurred.

In a 1971 report by the U.S. Army Environmental Hygiene Agency (USAEHA), the laundry was identified as a source of TNT. The waste wash water was reported by USAEHA to be red in color, which was attributed to a high concentration of TNT. According to the 1971 USAEHA report, effluent from the settling basin was pumped into a nearby intermittent stream, where it flowed approximately one-half mile, then discharged into Mathes Lake. According to this report, the effluent was not treated at the STP because of a plant policy restricting discharge of explosive-bearing liquids into the sewage collection system.

The nearest stratigraphic column was logged at the Power Plant, which is 1000 feet to the south of the laundry (Dames & Moore 1979). According to this boring log, the surface elevation of the area is 700 to 712 feet above mean sea level (msl). Approximately 1 foot of topsoil was encountered, part of which was planted with corn. This is underlain by about 6 feet of lean, moist clay, followed by 15 feet of various moist clays, followed by approximately 14 feet of moist, sandy clay. The water table was encountered at approximately 688 to 693 feet above msl. Drilling was stopped at 675 feet above msl, with the water level in the boring continuing to rise. Shallow groundwater in the vicinity of the Power Plant travels in a south/southwesterly direction (ERG 1981).

If overflow from the settling basin were to occur, runoff could potentially enter a culvert which runs under the roadway to the east of the laundry, to the intermittent stream which flows to Mathes Lake. This stream runs almost due south, past the Power Plant and into Mathes Lake.

The most likely pathway for contaminant migration from the laundry is surface water; therefore, the primary receptors would be locations downgradient (with respect to surface water flows).



DITCH
500-140
DITCH
500-125
19-SA-01
19-SD-02
500-197-3
715
710
710
N
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0 50 100 150 FEET
LEGEND
ROAD
500-125 BUILDING #
690 TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 19
Contaminated Clothing Laundry
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP19
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-19

3.21.2 Summary of Previous Investigations

No sampling other than the SI has been conducted at IAAP-19. The SI sampling effort focused on the soils in proximity to the settling basin and the outfall ditch east of the basin that, according to a 1971 AEHA report, may have received explosive-contaminated wash water. SI samples are summarized below and sample locations are depicted on Figure 3-19.

Sample	Analyses	Sample Type	Depth	Location
19-SA-01-01	Explosives Metals	G	30"	Adjacent to east side of the settling basin.
19-SD-02-01	Explosives Metals	G	0-6"	Located 100' east of laundry building in the outfall ditch.

3.21.3 Evaluation of Site

SI metals data obtained at IAAP-19 were compared to background ranges for all metal contaminants of concern (Table 3-21). On-site soil metals were below or near background levels (Table 3-2a) and all were within naturally occurring ranges for Midwest soils as compiled by the USGS (Table 3-2b). No explosives were reported in the samples obtained at IAAP-19 above the CRLs. During the site reconnaissance in May 1991 and the SI in August 1991, there was no indication that discharge or backup from the settling basin weir had occurred. Furthermore, plant blueprints indicate that the laundry is in-line with the plant's sewage system.

The SI data do not indicate any explosives contamination at IAAP-19. The low levels of metals reported were indicative of background concentrations. Based on current analytical results, it is recommended that this site does not warrant inclusion in the RI.

The settling basin at IAAP-19 will be sampled under the IAAP-26 work plan in an attempt to locate the potential sources of the explosive contaminants reaching the main sewage treatment plant. The laundry is not included in the study because no releases to the environment have occurred from this source.

Table 3-21

IAAP-19 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP19	SD	METALS	ARSENIC	19-SD-02	08/09/1991	19SD0201Y	0.500	4.57	=B9	2.5	UGG
			BARIUM	19-SD-02	08/09/1991	19SD0201Y	0.500	226.0	=JS12	3.29	UGG
			BERYLLIUM	19-SD-02	08/09/1991	19SD0201Y	0.500	0.755	=JS12	0.427	UGG
			CHROMIUM	19-SD-02	08/09/1991	19SD0201Y	0.500	24.8	=JS12	1.04	UGG
			COPPER	19-SD-02	08/09/1991	19SD0201Y	0.500	15.5	=JS12	2.84	UGG
			LEAD	19-SD-02	08/09/1991	19SD0201Y	0.500	19.0	=JD21	0.467	UGG
			NICKEL	19-SD-02	08/09/1991	19SD0201Y	0.500	20.5	=JS12	2.74	UGG
			ZINC	19-SD-02	08/09/1991	19SD0201Y	0.500	63.7	=JS12	2.34	UGG
	SO	EXPLOSIVES	HMX	19-SA-01	08/09/1991	19SA0101YP	4.000	0.4	=LW02	1.27	UGG
			RDX	19-SA-01	08/09/1991	19SA0101YP	4.000	0.31	=LW02	0.98	UGG
		METALS	ARSENIC	19-SA-01	08/09/1991	19SA0101Y	4.000	9.43	=B9	2.5	UGG
			BARIUM	19-SA-01	08/09/1991	19SA0101Y	4.000	222.0	=JS12	3.29	UGG
			BERYLLIUM	19-SA-01	08/09/1991	19SA0101Y	4.000	0.929	=JS12	0.427	UGG
			CHROMIUM	19-SA-01	08/09/1991	19SA0101Y	4.000	32.4	=JS12	1.04	UGG
			COPPER	19-SA-01	08/09/1991	19SA0101Y	4.000	26.3	=JS12	2.84	UGG
			LEAD	19-SA-01	08/09/1991	19SA0101Y	4.000	25.0	=JD21	0.467	UGG
			MERCURY	19-SA-01	08/09/1991	19SA0101Y	4.000	0.06	=Y9	0.05	UGG
			NICKEL	19-SA-01	08/09/1991	19SA0101Y	4.000	20.8	=JS12	2.74	UGG
			ZINC	19-SA-01	08/09/1991	19SA0101Y	4.000	72.8	=JS12	2.34	UGG

Table 3-21a

IAAP-19 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP19	SO	EXPLOSIVES	HMX	19-SA-01	08/09/1991	19SA0101YP	4.000	0.4	=LW02	1.27	UGG
			RDX	19-SA-01	08/09/1991	19SA0101YP	4.000	0.31	=LW02	0.98	UGG
		METALS	ARSENIC	19-SA-01	08/09/1991	19SA0101Y	4.000	9.43	=B9	2.5	UGG
			CHROMIUM	19-SA-01	08/09/1991	19SA0101Y	4.000	32.4	=JS12	1.04	UGG

3.22 IAAP-20 (INERT DISPOSAL AREA)

3.22.1 Site Description and History

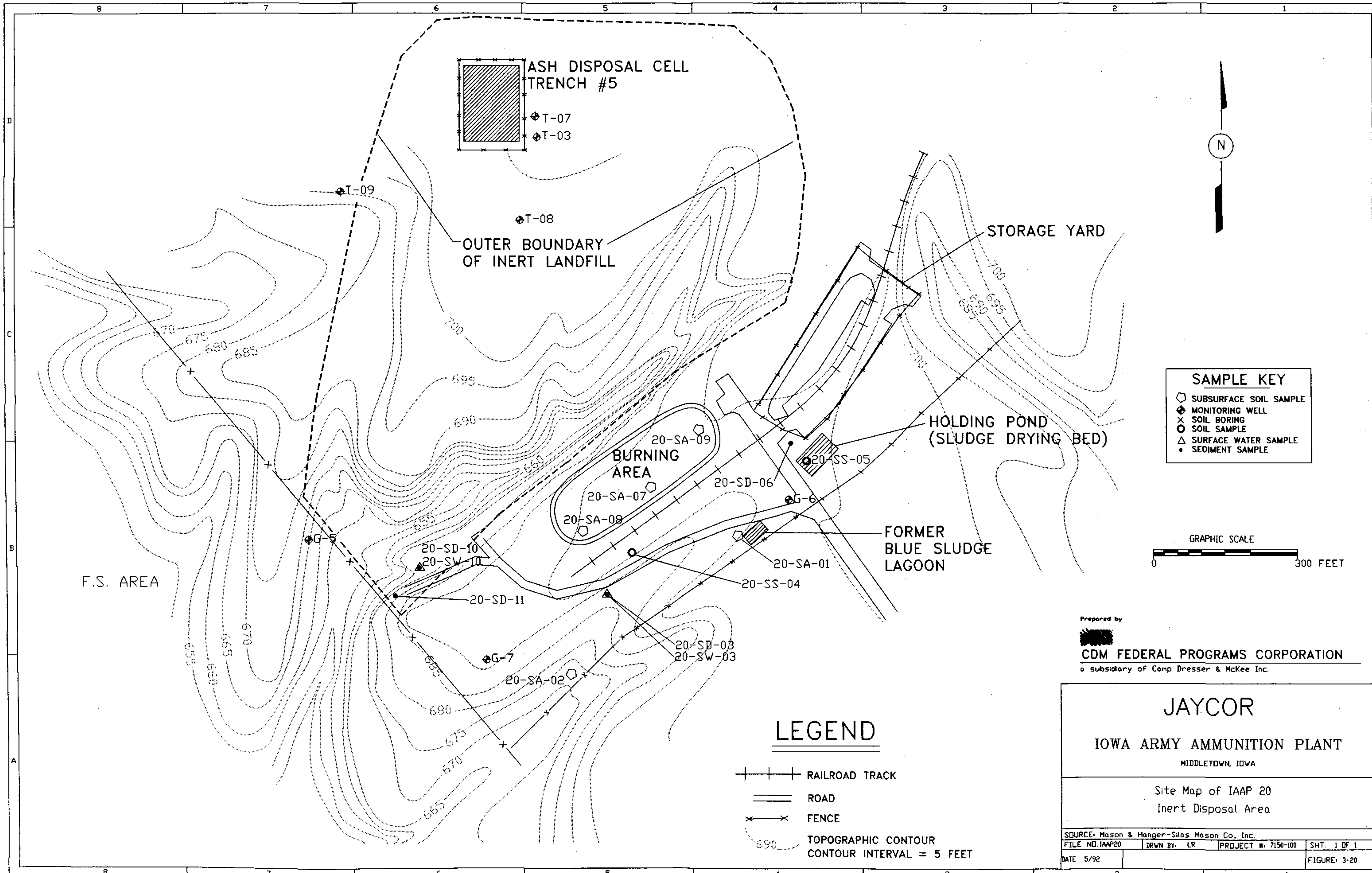
The Inert Disposal Area (IAAP-20) is located near the center of the facility (Plate 1; D-6). The Inert Disposal Area encompasses approximately 10 acres and includes a sanitary landfill, a burning field, a metal salvage operation, and an earthen holding area formerly used to store sludge generated by metal cleaning operations at Lines 3 and 800. The holding area (referred to as the Blue Sludge Lagoon) was closed in 1984 following removal of the sludge. The sludge (referred to as 'blue sludge') was placed in the concrete-lined sludge drying bed where it remains (Figure 3-20). The sludge is non-hazardous (USEPA 1990).

Inert Landfill

Landfilling operations have been conducted at this site since the start up of IAAP in 1941. The trench-fill method of landfill operation is employed. This method of operation involves excavating a new trench when weather permits and stockpiling the soil and using it when needed to cover the trench currently in use. The trench in use is filled by backing trucks up to the working face of the fill, unloading the contents, then pushing the contents, using heavy equipment, into the trench and covering with stockpiled soil. An all-weather temporary road exists over the filled portion of the currently-used trench. The heavy equipment acts to compact clay cover as it is applied, and the truck traffic compacts the finished fill. Compaction of the fill is considered to be satisfactory and previous observation of the finished area reveals that it is graded for excellent surface drainage.

The inert landfill receives unsalable or unrecoverable materials such as cafeteria and residential refuse and garbage, broken pallets, plastic, tin cans, scrap lumber, empty fiber drums (crushed), unsalvageable paper and cardboard, and asbestos insulation (in double plastic bags). The average annual quantity of the materials placed in the installation landfill has been estimated at 3170 tons (Mason & Hanger 1978). The inert landfill is currently used for the same type of disposal.

During the period from 18 November 1980 until 18 October 1983, an estimated quantity of 145 drums (55 gallon) of ash, generated by the burning and incineration of explosive waste and explosive contaminated waste, was placed in the inert landfill. A portion of the ash contained small quantities of EP toxic metals. Due to a misunderstanding, the ash from the explosive waste incinerator was allowed to be disposed of in the landfill until 18 October 1983. All of the incinerator ash disposed of in the landfill during the period of 18 November 1980 to 18 October 1983 was placed in one landfill trench (cell), Trench 5. This cell measures approximately 160 feet long by 100 feet wide and 25 feet deep. Because of the hazardous waste found in Cell 5, IAAP sought, under RCRA regulations, to obtain a Part A Interim Status Permit under 40 CFR 265 in November 1980. IAAP failed to submit a certification of compliance with 40 CFR Part 265 F in November 1985 as was required by Section 3005(e)(2) of RCRA (USEPA 1986). They were then required to submit a closure/post-closure plan for the landfill in accordance with 40 CFR 265.110 through 265.120 and 265.310. Since hazardous waste was disposed after 26 July 1982, a post-closure permit under CFR Parts 264 and 270 was also required (USEPA 1987).


ASH DISPOSAL CELL
TRENCH #5
T-07
T-03
T-09
T-08
OUTER BOUNDARY
OF INERT LANDFILL
STORAGE YARD
HOLDING POND
(SLUDGE DRYING BED)
BURNING
AREA
20-SA-09
20-SA-07
20-SA-08
20-SD-06
20-SS-05
G-6
G-5
G-7
FORMER
BLUE SLUDGE
LAGOON
20-SA-01
20-SS-04
20-SD-10
20-SW-10
20-SD-11
20-SD-03
20-SW-03
20-SA-02
F.S. AREA
N
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0
300 FEET
LEGEND
RAILROAD TRACK
ROAD
FENCE
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 20
Inert Disposal Area
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP20
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-20

IAAP, in its November 1980 Part A Permit Application, identified the following hazardous wastes as burned or incinerated with the ash and residue disposed in the inert landfill Cell 5.

K044 - Wastewater treatment sludges (sump scrap) from the processing of explosives.

K045 - Spent carbon from the treatment of wastewater containing explosives.

K046/ D008 - Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.

D003 - Expended diatomaceous earth generated from the operation of the installation's explosive contaminated water treatment facilities. (The characteristic of reactivity is assigned to a solid waste that is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.)

D003 - Waste Class A and B explosives and wastes contaminated by Class A and B explosives.

D003 - The deactivation furnace located at the demolition area was used on an occasional basis to dispose of small loaded components such as detonators, primers, and fuses. About 2771 pounds of explosives were disposed of in this furnace. The metals were salvaged and the remaining unsalvageable waste products were buried at the installation landfill.

The November 1980 part A Permit Application also included information that deactivated sludge from the Blue Sludge Lagoon was disposed in the landfill. IAAP identified this waste as D007 waste, but EPA later concluded that the waste was an F006 listed waste.

D007 - Sludge generated from the industrial waste treatment facilities at Lines 3 and 800 (Renovation). IAAP considered these wastes as D007 wastes due to the characteristic of toxicity since they possessed a chromium content of at least 5.0 μg/L. The chromium content of the sludge was identified at 6.4 μg/L.

F006 - EPA determined that the deactivated sludge from the lagoon and disposal in the landfill was a F006 listed waste. F006 waste is wastewater treatment sludges from electroplating operations.

Metal Salvage Operation and Former Storage Yard Burning Area

Adjoining the east side of the landfill is a storage yard for recyclable items and scrap metal. Recoverable items such as scrap lumber, some metal, used railroad ties, paper, cardboard, oil, and iron pipe are separated and stored here for eventual sale to the public. The scrap metal is stored until sufficient quantities are available for rail shipment. Before being transported to this area for storage, any salvageable metal that may be contaminated is flashed in the Contaminated Waste Processor (IAAP-24). No open burning has been conducted at this site in over 20 years.

The Contaminated Waste Processor (IAAP-24) was constructed in 1980-81 and became operational in 1982. Before this, salvageable metal was flashed in an open burn area at the Inert Disposal Area. The burning area was also apparently used to burn debris (composition unknown) from boxcars and to burn boxcars themselves before the late 1940s.

Blue Sludge Lagoon

The Blue Sludge Lagoon is a former surface impoundment located a few hundred feet from the southeast border of the inert landfill (Figure 3-20). It was constructed in 1977 and last received waste in 1981. The lagoon was approximately 120 feet long by 30 feet wide with a sludge depth of approximately 30 inches. The sludge was generated at Lines 3 and 800 during metal cleaning operations (USEPA 1986; Mason & Hanger 1985 and 1986).

In conjunction with the inert landfill, the Blue Sludge Lagoon was included in the November 1980 Part A Permit Application because the sludge was preliminarily identified as D007 hazardous waste, due to the presence of 6.4 µg/L of chromium. This level exceeded the EPA Toxicity Maximum Concentration for chromium of 5.0 µg/L set in 40 CFR 261.24. Pursuant to IAAP's Part A Application, EPA determined that the blue sludge was F006 hazardous waste because of a recent modification (40 CFR 74890) to the F006 category statement in 40 CFR 261.31. IAAP failed to identify it as a surface impoundment process on the Part A Permit Application and on the Section 3010(a) notice. With the additional failure to comply with groundwater monitoring requirements and by not applying for a Part B Permit (Section 3005 [e] [2]) of RCRA and 42 USC 6925(e)(2), EPA required IAAP to submit a RCRA closure plan in accordance with 40 CFR 2654.111 through 265.115 and 265.228, and a post-closure plan in accordance with 20 CFR 265.117 through 265.120 and 265.310.

In October 1984, the sludge from the Blue Sludge Lagoon was excavated by IAAP, removed, and placed in a nearby dewatering bed in preparation for casting the sludge into concrete blocks for disposal. The excavated area was backfilled and capped with clay soil, and vegetative cover has been established. Documentation from 1981 through 1987 states that IAAP's position was that the waste deposited in the Blue Sludge Lagoon was not a hazardous waste; therefore, the Blue Sludge Lagoon was not subject to the Interim Status Standards in 40 CFR 265 and the permit standards in 40 CFR 64. EPA disagreed with this assessment up until June 1987 when IAAP produced records indicating that the sludge was neither F006 listed waste nor D007 characteristic waste. A Federal Facility Compliance Agreement between EPA and IAAP in June 1987 established the sludge as nonhazardous as a final assessment (Terracon 1989). The sludge was established as non-hazardous because plating operations never occurred at Lines 3 and 800 (USEPA 1990); metal cleaning involved only acid washing. Metal shell casings were cleaned with a sulfuric/hydrochloric dip, followed by a chromic acid dip.

In general, the geology of IAAP is characterized by unconsolidated materials of glacial origin having a clayey silt with sand (loess) overlying glacial till. The glacial till is described as being primarily Nebraskan and Kansan in age. The bedrock sequence is believed to consist primarily of limestone intercalated with varying thicknesses of shale and sandstones and is of the Paleozoic age (Terracon 1989).

The average hydraulic conductivity for this type of geology ranges from 10^{-3} to 10^{-5} cm/sec. Conductivities from monitoring wells in the area have measured a mean hydraulic conductivity of 3 X 10^{-5} cm/sec in the shallow groundwater regime. A south/southwestern shallow groundwater flow with a similar hydraulic conductivity is expected at this site. Typical hydraulic conductivities are summarized below.

Estimated Groundwater Velocity Inert Landfill					
Area/Material	Monitoring Wells	Median Hydraulic Conductivity (K) in cm/s	Observed Hydraulic Gradient (i) in ft/ft[1]	Estimated Effective Porosity (n)	Estimated Groundwater Velocity (V) in ft/yr[2]
Inert Landfill/Till	T01, T02, T03, T04, T05	3×10^{-5}	0.02	0.06[2]	10 ft/yr
Inert Landfill/Bedrock	T06	1×10^{-2}	0.004	0.1[3]	500 ft/yr
Inert Landfill/Bedrock	T07, T08, T09	2×10^{-5}	0.004	0.1[3]	1/ft/yr

Note: Well locations are depicted on Plate 2; boring logs are included as Appendix A.
(1) Gradients measured from monitoring well groundwater elevation measured on 25 November 1988.
(2) Calculated by $V=\frac{Ki}{n}$ with symbols referenced to headings.

Three bedrock aquifers are located beneath IAAP. The shallowest bedrock aquifer, the Mississippian, is generally separated from surficial deposits by an aquiclude of Pennsylvanian shales, locally through the Warsaw Formation which acts as an aquiclude and affects local yield. The Devonian aquifer is found below the Mississippian aquifer, with a thick unit composed predominantly of shale separating the two. The Cambro-Ordovician aquifer is separated from the overlying Devonian aquifer by a thick shale and dolomite interval.

The inert landfill is located in an area drained by tributaries of Long Creek. Several tributaries of Long Creek that flow by the site offer a possible contamination pathway of surface runoff from contaminated soil at the site to the water of Long Creek. Long Creek enters the plant from off site at two locations. One branch enters along the northwest portion of the northern boundary, the other enters about halfway along the western boundary of the plant area. These two branches merge and then flow into Mathes Lake, which is located approximately in the center of the plant area. Surface water from the lake continues to flow in a southeasterly direction, exiting the plant near the center of the southern boundary. Long Creek eventually enters the Skunk River, which enters the Mississippi River 7 miles from the site. In general, runoff from the inert disposal area drains in a southwesterly direction to the northwest branch of Long Creek, which is 900 to 1000 feet from the southwest corner of the site.

Modes of emission for the ash generated by burning and incineration of explosive waste and explosive contaminated waste include the volatization of the compounds present in the ash over time and the mechanical lifting and windblown transport (fugitive emissions) of the ash particulates. Volatization of the ash compounds is highly unlikely because of the extremely low vapor pressures exerted by this inert waste, which was already thermally treated. Furthermore, the waste contained in the ash disposal cell was classified as hazardous solely on the exceedance of heavy metals parameters in the EP Toxicity test and is a solid at ambient temperatures (highly nonvolatile). Therefore, it is unlikely that any emissions from the volatization of this waste into the ambient air could occur.

Fugitive emissions may have occurred, particularly during periods of dry weather and high winds. The fugitive particles should not, however, contain the metals-contaminated ash, provided that the ash was disposed of properly in the landfill cell and was not exposed during closure operations. The emplacement of a turf cover on the landfill cell also aided in the minimization of windblown particulate matter. It should be noted that 19,700 cubic yards of glacial till high in clay content was stockpiled between Cells 5 and 6 for the Cell 5 cover. This material was a potential source of fugitive dust emissions until ultimately used to cover Cell 5 (USAEHA 1988).

Because of the inorganic nature of the waste ash contained in Cell 5 of the landfill, very little or no gas production is expected. Thus, no venting system for subsurface gas (or any other gas control measures) is required.

The IAAP is located in the Burlington Keokuk Interstate Air Quality Control Region (AQCR). That portion of the AQCR in which IAAP is located (Des Moines County) has been designated "better than National Ambient Air Quality Standards (NAAQS)" for total suspended particulates (TSP) and sulfur dioxide (SO_2) and "cannot be classified or better than NAAQS" for ozone (O_3), carbon monoxide (CO), and nitrogen dioxide (NO_2) (reference 7). In addition, the Iowa Department of Natural Resources (IDNR) has monitored for TSP in Burlington, Iowa, since 1978. Since that time, there has been only one exceedance of the secondary standard for the maximum 24-hour average. Although there is no ambient air monitoring equipment located at the landfill, the air quality in the AQCR can be characterized as good.

The shallow groundwater in the area of the inert landfill should empty into the surface water of Long Creek that flows to the south. There are no public water supply wells located within about five miles of the installation boundary in the southern direction, though private wells do exist.

Analysis of the geography of the landfill area indicates a potential for three routes of surface water contamination from materials disposed of in the landfill. These routes are as follows (USAEHA 1988):

(1) Downhill runoff in a northwest direction to 7-acre Stump Lake. The elevation of the landfill is 700 feet above sea level. The lake is located approximately 650 feet msl. This presents a difference of 50 feet in elevation over a distance of approximately 1000 feet. This would create a slope with an approximate downhill grade of 5 percent. Very little surface runoff would be expected to flow in this direction.

(2) Downhill runoff from the landfill in a west or southwest direction to an intermittent stream, which is a tributary to Long Creek. This is the direction most of the surface runoff would be expected to flow. The bottom surface of the cell slopes down to the south at an average grade of two percent, with the low end open to drain into natural drainage pathways. The elevation of the intermittent stream is approximately 625 feet, which is 75 feet lower than the elevation of the landfill. This tributary passes within 1000 feet of the landfill. The intermittent stream flows in a southeast direction along the entire west and southwest slope of the landfill. Due to the stream's intermittent flow, much of the surface runoff from the landfill would not be expected to reach Long Creek except during heavy rain or melting ice and snow.

(3) Downhill runoff is in an eastward direction to an intermittent stream, which is a tributary to Mathes Lake. The intermittent stream flows south passing within 1500 feet of the landfill's eastern boundary. The stream's elevation is approximately 640 feet above sea level, or 60 feel lower than the landfill's elevation. This would create a downhill slope having a grade of approximately 4 percent. Due to the distance and downhill slope from the landfill, little surface runoff would flow to this intermittent stream, except in heavy rain or the melting of heavy snowfall. Very little of the surface runoff from the landfill to the intermittent stream would be expected to reach Mathes Lake.

A potential route for surface water contamination exists from leachate emanating from the base of the landfill and washing into surface waters. Leachate can be caused in the landfill by the interaction of water percolating through the landfill with materials buried in the landfill. Leachate emanating from the landfill may come in contact with surface runoff during heavy rainfall or melting ice and snow. Contamination of surface waters is possible where the leachate is carried by surface runoff.

The third potential route for surface water contamination is through the contamination of groundwater with a discharge of the contaminated groundwater to surface waters. Discharge of groundwater to the surface is an important source of surface water.

IAAP currently receives potable water, on a fee basis, from the city of Burlington which obtains its water from the Mississippi River. Burlington is located about 8.4 miles east of the inert landfill. The city of West Burlington, located about 5.6 miles east of the site, obtains its water from the Jordan Sandstone of Cambrian-Ordovician Age, which occurs at a depth of about 1750 feet below the surface. Residents outside the IAAP boundary maintain private wells as potable water supplies.

Groundwater sampling of monitoring wells around the site since November 1981 does not indicate groundwater contamination immediately surrounding the site. Human ingestion of contaminants from the site by way of groundwater is considered unlikely.

The landfill is encompassed by a security fence to restrict access during the post-closure period. The land inside the fence in the immediate vicinity of the landfill is composed of clay soil with a vegetation cover consisting of native grasses and legumes. A minimum of six inches of compacted clay soil is applied at the end of each operating day to discourage scavenging by birds and wildlife. No crops are grown on or near the landfill area. During the summer months, cattle are allowed to graze on the installation. The cattle are confined to storage yards by security fencing.

3.22.2 Summary of Previous Investigations

Hazardous waste placed in the landfill consisted of ashes from incineration or open burning operations from three sources: (1) the contaminated waste processor (CWP) (IAAP-24); (2) explosive waste incinerator (EWI) (IAAP-25); and (3) the open burning field. No analysis has ever been done of the CWP-generated ash that was placed in the landfill. However, analysis of typical CWP-generated ash was conducted from June 1985 through March 1987. These analyses showed that ash from the CWP is EP toxic in respect to barium, cadmium, chromium, and lead. Analysis of typical EWI-generated ash were done also during this general time period. Analyses indicated sporadic occurrence of RDX and TNT. No analysis has been conducted of the open burning ground ash that was put into the landfill. However, two studies were conducted to analyze soil samples near the burn areas. The first study, conducted by the USAEHA in April 1982, found quantities of metals and explosive concentrations that were measurable, but below RCRA limits. The second study was conducted by Ecology and Environment, under contract to EPA, at a sampling visit to IAAP in August 1986. This sampling was done at the Explosive Disposal Area (Area L) and results indicated near-background concentrations of total barium, chromium, lead, and zinc. Only small quantities of ash from this source are believed to have been put into the inert landfill (Terracon 1988).

A number of investigations conducted from 1981 to the present focused on groundwater quality at the inert landfill. These studies include the 1981 Contamination Survey of IAAP by ERG, Inc.; the 1988 IAAP Exposure Information Report for Cell 5 of the inert landfill conducted by the USAEHA; and the June 1985 Ground Water Quality Assessment Plan for the inert landfill and Line 6 area also conducted by the USAEHA. These studies include analysis of four wells designated as G-4, G-5, G-6, and G-7, which were installed in 1981 (Plate 2). All reports suggested there were some concentrations of metals in the groundwater, but that no National Interim Primary Drinking Water Regulations standards were exceeded. Although additional wells have been added since 1981, the data on these wells have been scarce because they have not been involved in periodic monitoring.

Monitoring wells G-4 through G-7 have been sampled by installation personnel since November 1981. Groundwater samples were analyzed by the USAEHA or laboratories under contract to the USAEHA. The results of these groundwater analyses did not indicate groundwater contamination.

The most recent water quality data available were collected by Dames & Moore during September and October 1985. The analytical results from the surface water samples were compared to ambient water quality criteria for the protection of human health (for toxicity) through contaminated water and fish ingestion, for those parameters with established criteria. The water sample collected at the headwaters of Long Creek, near the installation boundary exhibited elevated hexavalent chromium. The concentration of hexavalent chromium found in this sample, 70 μg/L, exceeded the criteria of 50 μg/L established for the protection of human health (toxicity) through contaminated water and fish ingestion. The established criteria for mercury is set at 0.144 μg/L. In all samples collected, the concentration of mercury was found to be 0.85 μg/L. It should be noted that this concentration of mercury was found in all samples, above and below the landfill. This would indicate that the elevated concentrations of mercury found throughout the sample area cannot be attributed to the landfill.

The SI sampling effort for IAAP-20 focused on identifying surface water and soil contamination due to past activities, surface water runoff, and leachate related to the Blue Sludge Lagoon, Storage Yard, Burning Field, and Inert Landfill. SI samples are summarized below and sample locations are depicted on Figure 3-20. All samples were analyzed for explosives and metals. A field blank and equipment blank were prepared at this location. Analytical results of QC samples are summarized in Appendix B.

Sample	Analyses	Sample Type	Depth	Location
20-SA-01-01	Explosives Metals	C(1)	36"	Approximately 100 feet southwest of Well G6, adjacent to capped former Blue Sludge Lagoon.
20-SA-02-01	Explosives Metals	C(2)	24-36"	Approximately 200 feet southeast of Well G6, from area of stressed vegetation.
20-SD-03-01	Explosives Metals	G	0-6"	Approximately 200 feet east of Well G7, south of site road next to culvert entrance. No corresponding surface water sample.
20-SS-04-01	Explosives Metals	G	0-6"	Approximately midway between Wells G6 and G7 north of site road. Stained soil was observed here in the ditch.
20-SS-05-01	Explosives Metals TCLP Metals	G	0-6"	Adjacent to blue sludge drying beds, approximately 200 feet north of Well G6.
20-SD-06-01	Explosives Metals	G	0-6"	Near mouth of a culvert north of road, 50 feet west of blue sludge drying beds. No corresponding surface water sample.
20-SA-07-01	Explosives Metals	C(1)	0-14"	In depression in burning field approximately 400 feet west of Well G6.
20-SA-08-01	Explosives Metals	C	0-18"	Approximately 400 feet northeast of Well G7 within the burning field.
20-SA-09-01	Explosives Metals	C(2)	0-18"	Approximately 300 feet northeast of sample 20-SA-07-01.
20-SD-10-01	Explosives Metals VOCs	G	0-6"	Within erosion ditch located about 300 feet east of Well G5.
20-SW-10-01	Explosives Metals VOCs	G	N/A	Corresponds to 20-SD-10-01.
20-SW-10-02	Explosives Metals VOCs	G	N/A	Duplicate of 20-SW-10-01.
20-SD-11-01	Explosives Metals VOCs	G	0-6"	Approximately 50 feet downgradient (south/southeast) of sample 20-SD-10-01.
20-EB-12-01	Explosives Metals VOCs	G	N/A	Equipment blank.
20-FB-13-01	Explosives Metals VOCs	G	N/A	Field blank.

3.22.3 Evaluation of Site

Table 3-20 summarizes all SI results reported above CRLs; Table 3-20a presents those results reported above evaluation criteria.

Sample 20-SA-01-01 was reported to contain low levels of several metals. The reported concentrations were below background metals levels, except for chromium. Chromium was reported at 31.2 mg/kg, which is slightly above the exceedance level of 29.2 mg/kg. The concentration is within the average naturally occurring background range for this compound as compiled by the USGS (Table 3-26).

Soil sample 20-SA-02-01 contained several metals. With the exception of copper and chromium, all levels were below the established background levels for IAAP (Table 3-2a). Copper was reported at 202 mg/kg, which is above the exceedance level of 30.1 mg/kg. Chromium was reported at 30.0 mg/kg, which is above the exceedance criteria of 29.2 mg/kg. This sample location is in a drainage basin downgradient of the Burning Field, which also showed elevated levels of copper. All other metal contaminants were near established background levels for IAAP. No explosives were reported in this sample above CRLs.

Soil samples 20-SD-03-01 and 20-SS-04-01 were reported to contain several metals. With the exception of chromium, copper, lead and zinc, all levels were below the established background levels for IAAP (Table 3-2a). Sample 20-SD-03-01 contained levels of chromium at 36.8 mg/kg, copper at 93.6 mg/kg, and lead at 280 mg/kg. Sample 20-SD-03-01 contained arsenic at 9.72 mg/kg and cadmium at 1.53 mg/kg, which exceed the evaluation criteria of 8.34 mg/kg and .805 mg/kg, respectively. Both concentrations are within average naturally occurring background ranges for these compounds as compiled by USGS (Table 3-2b). Sample 20-SS-04-01 was reported to contain chromium at 34.2 mg/kg, copper at 89.7 mg/kg, and lead at 220 mg/kg. Zinc levels for both samples were above the background significance criterion of 84.7 mg/kg, but within the naturally occurring range for B horizon soils as compiled by USGS (Table 3-2b). Both sample locations are within a drainage ditch which is believed to receive surface runoff from the Burning Field and possibly leachate from the Inert Landfill. Sample locations within the Burning Field and leachate from the landfill indicate elevated levels of copper, lead, and zinc. No explosives were reported in this sample above CRLs.

Sample 20-SS-05-01 was obtained in the Blue Sludge Drying Beds and contained elevated levels of chromium, copper, and zinc. The levels for the contaminants was 502 mg/kg, 47,000 mg/kg, and 20,000 mg/kg, respectively. The sample was taken from the sludge bed so that the constituents of the Blue Sludge could be determined. The sludge is contained in the beds by 6 to 8 inch concrete liner. No explosives were reported in this sample.

Sample 20-SD-06-01 was reported to contain low levels of several metals. The reported levels were below background metals levels for IAAP. No explosives were reported in this sample above the CRLs.

Samples 20-SA-07-01, 20-SA-08-01, and 20-SA-09-01 were obtained within the Burning Field. Samples 20-SA-07-01 and 20-SA-08-01 contained elevated concentrations of the metals arsenic, lead, silver, cadmium, chromium, copper, and zinc. Samples 20-SA-07-01 and 20-SA-08-01 contained significantly high levels of copper, lead, and zinc. Sample 20-SA-07-01 had reported levels of the following: arsenic at 8.8 mg/kg; lead at 1800 mg/kg; silver at 7.1 mg/kg; cadmium at 17.6 mg/kg, chromium at 93.5 mg/kg; copper at 1700 mg/kg; and zinc at 2200 mg/kg. Sample 20-SA-08-01 contained arsenic at 30.3 mg/kg; lead at 7600 mg/kg; silver at 3.62 mg/kg; cadmium at 6.99 mg/kg; chromium at 54.6; copper at 278 mg/kg; and zinc at 735 mg/kg. No explosives were reported in these two samples. Sample 20-SA-09-01 is the most northern sample and indicated trace amounts of the explosives 1,3,5-TNB at 2.1 mg/kg and HMX at 1.3 mg/kg. No metals were reported above the established background levels for 20-SA-09-01.

Surface water sample 20-SW-10-01 was obtained from a drainage ditch which appears to receive leachate from the Inert Landfill and runoff from the Burning Field. This sample was found to contain elevated levels above the evaluation criteria for all metal contaminants of concern, except for antimony, beryllium, mercury, nickel, selenium, and silver. The volatile compounds 1,1-DCE, chloromethane, and trichloroethylene were reported at concentrations of 5.02 μg/L, 2.16 μg/L, and 4.0 μg/L, respectively. The surface water was discolored at the time of sampling. The corresponding sediment sample, 20-SD-10-01, contained metals concentrations below the background metals levels at IAAP, and no explosives above the CRLs.

Sediment sample 20-SD-11-01 was reported to contain several metals, though only zinc, at 257 mg/kg, was above the established evaluation level of 84.7 mg/kg, but within naturally occurring ranges as compiled by the USGS (Table 3-2b). This sample is located in the drainage basin downgradient from sample 20-SW-10-01, which indicated elevated levels of metal contaminants.

All the soil samples collected in association with the Burning Field and downgradient drainage systems of the Burning Field and Inert Landfill indicate high levels of arsenic, cadium, chromium, copper, lead, and zinc. Samples taken adjacent to or in downgradient locations of the lagoon contained near background levels for metals and explosives. In all except two samples, explosives and volatiles were below the CRLs.

Based on past and current analytical results, it is recommended that this site be included in the Remedial Investigation. It is suggested Phase I sampling efforts be concentrated on the Burning Field and Inert Landfill facilities, and associated drainage pathways since these appear to have the greatest concentrations of contamination. A summary report of all analytical results associated with this site is included in Appendix B. Upgradient and downgradient sediment and surface water samples should be obtained from the Long Creek tributary located west of the site. The sampling effort should include groundwater samples obtained from available downgradient monitoring wells, and at least one upgradient monitoring well. All samples (except samples obtained for specific screening) should be analyzed for metals, explosives, volatiles, and semivolatiles.

Table 3-22

IAAP-20 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP20	SD	METALS	ARSENIC	20-SD-03	08/21/1991	20SD0301Y	0.500	9.72	=B9	2.5	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	4.82	=B9	2.5	UGG
			BARIUM	20-SD-03	08/21/1991	20SD0301Y	0.500	270.0	=JS12	3.29	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	94.3	=JS12	3.29	UGG
			BERYLLIUM	20-SD-03	08/21/1991	20SD0301Y	0.500	0.543	=JS12	0.427	UGG
			CADMIUM	20-SD-03	08/21/1991	20SD0301Y	0.500	1.53	=JS12	1.2	UGG
			CHROMIUM	20-SD-03	08/21/1991	20SD0301Y	0.500	36.8	=JS12	1.04	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	17.7	=JS12	1.04	UGG
			COPPER	20-SD-03	08/21/1991	20SD0301Y	0.500	93.6	=JS12	2.84	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	20.3	=JS12	2.84	UGG
			LEAD	20-SD-03	08/21/1991	20SD0301Y	0.500	280.0	=JD21	0.467	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	11.0	=JD21	0.467	UGG
			MERCURY	20-SD-03	08/21/1991	20SD0301Y	0.500	0.205	=Y9	0.05	UGG
			NICKEL	20-SD-03	08/21/1991	20SD0301Y	0.500	23.0	=JS12	2.74	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	16.1	=JS12	2.74	UGG
			SILVER	20-SD-03	08/21/1991	20SD0301Y	0.500	1.25	=JS12	0.803	UGG
			ZINC	20-SD-03	08/21/1991	20SD0301Y	0.500	449.0	=JS12	2.34	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	257.0	=JS12	2.34	UGG
	SO	METALS	ARSENIC	20-SA-02	08/21/1991	20SA0201Y	3.000	5.3	=B9	2.5	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	8.8	=B9	2.5	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	30.3	=B9	2.5	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	4.88	=B9	2.5	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	5.53	=B9	2.5	UGG
			BARIUM	20-SA-01	08/21/1991	20SA0101Y	3.000	116.0	=JS12	3.29	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	136.0	=JS12	3.29	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	567.0	=JS12	3.29	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	333.0	=JS12	3.29	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	89.5	=JS12	3.29	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	267.0	=JS12	3.29	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	32.3	=SS12	2.82	UGL
			BERYLLIUM	20-SA-01	08/21/1991	20SA0101Y	3.000	0.594	=JS12	0.427	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	0.742	=JS12	0.427	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	0.967	=JS12	0.427	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	0.58	=JS12	0.427	UGG
			CADMIUM	20-SA-07	08/22/1991	20SA0701Y	1.200	17.6	=JS12	1.2	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	6.99	=JS12	1.2	UGG
			CHROMIUM	20-SA-01	08/21/1991	20SA0101Y	3.000	31.2	=JS12	1.04	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	30.0	=JS12	1.04	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	93.5	=JS12	1.04	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	54.6	=JS12	1.04	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	28.7	=JS12	1.04	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	34.2	=JS12	1.04	UGG
			COPPER	20-SA-01	08/21/1991	20SA0101Y	3.000	14.7	=JS12	2.84	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	202.0	=JS12	2.84	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	1,700.0	=JS12	2.84	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	278.0	=JS12	2.84	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	22.8	=JS12	2.84	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	89.7	=JS12	2.84	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	47,000.0	=JS12	2.84	UGG
			LEAD	20-SA-01	08/21/1991	20SA0101Y	3.000	12.0	=JD21	0.467	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	15.0	=JD21	0.467	UGG

Table 3-22

IAAP-20 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				20-SA-07	08/22/1991	20SA0701Y	1.200	1,800.0	=JD21	0.467	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	7,600.0	=JD21	0.467	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	9.3	=JD21	0.467	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	220.0	=JD21	0.467	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	32.0	=JD21	0.467	UGG
			MERCURY	20-SA-07	08/22/1991	20SA0701Y	1.200	0.291	=Y9	0.05	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	0.224	=Y9	0.05	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	0.194	=Y9	0.05	UGG
			NICKEL	20-SA-01	08/21/1991	20SA0101Y	3.000	18.6	=JS12	2.74	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	17.8	=JS12	2.74	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	52.5	=JS12	2.74	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	30.6	=JS12	2.74	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	14.9	=JS12	2.74	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	23.7	=JS12	2.74	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	27.7	=JS12	2.74	UGG
			SILVER	20-SA-07	08/22/1991	20SA0701Y	1.200	7.1	=JS12	0.803	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	3.62	=JS12	0.803	UGG
			ZINC	20-SA-01	08/21/1991	20SA0101Y	3.000	41.2	=JS12	2.34	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	137.0	=JS12	2.34	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	2,200.0	=JS12	2.34	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	735.0	=JS12	2.34	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	82.1	=JS12	2.34	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	426.0	=JS12	2.34	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	20,000.0	=JS12	2.34	UGG
	SW	EXPLOSIVES	2,6-DINITROTOLUENE	20-SW-10	08/22/1991	20SW1002Y	0.500	1.1	=UW01	0.55	UGL
		METALS	ANTIMONY	20-SW-10	08/22/1991	20SW1001Y	0.500	181.0	=SS12	60.0	UGL
			ARSENIC	20-SW-10	08/22/1991	20SW1001Y	0.500	24.3	=AX8	2.35	UGL
						20SW1002Y	0.500	11.4	=AX8	2.35	UGL
			BARIUM	20-SW-10	08/22/1991	20SW1001Y	0.500	836.0	=SS12	2.82	UGL
						20SW1002Y	0.500	262.0	=SS12	2.82	UGL
			BERYLLIUM	20-SW-10	08/22/1991	20SW1001Y	0.500	3.91	=SS12	1.12	UGL
			CADMIUM	20-SW-10	08/22/1991	20SW1001Y	0.500	8.62	=SS12	6.78	UGL
			CHROMIUM	20-SW-10	08/22/1991	20SW1001Y	0.500	81.5	=SS12	16.8	UGL
			COPPER	20-SW-10	08/22/1991	20SW1001Y	0.500	124.0	=SS12	18.8	UGL
			LEAD	20-SW-10	08/22/1991	20SW1001Y	0.500	36.5	=SD18	4.47	UGL
						20SW1002Y	0.500	14.0	=SD18	4.47	UGL
			NICKEL	20-SW-10	08/22/1991	20SW1001Y	0.500	99.2	=SS12	32.1	UGL
			ZINC	20-SW-10	08/22/1991	20SW1001Y	0.500	3,360.0	=SS12	18.0	UGL
						20SW1002Y	0.500	779.0	=SS12	18.0	UGL
		VOLATILES	1,1-DICHLOROETHYLENE/1,1-DICHL	20-SW-10	08/22/1991	20SW1001Y	0.500	5.02	=UM21	1.0	UGL
						20SW1002Y	0.500	7.81	=UM21	1.0	UGL
			CHLOROMETHANE	20-SW-10	08/22/1991	20SW1001Y	0.500	2.16	=UM21	1.2	UGL
			TRICHLOROETHYLENE/TRICHLOROETH	20-SW-10	08/22/1991	20SW1001Y	0.500	4.0	=UM21	1.0	UGL
						20SW1002Y	0.500	6.3	=UM21	1.0	UGL

Table 3-22a

IAAP-20 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP20	SD	METALS	ARSENIC	20-SD-03	08/21/1991	20SD0301Y	0.500	9.72	=B9	2.5	UGG
			CADMIUM	20-SD-03	08/21/1991	20SD0301Y	0.500	1.53	=JS12	1.2	UGG
			CHROMIUM	20-SD-03	08/21/1991	20SD0301Y	0.500	36.8	=JS12	1.04	UGG
			COPPER	20-SD-03	08/21/1991	20SD0301Y	0.500	93.6	=JS12	2.84	UGG
			LEAD	20-SD-03	08/21/1991	20SD0301Y	0.500	280.0	=JD21	0.467	UGG
			SILVER	20-SD-03	08/21/1991	20SD0301Y	0.500	1.25	=JS12	0.803	UGG
			ZINC	20-SD-03	08/21/1991	20SD0301Y	0.500	449.0	=JS12	2.34	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	257.0	=JS12	2.34	UGG
	SO	METALS	ARSENIC	20-SA-07	08/22/1991	20SA0701Y	1.200	8.8	=B9	2.5	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	30.3	=B9	2.5	UGG
			BARIUM	20-SA-07	08/22/1991	20SA0701Y	1.200	567.0	=JS12	3.29	UGG
			CADMIUM	20-SA-07	08/22/1991	20SA0701Y	1.200	17.6	=JS12	1.2	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	6.99	=JS12	1.2	UGG
			CHROMIUM	20-SA-01	08/21/1991	20SA0101Y	3.000	31.2	=JS12	1.04	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	30.0	=JS12	1.04	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	93.5	=JS12	1.04	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	54.6	=JS12	1.04	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	34.2	=JS12	1.04	UGG
			COPPER	20-SA-02	08/21/1991	20SA0201Y	3.000	202.0	=JS12	2.84	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	1,700.0	=JS12	2.84	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	278.0	=JS12	2.84	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	89.7	=JS12	2.84	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	47,000.0	=JS12	2.84	UGG
			LEAD	20-SA-07	08/22/1991	20SA0701Y	1.200	1,800.0	=JD21	0.467	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	7,600.0	=JD21	0.467	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	220.0	=JD21	0.467	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	32.0	=JD21	0.467	UGG
			NICKEL	20-SA-07	08/22/1991	20SA0701Y	1.200	52.5	=JS12	2.74	UGG
			SILVER	20-SA-07	08/22/1991	20SA0701Y	1.200	7.1	=JS12	0.803	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	3.62	=JS12	0.803	UGG
			ZINC	20-SA-02	08/21/1991	20SA0201Y	3.000	137.0	=JS12	2.34	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	2,200.0	=JS12	2.34	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	735.0	=JS12	2.34	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	426.0	=JS12	2.34	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	20,000.0	=JS12	2.34	UGG
	SW	EXPLOSIVES	2,6-DINITROTOLUENE	20-SW-10	08/22/1991	20SW1002Y	0.500	1.1	=UW01	0.55	UGL
		METALS	ANTIMONY	20-SW-10	08/22/1991	20SW1001Y	0.500	181.0	=SS12	60.0	UGL
			BERYLLIUM	20-SW-10	08/22/1991	20SW1001Y	0.500	3.91	=SS12	1.12	UGL
			CADMIUM	20-SW-10	08/22/1991	20SW1001Y	0.500	8.62	=SS12	6.78	UGL
			LEAD	20-SW-10	08/22/1991	20SW1001Y	0.500	36.5	=SD18	4.47	UGL
		VOLATILES	1,1-DICHLOROETHYLENE/1,1-DICHL	20-SW-10	08/22/1991	20SW1001Y	0.500	5.02	=UM21	1.0	UGL
						20SW1002Y	0.500	7.81	=UM21	1.0	UGL
			CHLOROMETHANE	20-SW-10	08/22/1991	20SW1001Y	0.500	2.16	=UM21	1.2	UGL
			TRICHLOROETHYLENE/TRICHLOROETH	20-SW-10	08/22/1991	20SW1001Y	0.500	4.0	=UM21	1.0	UGL
						20SW1002Y	0.500	6.3	=UM21	1.0	UGL

3.23 IAAP-21 (DEMOLITION AREA)

3.23.1 Site Description and History

The Demolition Area (IAAP-21) encompasses 10 acres of land in the southwest portion of the installation (Plate 1; C-7). The area consists of an open field with approximately 6 shallow craters. Both IAAP-21 and IAAP-23 (Deactivation Furnace) are in an area that is enclosed by a security fence to restrict access (Figure 3-21).

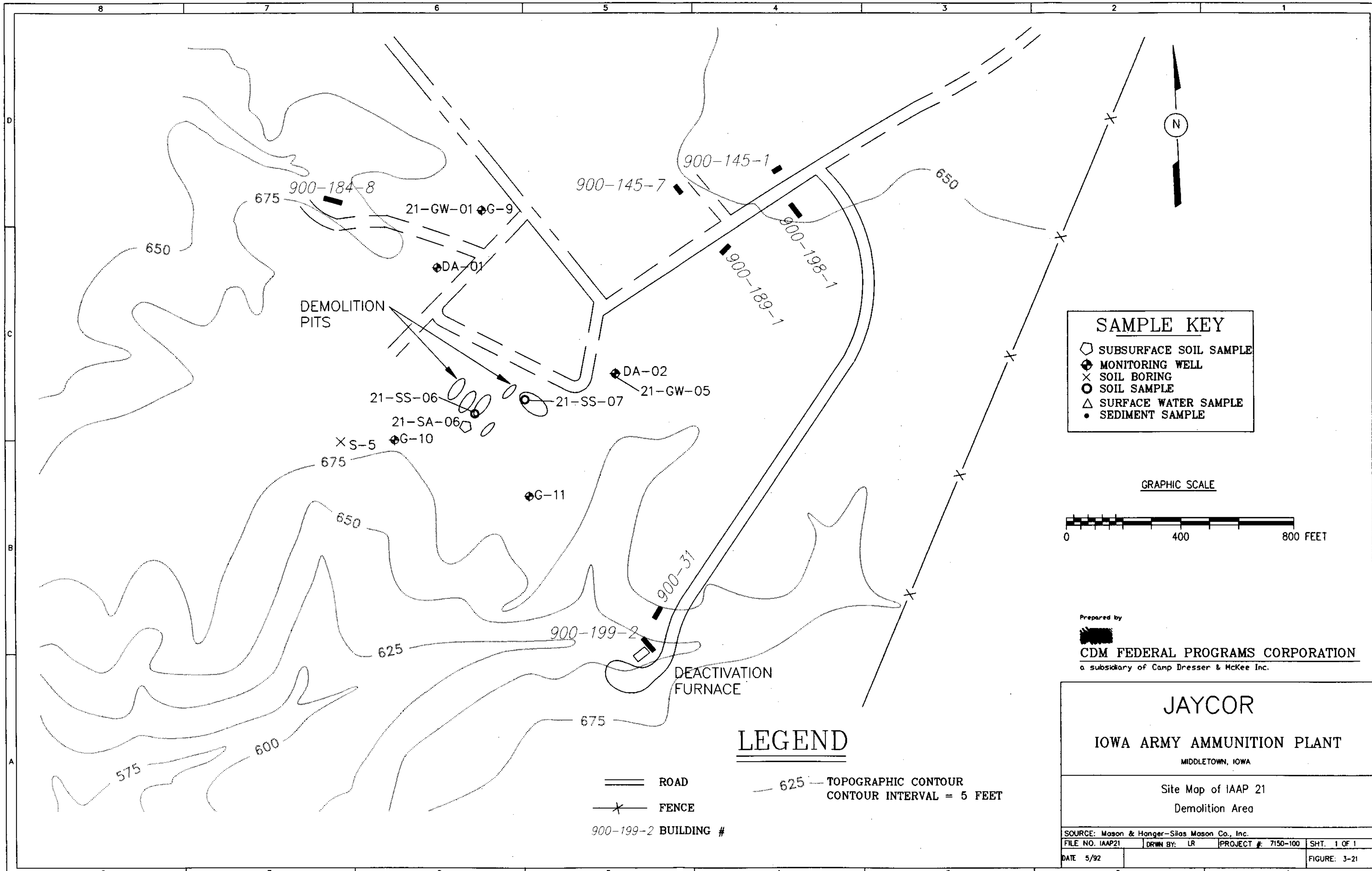
The Demolition Area is utilized for the open detonation of ammunition reject items. Open detonation is required for items that cannot otherwise be processed or disposed of in a safe manner. These items consist of large caliber ammunition that cannot be safely dismantled or disassembled for the removal of the explosive filler. In addition, a containment vessel is not available for the detonation of large caliber ammunition and this ammunition cannot safely be treated by incineration. The capacity of the Demolition Area is considered to be 0.50 ton per hour. The metals and collectable residues that remain after a detonation episode are collected and treated in the Contaminated Waste Processor (IAAP-24) to remove any remaining explosive contamination. The metal scrap is sold as salvage material. The Demolition Area is a RCRA-regulated unit. As such, the operation of this unit is regulated by EPA permit standards in 40 CFR 264 (10 December 1987). The operations are also subject to the Interim Status standards in 40 CFR 265 (USEPA). The Demolition Area is addressed in the RCRA Part B Permit Application as a treatment unit (EBASCO 1988).

The Demolition Area has been utilized since the early 1940s, with extensive use from 1966 to 1970 when 4700 canisters containing lead azide and RDX were destroyed (U.S. Army Munitions Command 1985).

A Preliminary Assessment/Site Inspection was completed in 1980 which identified the Demolition Area as one of four major contamination areas within the IAAP (DoD 1990).

Soil at the Demolition Area is silty clay from the ground surface to 8 to 27 feet below the ground surface. Underlying the silty clay is highly weathered limestone. Dolomite and shale have been encountered in some boreholes that have been drilled in the Demolition Area. Groundwater flows away from the Demolition Area toward the west, southwest, south, southeast, and northeast. Three monitoring wells are located in the Demolition Area; G-10 and G-11 penetrate bedrock and G-9 rests in glacial material (U.S. Army Munitions Command 1985). Boring logs for well G-9 show that 0.5 feet of topsoil is underlain by moist to wet clay. Saturated material was encountered at depths of 19 to 20 feet. The water level rose to 17.8 feet below the ground surface after 24 hours. Bedrock was encountered at a depth of 28 feet (Soil Testing Services 1981).

Boring logs for well G-10 show that 6 inches of topsoil is underlain by silty clay with sand and silty sandy clay. Very silty clay with dolomite gravel was encountered at 13.6 feet. At 14 feet dolomite and dolomite limestone were encountered. Bedrock was encountered at 14 to 16.5 foot depths and at 20 to 24 foot depths. The logs make no mention of what is found between 16.5 feet and 20 feet. At 24 feet, drilling was halted and water had not been encountered. The elevation at the top of the hole was approximately 690 feet above mean sea level (msl).


900-184-8
675
650
21-GW-01
G-9
DA-01
DEMOLITION
PITS
21-SS-06
21-SA-06
S-5
G-10
21-SS-07
DA-02
21-GW-05
G-11
900-145-1
900-145-7
900-198-1
900-189-1
650
900-31
900-199-2
DEACTIVATION
FURNACE
675
650
625
600
575
N
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0
400
800 FEET
LEGEND
ROAD
FENCE
900-199-2 BUILDING #
625 TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
Prepared by
[redacted]
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 21
Demolition Area
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP21
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-21

Boring logs for well G-11 show that 0.9 feet of topsoil is underlain by silty clays and sandy clays. At 25 to 27.5 feet weathered limestone gravel was encountered. Dolomite was encountered at 27.5 feet and shale at 36.6 feet. At 37 feet drilling was halted and water had not been encountered. The elevations at the top of the hole was approximately 690 feet msl.

Wells DA-01 and DA-02 also are located within the Demolition Area. Boring logs for well DA01 showed that the elevation at the top of the hole was 678 feet msl. The top 11 feet of the boring consisted of clays underlain by highly weathered limestone. This was underlain by less weathered limestone. The limestone was saturated from 12.8 to 16.9 feet in depth (COE 1984).

Boring logs for well DA-02 showed that the elevation at the top of the hole was 673 feet above msl. The top 7.9 feet of the boring consisted of clays underlain by very hard, moderately weathered limestone. No water was encountered even at a depth of 23.5 feet; however, open fractures were encountered. All monitoring well locations are depicted on Plate 2.

The Demolition Area is located on a local topographical high with surface runoff draining in all directions except northeast. The Demolition Area is located on a local watershed divide, such that surface runoff may be to either to the north to Long Creek, or south to the Skunk River adjacent to the southwestern boundary of the facility (USGS 1981 and 1964).

Surface water runoff offers a potential migration pathway for surface contamination. Crops and hay are grown to the east and southeast of the Demolition Area. The crops and hay have the potential for receiving surface drainage from the site. Groundwater may also provide a migration route. Residential wells are located within one mile of the Demolition Area to the southwest in the community of Augusta.

3.23.2 Summary of Previous Investigations

Residue and soil samples were taken by the U.S. Army Materiel Command on 20-22 April 1982 and analyzed for explosives and EP Toxicity. The samples were collected from representative craters, a drainage ditch, and a fire break. Measurable quantities of explosives were detected in some samples. Concentration ranges were: HMX - 1.1 to 4.9 μg/g; RDX - 1.0 to 10.9 μg/g; TNT - 2.4 to 10.7 μg/g; and 2,4-DNT - 1.0 to 1.4 μg/g. No other explosives were detected. All metals were below RCRA limits for the EP Toxicity Metals Analysis.

In February and March 1981, Soil Testing Services, under contract to Environmental Research Group, Inc. installed monitoring wells G-9, G-10, G-11, and in July 1984, Omaha District Corps of Engineers installed monitoring wells DA-01 and DA-02.

Two rounds of groundwater sampling were conducted by IAAP personnel at each well during the time period from February 1984 through March 1985. Groundwater samples were analyzed for the following metals: arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. Barium, mercury, selenium, and silver were not detected during the two sampling events. However, the other four metals were detected at low levels at some monitoring wells during at least one sampling event; all were below National Interim Primary Drinking Water Regulation Standards.

The groundwater samples were also analyzed for the following explosives: 2,4,6-TNT; 2,4-DNT; 2,6-DNT; RDX; HMX; and tetryl. All monitoring wells had concentrations of 2,4,6-TNT for one sampling round which were above the detection limit but below the U.S. Army suggested interim drinking water limit of 44 µg/L. The other explosive compounds were not detected in any of the monitoring wells for the two sampling events.

In another groundwater study, the analytes that were detected were generally indicative of background levels. A groundwater sample from downgradient well G-11 contained RDX at 18 ppb, a level below the human health criteria (33.68 ppb) being suggested by the U.S. Army Surgeon General. Another groundwater sample (G-10) was not contaminated with explosives.

Additional groundwater samples were obtained by Environmental Science and Engineering, Inc. on 24 and 25 June 1987 from monitoring wells DA-01, DA-02, G-10, and G-11. The samples were analyzed for various chlorinated solvents. No compounds were detected above the designated detection limits.

An environmental contamination survey of the Iowa Army Ammunition Plant was performed during the period from 1 February 1981 to 31 October 1981 to determine the extent of contamination and its potential to migrate beyond installation boundaries. Groundwater, surface water, sediment, and soil samples were collected and analyzed for explosives, RDX, anions, metals, priority pollutant organic chemicals, pesticides, and PCBs. For the purposes of the survey, the IAAP was divided into groups or study areas. The Group Two area includes the Demolition Area (ERG 1982).

This group of sampling sites is in an area previously used for surface detonation of explosive material. The sampling network in this study area consisted of three groundwater wells (G-9, G-10, and G-11) and two soil samples. RDX was detected in bedrock well G-11 (downgradient) at 18 µg/L; however, no RDX was found in either of the other wells or in the soil samples collected in the study area (ERG 1982). A contamination survey showed that infiltration through the soil to the groundwater, monitored by the wells, is minimal due to the clay aquitards and other low permeability zones which lie between the surface and the first aquifer in this area. The cause of the trace amounts (18 µg/L) of RDX in the bedrock aquifer was not apparent. The RDX contamination may have been introduced during sampling or drilling. It was concluded that contamination of the groundwater in this area is not a problem, since the RDX level measured was below the U.S. Army proposed human health criteria of 33.68 µg/L, the infiltration rate was slow, and the groundwater movement appeared to be slow.

The ERG report stated that the lead level found in the soil of area S-4 (110 mg/kg) may have been caused by demolition activities. However, there did not appear to be any resulting lead contamination in groundwater; well G-10 showed only a trace amount (11 µg/L).

Dames & Moore conducted a sampling program in the Demolition Area from 24 September to 13 October 1985. Chloroform was found above criteria in wells G-9 (188 µg/L), G-10 (83.5 µg/L), DA-01 (7440 µg/L), and DA-02 (701 µg/L) (Dames & Moore 1986).

The SI sampling effort for IAAP-21 focused on the sampling of groundwater and demolition pits on the site for explosives, metals, and volatiles. SI samples are summarized below and sample locations are depicted on Figure 3-21. Wells G-10, G-11, and DA-01 could not be sampled because the casings were heaved and/or the wells were silted in.

Sample	Analyses	Sample Type	Depth	Location
21-GW-01-01	Explosives Metals VOCs	G	17.5'	Well G9, approximately 25 feet north of the road along the western boundary of the site.
21-GW-05-01	Explosives Metals VOCs	G	20.0'	Well DA02; approximately 300 feet northeast of main demolition area near tree line.
21-SS-06-01	Explosives Metals	C	0-12"	Composite of 3 aliquots, one from each main demolition pit.
21-SA-06-02	VOCs	C	12-18"	Same location as 21-SS-06-01.
21-SS-07-01	Explosives Metals VOCs	G	0-6"	Pit behind berm located on the eastern edge of main demolition area.

3.23.3 Evaluation of Site

Review of the SI data obtained at IAAP-21 indicates both metals and explosive contaminants of concern above the established criteria in both soil and water. Table 3-23 summarizes all SI results reported above CRLs; Table 3-23a summarizes all results above established evaluation levels.

The groundwater sample taken at well G-9 (21-GW-01-01) was reported to contain barium at 197 µg/L and zinc at 381 µg/L. All other metals were below evaluation levels. The sample also was found to contain RDX at 2.3 µg/L and 2,4-DNT at 5.5 µg/L. No volatiles were reported above CRLs.

The groundwater sample taken at well DA-02 (21-GW-05-01) was reported to contain barium at 106 µg/L and zinc at 267 µg/L. All other metals were below evaluation levels. The sample also was reported to contain RDX at 7.0 µg/L. No volatiles were reported above CRLs.

The composite soil sample taken from the demolition pits (21-SS-06-01) contained elevated levels of arsenic, lead, copper, and zinc. Sample 21-SS-06-01 revealed surface concentrations of lead at 68.0 mg/kg, arsenic at 9.9 mg/kg, copper at 38.9 mg/kg, and zinc at 169.0 mg/kg. No explosives were reported above CRLs in this sample. No volatile contaminants were reported above CRLs in the depth sample taken at the same locations (21-SA-06-02).

Soil sample 21-SS-07-01 was found to contain high levels of copper, lead, mercury, and zinc. Copper was reported at 165 mg/kg, lead at 88 mg/kg, mercury at 0.72 mg/kg, and zinc at 262 mg/kg. The sample was also reported to contain 1,3-DNB at 25.0 mg/kg. No volatile organics were reported above CRLs in this sample.

The presence of metals in samples 21-SS-07-01, 21-GW-01-01, and 21-GW-05-01 indicates that metals may be leaching into groundwater. Results of historic sampling in this area show elevated background levels of metals in soils but relatively low levels in groundwater. The bermed area and the two wells should be further sampled and investigated for possible metals migration into the groundwater. Further study of wells in the area that were not sampled during the SI should be conducted if feasible during the spring under wet weather conditions.

Explosive contamination also was found in these three samples. Sample 21-SS-07-01 contained 1,3-DNB at 25.0 mg/kg; sample 21-GW-01-01 contained RDX at 23 mg/kg and 2,4-DNT at 5.5 mg/kg; and sample 21-GW-05-01 contained RDX at 7.0 mg/kg. Past groundwater studies have indicated elevated RDX levels; SI results appear to indicate that these levels have decreased. Monitoring of wells in the area should be continued. The high concentration of 1,3-DNB in the one soil sample warrants further study and the area should be screened for explosives during the Phase I fieldwork.

The SI data indicate metals and explosive contamination at IAAP-21 significant enough to warrant inclusion in the RI. Phase I activities should include well sampling under wet-weather conditions, and soil sampling for metals and explosives (screening) at the demolition pits and bermed area. This sampling effort should delineate the extent of contamination and possible migration of metals from on-site surface soils to the groundwater.

Table 3-23

IAAP-21 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP21	GW	EXPLOSIVES	2,4-DINITROTOLUENE	G-9	08/23/1991	21GW0101Y	17.500	5.5	=UW01	0.6	UGL
			2,6-DINITROTOLUENE	G-9	08/23/1991	21GW0101YP	17.500	0.55	=UW01	0.55	UGL
			RDX	DA-02	08/23/1991	21GW0501Y	20.100	7.0	=UW01	0.63	UGL
				G-9	08/23/1991	21GW0101Y	17.500	2.3	=UW01	0.63	UGL
		METALS	ARSENIC	G-9	08/23/1991	21GW0101Y	17.500	3.43	=AX8	2.35	UGL
			BARIUM	DA-02	08/23/1991	21GW0501Y	20.100	106.0	=SS12	2.82	UGL
				G-9	08/23/1991	21GW0101Y	17.500	197.0	=SS12	2.82	UGL
			ZINC	DA-02	08/23/1991	21GW0501Y	20.100	267.0	=SS12	18.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	381.0	=SS12	18.0	UGL
	SO	EXPLOSIVES	1,3-DINITROBENZENE	21-SS-07	08/15/1991	21SS0701Y	0.500	25.0	=LW02	0.59	UGG
		METALS	ARSENIC	21-SS-06	08/15/1991	21SS0601Y	0.500	9.9	=B9	2.5	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	7.86	=B9	2.5	UGG
			BARIUM	21-SS-06	08/15/1991	21SS0601Y	0.500	219.0	=JS12	3.29	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	173.0	=JS12	3.29	UGG
			BERYLLIUM	21-SS-06	08/15/1991	21SS0601Y	0.500	0.657	=JS12	0.427	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.849	=JS12	0.427	UGG
			CADMIUM	21-SS-07	08/15/1991	21SS0701Y	0.500	1.79	=JS12	1.2	UGG
			CHROMIUM	21-SS-06	08/15/1991	21SS0601Y	0.500	20.6	=JS12	1.04	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	22.8	=JS12	1.04	UGG
			COPPER	21-SS-06	08/15/1991	21SS0601Y	0.500	38.9	=JS12	2.84	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	165.0	=JS12	2.84	UGG
			LEAD	21-SS-06	08/15/1991	21SS0601Y	0.500	68.0	=JD21	0.467	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	88.0	=JD21	0.467	UGG
			MERCURY	21-SS-06	08/15/1991	21SS0601Y	0.500	0.304	=Y9	0.05	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.719	=Y9	0.05	UGG
			NICKEL	21-SS-06	08/15/1991	21SS0601Y	0.500	18.1	=JS12	2.74	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	17.6	=JS12	2.74	UGG
			ZINC	21-SS-06	08/15/1991	21SS0601Y	0.500	169.0	=JS12	2.34	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	262.0	=JS12	2.34	UGG

Table 3-23a

IAAP-21 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP21	GW	EXPLOSIVES	2,4-DINITROTOLUENE	G-9	08/23/1991	21GW0101Y	17.500	5.5	=UW01	0.6	UGL
			2,6-DINITROTOLUENE	G-9	08/23/1991	21GW0101YP	17.500	0.55	=UW01	0.55	UGL
			RDX	DA-02	08/23/1991	21GW0501Y	20.100	7.0	=UW01	0.63	UGL
				G-9	08/23/1991	21GW0101Y	17.500	2.3	=UW01	0.63	UGL
	SO	EXPLOSIVES	1,3-DINITROBENZENE	21-SS-07	08/15/1991	21SS0701Y	0.500	25.0	=LW02	0.59	UGG
		METALS	ARSENIC	21-SS-06	08/15/1991	21SS0601Y	0.500	9.9	=B9	2.5	UGG
			CADMIUM	21-SS-07	08/15/1991	21SS0701Y	0.500	1.79	=JS12	1.2	UGG
			COPPER	21-SS-06	08/15/1991	21SS0601Y	0.500	38.9	=JS12	2.84	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	165.0	=JS12	2.84	UGG
			LEAD	21-SS-06	08/15/1991	21SS0601Y	0.500	68.0	=JD21	0.467	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	88.0	=JD21	0.467	UGG
			MERCURY	21-SS-07	08/15/1991	21SS0701Y	0.500	0.719	=Y9	0.05	UGG
			ZINC	21-SS-06	08/15/1991	21SS0601Y	0.500	169.0	=JS12	2.34	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	262.0	=JS12	2.34	UGG

3.24 IAAP-22 (UNIDENTIFIED SUBSTANCE WASTE SITE)

3.24.1 Site Description and History

The Unidentified Substance Waste Site (IAAP-22) covers an area approximately 20 by 20 feet. The site is situated in the central portion of IAAP, northwest of Yard O along the south side of the railroad tracks, approximately 150 yards west of Plant Road I (Plate 1; D-5).

The unidentified substance (believed to be road surfacing oil) was discovered on July 16, 1985. The source of the oil spill is thought to have been a leaking railroad tank car (RI/FS Task Order, 1990).

The area is located 15 to 20 feet south of the railroad track bed (Figure 3-22). According to on-site personnel, this area has been covered with approximately 10 feet of fill material which has created a small incline sloping up and away from the railroad track bed.

Surface water runoff originating in the spill area during precipitation events collects in a drainage depression which parallels the track bed. Surface topography is relatively flat in the surrounding area of the spill and a definitive surface water flow direction could not be determined during the site visit.

Surface runoff and groundwater are the potential migration pathways for site contaminants. Surface water runoff drains southwest toward Mathes Lake, where fishing is permitted. The potential for migration in minimal because the substance is solid; visual inspection revealed that the soil directly beneath the substance is not stained.

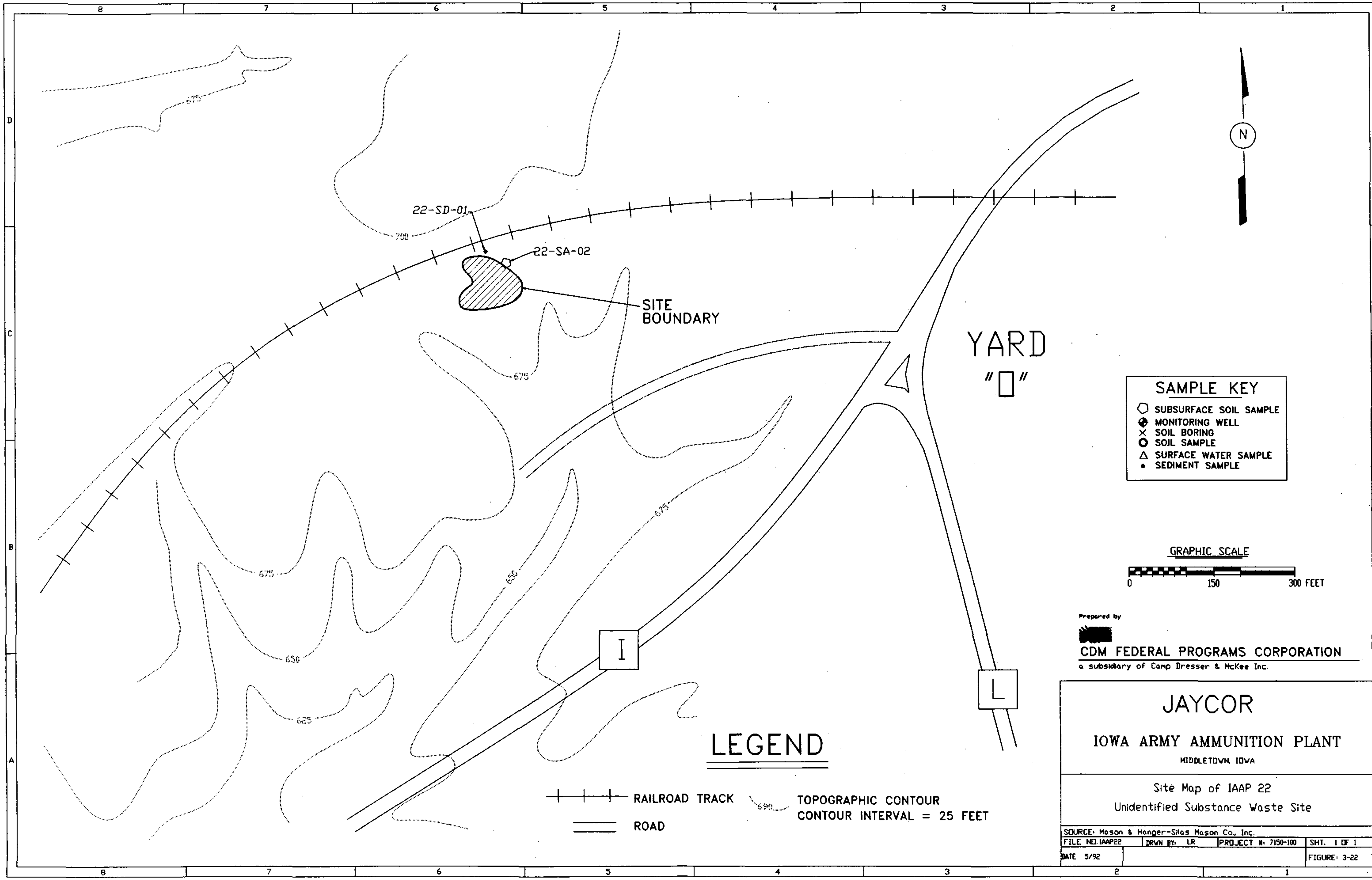
3.24.2 Summary of Previous Investigations

A waste sample was taken from the site during a RCRA facility assessment conducted by Ecology and Environment in August 1986 and analyzed for volatile organics, semivolatile organics, and pesticide/PCBs. No contaminants were detected.

The SI sampling scheme was designed to assess possible contamination from the Unidentified Substance Waste Site. One soil sample was collected from each of two locations, downgradient of and immediately adjacent to the unidentified substance. Both samples were analyzed for metals, volatiles, and semivolatiles. SI samples are summarized below and sample locations are depicted on Figure 3-22.

Table 3-24 summarizes all results that were reported above CRLs; Table 3-24a presents those results that were reported above the project established evaluation criteria.

Sample	Analyses	Sample Type	Depth	Location
22-SD-01-01	Metals VOCs SemiVOCs	G	0-6"	Sample was collected in ditch along railroad tracks, downgradient of the center of suspected spill area.
22-SA-02-01	Metals VOCs SemiVOCs	G	0-6"	Sample collected directly next to unidentified substance, from 0 to 6 inch depth.



22-SD-01
22-SA-02
SITE BOUNDARY
700
675
650
625
YARD "D"
I
L
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
N
GRAPHIC SCALE
0
150
300 FEET
LEGEND
RAILROAD TRACK
ROAD
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 25 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 22
Unidentified Substance Waste Site
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP22
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-22

3.24.3 Evaluation of Site

Both samples were found to contain low levels of several metals (Table 3-24). Both samples collected adjacent to the waste pile contained arsenic, lead, and zinc slightly above the evaluation criteria. These metal concentrations are, however, within background concentration ranges as compiled by the USGS (Table 3-2b).

Both samples also contained low concentrations of the PAHs pyrene, fluoranthene, and phenanthrene, which are constituents of asphalt and tar. Concentrations were within typical background ranges that have been established for PAHs in soils in agricultural areas. Total concentrations of PAHs in each sample are less than 12 mg/kg. By visual inspection of the unidentified waste and evaluation of the compounds detected in samples adjacent to the waste, the substance has been tentatively identified as tar. Based on the types and concentrations of PAHs detected in the samples collected immediately adjacent to the unidentified substance and the relative immobility of these compounds in the environment, this site does not pose a risk to human health or the environment.

One sample contained bis(2-ethylhexyl)phthalate at 4.4 mg/kg. Since this compound is a common laboratory artifact, it is believed that this detection is a laboratory contaminant and is not site derived.

Based on review of the SI data there does not appear to be significant or widespread contamination at this site. The unidentified substance appears to be asphalt or tar. The substance is inert and there is no soil staining or leaching in the area. This site does not warrant inclusion in the Remedial Investigation.

A summary report of all analytical results associated with this site is included in Appendix B.

Table 3-24

IAAP-22 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP22	SD	METALS	ARSENIC	22-SD-01	08/09/1991	22SD0101Y	0.500	18.4	=B9	2.5	UGG
			BARIUM	22-SD-01	08/09/1991	22SD0101Y	0.500	233.0	=JS12	3.29	UGG
			BERYLLIUM	22-SD-01	08/09/1991	22SD0101Y	0.500	0.971	=JS12	0.427	UGG
			CHROMIUM	22-SD-01	08/09/1991	22SD0101Y	0.500	27.5	=JS12	1.04	UGG
			COPPER	22-SD-01	08/09/1991	22SD0101Y	0.500	17.4	=JS12	2.84	UGG
			LEAD	22-SD-01	08/09/1991	22SD0101Y	0.500	36.0	=JD21	0.467	UGG
			NICKEL	22-SD-01	08/09/1991	22SD0101Y	0.500	26.1	=JS12	2.74	UGG
			ZINC	22-SD-01	08/09/1991	22SD0101Y	0.500	220.0	=JS12	2.34	UGG
		SEMIVOLATILES	BIS (2-ETHYLHEXYL) PHTHALATE	22-SD-01	08/09/1991	22SD0101Y	0.500	4.43	=LM25	0.48	UGG
			PHENANTHRENE	22-SD-01	08/09/1991	22SD0101Y	0.500	0.238	=LM25	0.032	UGG
			PYRENE	22-SD-01	08/09/1991	22SD0101Y	0.500	11.1	=LM25	0.083	UGG
		VOLATILES	TOLUENE	22-SD-01	08/09/1991	22SD0101Y	0.500	0.444	=LM23	0.1	UGG
	SO	METALS	ARSENIC	22-SA-02	08/09/1991	22SA0201Y	0.500	8.46	=B9	2.5	UGG
			BARIUM	22-SA-02	08/09/1991	22SA0201Y	0.500	230.0	=JS12	3.29	UGG
			BERYLLIUM	22-SA-02	08/09/1991	22SA0201Y	0.500	1.02	=JS12	0.427	UGG
			CHROMIUM	22-SA-02	08/09/1991	22SA0201Y	0.500	31.2	=JS12	1.04	UGG
			COPPER	22-SA-02	08/09/1991	22SA0201Y	0.500	25.1	=JS12	2.84	UGG
			LEAD	22-SA-02	08/09/1991	22SA0201Y	0.500	40.0	=JD21	0.467	UGG
			NICKEL	22-SA-02	08/09/1991	22SA0201Y	0.500	21.6	=JS12	2.74	UGG
			ZINC	22-SA-02	08/09/1991	22SA0201Y	0.500	113.0	=JS12	2.34	UGG
		SEMIVOLATILES	FLUORANTHENE	22-SA-02	08/09/1991	22SA0201Y	0.500	0.119	=LM25	0.032	UGG
			PYRENE	22-SA-02	08/09/1991	22SA0201Y	0.500	0.242	=LM25	0.083	UGG

Table 3-24a

IAAP-22 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP22	SD	METALS	ARSENIC	22-SD-01	08/09/1991	22SD0101Y	0.500	18.4	=B9	2.5	UGG
			LEAD	22-SD-01	08/09/1991	22SD0101Y	0.500	36.0	=JD21	0.467	UGG
			ZINC	22-SD-01	08/09/1991	22SD0101Y	0.500	220.0	=JS12	2.34	UGG
		SEMIVOLATILES	BIS (2-ETHYLHEXYL) PHTHALATE	22-SD-01	08/09/1991	22SD0101Y	0.500	4.43	=LM25	0.48	UGG
			PHENANTHRENE	22-SD-01	08/09/1991	22SD0101Y	0.500	0.238	=LM25	0.032	UGG
			PYRENE	22-SD-01	08/09/1991	22SD0101Y	0.500	11.1	=LM25	0.083	UGG
		VOLATILES	TOLUENE	22-SD-01	08/09/1991	22SD0101Y	0.500	0.444	=LM23	0.1	UGG
	SO	METALS	ARSENIC	22-SA-02	08/09/1991	22SA0201Y	0.500	8.46	=B9	2.5	UGG
			CHROMIUM	22-SA-02	08/09/1991	22SA0201Y	0.500	31.2	=JS12	1.04	UGG
			LEAD	22-SA-02	08/09/1991	22SA0201Y	0.500	40.0	=JD21	0.467	UGG
			ZINC	22-SA-02	08/09/1991	22SA0201Y	0.500	113.0	=JS12	2.34	UGG
		SEMIVOLATILES	FLUORANTHENE	22-SA-02	08/09/1991	22SA0201Y	0.500	0.119	=LM25	0.032	UGG
			PYRENE	22-SA-02	08/09/1991	22SA0201Y	0.500	0.242	=LM25	0.083	UGG

3.25 IAAP-23 (DEACTIVATION FURNACE)

3.25.1 Site Description and History

The Deactivation Furnace (IAAP-23) is located at the Demolition Area in the southwest portion of the IAAP. Dimensions of the Deactivation Furnace are 98 by 26 feet. The adjoining air pollution control system measures 20 by 27 feet (Plate 1; C-7, and Figure 3-23). The Deactivation Furnace facility consists of a feed area, furnace system and air pollution control system. The feed area is housed within a building which provides access to a conveyor system. The structure provides a barrier between the operator and the furnace system. The air pollution control system consists of a cyclone, baghouse, draft induction fan, and exhaust stack (EBASCO 1989).

The Deactivation Furnace is utilized to destroy small explosive-loaded components such as detonators, primers, and fuses. The Deactivation Furnace incinerates the explosive/propellant content of these munitions and thermally treats (decontaminates) the metal casings which are then recovered and sold as scrap metal. The principle of operation for the Deactivation Furnace is to feed material to the furnace where it is thermally treated and transported by means of spiral flights within the retort.

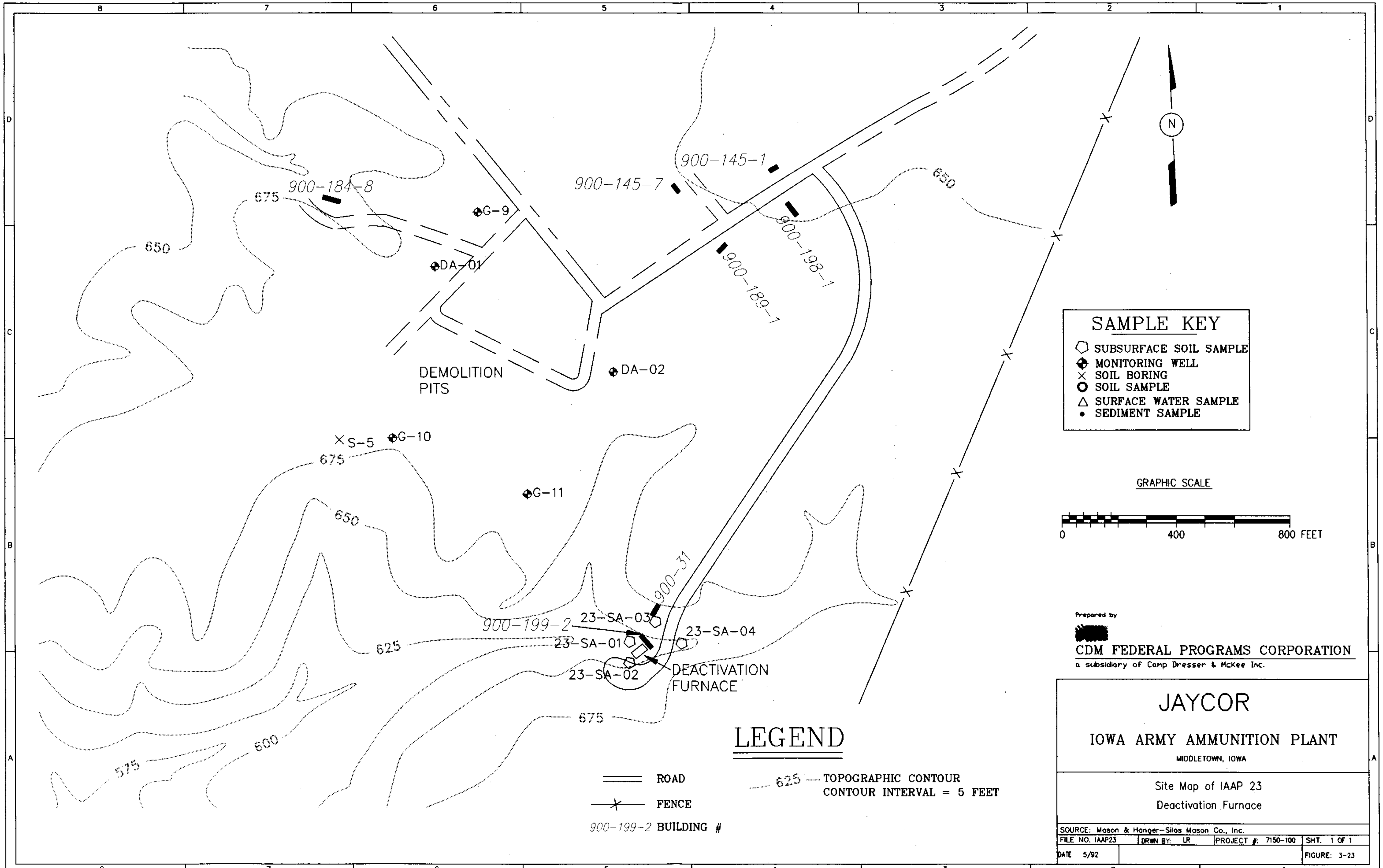
The Deactivation Furnace has been in operation since 1971; however, it is used only when required and at times this has meant limited utilization. The Deactivation Furnace was not in operation from late 1980 to May 1983 to allow for the installation of air pollution control equipment.

A final Federal Facility Compliance Agreement between the U.S. Environmental Protection Agency and the Department of the Army (1988), lists the Deactivation Furnace (as incinerator) as a RCRA-regulated hazardous waste management unit which IAAP currently intends to operate and for which permitting standards have been promulgated in 40 CFR 264.

The materials that are treated in the Deactivation Furnace are assigned the EPA hazardous waste number D003. These materials are generated from nonspecific plant production lines and include excess and off-specification components.

The metal parts remaining after thermal treatment are salvaged and sold as scrap metal. The remaining unsalvageable waste products (ash and residue) are placed in 55-gallon steel drums with lids and stored as hazardous waste. The hazardous ash and residue (D006 and D008) are stored in Building 900-194-8 or Building 10-41-18 (COE 1988). Building 900-194-8 is a weatherproof, concrete vault with an earthen cover and concrete retaining wing walls. The drums are placed on wooden pallets to prevent contact between the drums and the concrete floor of the building. Adequate aisle space is provided. No free liquids are contained in the drums. The ash and residue that pass the EP Toxicity Test are disposed of in the installation's inert landfill (COE 1989). Ash is also collected from the cyclone and baghouse of the air pollution control system and is managed as a hazardous waste and shipped to an EPA-approved hazardous waste landfill (EBASCO 1989).

Soil at the Demolition Area is silty clay from the ground surface to 8 to 27 feet below the ground surface. Underlying the silty clay is highly weathered limestone. Dolomite and shale have been



900-184-8
675
650
G-9
DA-01
900-145-7
900-145-1
650
900-198-1
900-189-1
DEMOLITION PITS
DA-02
N
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
S-5
G-10
675
G-11
650
GRAPHIC SCALE
0
400
800 FEET
900-31
23-SA-03
900-199-2
23-SA-04
23-SA-01
625
23-SA-02
DEACTIVATION FURNACE
675
600
575
LEGEND
ROAD
FENCE
900-199-2 BUILDING #
625 TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 23
Deactivation Furnace
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP23
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-23

encountered in some boreholes that have been drilled in the Demolition Area. Groundwater flows away from the Demolition Area toward the west, southwest, south, southeast, and northeast (ERG 1982).

Boring logs for well G-9 show that 0.5 feet of topsoil is underlain by moist to wet clay. Saturated material was encountered at depths of 19 to 20 feet. The water level rose to 17.8 feet below the ground surface after 24 hours. Bedrock was encountered at a depth of 28 feet (Soil Testing Services 1981).

Boring logs for well G-10 show that 6 inches of topsoil is underlain by silty clay with sand and silty sandy clay. Very silty clay with dolomite gravel was encountered at 13.6 feet. At 14 feet dolomite and dolomite limestone was discovered. Bedrock was encountered at 14 to 16.5 foot depths and at 20 to 24 foot depths. The logs make no mention of what is found in between 16.5 feet and 20 feet. At 24 feet drilling was halted and water had not been encountered. The elevation at the top of the hole was approximately 690 feet msl (Soil Testing Services 1981).

Boring logs for well G-11 show that 0.9 feet of topsoil is underlain by silty clays and sandy clays. At 25 to 27.5 feet weathered limestone gravel was encountered. Dolomite was encountered at 27.5 feet. At 31.6 feet shale was encountered. At 37 feet drilling was halted and water had not been encountered. The elevations at the top of the hole was approximately 690 feet msl (Soil Testing Services 1981).

Boring logs for well DA-01 showed that the elevation at the top of the hole was 678 feet msl. The top 11 feet of the boring consisted of clays underlain by highly weathered limestone. This was underlain by less weathered limestone. The limestone was saturated from 12.8 to 16.9 feet in depth (COE 1984).

Boring logs for well DA-02 showed that the elevation at the top of the hole was 673 feet msl. The top 7.9 feet of the boring consisted of clays underlain by very hard, moderately weathered limestone. No water was encountered even at a depth of 23.5 feet; however, open fractures were encountered.

The Demolition Area is located on a local topographical high with surface runoff draining in all directions except northeast (EBASCO 1989). The Demolition Area is located on a local watershed divide, such that surface runoff may be to either the north to Long Creek, or south to the Skunk River adjacent to the southwestern boundary of the facility (ERG 1982). Surface drainage from the area surrounding the Deactivation Furnace flows in a southwesterly direction toward Skunk River.

Surface water and groundwater are potential migration pathways. Crops and hay are grown to the east and southeast of the Deactivation Furnace area. The crops and hay have the potential for receiving surface drainage from the site. Residential wells are located within one mile of the Deactivation Furnace area to the southwest.

3.25.2 Summary of Previous Investigations

The ash and residue from the furnace consistently exceed the limits for the lead and cadmium parameters identified by the EP Toxicity Test for metals (COE 1989). The results from one analysis of the ash indicated the presence of cadmium and lead with residual amounts of TNT and RDX. The resultant ash is assigned the hazardous waste numbers of D006 and D008. TNT and RDX occur in concentrations which are nonreactive. Disposal of this ash was shipped to an EPA-approved hazardous waste landfill.

In November 1984, ash from the Deactivation Furnace was shipped to the U.S. Bureau of Mines, Pittsburgh Research Center, for reactivity testing. The incinerator ash placed there between 19 November 1980 and 18 October 1983 was considered to be a hazardous waste until identical ash that was being generated was determined to be nonhazardous. The ash passed the reactivity test conducted by the U.S. Bureau of Mines. The EPA agreed, in writing, that the ash from burning standard explosives was not hazardous and could be placed in a landfill. At the time, the Army Headquarters had not taken a formal position, so that type of ash continued to be handled as a hazardous waste. The installation was shipping the incinerator ash to an EPA approved hazardous waste landfill at considerable expense.

An environmental contamination survey of the IAAP was performed during the period 1 February 1981 to 31 October 1981 to determine the extent of contamination and its potential to migrate beyond installation boundaries. Groundwater, surface water, sediment, and soil samples were collected and analyzed for explosives, RDX, anions, metals, priority pollutant organic chemicals, pesticides, and PCBs. For the purposes of the survey, the IAAP was divided into groups or study areas. The Group Two area pertains to the Deactivation Furnace (ERG 1982).

This group of sampling sites is in an area previously used for surface detonation of explosive material. The sampling network in this study area consisted of three groundwater wells (G-9, G-10, G-11) and two soil samples. The analysis of the groundwater showed no levels of contamination which exceeded water quality criteria. A trace level (18 μg/L) of RDX was detected in the bedrock well G-11; however, no RDX was found in either of the other wells or in the soil samples collected in the study area (ERG 1982).

The lead level found in the soil of area S-4 (110 mg/kg) may have been caused by demolition activities. However, there did not appear to be any resulting contamination of lead in groundwater; well G-10 showed only a trace amount (11 μg/L) (ERG 1982).

The survey showed that infiltration through the soil to the groundwater, monitored by the wells, is minimal due to the clay aquitards and other low permeability zones which lie between the surface and the first aquifer in this area. The cause of the trace amounts (18 μg/L) of RDX in the bedrock aquifer was not apparent.

The RDX contamination may have been introduced during sampling or drilling, although extreme care was taken during these activities. It was concluded that contamination of the groundwater in this area is not a problem, since the RDX level measured was below the USAMBRDL human health criteria (33.68 μg/L), the infiltration rate was slow, and the groundwater movement appeared to be slow (ERG 1982).

Dames & Moore conducted a sampling program in the area of the Deactivation Furnace from September 24 to October 13, 1985. Chloroform was found above criteria in wells G-9 (188 μg/L), G-10 (83.5 μg/L), DA01 (7440 μg/L), and DA02 (701 μg/L) (Dames & Moore 1985).

Additional groundwater samples were obtained by Environmental Science and Engineering, Inc. on June 24 and 25, 1987 from monitoring wells DA01, DA02, G-10, and G-11. The samples were analyzed for various chlorinated solvents. Nothing was detected above the designated detection limits (ERG 1982).

The SI sampling of IAAP-23 focused on the areas most likely to be affected by the Deactivation Furnace process: the baghouse area, scrap metal conveyor area, and scrap metal storage area. SI samples are summarized below and sample locations are depicted on Figure 3-23.

Sample	Analyses	Sample Type	Depth	Location
23-SA-01-01	Explosives Metals	G	12-24"	Approximately 5 feet south of baghouse pad for Deactivation Furnace.
23-SA-02-01	Explosives Metals	G	0-10"	Approximately 1 foot southwest of Deactivation Furnace Pad from soil beneath furnace exit.
23-SA-03-01	Metals VOCs SemiVOCs	C	24-36"	Within the bermed area surrounding an aboveground petroleum storage tank located approximately 50 feet north of the Deactivation Furnace.
23-SA-03-02	Metals VOCs SemiVOCs	G	24-36"	Sample taken just outside of berm that contains an aboveground petroleum storage tank.
23-SS-04-01	Explosives Metals	C	0-6"	Composite of three sampling locations in an area where scrap metal receptacles are stored.

3.25.3 Evaluation of Site

Table 3-25 summarizes all SI results reported above CRLs; Table 3-25a summarizes all results reported above evaluation criteria.

SI data indicate high levels of metals in the area where scrap metal and waste exits the furnace and is placed in receptacles. Volatile and semivolatile contaminants were also identified within the bermed area containing a petroleum tank. A trace amount of explosives (1,3-DNB) was also encountered on the site.

Soil sample 23-SA-01-01, taken near the baghouse, was reported to contain no metals above background and no explosives above CRLs.

Soil sample 23-SA-02-01, obtained from soil below the exit of the furnace, was found to contain barium, beryllium, lead, zinc, silver, cadmium, chromium, nickel, and copper at levels above the evaluation criteria (Table 3-25a). No explosives were reported above CRLs.

Soil samples 23-SA-03-01 and 23-SA-03-02 were collected from around an aboveground petroleum tank. Both samples were found to have elevated concentrations of volatiles and semivolatiles. This area was sampled during the SI because plant personnel had informed the JAYCOR team of a suspected leak. During sampling at this SWMU, a leak was encountered and plant personnel were informed. IAAP personnel began remediating and cleaning up the petroleum tank area. Since the high levels of volatile and semivolatile contaminants appear to have been contained within the bermed area, and because plant personnel have remedied the leak, no further investigation of this area appears warranted.

Soil sample 23-SS-04-01, collected east of the Deactivation Furnace where scrap metal receptacles are stored, was reported to contain no metals contamination above the established criteria, except for arsenic, which was reported slightly above the exceedance level of 8.34 mg/kg. However, the arsenic level of 9.54 mg/kg falls within the naturally occurring range of arsenic in uncultivated B Horizon Soil in the area as reported by USGS (Table 3-2b). The sample also contained 1,3-DNB at 3.0 mg/kg. No other soil samples obtained on site contained explosives; therefore, it appears that the presence of 1,3-DNB in this sample is an isolated occurrence and a resampling of the area will be done for confirmation.

Upgradient well G-9 and DA02 were sampled for IAAP-21 and analysis indicated high concentrations of barium, zinc, RDX and 2,4-DNT. Because these wells are upgradient of the subject site it is unlikely that these sample results reflect conditions at IAAP-21. Soil samples taken at IAAP-21 during the SI revealed one isolated occurrence of above level of 1,3-DNB (3.0 mg/kg). Possible migration of contaminants from IAAP-21 will be investigated during the Phase I RI/FS.

Metals contamination was found in the soil sample beneath the exit of the furnace. There is no evidence of pervasive metals contamination over the site; all other samples show metals concentrations at background levels. Metals contamination at this location indicate problems with the conveyor system disposing of scrap metal waste into the storage dumpsters. Observations at the site showed the conveyor line angled steeply out of the furnace exit, possibly causing scrap waste to miss the storage dumpster.

The SI data indicate one area of concern at IAAP-23 that is significant enough to warrant further study in the RI. Phase I fieldwork should include sampling of the area near the exit of the furnace to assess the extent of metals contamination. No other areas of the SWMU indicate metals or explosive contamination significant enough to warrant further study.

Table 3-25

IAAP-23 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP23	SO	METALS	ARSENIC	23-SA-01	08/15/1991	23SA0101Y	0.500	5.42	=B9	2.5	UGG
				23-SA-02	08/15/1991	23SA0201Y	0.800	6.15	=B9	2.5	UGG
				23-SA-03	08/15/1991	23SA0301Y	3.000	8.63	=B9	2.5	UGG
						23SA0302Y	3.000	7.94	=B9	2.5	UGG
			BARIUM	23-SA-01	08/15/1991	23SA0101Y	0.500	108.0	=JS12	3.29	UGG
				23-SA-02	08/15/1991	23SA0201Y	0.800	5,100.0	=JS12	3.29	UGG
				23-SA-03	08/15/1991	23SA0301Y	3.000	186.0	=JS12	3.29	UGG
						23SA0302Y	3.000	178.0	=JS12	3.29	UGG
			BERYLLIUM	23-SA-01	08/15/1991	23SA0101Y	0.500	0.873	=JS12	0.427	UGG
				23-SA-02	08/15/1991	23SA0201Y	0.800	2.15	=JS12	0.427	UGG
				23-SA-03	08/15/1991	23SA0301Y	3.000	0.758	=JS12	0.427	UGG
						23SA0302Y	3.000	0.67	=JS12	0.427	UGG
			CADMIUM	23-SA-02	08/15/1991	23SA0201Y	0.800	180.0	=JS12	1.2	UGG
			CHROMIUM	23-SA-01	08/15/1991	23SA0101Y	0.500	19.9	=JS12	1.04	UGG
				23-SA-02	08/15/1991	23SA0201Y	0.800	613.0	=JS12	1.04	UGG
				23-SA-03	08/15/1991	23SA0301Y	3.000	20.9	=JS12	1.04	UGG
						23SA0302Y	3.000	24.4	=JS12	1.04	UGG
			COPPER	23-SA-01	08/15/1991	23SA0101Y	0.500	9.71	=JS12	2.84	UGG
				23-SA-02	08/15/1991	23SA0201Y	0.800	5,100.0	=JS12	2.84	UGG
				23-SA-03	08/15/1991	23SA0301Y	3.000	25.5	=JS12	2.84	UGG
						23SA0302Y	3.000	22.5	=JS12	2.84	UGG
			LEAD	23-SA-01	08/15/1991	23SA0101Y	0.500	10.0	=JD21	0.467	UGG
				23-SA-02	08/15/1991	23SA0201Y	0.800	6,400.0	=JD21	0.467	UGG
				23-SA-03	08/15/1991	23SA0301Y	3.000	42.0	=JD21	0.467	UGG
						23SA0302Y	3.000	11.0	=JD21	0.467	UGG
			MERCURY	23-SA-02	08/15/1991	23SA0201Y	0.800	0.271	=Y9	0.05	UGG
			NICKEL	23-SA-01	08/15/1991	23SA0101Y	0.500	12.9	=JS12	2.74	UGG
				23-SA-02	08/15/1991	23SA0201Y	0.800	147.0	=JS12	2.74	UGG
				23-SA-03	08/15/1991	23SA0301Y	3.000	19.8	=JS12	2.74	UGG
						23SA0302Y	3.000	20.1	=JS12	2.74	UGG
			SILVER	23-SA-02	08/15/1991	23SA0201Y	0.800	20.0	=JS12	0.803	UGG
			ZINC	23-SA-01	08/15/1991	23SA0101Y	0.500	30.9	=JS12	2.34	UGG
				23-SA-02	08/15/1991	23SA0201Y	0.800	14,000.0	=JS12	2.34	UGG
				23-SA-03	08/15/1991	23SA0301Y	3.000	63.2	=JS12	2.34	UGG
						23SA0302Y	3.000	61.3	=JS12	2.34	UGG
		SEMIVOLATILES	2-METHYLNAPHTHALENE	23-SA-03	08/15/1991	23SA0301Y	3.000	12.0	>LM25	0.032	UGG
			FLUORENE	23-SA-03	08/15/1991	23SA0301Y	3.000	3.77	=LM25	0.065	UGG
			NAPHTHALENE	23-SA-03	08/15/1991	23SA0301Y	3.000	6.2	>LM25	0.74	UGG
			PHENANTHRENE	23-SA-03	08/15/1991	23SA0301Y	3.000	5.71	=LM25	0.032	UGG
			PYRENE	23-SA-03	08/15/1991	23SA0301Y	3.000	0.702	=LM25	0.083	UGG
		VOLATILES	1,3-DIMETHYLBENZENE/M-XYLENE	23-SA-03	08/15/1991	23SA0301Y	3.000	7.0	=LM23	0.23	UGG
			ETHYLBENZENE	23-SA-03	08/15/1991	23SA0301Y	3.000	3.66	=LM23	0.19	UGG
			TOLUENE	23-SA-03	08/15/1991	23SA0301Y	3.000	1.27	=LM23	0.1	UGG
			XYLENES	23-SA-03	08/15/1991	23SA0301Y	3.000	6.96	=LM23	0.78	UGG

Table 3-25a

IAAP-23 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP23	SO	METALS	ARSENIC	23-SA-03	08/15/1991	23SA0301Y	3.000	8.63	=B9	2.5	UGG
			BARIUM	23-SA-02	08/15/1991	23SA0201Y	0.800	5,100.0	=JS12	3.29	UGG
			BERYLLIUM	23-SA-02	08/15/1991	23SA0201Y	0.800	2.15	=JS12	0.427	UGG
			CADMIUM	23-SA-02	08/15/1991	23SA0201Y	0.800	180.0	=JS12	1.2	UGG
			CHROMIUM	23-SA-02	08/15/1991	23SA0201Y	0.800	613.0	=JS12	1.04	UGG
			COPPER	23-SA-02	08/15/1991	23SA0201Y	0.800	5,100.0	=JS12	2.84	UGG
			LEAD	23-SA-02	08/15/1991	23SA0201Y	0.800	6,400.0	=JD21	0.467	UGG
				23-SA-03	08/15/1991	23SA0301Y	3.000	42.0	=JD21	0.467	UGG
			NICKEL	23-SA-02	08/15/1991	23SA0201Y	0.800	147.0	=JS12	2.74	UGG
			SILVER	23-SA-02	08/15/1991	23SA0201Y	0.800	20.0	=JS12	0.803	UGG
			ZINC	23-SA-02	08/15/1991	23SA0201Y	0.800	14,000.0	=JS12	2.34	UGG
		SEMIVOLATILES	2-METHYLNAPHTHALENE	23-SA-03	08/15/1991	23SA0301Y	3.000	12.0	>LM25	0.032	UGG
			FLUORENE	23-SA-03	08/15/1991	23SA0301Y	3.000	3.77	=LM25	0.065	UGG
			NAPHTHALENE	23-SA-03	08/15/1991	23SA0301Y	3.000	6.2	>LM25	0.74	UGG
			PHENANTHRENE	23-SA-03	08/15/1991	23SA0301Y	3.000	5.71	=LM25	0.032	UGG
			PYRENE	23-SA-03	08/15/1991	23SA0301Y	3.000	0.702	=LM25	0.083	UGG
		VOLATILES	1,3-DIMETHYLBENZENE/M-XYLENE	23-SA-03	08/15/1991	23SA0301Y	3.000	7.0	=LM23	0.23	UGG
			ETHYLBENZENE	23-SA-03	08/15/1991	23SA0301Y	3.000	3.66	=LM23	0.19	UGG
			TOLUENE	23-SA-03	08/15/1991	23SA0301Y	3.000	1.27	=LM23	0.1	UGG
			XYLENES	23-SA-03	08/15/1991	23SA0301Y	3.000	6.96	=LM23	0.78	UGG

3.26 IAAP-24 (CONTAMINATED WASTE PROCESSOR)

3.26.1 Site Description and History

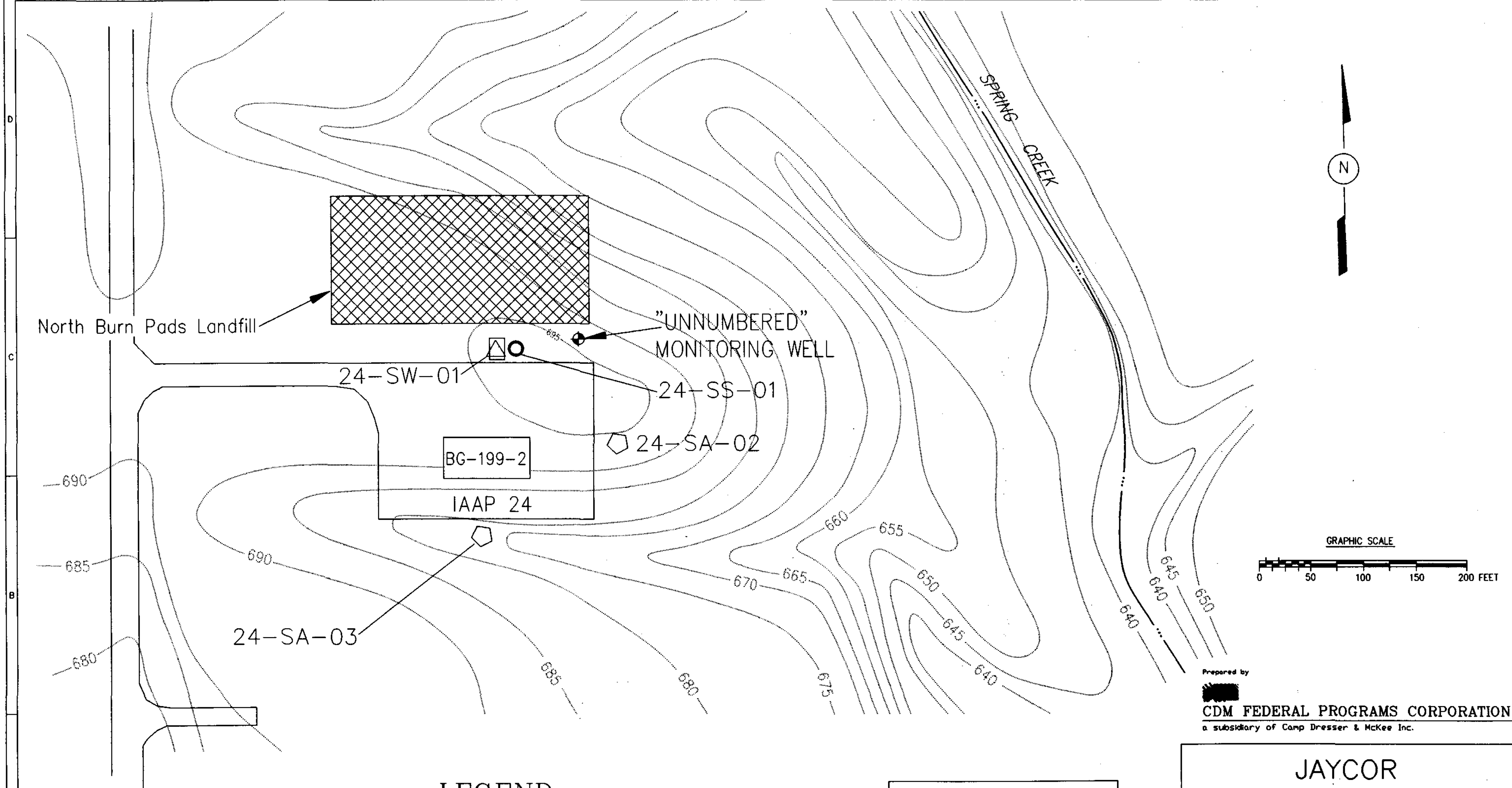
The Contaminated Waste Processor (CWP) is located just north of the center of the Explosive Disposal Area (EDA) (Plate 1; E-3). The CWP is situated immediately adjacent to and south of the North Burn Pads Landfill (Figure 3-24). The CWP is within Building BG-199-2, which measures approximately 40 by 100 feet. The facility is used to flash or burn materials that have come in contact with explosives or other energetic substances. Such materials include equipment, pipe, steel, empty cartridge cases, empty projectiles, lumber, etc. The CWP has been operating since 1982. On 4 October 1983, EPA exempted the CWP from RCRA requirements. However, any ash generated may be EP toxic and IAAP is required to manage the ash as a hazardous waste. Metal items are made available for sale as salvage after flashing (Denz 1990).

The site setting is described in detail in Section 3.14.1, which presents the geology and surface features of the EDA. Geology over the entire EDA may vary considerably. Currently there have been no site-specific geologic investigations performed at the Contaminated Waste Processor. However, general geologic conditions which exist at the EDA are believed to be representative of geology at the Contaminated Waste Processor. Site-specific geology at this SWMU would be further investigated, as necessary to verify site-specific characteristics. Five monitoring wells were installed in the vicinity of the EDA; well locations are shown on Plate 2. Analytical results of samples collected from these wells are presented in Section 3.39.2. This data and other geologic and hydrogeologic information from the EDA should be viewed with the knowledge that the EDA is approximately 1/4 mile away and is separated from the Contaminated Waste Processor by Spring Creek.

One groundwater monitoring well (not numbered) is located just off the northeast corner of this site. The well was installed in November 1991 to monitor groundwater in the vicinity of a fuel oil tank formerly used with the Contaminated Waste Processor. The tank has been removed and surrounding soil excavated. The monitoring well is approximately 26 feet deep and has been monitored for BTEX.

The nearest surface water to the CWP is Spring Creek, a perennial stream which runs through the EDA from north to south, and provides drainage to the area. The creek flows directly into the Mississippi River less than one mile above the confluence of the Skunk and Mississippi rivers. (The Skunk River confluence is approximately 6 miles from the sewage treatment facility of West Burlington, Iowa.) The floodplain of the stream valley is approximately 400 feet wide (EBASCO 1988; AEHA 1985). Runoff in the CWP is to the north.

Groundwater recharge is believed to occur in the broad, flat fields that lie along the stream divides, and results from precipitation. Recharge is expected to be low due to the low permeability of the soil. While no quantitative evidence substantiating groundwater recharge from Spring Creek exists, the upper bedrock aquifer may be recharged during runoff events in drought seasons. Specifically, recharge would occur in the lower reaches of the creek where deep stream incisions have exposed bedrock.



LEGEND

- ROAD
- 690 TOPOGRAPHIC CONTOUR, CONTOUR INTERVAL = 5 FEET
- INTERMITTENT STREAM

SAMPLE KEY

- SUBSURFACE SOIL SAMPLE
- MONITORING WELL
- SOIL BORING
- SOIL SAMPLE
- SURFACE WATER SAMPLE
- SEDIMENT SAMPLE

Prepared by

CDM FEDERAL PROGRAMS CORPORATION

a subsidiary of Camp Dresser & McKee Inc.

JAYCOR

IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

Site Map of IAAP 24

Contaminated Waste Processor

SOURCE: Mason & Hanger–Silas Mason Co., Inc.

FILE NO. IAAP24	DRWN BY: LR	PROJECT #: 7150-100	SHT. 1 OF 1
DATE 5/92			FIGURE: 3-24

Public access to IAAP is restricted, and the EDA is in a remote area of the facility. Shallow groundwater beneath the area is known to be contaminated, as are the soils in the area; however, it is unknown whether this contamination is attributable to the CWP or to other activities and the EDA (See Section 3.26.2). Flora and fauna are potential receptors of contamination, particularly those species that inhabit the vicinity of Spring Creek. Consumption of deer and other wild game affected by contamination may provide a vehicle for food chain uptake to human receptors.

3.26.2 Summary of Previous Investigations

No previous investigations have performed any sampling at the CWP. However, several investigations sampled monitoring wells located in the EDA. A groundwater study of the EDA was performed by the AMC from February 1984 to March 1985. The study involved sampling the 5 monitoring wells surrounding the EDA East Burn Pads for explosive and organic compounds. Monitoring well EDA02 revealed low concentrations of 2,4,6 - TNT; however, the remaining wells registered concentrations below the U.S. Army suggested interim drinking water limit of 44 µg/L. HMX and 2,4 - DNT were also identified only in EDA 02. Additionally, RDX was found in wells EDA02 and EDA04 at levels above the Army interim drinking limit of 35 µg/L.

A Dames and Moore facility-wide groundwater investigation from late 1985 to early 1986 revealed elevated levels of RDX and HMX in EDA area wells. Groundwater sample results obtained from monitoring wells situated in the EDA during the 1985-1986 Dames & Moore investigation revealed RDX at 149 µg/L in monitoring well EDA02, and both HMX and RDX in monitoring well EDA04 at 35 µg/L and 24 µg/L, respectively. Analytical results from these monitoring wells are provided for information purposes (indicating that there is aquifer contamination in the vicinity) since they are the nearest monitoring wells to the Contaminated Waste Processor. This data should be viewed with the knowledge that the monitoring wells are approximately 1/4 mile away, and are separated from this SWMU by Spring Creek. The groundwater monitoring well, located northeast of the CWP, revealed no BTEX contaminants.

The SI sampling rationale focused on characterizing soil quality immediately adjacent to the pavement surrounding the Contaminated Waste Processor, as well as the water quality in a sump which receives surface drainage from the site. SI samples are summarized below, and sample locations are depicted on Figure 3-24. Table 3-26 summarizes the SI sample results reported above CRLs; Table 3-26a reports those results above evaluation criteria.

Sample	Analyses	Sample Type	Depth	Location
24-SS-01-01	Explosives Metals	G	6"	Two feet northwest of sump cover.
24-SW-01-01	Explosives Metals	G	N/A	Grab sample of water located in the sump, located just north of the parking lot.
24-SA-02-01	Explosives Metals	C	0-18"	Composite of three aliquots over 18 inches, located three feet east of parking area and 64 feet northeast of the CWP.
24-SA-03-01	Explosives Metals	C	0-18"	Composite of three aliquots over 18 inches, located 54 feet southwest of the CWP.

3.26.3 Evaluation of Site

Sample 24-SS-01-01 was reported to contain the following metals above the evaluation criteria: copper (44.7 mg/kg), lead (35 mg/kg) and zinc (99.3 mg/kg).

Sample 24-SW-01-01 contained elevated levels of barium (296 μg/L), cadmium (10.9 μg/L), and lead (20.7 μg/L). All other metals were below exceedance levels. Several explosives were reported above CRLs, specifically 2,4,6-trinitrotoluene (16 μg/L); HMX (12 μg/L); and RDX (34 μg/L).

Sample 24-SA-02-01 was reported to contain low levels of several metals. Only three metals were above exceedance criteria: copper (93.5 mg/kg), lead (160 mg/kg) and zinc (105 mg/kg). All concentrations for explosives were reported below CRLs.

Sample 24-SA-03-01 was reported to contain low levels of several metals. All concentrations were under established exceedance levels. No explosives were reported above CRLs.

Results from samples collected during the SI indicate the possibility of overland migration of contamination as a result of surface runoff from the surrounding paved area. Elevated levels of metals and explosives were detected in a sump which drains the northern portion of the site. Additionally, reportable levels of metals were found in soils just east of the paved area.

Based on current analytical results, this site does warrant inclusion in the Remedial Investigation. A summary report of all analytical results associated with the SI of this site is included in Appendix B.

Table 3-26

IAAP-24 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP24	SO	METALS	ARSENIC	24-SA-02	08/10/1991	24SA0201Y	1.500	6.05	=B9	2.5	UGG
				24-SS-01	08/10/1991	24SS0101Y	0.500	6.9	=B9	2.5	UGG
			BARIUM	24-SA-02	08/10/1991	24SA0201Y	1.500	371.0	=JS12	3.29	UGG
				24-SS-01	08/10/1991	24SS0101Y	0.500	167.0	=JS12	3.29	UGG
			BERYLLIUM	24-SA-02	08/10/1991	24SA0201Y	1.500	0.659	=JS12	0.427	UGG
				24-SS-01	08/10/1991	24SS0101Y	0.500	0.735	=JS12	0.427	UGG
			CHROMIUM	24-SA-02	08/10/1991	24SA0201Y	1.500	22.3	=JS12	1.04	UGG
				24-SS-01	08/10/1991	24SS0101Y	0.500	24.6	=JS12	1.04	UGG
			COPPER	24-SA-02	08/10/1991	24SA0201Y	1.500	93.5	=JS12	2.84	UGG
				24-SS-01	08/10/1991	24SS0101Y	0.500	44.7	=JS12	2.84	UGG
			LEAD	24-SA-02	08/10/1991	24SA0201Y	1.500	160.0	=JD21	0.467	UGG
				24-SS-01	08/10/1991	24SS0101Y	0.500	35.0	=JD21	0.467	UGG
			MERCURY	24-SA-02	08/10/1991	24SA0201Y	1.500	0.063	=Y9	0.05	UGG
				24-SS-01	08/10/1991	24SS0101Y	0.500	0.061	=Y9	0.05	UGG
			NICKEL	24-SA-02	08/10/1991	24SA0201Y	1.500	15.4	=JS12	2.74	UGG
				24-SS-01	08/10/1991	24SS0101Y	0.500	25.0	=JS12	2.74	UGG
			ZINC	24-SA-02	08/10/1991	24SA0201Y	1.500	105.0	=JS12	2.34	UGG
				24-SS-01	08/10/1991	24SS0101Y	0.500	99.3	=JS12	2.34	UGG
	SW	EXPLOSIVES	2,4,6-TNT	24-SW-01	08/10/1991	24SW0101Y	0.500	16.0	=UW01	0.78	UGL
			HMX	24-SW-01	08/10/1991	24SW0101Y	0.500	12.0	=UW01	1.3	UGL
			RDX	24-SW-01	08/10/1991	24SW0101Y	0.500	34.0	=UW01	0.63	UGL
		METALS	BARIUM	24-SW-01	08/10/1991	24SW0101N	0.500	296.0	=99	2.82	UGL
			CADMIUM	24-SW-01	08/10/1991	24SW0101N	0.500	10.9	=99	6.78	UGL
			CHROMIUM	24-SW-01	08/10/1991	24SW0101N	0.500	31.3	=99	16.8	UGL
			COPPER	24-SW-01	08/10/1991	24SW0101N	0.500	20.1	=99	18.8	UGL
			LEAD	24-SW-01	08/10/1991	24SW0101Y	0.500	20.7	=SD18	4.47	UGL
			NICKEL	24-SW-01	08/10/1991	24SW0101N	0.500	70.7	=99	32.1	UGL
			ZINC	24-SW-01	08/10/1991	24SW0101N	0.500	243.0	=99	18.0	UGL

Table 3-26a

IAAP-24 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP24	SO	METALS	COPPER	24-SA-02	08/10/1991	24SA0201Y	1.500	93.5	=JS12	2.84	UGG
				24-SS-01	08/10/1991	24SS0101Y	0.500	44.7	=JS12	2.84	UGG
			LEAD	24-SA-02	08/10/1991	24SA0201Y	1.500	160.0	=JD21	0.467	UGG
				24-SS-01	08/10/1991	24SS0101Y	0.500	35.0	=JD21	0.467	UGG
			ZINC	24-SA-02	08/10/1991	24SA0201Y	1.500	105.0	=JS12	2.34	UGG
				24-SS-01	08/10/1991	24SS0101Y	0.500	99.3	=JS12	2.34	UGG
	SW	EXPLOSIVES	2,4,6-TNT	24-SW-01	08/10/1991	24SW0101Y	0.500	16.0	=UW01	0.78	UGL
			HMX	24-SW-01	08/10/1991	24SW0101Y	0.500	12.0	=UW01	1.3	UGL
			RDX	24-SW-01	08/10/1991	24SW0101Y	0.500	34.0	=UW01	0.63	UGL
		METALS	CADMIUM	24-SW-01	08/10/1991	24SW0101N	0.500	10.9	=99	6.78	UGL
			LEAD	24-SW-01	08/10/1991	24SW0101Y	0.500	20.7	=SD18	4.47	UGL

3.27 IAAP-25 (EXPLOSIVE WASTE INCINERATOR)

3.27.1 Site Description and History

The Explosive Waste Incinerator (EWI), located in the southwest corner of the Explosive Disposal Area (EDA, Plate 1; D-3), is situated approximately 750 feet south-southwest of the Fire Training Pit. The EWI is within Building BG-199-1, which measures 28 by 110 feet. The adjoining air pollution control system measures 32 by 47 feet. The EWI treats explosive wastes, explosives-contaminated carbon, sump scrap, and explosives-contaminated waste solvents. Resultant ash is collected and managed as a hazardous waste. The EWI was operated on a trial-basis from November 1981 to April 1982. The unit is a RCRA-regulated treatment facility which was addressed in a RCRA Part B Permit Application (EBASCO 1988).

The environmental setting of the EWI within the EDA is discussed in detail in Section 3.26.1, in which the geology and surface water features are fully described.

The potential contaminant transport mechanism is surface runoff of contaminants present in the surface soils. The EWI is enclosed within Building BG-199-1, therefore the potential for groundwater contamination is low.

3.27.2 Summary of Previous Investigations

No documented sampling prior to this SI has occurred at the EWI. The Fire Training Pit is located approximately 750 feet north of the EWI; however, no documented sampling, other than for the SI, has occurred there.

The sampling conducted during the SI examined surface soils and drainage ditch sediments. These samples evaluated the potential contamination outside the building and checked for possible historical off-site migration of contaminants within the drainage ditch. SI samples are summarized below and sample locations are depicted on Figure 3-25.

Sample	Analyses	Sample Type	Depth	Location
25-SS-01-01	Explosives Metals VOCs SemiVOCs	G	0-6"	Southeast outflow of fuel oil tanks to the west of the EWI; moved from originally proposed conveyor/dumpster location due to high gravel content.
25-SS-02-01	Explosives Metals VOCs SemiVOCs	G	0-6"	Ditch about 20 feet east of the concrete pad to the east of the EWI and 5 feet south of the culvert.
25-SD-03-01	Explosives Metals VOCs SemiVOCs	G	0-4"	Slightly downgradient of the EWI in an unvegetated area of the gulley.

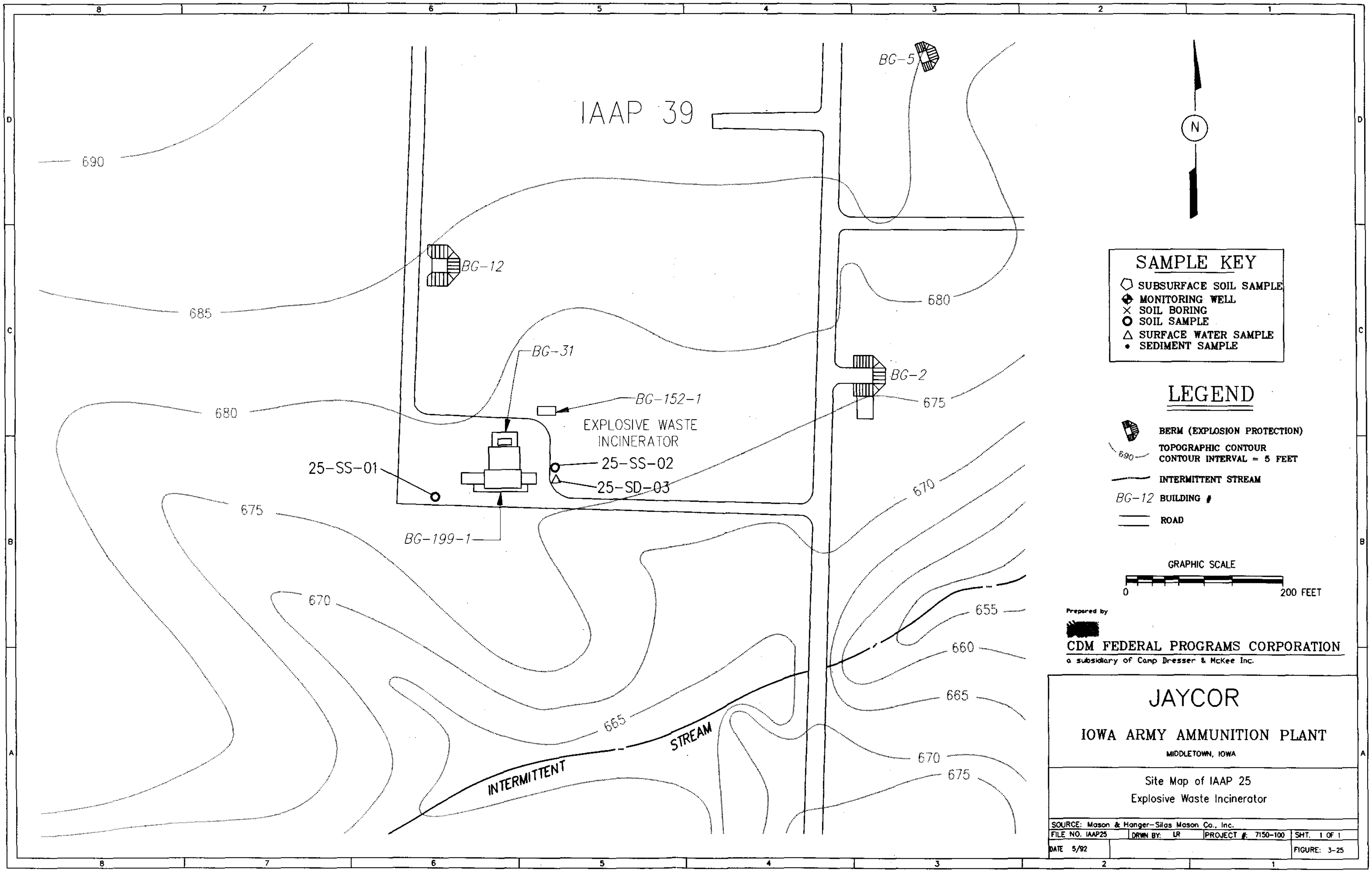

IAAP 39
BG-5
BG-12
BG-31
BG-152-1
BG-2
EXPLOSIVE WASTE INCINERATOR
25-SS-01
25-SS-02
25-SD-03
BG-199-1
690
685
680
675
670
665
660
655
INTERMITTENT STREAM
N
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
LEGEND
BERM (EXPLOSION PROTECTION)
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM
BG-12 BUILDING #
ROAD
GRAPHIC SCALE
0
200 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 25
Explosive Waste Incinerator
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP25
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-25

Table 3-27 summarizes the SI sample results reported above the CRLs; Table 3-27a reports those results above the evaluation criteria.

3.27.3 Evaluation of Site

SI sampling conducted in 1991 included both surface soil and ditch sediments.

Sample 25-SS-01-01 had reported levels of organic contaminants (explosives, volatiles, and semi-volatiles) which were less than the associated CRLs. Metals reported for this sample were low levels of arsenic, lead, barium, beryllium, chromium, copper, nickel, and zinc. With the exception of chromium (29.4 mg/kg) and zinc (98 mg/kg), all reported metal concentrations were below established background evaluation levels (Table 3-2a). No explosives were reported in this sample above the CRLs.

Sample 25-SS-02-01 contained low detected concentrations of metals including arsenic, lead, barium, beryllium, chromium, copper, mercury, nickel, and zinc. Only sample zinc concentrations (89 compared to 85 mg/kg) exceeded the established background evaluation levels. The volatile organic compound, 1,1,2,2-tetrachloroethane (TCLEA), was reported for this sample. The certified reporting limit (CRL) for TCLEA is 0.200 mg/kg and the measured concentration was 0.264 mg/kg. The possible source for this compound is explosive waste solvents associated with the site. No explosives were reported in this sample above the CRLs.

Sample 25-SD-03-01 was reported to contain low levels of metals including arsenic, lead, barium, beryllium, chromium, copper, nickel and zinc. Reported metal concentrations were less than the established background evaluation levels for all metals except chromium (31.3 mg/kg) which is elevated with respect to the background criteria of 29.2 mg/kg. No semivolatile, volatile, and explosives compounds were reported above the CRLs.

Results from the SI sampling suggest that the EWI should be included in the Remedial Investigation. The occurrence of the volatile TCLEA indicates potential contamination which should be investigated by a soil gas survey. Detection of metal concentrations near the background evaluation levels may warrant further investigation. A summary report of all SI analytical results for this SWMU is included in Appendix B.

Table 3-27

IAAP-25 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP25	SD	METALS	ARSENIC	25-SD-03	08/14/1991	25SD0301Y	0.300	3.31	=B9	2.5	UGG
			BARIUM	25-SD-03	08/14/1991	25SD0301Y	0.300	149.0	=JS12	3.29	UGG
			BERYLLIUM	25-SD-03	08/14/1991	25SD0301Y	0.300	0.997	=JS12	0.427	UGG
			CHROMIUM	25-SD-03	08/14/1991	25SD0301Y	0.300	31.3	=JS12	1.04	UGG
			COPPER	25-SD-03	08/14/1991	25SD0301Y	0.300	11.7	=JS12	2.84	UGG
			LEAD	25-SD-03	08/14/1991	25SD0301Y	0.300	19.0	=JD21	0.467	UGG
			NICKEL	25-SD-03	08/14/1991	25SD0301Y	0.300	24.2	=JS12	2.74	UGG
			ZINC	25-SD-03	08/14/1991	25SD0301Y	0.300	49.3	=JS12	2.34	UGG
	SO	METALS	ARSENIC	25-SS-01	08/14/1991	25SS0101Y	0.500	6.06	=B9	2.5	UGG
				25-SS-02	08/14/1991	25SS0201Y	0.500	4.98	=B9	2.5	UGG
			BARIUM	25-SS-01	08/14/1991	25SS0101Y	0.500	161.0	=JS12	3.29	UGG
				25-SS-02	08/14/1991	25SS0201Y	0.500	161.0	=JS12	3.29	UGG
			BERYLLIUM	25-SS-01	08/14/1991	25SS0101Y	0.500	0.69	=JS12	0.427	UGG
				25-SS-02	08/14/1991	25SS0201Y	0.500	0.994	=JS12	0.427	UGG
			CHROMIUM	25-SS-01	08/14/1991	25SS0101Y	0.500	29.4	=JS12	1.04	UGG
				25-SS-02	08/14/1991	25SS0201Y	0.500	21.3	=JS12	1.04	UGG
			COPPER	25-SS-01	08/14/1991	25SS0101Y	0.500	18.6	=JS12	2.84	UGG
				25-SS-02	08/14/1991	25SS0201Y	0.500	27.2	=JS12	2.84	UGG
			LEAD	25-SS-01	08/14/1991	25SS0101Y	0.500	21.0	=JD21	0.467	UGG
				25-SS-02	08/14/1991	25SS0201Y	0.500	24.0	=JD21	0.467	UGG
			MERCURY	25-SS-02	08/14/1991	25SS0201Y	0.500	0.239	=Y9	0.05	UGG
			NICKEL	25-SS-01	08/14/1991	25SS0101Y	0.500	18.3	=JS12	2.74	UGG
				25-SS-02	08/14/1991	25SS0201Y	0.500	16.7	=JS12	2.74	UGG
			ZINC	25-SS-01	08/14/1991	25SS0101Y	0.500	98.0	=JS12	2.34	UGG
				25-SS-02	08/14/1991	25SS0201Y	0.500	89.1	=JS12	2.34	UGG
		VOLATILES	1,1,2,2-TETRACHLOROETHANE	25-SS-02	08/14/1991	25SS0201Y	0.500	0.264	=LM23	0.2	UGG

Table 3-27a

IAAP-25 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP25	SD	METALS	CHROMIUM	25-SD-03	08/14/1991	25SD0301Y	0.300	31.3	=JS12	1.04	UGG
	SO	METALS	CHROMIUM	25-SS-01	08/14/1991	25SS0101Y	0.500	29.4	=JS12	1.04	UGG
			ZINC	25-SS-01	08/14/1991	25SS0101Y	0.500	98.0	=JS12	2.34	UGG
				25-SS-02	08/14/1991	25SS0201Y	0.500	89.1	=JS12	2.34	UGG
		VOLATILES	1,1,2,2-TETRACHLOROETHANE	25-SS-02	08/14/1991	25SS0201Y	0.500	0.264	=LM23	0.2	UGG

3.28 IAAP-26 (SEWAGE TREATMENT PLANT/SLUDGE DRYING BEDS)

3.28.1 Site Description and History

IAAP-26 is located on the west bank of Brush Creek, south of Line 2, east of Line 800, north of Yard E, and northwest of Yard D (Plate 1; C-3). The site is about one acre and includes the Sewage Treatment Plant (STP) and the sludge drying beds. The drying beds are designated 500-161-1 and 500-161-2 according to the building code at IAAP (Figure 3-26).

The Sewage Disposal Plant is the facility's main sewage treatment plant and has been in operation since the early 1940s. The STP handles all the installation-generated sewage except sewage generated at Line 3A, which has its own sewage treatment plant. Since 1982, laundry water from IAAP-19 (which may have contained explosives among other contaminants) has been discharged to the Sewage Treatment Plant.

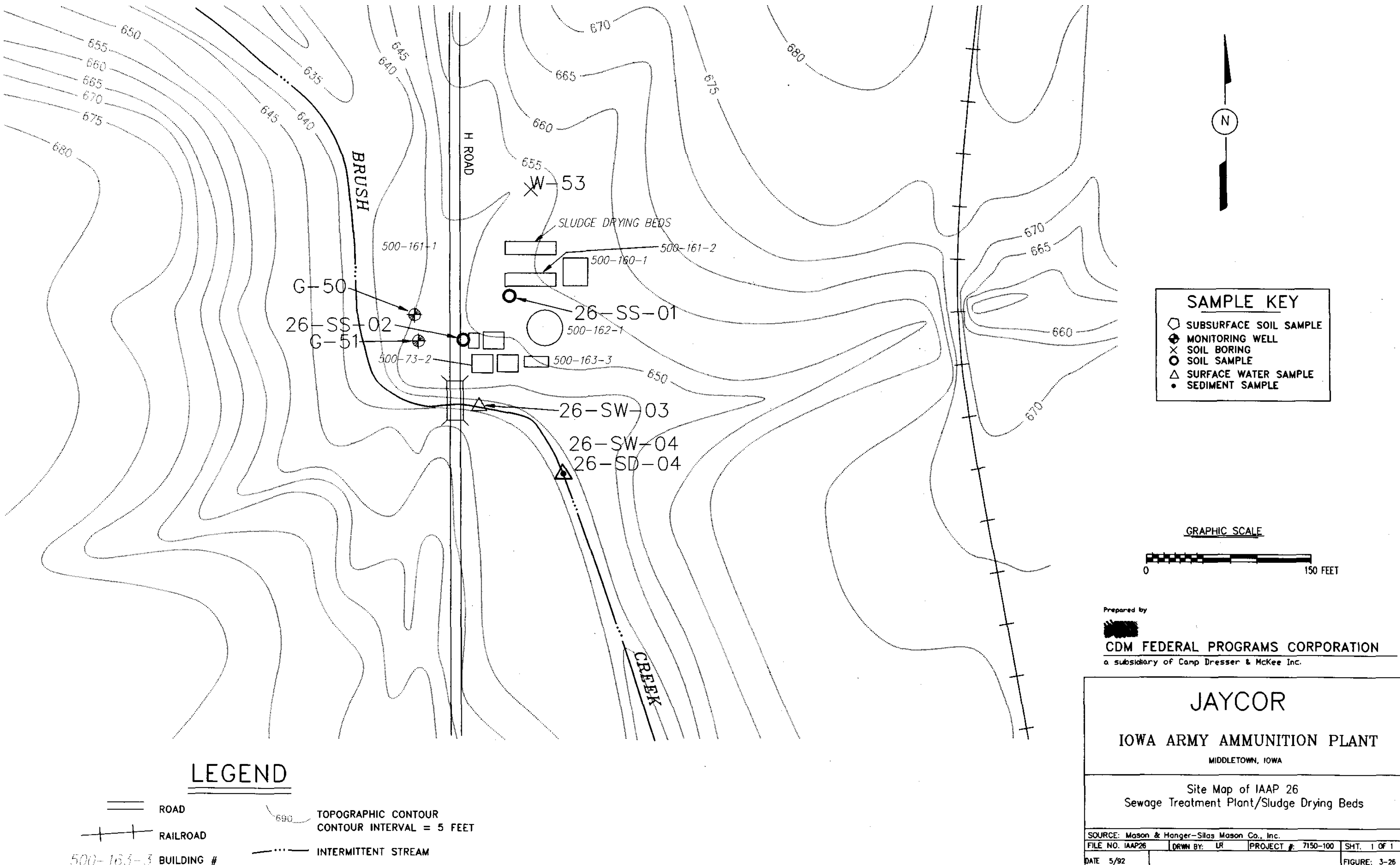
The Sewage Treatment Plant handles domestic wastes, car wash water, laundry facility wastewater (IAAP-19), and wastewater from the X-ray processing plant at IAAP. Another major source of water to the Sewage Treatment Plant is the boiler blowdown from the steam generating plants at Line 1 and the oil-fired heating plant adjacent to Line 2. Wastewater is treated by an Imhoff tank, trickling filter, secondary clarifier, chlorine contact chamber, and sludge drying beds. The treated wastewater from the Sewage Plant goes through a secondary treatment at Building 500-216-1 before it is discharged (under an NPDES permit) into Brush Creek. The permit was issued by the Iowa Department of Water, Air, and Waste Management (now IDNR) in 1984.

The sludge that is produced from the wastewater treatment process is removed and dewatered on two sludge drying beds. The sludge drying beds are lined with two feet of sand. Once or twice a year, the dried sludge is removed and landfilled at the Old Fly Ash Waste Pile (IAAP-15), according to the 5 year Sludge Management Plan developed by the IAAP facility and approved by IDNR.

Based on the boring logs for Well G-50 and Well G-51, which are located 50 feet west of the site, the soil of this area is a mixture of silt and fine sand to a depth of about 5 feet. Soils at depths below 5 feet are elastic silt with medium plasticity and sometimes very stiff. A sand lens is present between 4 and 5 feet below the surface. This sand lens may allow lateral movement of contaminants both upstream and downstream. This soil type is readily permeable and provides a vertical pathway for surface contaminants downward to the water table. The water table may be as shallow as 5 feet below the soil surface.

Artesian conditions were observed at this location during a previous study by Dames & Moore. This artesian condition combined with the shallow nature of the groundwater could provide a pathway for contaminants that were disposed of at the surface.

The STP is situated along Brush Creek. The land surface slopes directly into the creek; storm water runoff would be directed toward the creek. Wildlife grazing in this area may come into contact with the dried sludge. Workers around the STP may also be exposed to the sludge by direct contact or by inhalation of wind blown particles, although the likelihood of such exposure is low. Ingestion of contaminants through consumption of fish and game is likewise considered unlikely.



Prepared by

[redacted]

CDM FEDERAL PROGRAMS CORPORATION

a subsidiary of Camp Dresser & McKee Inc.

JAYCOR

IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

Site Map of IAAP 26
Sewage Treatment Plant/Sludge Drying Beds

SOURCE: Mason & Hanger-Silas Mason Co., Inc.			
FILE NO. IAAP26	DRWN BY: LR	PROJECT #: 7150-100	SHT. 1 OF 1
DATE 5/92			FIGURE: 3-26

3.28.2 Summary of Previous Investigations

In October 1985 the Iowa Department of Water, Air, and Waste Management (IDWAWM) issued a citation concerning the operation of the drying beds (IDWAWM 1987). IDWAWM recommended the following procedures for the management of the drying beds:

- Remove the vegetative growth from the sludge drying beds;
- Analyze the sludge;
- Prepare a 5-year sludge location plan; and,
- Record flow at either the influent or effluent location daily.

All recommendations made by IDNR were implemented for the sludge drying beds and operations at the STP.

Two monitoring wells are located in the vicinity of IAAP-26 (Figure 3-26; Plate 2). These wells were installed by Dames & Moore in 1987 during a study of the Former Line 1 Impoundment, and are located approximately 50 feet to the west, which is upgradient of the site. Monitoring wells G-50 (bedrock well) and G-51 (overburden well) indicated the presence of arsenic, barium, and copper, though concentrations reported were within background ranges during the 1987 study.

No explosives were detected in these wells during the 1987 study. However, IDNR expressed skepticism about the results of the report which indicated a low concentration of RDX at Brush Creek, and concluded that more hydrologic data was required to fully characterize the potential for bedrock aquifer contamination at IAAP (IDNR 1987).

The SI sampling effort for IAAP-26 focused on the wastewater and sludge resulting from the sewage treatment process at the facility. All SI sample locations are summarized in the table below and depicted on Figure 3-26.

Sample	Analyses	Sample Type	Depth	Location
26-SS-01-01	Metals Explosives	G	0-6"	Obtained within the sludge drying beds north of entrance to IAAP-26.
26-SS-02-01	Metals PCBs	G	0-6"	West side of transformer pad area.
26-SW-03-01	Metals Explosives	G	-	Taken from the water in Chlorine Contact Building basin prior to direct discharge.
26-SD-04-01	Metals Nitrates/sulfates	G	0-6"	Obtained approximately 175 feet downstream of the bridge.
26-SW-04-02	Metals Nitrates/sulfates	G	-	Corresponds to sample 26-SD-04-01.

3.28.3 Evaluation of Site

Table 3-28 summarizes all SI results reported above CRLs; Table 3-28a presents those results reported above exceedance criteria. Review of the SI data obtained at IAAP-26 indicates near background levels for all metal contaminants of concern. Trace amounts of explosives were identified on the site.

The soil sample taken at the sludge drying beds (26-SS-01-01) was reported to contain mercury at 5.6 mg/kg, which is above the established criteria of 0.495. Additionally, the sample contained silver at 139 mg/kg, which is well above the evaluation criteria of 0.803 mg/kg. None of the other soil/sediment sample locations indicated elevated levels of mercury. Therefore, it appears that the presence of these compounds is confined to the sludge drying beds. No explosives were reported in this sample above CRLs.

The soil sample obtained from the transformer pad area (26-SS-02-01) was found to contain zinc at 275 mg/kg and chromium at 33.9 mg/kg. This zinc concentration is slightly elevated above the established exceedance level of 188 mg/kg, but is within average naturally occurring background ranges for this compound as compiled by the USGS (Table 3-2a).

The surface water sample taken from the chlorine contact building basin (26-SW-03-01) contained several metals. With the exception of barium, all levels were below the exceedance criteria for surface water. Barium was detected at 91 µg/L. High barium levels in soil and surface water appears to be a historical problem at IAAP. Other contaminants found in the sample include 2,4,6-TNT, HMX, RDX, and tetryl. The levels of contamination were 12 µg/L, 4.2 µg/L, 6.7 µg/L, and 0.66 µg/L, respectively.

A surface water sample with a corresponding sediment sample (26-SW-04-01 and 26-SD-04-01) were collected downstream of the site. Sample 26-SW-04-01 contained barium at 92.6 µg/L and zinc at 486 µg/L. Sediment sample 26-SD-04-01 did not indicate any elevated levels of metals. Neither sample contained explosives at levels above the CRL.

Soil samples taken at IAAP-26 during the SI indicate near background levels for most of the metal contaminants of concern. The detection of mercury and silver in sample 26-SS-01-01 appears to be confined in the sludge drying beds and indicates an in-line source. Mercury and silver were not found in other areas. The elevated barium results in the two surface water samples is indicative of the continuing historical problem with naturally occurring high barium levels in soil and surface water at IAAP. Zinc contamination was found in the soil sample taken at the transformer pad, but was not indicated in any other soil samples taken. The area surrounding the transformer pad showed no obvious indications of stains or previous spills and was heavily vegetated. Additionally, the transformer area is fenced and locked, which restricts access to the transformer area and minimizes the potential for direct contact.

The explosives contamination found in the sludge drying bed sample and in the discharge surface water sample indicates that explosives and metals are reaching the STP from some source on site, possibly the laundry (IAAP-19). Some explosive contamination is being discharged via the NPDES outfall to Brush Creek. The NPDES permit for outfall 013, which discharges STP effluent, does not include explosives, because plant policy prohibits the discharge of production waste to the sanitary sewage system. There is no evidence of pervasive explosive soil contamination at the subject site. It appears to be a breakdown in the wastewater treatment or disposal of explosive wastewater into the sewer lines, allowing the contaminants to reach the facility. According to NPDES monthly monitoring reports and regulatory correspondence, a problem of groundwater infiltration into the old sewer mains exist at this facility, which could be contributing to the explosive-contaminated wastewater reaching this facility.

Based on the SI results, it is recommended that IAAP-26 be included in the Remedial Investigation. It is suggested Phase I sampling be concentrated on the sludge drying beds, since these beds are lined only with two feet of sand and the sludge stored in them contained elevated levels of silver and mercury. The active X-ray facilities at Lines 1 and 2 are potential sources of the silver and mercury contamination, and should be investigated as such. Silver collectors are in place at each X-ray facility discharge to pretreat wastewater before discharge to the sanitary sewage system. If these collectors are operating correctly, no silver is discharged. The silver content of the STP effluent at outfall 013 is monitored weekly, though no permit limits have been set.

A sample should also be obtained from the chlorine contact building to verify the release of explosives from this outfall. SI results indicated elevated levels of explosives in the effluent. The surface water sample should be analyzed for explosives. The soil samples obtained from the sludge drying beds should be analyzed for explosives and metals. A summary of all SI analytical results associated with this site is included in Appendix B.

Additional sampling of Brush Creek in the area of IAAP-26 will be conducted in support of the ecological assessment for the base-wide Risk Assessment. Any significant surface water contamination at this point on Brush Creek should be detected, and its extent approximated in the ecological assessment.

Table 3-28

IAAP-26 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP26	SD	ANIONS	SULFATE	26-SD-04	08/16/1991	26SD0401Y	0.500	80.4	=KT07	5.0	UGG
		METALS	BARIUM	26-SD-04	08/16/1991	26SD0401Y	0.500	358.0	=JS12	3.29	UGG
			CHROMIUM	26-SD-04	08/16/1991	26SD0401Y	0.500	20.6	=JS12	1.04	UGG
			COPPER	26-SD-04	08/16/1991	26SD0401Y	0.500	9.65	=JS12	2.84	UGG
			LEAD	26-SD-04	08/16/1991	26SD0401Y	0.500	11.0	=JD21	0.467	UGG
			MERCURY	26-SD-04	08/16/1991	26SD0401Y	0.500	0.072	=Y9	0.05	UGG
			NICKEL	26-SD-04	08/16/1991	26SD0401Y	0.500	11.1	=JS12	2.74	UGG
			SILVER	26-SD-04	08/16/1991	26SD0401Y	0.500	1.22	=JS12	0.803	UGG
			ZINC	26-SD-04	08/16/1991	26SD0401Y	0.500	46.0	=JS12	2.34	UGG
	SO	METALS	ARSENIC	26-SS-02	08/16/1991	26SS0201Y	0.500	6.34	=B9	2.5	UGG
			BARIUM	26-SS-01	08/16/1991	26SS0101Y	0.500	38.0	=JS12	3.29	UGG
				26-SS-02	08/16/1991	26SS0201Y	0.500	202.0	=JS12	3.29	UGG
			BERYLLIUM	26-SS-02	08/16/1991	26SS0201Y	0.500	0.7	=JS12	0.427	UGG
			CHROMIUM	26-SS-01	08/16/1991	26SS0101Y	0.500	33.9	=JS12	1.04	UGG
				26-SS-02	08/16/1991	26SS0201Y	0.500	23.3	=JS12	1.04	UGG
			COPPER	26-SS-01	08/16/1991	26SS0101Y	0.500	16.4	=JS12	2.84	UGG
				26-SS-02	08/16/1991	26SS0201Y	0.500	27.6	=JS12	2.84	UGG
			LEAD	26-SS-01	08/16/1991	26SS0101Y	0.500	7.46	=JD21	0.467	UGG
				26-SS-02	08/16/1991	26SS0201Y	0.500	28.0	=JD21	0.467	UGG
			MERCURY	26-SS-01	08/16/1991	26SS0101Y	0.500	5.6	=Y9	0.05	UGG
				26-SS-02	08/16/1991	26SS0201Y	0.500	0.086	=Y9	0.05	UGG
			NICKEL	26-SS-01	08/16/1991	26SS0101Y	0.500	11.0	=JS12	2.74	UGG
				26-SS-02	08/16/1991	26SS0201Y	0.500	16.8	=JS12	2.74	UGG
			SILVER	26-SS-01	08/16/1991	26SS0101Y	0.500	139.0	=JS12	0.803	UGG
			ZINC	26-SS-01	08/16/1991	26SS0101Y	0.500	44.5	=JS12	2.34	UGG
				26-SS-02	08/16/1991	26SS0201Y	0.500	275.0	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-TR	26-SS-02	08/16/1991	26SS0201YU	0.500	0.084	=LH17	0.0034	UGG
			ALDRIN	26-SS-02	08/16/1991	26SS0201YU	0.500	0.003	=LH17	0.0014	UGG
			DIELDRIN	26-SS-02	08/16/1991	26SS0201YU	0.500	0.006	=LH17	0.0016	UGG
			ENDRIN	26-SS-02	08/16/1991	26SS0201YU	0.500	0.011	=LH17	0.0065	UGG
			PCB 1260	26-SS-02	08/16/1991	26SS0201YC	0.500	0.288	=LH17	0.0479	UGG
	SW	ANIONS	NITRITE, NITRATE - NONSPECIFIC	26-SW-04	08/16/1991	26SW0401Y	0.500	4,500.0	=LL8	10.0	UGL
			SULFATE	26-SW-04	08/16/1991	26SW0401Y	0.500	63,000.0	=TT09	175.0	UGL
		EXPLOSIVES	2,4,6-TNT	26-SW-03	08/16/1991	26SW0301Y	0.500	12.0	=UW01	0.78	UGL
			HMX	26-SW-03	08/16/1991	26SW0301Y	0.500	4.2	=UW01	1.3	UGL
			RDX	26-SW-03	08/16/1991	26SW0301Y	0.500	6.7	=UW01	0.63	UGL
		METALS	BARIUM	26-SW-03	08/16/1991	26SW0301Y	0.500	91.0	=SS12	2.82	UGL
				26-SW-04	08/16/1991	26SW0401Y	0.500	92.6	=SS12	2.82	UGL
			MERCURY	26-SW-03	08/16/1991	26SW0301Y	0.500	0.142	=CC8	0.1	UGL
				26-SW-04	08/16/1991	26SW0401Y	0.500	0.115	=CC8	0.1	UGL
			SILVER	26-SW-03	08/16/1991	26SW0301Y	0.500	25.1	=SS12	10.0	UGL
			ZINC	26-SW-03	08/16/1991	26SW0301Y	0.500	88.4	=SS12	18.0	UGL
				26-SW-04	08/16/1991	26SW0401Y	0.500	486.0	=SS12	18.0	UGL

Table 3-28a

IAAP-26 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP26	SD	ANIONS	SULFATE	26-SD-04	08/16/1991	26SD0401Y	0.500	80.4	=KT07	5.0	UGG
		METALS	SILVER	26-SD-04	08/16/1991	26SD0401Y	0.500	1.22	=JS12	0.803	UGG
	SO	METALS	CHROMIUM	26-SS-01	08/16/1991	26SS0101Y	0.500	33.9	=JS12	1.04	UGG
			LEAD	26-SS-02	08/16/1991	26SS0201Y	0.500	28.0	=JD21	0.467	UGG
			MERCURY	26-SS-01	08/16/1991	26SS0101Y	0.500	5.6	=Y9	0.05	UGG
			SILVER	26-SS-01	08/16/1991	26SS0101Y	0.500	139.0	=JS12	0.803	UGG
			ZINC	26-SS-02	08/16/1991	26SS0201Y	0.500	275.0	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-TR	26-SS-02	08/16/1991	26SS0201YU	0.500	0.084	=LH17	0.0034	UGG
			ALDRIN	26-SS-02	08/16/1991	26SS0201YU	0.500	0.003	=LH17	0.0014	UGG
			DIELDRIN	26-SS-02	08/16/1991	26SS0201YU	0.500	0.006	=LH17	0.0016	UGG
			ENDRIN	26-SS-02	08/16/1991	26SS0201YU	0.500	0.011	=LH17	0.0065	UGG
			PCB 1260	26-SS-02	08/16/1991	26SS0201YC	0.500	0.288	=LH17	0.0479	UGG
	SW	ANIONS	NITRITE, NITRATE - NONSPECIFIC	26-SW-04	08/16/1991	26SW0401Y	0.500	4,500.0	=LL8	10.0	UGL
			SULFATE	26-SW-04	08/16/1991	26SW0401Y	0.500	63,000.0	=TT09	175.0	UGL
		EXPLOSIVES	2,4,6-TNT	26-SW-03	08/16/1991	26SW0301Y	0.500	12.0	=UW01	0.78	UGL
			HMX	26-SW-03	08/16/1991	26SW0301Y	0.500	4.2	=UW01	1.3	UGL
			RDX	26-SW-03	08/16/1991	26SW0301Y	0.500	6.7	=UW01	0.63	UGL

3.29 IAAP-27 (FLY ASH LANDFILL)

3.29.1 Site Description and History

The Fly Ash Landfill covers 9.5 acres in west-central IAAP, northwest of Building 400-139 (the Main Power Plant) and directly east of the old Fly Ash Disposal Area (Plate 1; D-6). Its approximate dimensions are 590 feet by 708 feet (Figure 3-27).

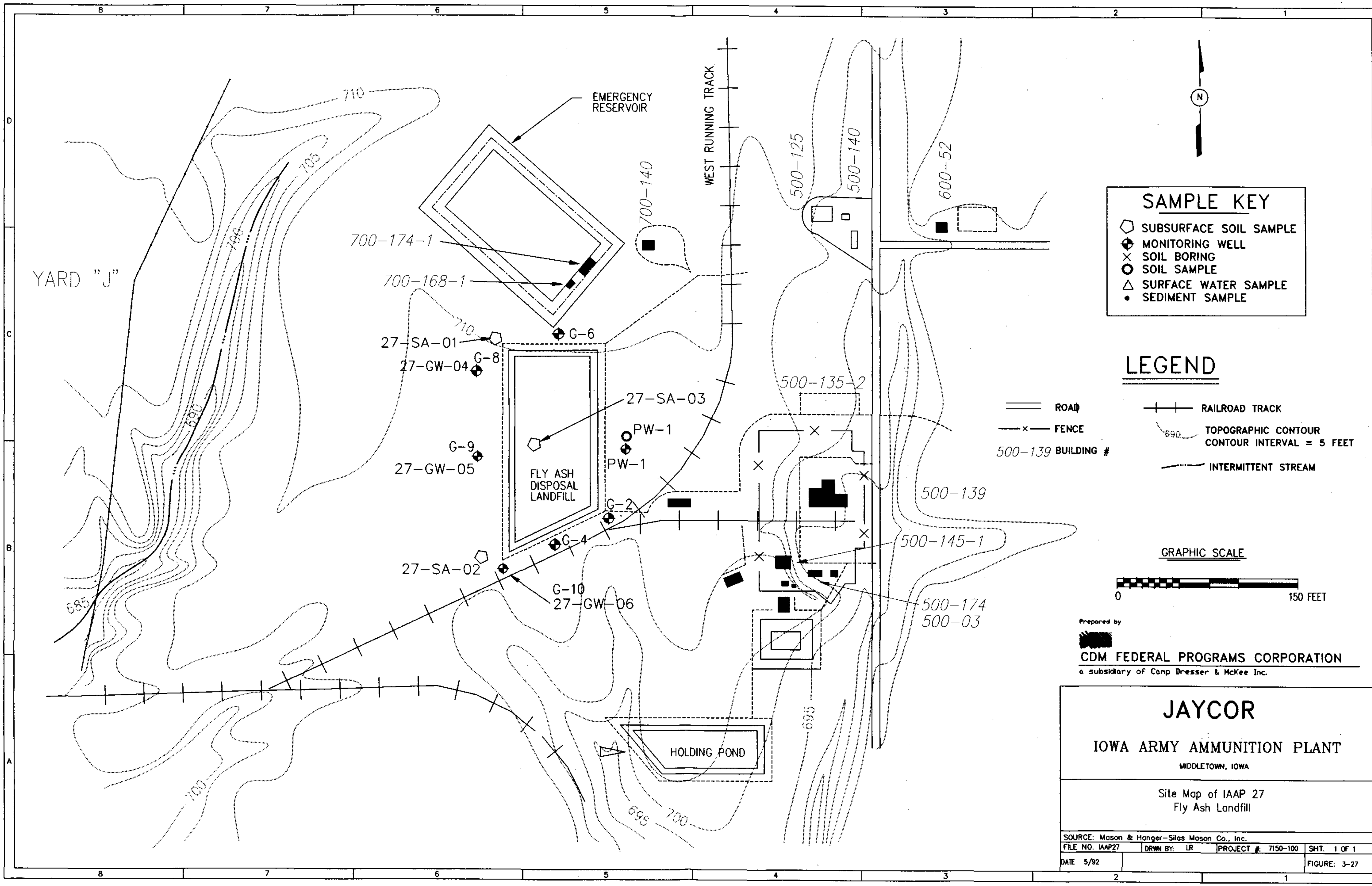
In operation since 1985, the landfill accepts only fly ash from the coal-fired heating plant located in Building 50-139. The landfill was constructed in accordance with the State of Iowa regulations for coal combustion residue sanitary landfills. The State of Iowa Department of Water, Air and Waste Management (now IDNR) approved the plans and issued construction permit #29-SDP-3-82P on 5 May 1982. The approved construction plan utilized the compacted native clay soils as the landfill's base. This is all the liner that was deemed necessary because the fly ash is non-hazardous. Fly ash and bottom ash production estimates were originally 15.7 tons per day (32 cyd). The total volume available in the Fly Ash Landfill was approximately 105,517 cubic yards (cy) as designed. Yearly ash disposal has been as follows (HDR Engineering 1990):

Year	Added Ash	Volume Remaining in Landfill
1985 - 1986	5,885 cy	99,362 cy
1986 - 1987	3,126 cy	96,506 cy
1987 - 1988	3,314 cy	93,192 cy
1988 - 1989	3,424 cy	89,768 cy
1989 - 1990	3,487 cy	89,381 cy
1990 - 1991	2,992 cy	83,389 cy

There were to be no hazardous wastes nor materials containing hazardous wastes placed in the landfill. HDR Engineering also reported that EP Toxicity results on the fly ash were below action limits. When analyzed as per EPA Method 10, the fly ash exhibited the following constituent concentrations (HDR Engineering 1990):

Copper:	77 mg/kg by dry weight
Zinc:	41 mg/kg by dry weight
Iron:	8,000 mg/kg by dry weight
Dissolved Sulfates:	2,200 mg/kg
	8,000 mg/kg by dry weight

Groundwater monitoring wells are in place, and sampled regularly. In addition, surface runoff is sampled at the Long Creek discharge for NPDES compliance. The analysis results of these samples have not indicated any pervasive problems. Leachate from beneath IAAP-27 drains through an underground collection system to a manhole located to the south of the landfill, then to a holding pond. Runoff from the coal pile also is directed to this holding pond. The pond also receives boiler blowdown from the power plant, which serves to equilibrate the pH in the pond. Water from the pond is run through a lime column to percipitate the iron. Treated effluent from the column is piped to a concrete holding basin. Basin water is tested for



SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
LEGEND
ROAD
FENCE
500-139 BUILDING #
RAILROAD TRACK
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM
GRAPHIC SCALE
0
150 FEET
N
YARD "J"
EMERGENCY RESERVOIR
WEST RUNNING TRACK
700-174-1
700-168-1
700-140
500-125
500-140
600-52
500-135-2
500-139
500-145-1
500-174
500-03
27-SA-01
27-SA-02
27-SA-03
27-GW-04
27-GW-05
27-GW-06
G-2
G-4
G-6
G-8
G-9
G-10
PW-1
PW-1
FLY ASH DISPOSAL LANDFILL
HOLDING POND
710
705
700
695
690
685
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 27
Fly Ash Landfill
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP27
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-27

compliance with its NPDES discharge permit. If levels are out of compliance, water from the basin is piped back into the pond for retreatment. Sludge from the lime column is dumped on the new fly ash landfill (approved by IDNR). The Power Plant is shut down from May to September, so this activity is suspended. The lime precipitator was installed at the Power Plant in 1984.

A June 1988 site inspection to evaluate closure and post-closure plans at various SWMUs within IAAP noted that the Fly Ash Landfill had much reddish/orange soil-sludge on the surface. This material reportedly was sludge from the coal pile, which was treated with lime as per its NPDES permit (EPA 1988).

The nearest stratigraphic column was logged at the power plant (Dames & Moore 1979). According to this log the ground surface is at an elevation of 715 feet above msl. Approximately 1 foot of topsoil was encountered, part of which is planted with corn. This is underlain by about 6 feet of lean, moist clay, followed by 29 feet of various moist clays. The water table was encountered at approximately 688 to 693 feet above msl. Drilling was stopped at 675 feet above msl, with the water level in the boring continuing to rise.

The water table at the landfill was encountered at 706 to 712 feet above msl during a 1990 study (Geotechnics 1990), during which 4 soil borings were taken, and 12 piezometers installed. Groundwater flows nearly vertically to the underlying limestone bedrock aquifer, which lies approximately 110 to 115 feet below the landfill. In-situ permeability tests have indicated that it would take at least ten years for the water to travel 105 feet downward through the glacial till (Geotechnics 1990). Upon reaching the aquifer, groundwater flows horizontally south to southeast, toward Mathes Lake, which lies approximately 6000 feet away from the landfill. Beneath the landfill, bedrock is at an elevation of approximately 600 feet above msl, which is also the approximate elevation of the bedrock outcrop at the lake and the surface of the lake. The bedrock, therefore, is nearly horizontal.

The natural ground surface at the landfill slopes gently toward the southwest from an elevation of about 715 feet at the north end of the landfill, to about 711 at the southwest corner. The landfill is surrounded by earthen dikes, which are at an approximate elevation of 720 feet. There is approximately 10 feet of fly ash fill covering the used portions of the landfill, which does not exceed the height of the dikes. Two significant drainage ravines are located southwest and southeast of the landfill. Each of these ravines slopes toward and drains into Mathes Lake, approximately 6000 feet to the south. The elevation of the water surface at the lake is approximately 600 feet. An earthen, above-grade Emergency Reservoir is just to the north of the landfill.

Leachate from the leachate collection system beneath the new fly ash landfill (IAAP-27) and runoff from the Power Plant coal pile is directed into a holding pond. Water from the holding pond is treated and the effluent is piped to a concrete holding basin. The water in the basin is tested for compliance with its NPDES permit. If out of compliance, the water is piped back to the pond. If in compliance, the water is discharged into Long Creek. It could not be determined if a daily cap is in place, which would eliminate airborne migration. The leachate collection system eliminates groundwater contamination, but surface runoff drains toward Mathes Lake.

Crops and hay are grown in leased fields to the north and east of the Fly Ash Landfill. Contamination of these fields should be minimal, since surface water flow is to the southwest, and airborne and groundwater contamination are unlikely.

3.29.2 Summary of Previous Investigations

Samples from monitoring well D-10, located at the southwest corner of the landfill, were collected on 24 June 1987. The analysis showed no chlorinated solvents were present above detection limits (ESE 1987). No other compounds were tested for at this time.

The SI sampling effort was focused on the drainage ditch that surrounds the Fly Ash Landfill and groundwater monitoring wells believed to be downgradient from the facility. A sample of the landfilled material was obtained to determine the constituents of the fly ash. All samples were analyzed for explosives, metals, and nitrates/sulfates. The sample locations are summarized in the table below and depicted on Figure 3-27.

Sample	Analyses	Sample Type	Depth	Location
27-SA-01-01	Explosives Metals Sulfates/nitrates	G	0-6"	Northwest of IAAP-27 in the runoff ditch surrounding the pile.
27-SA-02-01	Explosives Metals Sulfates/nitrates	C	0-6"	Composite sample composed of soil taken from two locations 30 feet apart, southwest of IAAP-27 in the runoff ditch.
27-SA-03-01	Explosives Metals Sulfates/nitrates	C	0-12"	Taken from the northwest corner of the pile approximately midway down the inside slope.
27-GW-04-01	Explosives Metals Sulfates/nitrates	G	-	Obtained from Well 8, located near the northwest corner of the pile.
27-GW-05-01	Explosives Metals Sulfates/nitrates	G	-	Obtained from Well 9, located near the west boundary of the ash pile.
27-GW-06-01	Explosives Metals Sulfates/nitrates	G	-	Obtained from Well 10, located near the south boundary of the ash pile.
27-GW-06-02	Explosives Metals Sulfates/nitrates	G	-	Duplicate of 27-GW-06-01.
27-EB-07-01	Explosives Metals Sulfates/nitrates	G	N/A	Equipment blank.
27-EB-08-01	Explosives Metals Sulfates/nitrates	G	N/A	Equipment blank.

3.29.3 Evaluation of Site

SI sample results reported above CRLs are summarized in Table 3-27; those results reported above established evaluation criteria are presented in Table 3-27a. The three soil samples taken in the drainage ditch around the fly ash landfill contained near background levels of metals. The soil sample taken from within the disposal area indicated elevated levels of beryllium, arsenic, copper, selenium, and lead. No explosives were reported in the soil samples. The groundwater samples were reported to contain significantly high levels of barium and zinc. Trace levels of explosives were found in groundwater.

Analytical results of sample 27-SA-01-01 did not indicate any explosives or metals contamination above established evaluation criteria.

Soil sample 27-SA-02-01 was reported to contain the metals arsenic at 10.80 mg/kg; beryllium at 1.18 mg/kg; and chromium at 33.30 mg/kg. These levels were slightly above the evaluation criteria of 8.34 mg/kg for arsenic; 1.14 mg/kg for beryllium; and 29.2 mg/kg for chromium. All three concentrations are within average naturally occurring background ranges for these compounds as compiled by the USGS (Table 3-2b).

Soil sample 27-SA-03-01 was reported to contain the following metals at concentrations above the evaluation level (Table 3-27a): arsenic at 99 mg/kg; lead at 97 mg/kg; beryllium at 5.6 mg/kg; selenium at 13.5 mg/kg; and copper at 137 mg/kg. None of the aforementioned contaminants were reported above established criteria in the groundwater samples taken at IAAP-27. The SI data indicates that the contamination is contained within the landfill, or has yet to migrate to the sampling points sampled during the SI study.

The three groundwater samples indicated significantly high levels of barium and zinc. Elevated barium levels in soil and water appears to be a historical problem at IAAP. Trace explosives were found in two of the wells sampled. Groundwater sample 27-GW-04-01 was reported to contain 2,4,6-TNT at 1.7 μg/L. Sample 27-GW-05-01 was reported to contain HMX at 1.5 μg/L. Sample 27-GW-06-01 was reported to contain tetryl at 4.9 μg/L.

Based on SI analytical data, it is recommended that this site be included in the Remedial Investigation. It appears that the contaminants that do exist because of the presence of an active fly ash landfill are contained within the landfill. The trace levels of explosives in the groundwater would not appear to be the product of leachate infiltration from the landfill, nor are the levels detected significant. Because explosives were found in groundwater samples during the SI, the evaluation criteria for inclusion of sites necessitates further groundwater sampling to verify the SI results and determine the extent of groundwater contamination at the site. Periodic monitoring of the groundwater wells in the vicinity of the landfill will provide information should leachate infiltrate and further contaminate the groundwater in the immediate vicinity. Explosives are not included in the parameters that the wells are tested for during the semi-annual and annual sampling events. The groundwater is not used for human consumption at IAAP since potable water is piped from the Burlington Municipal Water Supply, which has surface intakes on the Mississippi River. The nearest residential well used for water is approximately 5 miles from IAAP-27. A summary report of all analytical results associated with this site is included in Appendix B.

Table 3-29

IAAP-27 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP27	SO	ANIONS	NITRITE, NITRATE - NONSPECIFIC	27-SA-01	08/13/1991	27SA0101Y	0.500	2.49	=KF17	1.0	UGG
				27-SA-03	08/13/1991	27SA0301Y	1.000	2.18	=KF17	1.0	UGG
			SULFATE	27-SA-01	08/13/1991	27SA0101Y	0.500	115.0	=KT07	5.0	UGG
				27-SA-02	08/13/1991	27SA0201Y	0.500	30.6	=KT07	5.0	UGG
				27-SA-03	08/13/1991	27SA0301Y	1.000	420.0	=KT07	5.0	UGG
		METALS	ARSENIC	27-SA-01	08/13/1991	27SA0101Y	0.500	6.43	=B9	2.5	UGG
				27-SA-02	08/13/1991	27SA0201Y	0.500	10.8	=B9	2.5	UGG
				27-SA-03	08/13/1991	27SA0301Y	1.000	99.0	=B9	2.5	UGG
			BARIUM	27-SA-01	08/13/1991	27SA0101Y	0.500	227.0	=JS12	3.29	UGG
				27-SA-02	08/13/1991	27SA0201Y	0.500	250.0	=JS12	3.29	UGG
				27-SA-03	08/13/1991	27SA0301Y	1.000	224.0	=JS12	3.29	UGG
			BERYLLIUM	27-SA-01	08/13/1991	27SA0101Y	0.500	1.06	=JS12	0.427	UGG
				27-SA-02	08/13/1991	27SA0201Y	0.500	1.18	=JS12	0.427	UGG
				27-SA-03	08/13/1991	27SA0301Y	1.000	5.6	=JS12	0.427	UGG
			CHROMIUM	27-SA-01	08/13/1991	27SA0101Y	0.500	27.4	=JS12	1.04	UGG
				27-SA-02	08/13/1991	27SA0201Y	0.500	33.3	=JS12	1.04	UGG
				27-SA-03	08/13/1991	27SA0301Y	1.000	32.2	=JS12	1.04	UGG
			COPPER	27-SA-01	08/13/1991	27SA0101Y	0.500	16.1	=JS12	2.84	UGG
				27-SA-02	08/13/1991	27SA0201Y	0.500	21.2	=JS12	2.84	UGG
				27-SA-03	08/13/1991	27SA0301Y	1.000	137.0	=JS12	2.84	UGG
			LEAD	27-SA-01	08/13/1991	27SA0101Y	0.500	18.8	=JD21	0.467	UGG
				27-SA-02	08/13/1991	27SA0201Y	0.500	27.0	=JD21	0.467	UGG
				27-SA-03	08/13/1991	27SA0301Y	1.000	97.0	=JD21	0.467	UGG
			MERCURY	27-SA-03	08/13/1991	27SA0301Y	1.000	0.131	=Y9	0.05	UGG
			NICKEL	27-SA-01	08/13/1991	27SA0101Y	0.500	17.2	=JS12	2.74	UGG
				27-SA-02	08/13/1991	27SA0201Y	0.500	24.5	=JS12	2.74	UGG
				27-SA-03	08/13/1991	27SA0301Y	1.000	51.2	=JS12	2.74	UGG
			SELENIUM	27-SA-03	08/13/1991	27SA0301Y	1.000	13.5	=JD20	0.449	UGG
			ZINC	27-SA-01	08/13/1991	27SA0101Y	0.500	68.1	=JS12	2.34	UGG
				27-SA-02	08/13/1991	27SA0201Y	0.500	74.2	=JS12	2.34	UGG
				27-SA-03	08/13/1991	27SA0301Y	1.000	63.1	=JS12	2.34	UGG

Table 3-29a

IAAP-27 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP27	SO	ANIONS	NITRITE, NITRATE - NONSPECIFIC	27-SA-01	08/13/1991	27SA0101Y	0.500	2.49	=KF17	1.0	UGG
				27-SA-03	08/13/1991	27SA0301Y	1.000	2.18	=KF17	1.0	UGG
			SULFATE	27-SA-01	08/13/1991	27SA0101Y	0.500	115.0	=KT07	5.0	UGG
				27-SA-02	08/13/1991	27SA0201Y	0.500	30.6	=KT07	5.0	UGG
				27-SA-03	08/13/1991	27SA0301Y	1.000	420.0	=KT07	5.0	UGG
		METALS	ARSENIC	27-SA-02	08/13/1991	27SA0201Y	0.500	10.8	=B9	2.5	UGG
				27-SA-03	08/13/1991	27SA0301Y	1.000	99.0	=B9	2.5	UGG
			BERYLLIUM	27-SA-02	08/13/1991	27SA0201Y	0.500	1.18	=JS12	0.427	UGG
				27-SA-03	08/13/1991	27SA0301Y	1.000	5.6	=JS12	0.427	UGG
			CHROMIUM	27-SA-02	08/13/1991	27SA0201Y	0.500	33.3	=JS12	1.04	UGG
				27-SA-03	08/13/1991	27SA0301Y	1.000	32.2	=JS12	1.04	UGG
			COPPER	27-SA-03	08/13/1991	27SA0301Y	1.000	137.0	=JS12	2.84	UGG
			LEAD	27-SA-03	08/13/1991	27SA0301Y	1.000	97.0	=JD21	0.467	UGG
			NICKEL	27-SA-03	08/13/1991	27SA0301Y	1.000	51.2	=JS12	2.74	UGG
			SELENIUM	27-SA-03	08/13/1991	27SA0301Y	1.000	13.5	=JD20	0.449	UGG

3.30 IAAP-28 (CONSTRUCTION DEBRIS LANDFILL)

3.30.1 Site Description and History

The Construction Debris Landfill (IAAP-28) encompasses 3 acres and is situated in the central portion of IAAP (Plate 1; C-5). It is located in a ravine northwest of Yard O between Plant Road I and the south running railroad track (Figure 3-28). The construction debris landfill has operated from the 1940s to the present.

Wastes placed in the landfill included brick, stone, and concrete. In September of 1990, Mr. Wayne Keppner, a former heavy equipment operator foreman for the Iowa Army Ammunition Plant stated that he had buried construction debris throughout the facility in several ravines, especially in the areas of Yard O. He also stated that he had buried debris south of the main heating plant in ravines adjacent to Line 8. (This latter area may or may not be applicable to this particular SWMU) (Denz 1990).

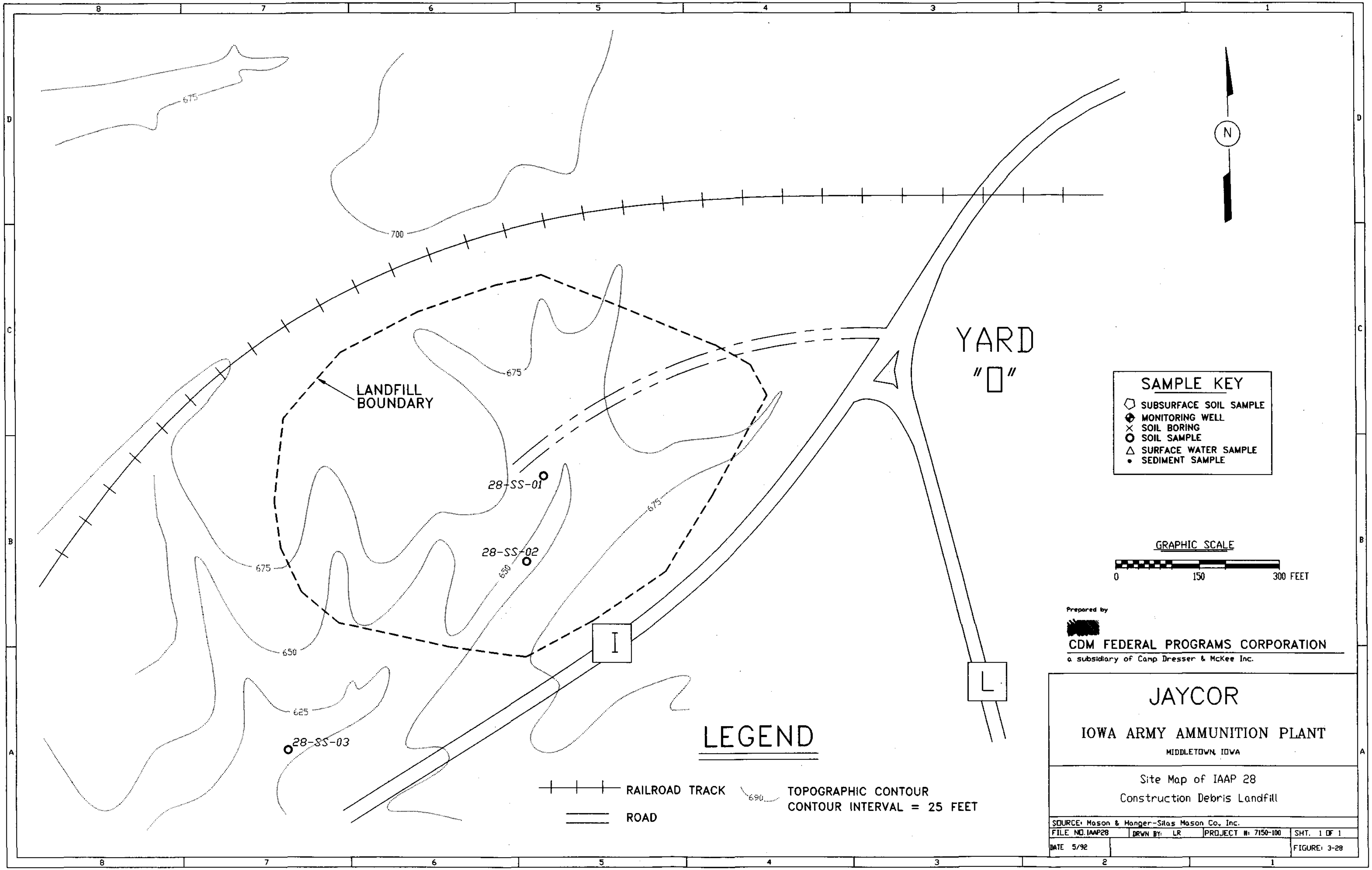
The site is located in the Long Creek watershed. Based upon a review of West Burlington and Danville quadrangle maps, the landfill is bounded on the southeast and west by hills. The only avenue for surface drainage is southwest along the valley situated between the railroad tracks and Road M, which drains to Long Creek.

3.30.2 Summary of Previous Investigations

During the search of IAAP records used to document the Preliminary Assessment of IAAP-28, no record of past sampling at this site was discovered. SI sampling focused on debris-filled pits in the central portion of the landfill, where possible soil staining was observed during a site reconnaissance in May 1990, and on drainageways.

The SI sampling scheme was designed to characterize on-site soils, together with possible migration pathways out of the landfill. During the SI, three soil samples were collected for analysis of explosives, PCBs, pesticides, volatiles, and metals. All three samples tested positive for PCBs and pesticides; explosives were found in two Samples. SI samples are summarized below. SI sample locations are depicted on Figure 3-28. Table 3-30 summarizes the SI sample results reported above CRLs; Table 3-30a reports those results above exceedance criteria. A summary report of all analytical results associated with the SI of this site is included in Appendix B.

Sample	Analyses	Sample Type	Depth	Location
28-SS-01-01	Explosives Metals VOCs Pesticides/PCBs	C	6"	Composite sample from three debris pits located in the center of IAAP-28.
28-SS-02-01	Explosives Metals VOCs Pesticides/PCBs	C	6"	Composite sample from two sites located in the north/south running channel. Site is located approximately midway between pits, and SE corner of landfill.
28-SS-03-01	Explosives Metals VOCs Pesticides/PCBs	G	6"	Sample collected at base of landfill where the stream meets the forest in the SE corner of the site.



675
700
675
675
675
650
650
625
LANDFILL BOUNDARY
28-SS-01
28-SS-02
28-SS-03
YARD "O"
I
L
N
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0 150 300 FEET
LEGEND
RAILROAD TRACK
ROAD
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 25 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 28
Construction Debris Landfill
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP28
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-28

3.30.3 Evaluation of Site

Sample 28-SS-01-01 was a composite of three aliquots from three debris pits located in the center of the landfill. The sample was analyzed for explosives, pesticides, PCBs, volatiles, and metals. Contaminants detected above evaluation criteria were: PCB 1260 (0.072 mg/kg); dieldrin (0.013 mg/kg); 2,2-bis (p-chlorophenyl)-1,1-dichloroethane (0.057 mg/kg); 2,2-bis (p-chlorophenyl)-1,1-dichloroethene (0.008 mg/kg); 2,2-bis (p-chlorophenyl)-1,1,1-trichloroethane (0.030 mg/kg); and HMX (0.750 mg/kg).

Sample 28-SS-02-01 was a composite of two aliquots from a dry north/south trending channel. The sample was analyzed for explosives, pesticides, PCBs, volatiles, and metals. Contaminants detected above evaluation criteria were: PCB 1260 (0.075 mg/kg); dieldrin (0.009 mg/kg); 2,2-bis (p-chlorophenyl)-1,1-dichloroethane (0.011 mg/kg); 2,2-bis (p-chlorophenyl)-1,1-dichloroethene (0.006 mg/kg); 2,2-bis (p-chlorophenyl)-1,1,1-trichloroethane (0.030 mg/kg); and 1,3-TNB (0.970 mg/kg).

Sample 28-SS-03-01 was a grab sample collected at the base of the landfill in the southeast corner of the site. The sample was analyzed for explosives, pesticides, PCBs, volatiles, and metals. Contaminants detected above evaluation criteria were: PCB 1260 (0.130 mg/kg); dieldrin (0.061 mg/kg); 2,2-bis (p-chlorophenyl)-1,1-dichloroethane (0.018 mg/kg); 2,2-bis (p-chlorophenyl)-1,1-dichloroethene (0.032 mg/kg); and 2,2-bis (p-chlorophenyl)-1,1,1-trichloroethane (0.063 mg/kg).

The SI sampling confirmed the presence of PCBs, pesticides, and explosives at this site. Similar types and concentrations of contaminants were found throughout the site. Because historical dumping is reported to have occurred at the site, and because contamination has been confirmed, IAAP-28 is recommended for further investigation during the RI.

Table 3-30

IAAP-28 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP28	SO	EXPLOSIVES	1,3-DINITROBENZENE	28-SS-02	08/09/1991	28SS0201Y	0.500	0.97	=LW02	0.59	UGG
			HMX	28-SS-01	08/09/1991	28SS0101YP	0.500	0.75	=LW02	1.27	UGG
		METALS	ARSENIC	28-SS-01	08/09/1991	28SS0101Y	0.500	5.59	=B9	2.5	UGG
				28-SS-02	08/09/1991	28SS0201Y	0.500	5.97	=B9	2.5	UGG
				28-SS-03	08/09/1991	28SS0301Y	0.500	7.12	=B9	2.5	UGG
			BARIUM	28-SS-01	08/09/1991	28SS0101Y	0.500	211.0	=JS12	3.29	UGG
				28-SS-02	08/09/1991	28SS0201Y	0.500	187.0	=JS12	3.29	UGG
				28-SS-03	08/09/1991	28SS0301Y	0.500	323.0	=JS12	3.29	UGG
			BERYLLIUM	28-SS-01	08/09/1991	28SS0101Y	0.500	0.637	=JS12	0.427	UGG
				28-SS-02	08/09/1991	28SS0201Y	0.500	0.664	=JS12	0.427	UGG
				28-SS-03	08/09/1991	28SS0301Y	0.500	0.717	=JS12	0.427	UGG
			CHROMIUM	28-SS-01	08/09/1991	28SS0101Y	0.500	24.5	=JS12	1.04	UGG
				28-SS-02	08/09/1991	28SS0201Y	0.500	18.8	=JS12	1.04	UGG
				28-SS-03	08/09/1991	28SS0301Y	0.500	17.7	=JS12	1.04	UGG
			COPPER	28-SS-01	08/09/1991	28SS0101Y	0.500	17.4	=JS12	2.84	UGG
				28-SS-02	08/09/1991	28SS0201Y	0.500	15.9	=JS12	2.84	UGG
				28-SS-03	08/09/1991	28SS0301Y	0.500	17.4	=JS12	2.84	UGG
			LEAD	28-SS-01	08/09/1991	28SS0101Y	0.500	19.0	=JD21	0.467	UGG
				28-SS-02	08/09/1991	28SS0201Y	0.500	23.0	=JD21	0.467	UGG
				28-SS-03	08/09/1991	28SS0301Y	0.500	18.0	=JD21	0.467	UGG
			NICKEL	28-SS-01	08/09/1991	28SS0101Y	0.500	19.4	=JS12	2.74	UGG
				28-SS-02	08/09/1991	28SS0201Y	0.500	20.4	=JS12	2.74	UGG
				28-SS-03	08/09/1991	28SS0301Y	0.500	24.1	=JS12	2.74	UGG
			ZINC	28-SS-01	08/09/1991	28SS0101Y	0.500	64.0	=JS12	2.34	UGG
				28-SS-02	08/09/1991	28SS0201Y	0.500	55.9	=JS12	2.34	UGG
				28-SS-03	08/09/1991	28SS0301Y	0.500	49.0	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	28-SS-01	08/09/1991	28SS0101YC	0.500	0.008	=LH17	0.0027	UGG
				28-SS-02	08/09/1991	28SS0201YC	0.500	0.006	=LH17	0.0027	UGG
				28-SS-03	08/09/1991	28SS0301YC	0.500	0.032	=LH17	0.0027	UGG
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	28-SS-01	08/09/1991	28SS0101YC	0.500	0.03	=LH17	0.0034	UGG
				28-SS-02	08/09/1991	28SS0201YC	0.500	0.03	=LH17	0.0034	UGG
				28-SS-03	08/09/1991	28SS0301YC	0.500	0.063	=LH17	0.0034	UGG
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	28-SS-01	08/09/1991	28SS0101YC	0.500	0.057	=LH17	0.0027	UGG
				28-SS-02	08/09/1991	28SS0201YC	0.500	0.011	=LH17	0.0027	UGG
				28-SS-03	08/09/1991	28SS0301YC	0.500	0.018	=LH17	0.0027	UGG
			BETA-ENDOSULFAN/ENDOSULFAN II	28-SS-03	08/09/1991	28SS0301YU	0.500	0.018	=LH17	0.0007	UGG
			DIELDRIN	28-SS-01	08/09/1991	28SS0101YC	0.500	0.013	=LH17	0.0016	UGG
				28-SS-02	08/09/1991	28SS0201YC	0.500	0.009	=LH17	0.0016	UGG
				28-SS-03	08/09/1991	28SS0301YC	0.500	0.061	=LH17	0.0016	UGG
			ENDRIN	28-SS-01	08/09/1991	28SS0101YU	0.500	0.016	=LH17	0.0065	UGG
				28-SS-03	08/09/1991	28SS0301YU	0.500	0.019	=LH17	0.0065	UGG
			PCB 1260	28-SS-01	08/09/1991	28SS0101YC	0.500	0.072	=LH17	0.0479	UGG
				28-SS-02	08/09/1991	28SS0201YC	0.500	0.075	=LH17	0.0479	UGG
				28-SS-03	08/09/1991	28SS0301YC	0.500	0.13	=LH17	0.0479	UGG

Table 3-30a

IAAP-28 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL	METHOD	CRL	UNITS
IAAP28	SO	EXPLOSIVES	1,3-DINITROBENZENE	28-SS-02	08/09/1991	28SS0201Y	0.500	0.97	=	LW02	0.59	UGG
			HMX	28-SS-01	08/09/1991	28SS0101YP	0.500	0.75	=	LW02	1.27	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	28-SS-01	08/09/1991	28SS0101YC	0.500	0.008	=	LH17	0.0027	UGG
				28-SS-02	08/09/1991	28SS0201YC	0.500	0.006	=	LH17	0.0027	UGG
				28-SS-03	08/09/1991	28SS0301YC	0.500	0.032	=	LH17	0.0027	UGG
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	28-SS-01	08/09/1991	28SS0101YC	0.500	0.03	=	LH17	0.0034	UGG
				28-SS-02	08/09/1991	28SS0201YC	0.500	0.03	=	LH17	0.0034	UGG
				28-SS-03	08/09/1991	28SS0301YC	0.500	0.063	=	LH17	0.0034	UGG
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	28-SS-01	08/09/1991	28SS0101YC	0.500	0.057	=	LH17	0.0027	UGG
				28-SS-02	08/09/1991	28SS0201YC	0.500	0.011	=	LH17	0.0027	UGG
				28-SS-03	08/09/1991	28SS0301YC	0.500	0.018	=	LH17	0.0027	UGG
			BETA-ENDOSULFAN/ENDOSULFAN II	28-SS-03	08/09/1991	28SS0301YU	0.500	0.018	=	LH17	0.0007	UGG
			DIELDRIN	28-SS-01	08/09/1991	28SS0101YC	0.500	0.013	=	LH17	0.0016	UGG
				28-SS-02	08/09/1991	28SS0201YC	0.500	0.009	=	LH17	0.0016	UGG
				28-SS-03	08/09/1991	28SS0301YC	0.500	0.061	=	LH17	0.0016	UGG
			ENDRIN	28-SS-01	08/09/1991	28SS0101YU	0.500	0.016	=	LH17	0.0065	UGG
				28-SS-03	08/09/1991	28SS0301YU	0.500	0.019	=	LH17	0.0065	UGG
			PCB 1260	28-SS-01	08/09/1991	28SS0101YC	0.500	0.072	=	LH17	0.0479	UGG
				28-SS-02	08/09/1991	28SS0201YC	0.500	0.075	=	LH17	0.0479	UGG
				28-SS-03	08/09/1991	28SS0301YC	0.500	0.13	=	LH17	0.0479	UGG

3.31 IAAP-29 (SEWAGE TREATMENT PLANT/SLUDGE DRYING BED FOR LINE 3A)

3.31.1 Site Description and History

IAAP-29 is the Sewage Treatment Plant (STP) Sludge Drying Beds for Line 3A. The site is located in western IAAP, adjacent to the western boundary of Line 3A, which is an artillery load, assemble, and pack (LAP) operation (Plate 1; C-8). Line 3A has a dedicated STP because this line is too far from other site buildings to be in-line with the main STP (IAAP-26).

The STP encompasses approximately one-half acre and consists of an imhoff tank, a trickling filter, a secondary clarifier, a chlorine contact chamber, and a sludge drying bed (Figure 3-29). The sludge drying bed is lined with two feet of sand. The plant has operated from 1943 to 1945, when it was shut down temporarily, then from 1949 through the present. Wastewater treated here is reportedly limited to domestic wastes from Line 3A and blowdown water from the steam generating plant near Line 3A (Building 3A-02).

Effluent from the STP flows into an unnamed tributary of the Skunk River, and is discharged under NPDES Permit IA0022144 (EPA 1988). Once or twice a year the dried sludge is removed and taken to the old Fly Ash Disposal Area (IAAP-43).

At the Line 3A site, the surface elevation is approximately 702 feet above msl (Dames & Moore 1979). There is approximately 0.5 to 1 foot of moist, soft organic topsoil under which lays approximately 3 feet of moist, stiff, lean clay. Below this lay approximately 2 feet of moist, stiff, fat clay, followed by various clay strata.

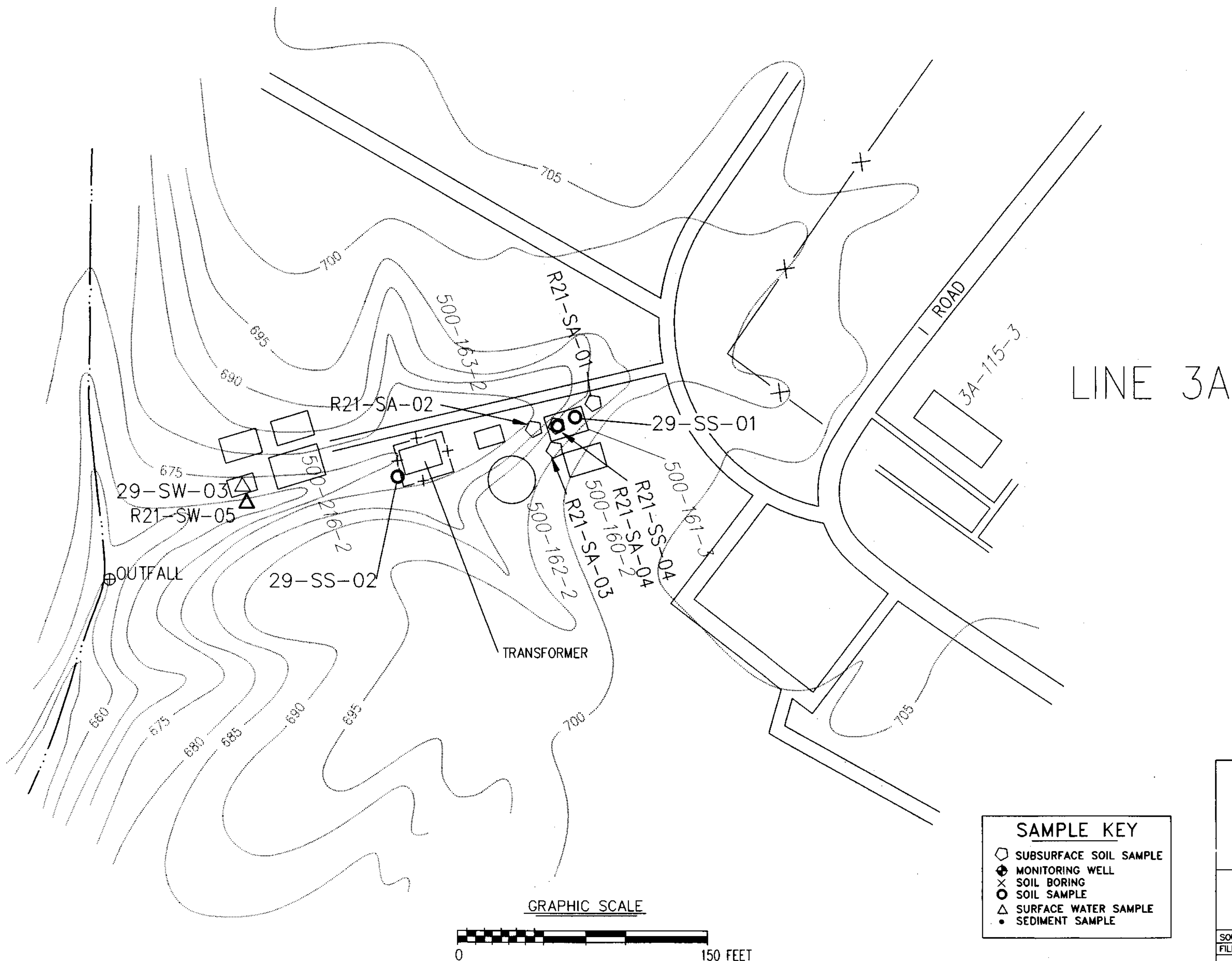
The site surface slopes generally toward the unnamed intermittent creek that receives the NPDES discharge. Surface water runoff follows the surface topography.

The primary potential migration pathway is surface water, through the discharge into the intermittent stream which flows to Skunk River. In the event that hazardous materials were released into the sewage and collected in the sludge drying bed, runoff from the bed could potentially carry contamination. However, there is no evidence that hazardous constituents were present in the STP influent. Although the sludge beds are lined with permeable sand; the clay subsurface soils would impede vertical migration of contaminants. Plant policies prohibit release of explosive materials into the sewage collection system and no potential release has ever been documented, nor do any analytical results characterizing the sludge exist.

Potential receptors of any contamination present are residences downstream along the Skunk River that use groundwater or surface water, as well as any humans or animals eating the corn that is grown on the leased land adjoining the STP on the north, west, and south.

3.31.2 Summary of Previous Investigations

NPDES sampling of the effluent from the Line 3A STP does not include analysis for explosives or metals. NPDES monthly monitoring reports indicate a problem of groundwater infiltration into the old sewer mains, causing the facility to exceed the average permitted flow for the facility. A letter from IAAP to IDNR dated 10 September 1991 states that efforts to correct this problem of groundwater infiltration have been factored into future project budgets.



N

LEGEND

690 TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET

ROAD

FENCE

3A-115-3 BUILDING #

INTERMITTENT STREAM

Prepared by

CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.

JAYCOR

IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

Site Map of IAAP 29
Line 3A Sewage Treatment Plant

SOURCE: Mason & Hanger-Silas Mason Co., Inc.

FILE NO. IAAP29	DRWN BY: LR	PROJECT #: 7150-100	SHT. 1 OF 1
DATE 5/92			FIGURE: 3-29

The SI sampling effort for IAAP-29 focused on the wastewater and sludge resulting from the sewage treatment process at the facility. All SI sample locations are summarized in the table below and depicted on Figure 3-29.

Sample	Analyses	Sample Type	Depth	Location
29-SS-01-01	Explosives Metals	G	0-6"	Within the sludge drying bed.
29-SS-02-01	Metals PCBs/Pesticides	G	0-6"	Obtained from west side of transformer pad.
29-SW-03-01	Explosives Metals	G	N/A	Obtained from Chlorine Contact Building basin prior to direct discharge.

3.31.3 Evaluation of Site

Review of the SI data obtained at IAAP-29 indicates near background levels for all metal contaminants of concern. Trace amounts of explosives were identified on the site. Table 3-31 summarizes all SI results that were reported above CRLs; Table 3-31a presents those results reported above established criteria.

The soil sample taken at the sludge drying beds (29-SS-01-01) was found to contain silver at 15.5 mg/kg. The silver concentration is above the exceedance level of 0.803 mg/kg. The sample contained two explosives: RDX at 1.3 mg/kg and 1,3,5-TNB at 2.1 mg/kg. The other soil sample obtained on site did not indicate any explosives contamination. Therefore, it appears that the presence of these explosives is confined to the sludge drying beds and is a direct result of explosives reaching the wastewater treatment facility via influent.

The soil sample obtained from the transformer pad area (29-SS-02-01) was found to contain zinc at 270 mg/kg, arsenic at 8.470 mg/kg, and lead at 36 mg/kg. This zinc concentration is elevated above the exceedance level of 84.7 mg/kg, but is within average naturally occurring background ranges for this compound as compiled by the USGS (Table 3-2b). The lead and arsenic concentrations are above the exceedance levels of 27 mg/kg and 8.34, respectively, but are within the average naturally occurring background ranges for these compounds as compiled by the USGS (Table 3-2b).

The surface water sample taken from the chlorine contact building basin (29-SW-03-01) indicated all metals were below the evaluation criteria for surface water (Table 3-2c), except for barium and zinc. Barium was detected at 97.4 µg/L and zinc at 119 µg/L. High barium levels in soil and surface water appears to be a naturally occurring historical problem at IAAP. Other contaminants found in the sample include RDX at 200 µg/L; HMX at 23 µg/L; and tetryl at 0.66 µg/L.

Soil samples taken at IAAP-29 during the SI indicate near background levels for most of the metal contaminants of concern. Elevated silver levels were found in the sample taken from the sludge bed. Elevated zinc levels were found in the soil sample taken at the transformer pad, but was not present in the other soil sample taken at the site. The area around the transformer pad showed no obvious indications of stains or previous spills and was heavily vegetated. Additionally, the transformer area is fenced and locked, which restricts access to the transformer area, and minimizes the potential for direct contact.

The explosives contamination found in the sludge drying bed sample and in the discharge surface water sample indicates that explosives are reaching the facility from some source on the facility, possibly Line 3A (IAAP-3). Some explosive contamination is being discharged via the NPDES outfall to the unnamed intermittent stream. There is no evidence of pervasive explosives soil contamination at the subject site. It appears to be a breakdown in the wastewater treatment or disposal of explosive wastewater allowing the contaminants to reach the facility. In addition, there has been a reported problem of groundwater infiltration into the old sewer mains at the sewage treatment facilities, which could be contributing to the explosives contaminated wastewater reaching these facilities.

Based on the SI results, it is recommended that IAAP-29 be included in the Phase I RI. It is suggested Phase I sampling efforts be concentrated on the sludge drying beds, since these beds are only lined with two feet of sand and the sludge stored in them contained elevated levels of silver and trace levels of explosives. The radiological facility at Line 3A is a potential source of the silver contamination and should be investigated as such. The subsurface soils in the area consist of a thick layer of clay, which would impede vertical or horizontal migration of contaminants at the site. Both surface and shallow subsurface samples will be collected from around the beds and analyzed for metals and explosives to determine if migration of contaminants has occurred due to the storage of the sludge in the unlined beds. In addition, a surface water sample will be obtained from the chlorine contact building to verify the release of explosives from this outfall. (SI results indicated elevated levels of explosives in the effluent.) A summary report of all SI analytical results associated with this site is included in Appendix B.

Additional sampling of the unnamed intermittent stream in the area of IAAP-29 will be conducted in support of the ecological assessment for the base-wide Risk Assessment. Any significant surface water contamination at this point on Brush Creek should be detected, and its extent approximated in the ecological assessment.

Table 3-31

IAAP-29 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP29	SO	METALS	ARSENIC	29-SS-02	08/21/1991	29SS0201Y	0.500	8.47	=B9	2.5	UGG
			BARIUM	29-SS-01	08/16/1991	29SS0101Y	0.500	19.4	=JS12	3.29	UGG
				29-SS-02	08/21/1991	29SS0201Y	0.500	206.0	=JS12	3.29	UGG
			CHROMIUM	29-SS-01	08/16/1991	29SS0101Y	0.500	8.05	=JS12	1.04	UGG
				29-SS-02	08/21/1991	29SS0201Y	0.500	20.2	=JS12	1.04	UGG
			COPPER	29-SS-01	08/16/1991	29SS0101Y	0.500	10.6	=JS12	2.84	UGG
				29-SS-02	08/21/1991	29SS0201Y	0.500	14.1	=JS12	2.84	UGG
			LEAD	29-SS-01	08/16/1991	29SS0101Y	0.500	5.4	=JD21	0.467	UGG
				29-SS-02	08/21/1991	29SS0201Y	0.500	36.0	=JD21	0.467	UGG
			MERCURY	29-SS-01	08/16/1991	29SS0101Y	0.500	0.109	=Y9	0.05	UGG
			NICKEL	29-SS-01	08/16/1991	29SS0101Y	0.500	6.84	=JS12	2.74	UGG
				29-SS-02	08/21/1991	29SS0201Y	0.500	17.9	=JS12	2.74	UGG
			SILVER	29-SS-01	08/16/1991	29SS0101Y	0.500	15.5	=JS12	0.803	UGG
			ZINC	29-SS-01	08/16/1991	29SS0101Y	0.500	25.0	=JS12	2.34	UGG
				29-SS-02	08/21/1991	29SS0201Y	0.500	270.0	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-TR	29-SS-02	08/21/1991	29SS0201YC	0.500	0.047	=LH17	0.0034	UGG
			DELTA-BENZENEHEXACHLORIDE	29-SS-02	08/21/1991	29SS0201YC	0.500	0.035	=LH17	0.0085	UGG
			ENDRIN	29-SS-02	08/21/1991	29SS0201YU	0.500	0.011	=LH17	0.0065	UGG
	SW	EXPLOSIVES	HMX	29-SW-03	08/16/1991	29SW0301Y	0.500	23.0	=UW01	1.3	UGL
			RDX	29-SW-03	08/16/1991	29SW0301Y	0.500	200.0	=UW01	0.63	UGL
		METALS	BARIUM	29-SW-03	08/16/1991	29SW0301Y	0.500	97.4	=SS12	2.82	UGL
			ZINC	29-SW-03	08/16/1991	29SW0301Y	0.500	119.0	=SS12	18.0	UGL

Table 3-31a

IAAP-29 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP29	SO	METALS	ARSENIC	29-SS-02	08/21/1991	29SS0201Y	0.500	8.47	=B9	2.5	UGG
			LEAD	29-SS-02	08/21/1991	29SS0201Y	0.500	36.0	=JD21	0.467	UGG
			SILVER	29-SS-01	08/16/1991	29SS0101Y	0.500	15.5	=JS12	0.803	UGG
			ZINC	29-SS-02	08/21/1991	29SS0201Y	0.500	270.0	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-TR	29-SS-02	08/21/1991	29SS0201YC	0.500	0.047	=LH17	0.0034	UGG
			DELTA-BENZENEHEXACHLORIDE	29-SS-02	08/21/1991	29SS0201YC	0.500	0.035	=LH17	0.0085	UGG
			ENDRIN	29-SS-02	08/21/1991	29SS0201YU	0.500	0.011	=LH17	0.0065	UGG
	SW	EXPLOSIVES	HMX	29-SW-03	08/16/1991	29SW0301Y	0.500	23.0	=UW01	1.3	UGL
			RDX	29-SW-03	08/16/1991	29SW0301Y	0.500	200.0	=UW01	0.63	UGL

3.32 IAAP-30 (FIRING SITE AREA)

3.32.1 Site Description and History

The Firing Site (FS) Area is located in the western portion of the IAAP, east of Line 3A (IAAP-4), where the west and north branches of Long Creek converge and flow into Mathes Lake (Plate 1; D-7).

The FS Area has been in use since the 1940s, and was used for Atomic Energy Commission activities between 1948 and 1974. Measuring approximately 4000 by 5000 feet, the FS Area is about 1 mile from the nearest plant boundary. A security fence is in place around the entire FS area (Figure 3-30).

The FS Area is routinely used for the static testing of warheads produced at IAAP. From December 1965 through December 1973, 701 test rounds of D-38 were fired in this area, dispersing 3991.9 kilograms of depleted uranium. This contamination was reportedly removed in 1974 (Ecology and Environment, Inc. 1987), but no sampling data was found in the files. During the visual inspection conducted by JAYCOR on 21 May 1991, elevated levels of radiation in the range of 5 to 10 times background were detected in the vicinity of Test Firing Pad (Figure 3-30).

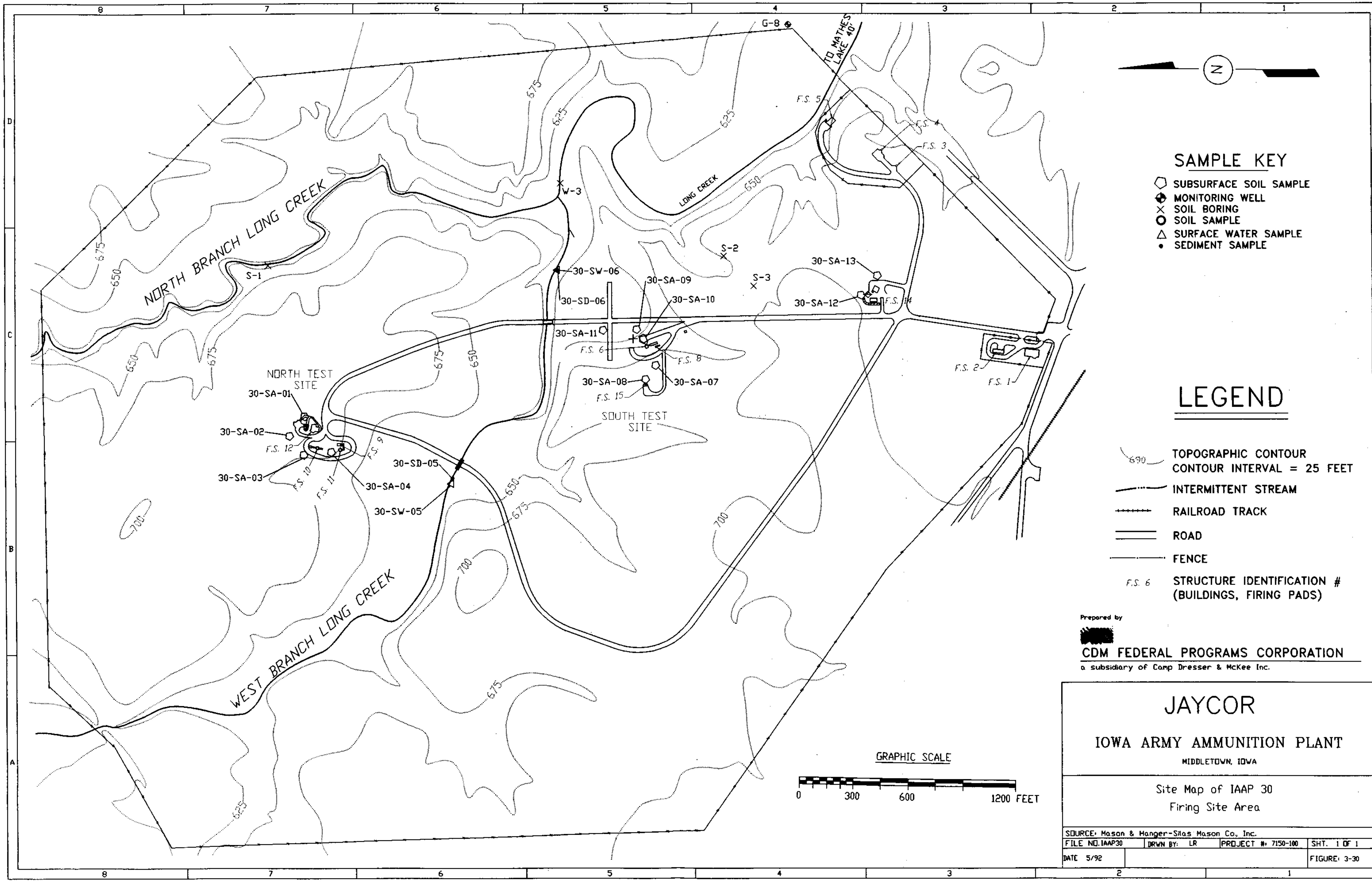
Most of the Test Firing pads in the FS Area are at an elevation of 650 to 675 feet above mean sea level. There is approximately 1.5 feet of topsoil, underlain by 6.7 feet of sand with silt and silty, sandy clay. The water table is believed to vary widely with the topography, but has been reported in the range of 1.5 to 5.5 feet below surface level. However, another study discovered low-moisture silty clay underlain by various clays at 8.2 feet below ground surface (Soil Testing Services 1981). The exact locations of these observations were not detailed.

Surface water runoff from the FS Area drains directly into adjacent Long Creek, then into Mathes Lake. Surface water passing over the FS Area may pick up explosive residues or any remaining radionuclides prior to draining into Long Creek. There is also a potential for airborne dispersal of contamination which are released into on-site sediments. Dependant on the proximity of the water table and the soil types, groundwater contamination is also possible.

Crops and hay are grown in fields directly to the northwest (upgradient) of the FS Area (Mason & Hanger 1974), however there exists the potential of contamination by airborne migration of explosive residues from the soils at the FS Area.

3.32.2 Summary of Previous Investigations

Testing of groundwater showed elevated levels of barium (compared to the MCL of 2000 µg/L) in the downgradient well G-8 (4800 µg/L), located at the southeast end of the FS Area, and in upgradient wells G-31 (3800 µg/L), and G-3 (3600 µg/L), both located northwest of the FS Area. Well G-7, also upgradient of the FS area, had a barium level of 1500 µg/L (ERG 1982). Levels of chromium, copper, lead, and zinc were at the same level or lower in G-8 than in the upgradient wells. A soil sample from approximately 1000 feet north of the confluence of Long Creek's two branches, near the center of the FS Area, contained 55 mg/kg lead (ERG 1982). A sediment sample, taken downstream along Long Creek at approximately 1700 feet north of the



SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
LEGEND
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 25 FEET
INTERMITTENT STREAM
RAILROAD TRACK
ROAD
FENCE
F.S. 6
STRUCTURE IDENTIFICATION # (BUILDINGS, FIRING PADS)
NORTH BRANCH LONG CREEK
WEST BRANCH LONG CREEK
LONG CREEK
TO MATHES LAKE 40'
NORTH TEST SITE
SOUTH TEST SITE
G-8
W-3
S-1
S-2
S-3
30-SW-06
30-SD-06
30-SA-09
30-SA-10
30-SA-11
30-SA-08
30-SA-07
30-SA-13
30-SA-12
30-SA-01
30-SA-02
30-SA-03
30-SA-04
30-SD-05
30-SW-05
F.S. 1
F.S. 2
F.S. 3
F.S. 4
F.S. 5
F.S. 6
F.S. 8
F.S. 9
F.S. 10
F.S. 11
F.S. 12
F.S. 14
F.S. 15
675
650
625
700
GRAPHIC SCALE
0 300 600 1200 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 30
Firing Site Area
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP30
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-30

southern property line, contained 270 mg/kg lead, as compared to 11 mg/kg and 26 mg/kg lead in upstream sediment samples.

The FS Area is contaminated with explosive residues. Insufficient evidence exists to evaluate whether an adequate investigation was performed to determine if radionuclide contamination was removed, and to what extent the area has been capped and/or revegetated. Therefore, SI sampling included radionuclides analysis.

SI sample locations focused on the test firing pads, associated drainage pathways, and on the surface water and sediments of the adjacent Long Creek. All samples were analyzed for explosives, metals, and radionuclides. The samples collected and locations are summarized below; sample locations are depicted on Figure 3-30.

Sample	Analyses	Sample Type	Depth	Location
30-SA-01-01	Explosives Metals Radionuclides	C	0-6"	Surface soil composite from 0-6 inches, from western corner of FS-12 pad.
30-SA-02-01	Explosives Metals Radionuclides	C	0-6"	Surface soil composite from 96 feet west of FS-12 pad.
30-SA-03-01	Explosives Metals Radionuclides	C	0-6"	Surface soil composite located 120 feet W.N.W. of the FS-9 stairwell (FS-169-3).
30-SA-04-01	Explosives Metals Radionuclides	C	0-12"	Surface soil composite located 48 feet W.S.W. of FS-9 (FS-169-3).
30-SW-05-01	Explosives Metals Radionuclides	G	4"	Surface water collected upgradient (west) of the western road culvert.
30-SD-05-01	Explosives Metals Radionuclides	G	0-6"	Corresponds to 30-SW-05-01.
30-SW-06-01	Explosives Metals Radionuclides	G	4"	Surface water collected downgradient on Long Creek 300 feet east of the eastern road bridge.
30-SW-06-02	Explosives Metals Radionuclides	G	4"	Duplicate of 30-SW-06-01.
30-SD-06-01	Explosives Metals Radionuclides	G	0-6"	Corresponds to 30-SW-06-01.
30-SA-07-01	Explosives Metals Radionuclides	C	0-6"	Surface soil composite located 1 foot from north corner of FS-15 pad.
30-SA-08-01	Explosives Metals Radionuclides	C	0-12"	Surface soil composite collected in ditch outside and downgradient of berm surrounding FS-15.

Sample	Analyses	Sample Type	Depth	Location
30-SA-09-01	Explosives Metals Radionuclides	C	0-12"	Surface soil composite collected in ditch, 100 feet east (downgradient) of FS-6 pad.
30-SA-10-01	Explosives Metals Radionuclides	C	0-6"	Surface soil composite collected 1 foot from east corner of FS-6 pad.
30-SA-11-01	Explosives Metals Radionuclides	C	0-12"	Surface soil composite collected in the same ditch as 30-SA-09-01, downgradient (approximately 50 feet) on opposite side of culvert.
30-SA-12-01	Explosives Metals Radionuclides	C	0-12"	Surface soil composite collected in ditch, S.E. of FS-14.
30-SA-13-01	Explosives Metals Radionuclides	C	0-8"	Surface soil composite collected 150 feet east (downgradient) of FS-14.

Table 3-32 summarizes the SI sample results reported above CRLs; Table 3-32a reports those results above evaluation criteria. Appendix B is a report of all analytical results associated with the SI.

3.32.3 Evaluation of Site

SI results indicate extensive metals above evaluation criteria, some moderate levels of explosives, and evidence of radionuclides above background criteria.

Metals were detected above evaluation criteria at all three of the FS areas studied. The greatest levels were found at the FS-14 site, including chromium, copper, nickel, zinc, cadmium, lead, and arsenic at concentrations of 2800, 8200, 1900, 3900, 2.5, 260, and 21.3 mg/kg, respectively. The South Test Site contained chromium, copper, nickel, cadmium, and lead at 416, 1800, 504, 3.32, and 75 mg/kg, respectively. The North Test Site contained chromium, copper, nickel, and zinc at 219, 2100, 472, and 452 mg/kg, respectively.

Explosives were detected only at moderate levels in two samples. Sample 30-SA-12-01, collected from the FS-14 area, contained RDX at 16 mg/kg and HMX at 2.2 mg/kg. Sample 30-SA-01-01, collected near the FS-12 area, contained 1,3-DNB at 0.98 mg/kg.

The two surface water/sediment samples were collected downgradient of the North Test Site (30-SW/SD-05-01) and downgradient of the entire FS test area (30-SW/SD-06-01). Sample 30-SW-05-01 did not contain any contaminants above criteria. Sample 30-SW-06-01 contained the explosive NB at 4.1 µg/L. Only one sediment sample (30-SD-06-01) contained any compounds above criteria, which was arsenic at 10.4 µg/g, and Gross Beta at 10.7 pCi/g.

Radionuclide analysis detected Gross Beta levels above the background criteria. Detected were 30-SA-02-01 (17.7 pCi/g), 30-SA-03-01 (21.0 pCi/g), 30-SA-04-01 (10.8 pCi/g), 30-SA-07-01 (11.0 pCi/g), 30-SA-11-01 (10.8 pCi/g), and 30-SA-13-01 (12.6 pCi/g). Additionally, lead isotopes (212 and 214) were detected slightly above background criteria at three sample locations; and cesium

137 and actinium 28 were each found at one location, and at concentrations just above background criteria.

Based on the results of the SI, it is recommended that IAAP-30 be included in the Phase I RI in order to delineate the extent of metals contamination, as well as to determine if more significant quantities of explosives are present in the surrounding soils or water.

Table 3-32

IAAP-30 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP30	SD	METALS	ARSENIC	30-SD-05	08/15/1991	30SD0501Y	0.500	3.44	=B9	2.5	UGG
				30-SD-06	08/15/1991	30SD0601Y	0.500	10.4	=B9	2.5	UGG
			BARIUM	30-SD-05	08/15/1991	30SD0501Y	0.500	236.0	=JS12	3.29	UGG
				30-SD-06	08/15/1991	30SD0601Y	0.500	63.8	=JS12	3.29	UGG
			CHROMIUM	30-SD-05	08/15/1991	30SD0501Y	0.500	3.95	=JS12	1.04	UGG
				30-SD-06	08/15/1991	30SD0601Y	0.500	5.69	=JS12	1.04	UGG
			LEAD	30-SD-05	08/15/1991	30SD0501Y	0.500	4.8	=JD21	0.467	UGG
				30-SD-06	08/15/1991	30SD0601Y	0.500	15.0	=JD21	0.467	UGG
			NICKEL	30-SD-05	08/15/1991	30SD0501Y	0.500	8.53	=JS12	2.74	UGG
				30-SD-06	08/15/1991	30SD0601Y	0.500	6.68	=JS12	2.74	UGG
			ZINC	30-SD-05	08/15/1991	30SD0501Y	0.500	13.1	=JS12	2.34	UGG
				30-SD-06	08/15/1991	30SD0601Y	0.500	12.7	=JS12	2.34	UGG
		RADIONUCLIDES	ALPHA GROSS	30-SD-05	08/15/1991	30SD0501Y	0.500	2.9	=00	0.0	PCG
				30-SD-06	08/15/1991	30SD0601Y	0.500	3.9	=00	0.0	PCG
			BISMUTH 214	30-SD-05	08/15/1991	30SD0501Y	0.500	0.75	=99	0.0	PCG
				30-SD-06	08/15/1991	30SD0601Y	0.500	0.35	=99	0.0	PCG
			GROSS BETA	30-SD-05	08/15/1991	30SD0501Y	0.500	5.9	=00	0.0	PCG
				30-SD-06	08/15/1991	30SD0601Y	0.500	10.7	=00	0.0	PCG
			LEAD 212	30-SD-06	08/15/1991	30SD0601Y	0.500	0.15	=99	0.0	PCG
			LEAD 214	30-SD-05	08/15/1991	30SD0501Y	0.500	0.78	=99	0.0	PCG
				30-SD-06	08/15/1991	30SD0601Y	0.500	0.28	=99	0.0	PCG
			RADIUM 226	30-SD-05	08/15/1991	30SD0501Y	0.500	0.53	=99	0.0	PCG
				30-SD-06	08/15/1991	30SD0601Y	0.500	0.38	=99	0.0	PCG
	SO	EXPLOSIVES	HMX	30-SA-12	08/15/1991	30SA1201Y	1.000	2.2	=LW02	1.27	UGG
			RDX	30-SA-12	08/15/1991	30SA1201Y	1.000	16.0	=LW02	0.98	UGG
		METALS	ARSENIC	30-SA-01	08/14/1991	30SA0101Y	0.500	5.23	=B9	2.5	UGG
				30-SA-02	08/14/1991	30SA0201Y	0.500	8.07	=B9	2.5	UGG
				30-SA-03	08/14/1991	30SA0301Y	0.500	6.34	=B9	2.5	UGG
				30-SA-04	08/14/1991	30SA0401Y	1.000	5.8	=B9	2.5	UGG
				30-SA-07	08/14/1991	30SA0701Y	0.500	8.7	=B9	2.5	UGG
				30-SA-08	08/14/1991	30SA0801Y	1.000	6.78	=B9	2.5	UGG
				30-SA-09	08/14/1991	30SA0901Y	1.000	3.88	=B9	2.5	UGG
				30-SA-10	08/14/1991	30SA1001Y	0.500	4.4	=B9	2.5	UGG
				30-SA-11	08/14/1991	30SA1101Y	1.000	5.61	=B9	2.5	UGG
				30-SA-12	08/15/1991	30SA1201Y	1.000	18.1	=B9	2.5	UGG
				30-SA-13	08/15/1991	30SA1301Y	0.700	21.3	=B9	2.5	UGG
			BARIUM	30-SA-01	08/14/1991	30SA0101Y	0.500	217.0	=JS12	3.29	UGG
				30-SA-02	08/14/1991	30SA0201Y	0.500	618.0	=JS12	3.29	UGG
				30-SA-03	08/14/1991	30SA0301Y	0.500	722.0	=JS12	3.29	UGG
				30-SA-04	08/14/1991	30SA0401Y	1.000	563.0	=JS12	3.29	UGG
				30-SA-07	08/14/1991	30SA0701Y	0.500	63.9	=JS12	3.29	UGG
				30-SA-08	08/14/1991	30SA0801Y	1.000	78.2	=JS12	3.29	UGG
				30-SA-09	08/14/1991	30SA0901Y	1.000	14.0	=JS12	3.29	UGG
				30-SA-10	08/14/1991	30SA1001Y	0.500	682.0	=JS12	3.29	UGG
				30-SA-11	08/14/1991	30SA1101Y	1.000	234.0	=JS12	3.29	UGG
				30-SA-12	08/15/1991	30SA1201Y	1.000	17.7	=JS12	3.29	UGG
				30-SA-13	08/15/1991	30SA1301Y	0.700	258.0	=JS12	3.29	UGG
			BERYLLIUM	30-SA-01	08/14/1991	30SA0101Y	0.500	0.724	=JS12	0.427	UGG
				30-SA-02	08/14/1991	30SA0201Y	0.500	2.36	=JS12	0.427	UGG
				30-SA-03	08/14/1991	30SA0301Y	0.500	0.862	=JS12	0.427	UGG
				30-SA-04	08/14/1991	30SA0401Y	1.000	0.875	=JS12	0.427	UGG

Table 3-32

IAAP-30 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				30-SA-07	08/14/1991	30SA0701Y	0.500	1.09	=JS12	0.427	UGG
				30-SA-08	08/14/1991	30SA0801Y	1.000	0.697	=JS12	0.427	UGG
				30-SA-09	08/14/1991	30SA0901Y	1.000	1.9	=JS12	0.427	UGG
				30-SA-10	08/14/1991	30SA1001Y	0.500	0.851	=JS12	0.427	UGG
				30-SA-11	08/14/1991	30SA1101Y	1.000	0.916	=JS12	0.427	UGG
				30-SA-12	08/15/1991	30SA1201Y	1.000	1.66	=JS12	0.427	UGG
				30-SA-13	08/15/1991	30SA1301Y	0.700	0.857	=JS12	0.427	UGG
			CADMIUM	30-SA-09	08/14/1991	30SA0901Y	1.000	2.53	=JS12	1.2	UGG
				30-SA-10	08/14/1991	30SA1001Y	0.500	3.32	=JS12	1.2	UGG
				30-SA-12	08/15/1991	30SA1201Y	1.000	2.5	=JS12	1.2	UGG
			CHROMIUM	30-SA-01	08/14/1991	30SA0101Y	0.500	219.0	=JS12	1.04	UGG
				30-SA-02	08/14/1991	30SA0201Y	0.500	31.0	=JS12	1.04	UGG
				30-SA-03	08/14/1991	30SA0301Y	0.500	33.4	=JS12	1.04	UGG
				30-SA-04	08/14/1991	30SA0401Y	1.000	32.6	=JS12	1.04	UGG
				30-SA-07	08/14/1991	30SA0701Y	0.500	24.1	=JS12	1.04	UGG
				30-SA-08	08/14/1991	30SA0801Y	1.000	24.0	=JS12	1.04	UGG
				30-SA-09	08/14/1991	30SA0901Y	1.000	416.0	=JS12	1.04	UGG
				30-SA-10	08/14/1991	30SA1001Y	0.500	25.5	=JS12	1.04	UGG
				30-SA-11	08/14/1991	30SA1101Y	1.000	31.2	=JS12	1.04	UGG
				30-SA-12	08/15/1991	30SA1201Y	1.000	2,800.0	=JS12	1.04	UGG
				30-SA-13	08/15/1991	30SA1301Y	0.700	20.1	=JS12	1.04	UGG
			COPPER	30-SA-01	08/14/1991	30SA0101Y	0.500	8,100.0	=JS12	2.84	UGG
				30-SA-02	08/14/1991	30SA0201Y	0.500	2,100.0	=JS12	2.84	UGG
				30-SA-03	08/14/1991	30SA0301Y	0.500	965.0	=JS12	2.84	UGG
				30-SA-04	08/14/1991	30SA0401Y	1.000	101.0	=JS12	2.84	UGG
				30-SA-07	08/14/1991	30SA0701Y	0.500	66.6	=JS12	2.84	UGG
				30-SA-08	08/14/1991	30SA0801Y	1.000	15.4	=JS12	2.84	UGG
				30-SA-09	08/14/1991	30SA0901Y	1.000	1,800.0	=JS12	2.84	UGG
				30-SA-10	08/14/1991	30SA1001Y	0.500	462.0	=JS12	2.84	UGG
				30-SA-11	08/14/1991	30SA1101Y	1.000	41.9	=JS12	2.84	UGG
				30-SA-12	08/15/1991	30SA1201Y	1.000	8,200.0	=JS12	2.84	UGG
				30-SA-13	08/15/1991	30SA1301Y	0.700	29.1	=JS12	2.84	UGG
			LEAD	30-SA-01	08/14/1991	30SA0101Y	0.500	21.0	=JD21	0.467	UGG
				30-SA-02	08/14/1991	30SA0201Y	0.500	36.0	=JD21	0.467	UGG
				30-SA-03	08/14/1991	30SA0301Y	0.500	26.0	=JD21	0.467	UGG
				30-SA-04	08/14/1991	30SA0401Y	1.000	17.0	=JD21	0.467	UGG
				30-SA-07	08/14/1991	30SA0701Y	0.500	15.0	=JD21	0.467	UGG
				30-SA-08	08/14/1991	30SA0801Y	1.000	13.0	=JD21	0.467	UGG
				30-SA-09	08/14/1991	30SA0901Y	1.000	30.0	=JD21	0.467	UGG
				30-SA-10	08/14/1991	30SA1001Y	0.500	75.0	=JD21	0.467	UGG
				30-SA-11	08/14/1991	30SA1101Y	1.000	14.0	=JD21	0.467	UGG
				30-SA-12	08/15/1991	30SA1201Y	1.000	260.0	=JD21	0.467	UGG
				30-SA-13	08/15/1991	30SA1301Y	0.700	45.0	=JD21	0.467	UGG
			MERCURY	30-SA-01	08/14/1991	30SA0101Y	0.500	0.063	=Y9	0.05	UGG
				30-SA-09	08/14/1991	30SA0901Y	1.000	0.253	=Y9	0.05	UGG
				30-SA-10	08/14/1991	30SA1001Y	0.500	0.075	=Y9	0.05	UGG
			NICKEL	30-SA-01	08/14/1991	30SA0101Y	0.500	472.0	=JS12	2.74	UGG
				30-SA-02	08/14/1991	30SA0201Y	0.500	27.2	=JS12	2.74	UGG
				30-SA-03	08/14/1991	30SA0301Y	0.500	23.2	=JS12	2.74	UGG
				30-SA-04	08/14/1991	30SA0401Y	1.000	20.9	=JS12	2.74	UGG
				30-SA-07	08/14/1991	30SA0701Y	0.500	24.7	=JS12	2.74	UGG

Table 3-32

IAAP-30 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				30-SA-08	08/14/1991	30SA0801Y	1.000	19.9	=JS12	2.74	UGG
				30-SA-09	08/14/1991	30SA0901Y	1.000	504.0	=JS12	2.74	UGG
				30-SA-10	08/14/1991	30SA1001Y	0.500	26.3	=JS12	2.74	UGG
				30-SA-11	08/14/1991	30SA1101Y	1.000	24.5	=JS12	2.74	UGG
				30-SA-12	08/15/1991	30SA1201Y	1.000	1,900.0	=JS12	2.74	UGG
				30-SA-13	08/15/1991	30SA1301Y	0.700	43.7	=JS12	2.74	UGG
			SELENIUM	30-SA-13	08/15/1991	30SA1301Y	0.700	0.681	=JD20	0.449	UGG
			SILVER	30-SA-01	08/14/1991	30SA0101Y	0.500	4.72	=JS12	0.803	UGG
			ZINC	30-SA-01	08/14/1991	30SA0101Y	0.500	66.8	=JS12	2.34	UGG
				30-SA-02	08/14/1991	30SA0201Y	0.500	452.0	=JS12	2.34	UGG
				30-SA-03	08/14/1991	30SA0301Y	0.500	211.0	=JS12	2.34	UGG
				30-SA-04	08/14/1991	30SA0401Y	1.000	67.6	=JS12	2.34	UGG
				30-SA-07	08/14/1991	30SA0701Y	0.500	44.1	=JS12	2.34	UGG
				30-SA-08	08/14/1991	30SA0801Y	1.000	42.3	=JS12	2.34	UGG
				30-SA-09	08/14/1991	30SA0901Y	1.000	156.0	=JS12	2.34	UGG
				30-SA-10	08/14/1991	30SA1001Y	0.500	143.0	=JS12	2.34	UGG
				30-SA-11	08/14/1991	30SA1101Y	1.000	58.6	=JS12	2.34	UGG
				30-SA-12	08/15/1991	30SA1201Y	1.000	3,900.0	=JS12	2.34	UGG
				30-SA-13	08/15/1991	30SA1301Y	0.700	67.0	=JS12	2.34	UGG
		RADIONUCLIDES	ACTINIUM 228	30-SA-12	08/15/1991	30SA1201Y	1.000	0.0	=99	0.0	PCG
				30-SA-13	08/15/1991	30SA1301Y	0.700	1.1	=99	0.0	PCG
			ALPHA GROSS	30-SA-01	08/14/1991	30SA0101N	0.500	4.8	=00	0.0	PCG
				30-SA-02	08/14/1991	30SA0201N	0.500	2.7	=00	0.0	PCG
				30-SA-03	08/14/1991	30SA0301N	0.500	3.6	=00	0.0	PCG
				30-SA-04	08/14/1991	30SA0401Y	1.000	2.6	=00	0.0	PCG
				30-SA-07	08/14/1991	30SA0701N	0.500	3.0	=00	0.0	PCG
				30-SA-08	08/14/1991	30SA0801Y	1.000	1.6	=00	0.0	PCG
				30-SA-09	08/14/1991	30SA0901Y	1.000	1.7	=00	0.0	PCG
				30-SA-10	08/14/1991	30SA1001N	0.500	1.9	=00	0.0	PCG
				30-SA-11	08/14/1991	30SA1101Y	1.000	1.8	=00	0.0	PCG
				30-SA-12	08/15/1991	30SA1201Y	1.000	1.7	=00	0.0	PCG
				30-SA-13	08/15/1991	30SA1301Y	0.700	3.0	=99	0.0	PCG
			BISMUTH 214	30-SA-01	08/14/1991	30SA0101N	0.500	1.52	=99	0.0	PCG
				30-SA-02	08/14/1991	30SA0201N	0.500	0.67	=99	0.0	PCG
				30-SA-03	08/14/1991	30SA0301N	0.500	0.9	=99	0.0	PCG
				30-SA-07	08/14/1991	30SA0701N	0.500	0.72	=99	0.0	PCG
				30-SA-08	08/14/1991	30SA0801Y	1.000	0.67	=99	0.0	PCG
				30-SA-09	08/14/1991	30SA0901Y	1.000	0.65	=99	0.0	PCG
				30-SA-12	08/15/1991	30SA1201Y	1.000	0.4	=99	0.0	PCG
				30-SA-13	08/15/1991	30SA1301Y	0.700	1.34	=99	0.0	PCG
			CESIUM 137	30-SA-02	08/14/1991	30SA0201N	0.500	0.17	=99	0.0	PCG
				30-SA-03	08/14/1991	30SA0301N	0.500	0.27	=99	0.0	PCG
				30-SA-11	08/14/1991	30SA1101Y	1.000	0.16	=99	0.0	PCG
				30-SA-12	08/15/1991	30SA1201Y	1.000	0.0	=99	0.0	PCG
			GAMMA SCAN / GAMMA SCREEN	30-SA-04	08/14/1991	30SA0401Y	1.000	0.25	=99	0.25	PCG
				30-SA-12	08/15/1991	30SA1201Y	1.000	0.0	=99	0.25	PCG
			GROSS BETA	30-SA-01	08/14/1991	30SA0101N	0.500	29.3	=00	0.0	PCG
				30-SA-02	08/14/1991	30SA0201N	0.500	17.7	=00	0.0	PCG
				30-SA-03	08/14/1991	30SA0301N	0.500	21.0	=00	0.0	PCG
				30-SA-04	08/14/1991	30SA0401Y	1.000	10.8	=00	0.0	PCG
				30-SA-07	08/14/1991	30SA0701N	0.500	11.0	=00	0.0	PCG

Table 3-32

IAAP-30 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				30-SA-08	08/14/1991	30SA0801Y	1.000	7.2	=00	0.0	PCG
				30-SA-09	08/14/1991	30SA0901Y	1.000	3.4	=00	0.0	PCG
				30-SA-10	08/14/1991	30SA1001N	0.500	7.5	=00	0.0	PCG
				30-SA-11	08/14/1991	30SA1101Y	1.000	10.8	=00	0.0	PCG
				30-SA-12	08/15/1991	30SA1201Y	1.000	2.1	=00	0.0	PCG
				30-SA-13	08/15/1991	30SA1301Y	0.700	12.6	=00	0.0	PCG
			LEAD 212	30-SA-02	08/14/1991	30SA0201N	0.500	0.85	=99	0.0	PCG
				30-SA-03	08/14/1991	30SA0301N	0.500	0.93	=99	0.0	PCG
				30-SA-07	08/14/1991	30SA0701N	0.500	0.54	=99	0.0	PCG
				30-SA-08	08/14/1991	30SA0801Y	1.000	0.73	=99	0.0	PCG
				30-SA-12	08/15/1991	30SA1201Y	1.000	0.0	=99	0.0	PCG
				30-SA-13	08/15/1991	30SA1301Y	0.700	0.78	=99	0.0	PCG
			LEAD 214	30-SA-01	08/14/1991	30SA0101N	0.500	0.41	=99	0.0	PCG
				30-SA-02	08/14/1991	30SA0201N	0.500	0.84	=99	0.0	PCG
				30-SA-03	08/14/1991	30SA0301N	0.500	0.64	=99	0.0	PCG
				30-SA-07	08/14/1991	30SA0701N	0.500	0.39	=99	0.0	PCG
				30-SA-08	08/14/1991	30SA0801Y	1.000	0.74	=99	0.0	PCG
				30-SA-09	08/14/1991	30SA0901Y	1.000	0.52	=99	0.0	PCG
				30-SA-12	08/15/1991	30SA1201Y	1.000	0.23	=99	0.0	PCG
				30-SA-13	08/15/1991	30SA1301Y	0.700	0.51	=99	0.0	PCG
			RADIUM 226	30-SA-01	08/14/1991	30SA0101N	0.500	0.95	=99	0.0	PCG
				30-SA-02	08/14/1991	30SA0201N	0.500	0.59	=99	0.0	PCG
				30-SA-03	08/14/1991	30SA0301N	0.500	0.57	=99	0.0	PCG
				30-SA-07	08/14/1991	30SA0701N	0.500	0.47	=99	0.0	PCG
				30-SA-08	08/14/1991	30SA0801Y	1.000	0.48	=99	0.0	PCG
				30-SA-09	08/14/1991	30SA0901Y	1.000	0.32	=99	0.0	PCG
				30-SA-12	08/15/1991	30SA1201Y	1.000	0.27	=99	0.0	PCG
				30-SA-13	08/15/1991	30SA1301Y	0.700	0.68	=99	0.0	PCG
			THALLIUM 208	30-SA-01	08/14/1991	30SA0101N	0.500	0.56	=99	0.0	PCG
				30-SA-02	08/14/1991	30SA0201N	0.500	0.72	=99	0.0	PCG
				30-SA-03	08/14/1991	30SA0301N	0.500	0.64	=99	0.0	PCG
				30-SA-07	08/14/1991	30SA0701N	0.500	0.36	=99	0.0	PCG
				30-SA-08	08/14/1991	30SA0801Y	1.000	0.51	=99	0.0	PCG
				30-SA-13	08/15/1991	30SA1301Y	0.700	0.76	=99	0.0	PCG
	SW	EXPLOSIVES	NITROBENZENE	30-SW-06	08/15/1991	30SW0601Y	0.300	2.3	=UW01	1.13	UGL
		METALS	ARSENIC	30-SW-05	08/15/1991	30SW0501Y	0.300	5.39	=AX8	2.35	UGL
				30-SW-06	08/15/1991	30SW0601Y	0.300	5.39	=AX8	2.35	UGL
						30SW0602YD	0.300	4.19	=AX8	2.35	UGL
			BARIUM	30-SW-05	08/15/1991	30SW0501Y	0.300	75.8	=SS12	2.82	UGL
				30-SW-06	08/15/1991	30SW0601Y	0.300	76.7	=SS12	2.82	UGL
						30SW0602YD	0.300	77.8	=SS12	2.82	UGL
			LEAD	30-SW-06	08/15/1991	30SW0601Y	0.300	7.76	=SD18	4.47	UGL
		RADIONUCLIDES	ALPHA GROSS	30-SW-05	08/15/1991	30SW0501Y	0.300	2.0	=00	0.0	PCL
				30-SW-06	08/15/1991	30SW0601Y	0.300	2.0	=00	0.0	PCL
						30SW0602YD	0.300	2.0	=00	0.0	PCL
			GAMMA SCAN / GAMMA SCREEN	30-SW-05	08/15/1991	30SW0501Y	0.300	2.0	=99	2.0	PCL
				30-SW-06	08/15/1991	30SW0601Y	0.300	2.0	=99	2.0	PCL
						30SW0602YD	0.300	2.0	=99	2.0	PCL
			GROSS BETA	30-SW-05	08/15/1991	30SW0501Y	0.300	6.0	=00	0.0	PCL
				30-SW-06	08/15/1991	30SW0601Y	0.300	4.0	=00	0.0	PCL
						30SW0602YD	0.300	4.0	=00	0.0	PCL

Table 3-32a

IAAP-30 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP30	SD	METALS	ARSENIC	30-SD-06	08/15/1991	30SD0601Y	0.500	10.4	=B9	2.5	UGG
		RADIONUCLIDES	ALPHA GROSS	30-SD-06	08/15/1991	30SD0601Y	0.500	3.9	=00	0.0	PCG
			GROSS BETA	30-SD-06	08/15/1991	30SD0601Y	0.500	10.7	=00	0.0	PCG
	SO	EXPLOSIVES	HMX	30-SA-12	08/15/1991	30SA1201Y	1.000	2.2	=LW02	1.27	UGG
			RDX	30-SA-12	08/15/1991	30SA1201Y	1.000	16.0	=LW02	0.98	UGG
		METALS	ARSENIC	30-SA-07	08/14/1991	30SA0701Y	0.500	8.7	=B9	2.5	UGG
				30-SA-12	08/15/1991	30SA1201Y	1.000	18.1	=B9	2.5	UGG
				30-SA-13	08/15/1991	30SA1301Y	0.700	21.3	=B9	2.5	UGG
			BARIUM	30-SA-02	08/14/1991	30SA0201Y	0.500	618.0	=JS12	3.29	UGG
				30-SA-03	08/14/1991	30SA0301Y	0.500	722.0	=JS12	3.29	UGG
				30-SA-04	08/14/1991	30SA0401Y	1.000	563.0	=JS12	3.29	UGG
				30-SA-10	08/14/1991	30SA1001Y	0.500	682.0	=JS12	3.29	UGG
			BERYLLIUM	30-SA-02	08/14/1991	30SA0201Y	0.500	2.36	=JS12	0.427	UGG
				30-SA-09	08/14/1991	30SA0901Y	1.000	1.9	=JS12	0.427	UGG
				30-SA-12	08/15/1991	30SA1201Y	1.000	1.66	=JS12	0.427	UGG
			CADMIUM	30-SA-09	08/14/1991	30SA0901Y	1.000	2.53	=JS12	1.2	UGG
				30-SA-10	08/14/1991	30SA1001Y	0.500	3.32	=JS12	1.2	UGG
				30-SA-12	08/15/1991	30SA1201Y	1.000	2.5	=JS12	1.2	UGG
			CHROMIUM	30-SA-01	08/14/1991	30SA0101Y	0.500	219.0	=JS12	1.04	UGG
				30-SA-02	08/14/1991	30SA0201Y	0.500	31.0	=JS12	1.04	UGG
				30-SA-03	08/14/1991	30SA0301Y	0.500	33.4	=JS12	1.04	UGG
				30-SA-04	08/14/1991	30SA0401Y	1.000	32.6	=JS12	1.04	UGG
				30-SA-09	08/14/1991	30SA0901Y	1.000	416.0	=JS12	1.04	UGG
				30-SA-11	08/14/1991	30SA1101Y	1.000	31.2	=JS12	1.04	UGG
				30-SA-12	08/15/1991	30SA1201Y	1.000	2,800.0	=JS12	1.04	UGG
			COPPER	30-SA-01	08/14/1991	30SA0101Y	0.500	8,100.0	=JS12	2.84	UGG
				30-SA-02	08/14/1991	30SA0201Y	0.500	2,100.0	=JS12	2.84	UGG
				30-SA-03	08/14/1991	30SA0301Y	0.500	965.0	=JS12	2.84	UGG
				30-SA-04	08/14/1991	30SA0401Y	1.000	101.0	=JS12	2.84	UGG
				30-SA-07	08/14/1991	30SA0701Y	0.500	66.6	=JS12	2.84	UGG
				30-SA-09	08/14/1991	30SA0901Y	1.000	1,800.0	=JS12	2.84	UGG
				30-SA-10	08/14/1991	30SA1001Y	0.500	462.0	=JS12	2.84	UGG
				30-SA-11	08/14/1991	30SA1101Y	1.000	41.9	=JS12	2.84	UGG
				30-SA-12	08/15/1991	30SA1201Y	1.000	8,200.0	=JS12	2.84	UGG
			LEAD	30-SA-02	08/14/1991	30SA0201Y	0.500	36.0	=JD21	0.467	UGG
				30-SA-09	08/14/1991	30SA0901Y	1.000	30.0	=JD21	0.467	UGG
				30-SA-10	08/14/1991	30SA1001Y	0.500	75.0	=JD21	0.467	UGG
				30-SA-12	08/15/1991	30SA1201Y	1.000	260.0	=JD21	0.467	UGG
				30-SA-13	08/15/1991	30SA1301Y	0.700	45.0	=JD21	0.467	UGG
			NICKEL	30-SA-01	08/14/1991	30SA0101Y	0.500	472.0	=JS12	2.74	UGG
				30-SA-09	08/14/1991	30SA0901Y	1.000	504.0	=JS12	2.74	UGG
				30-SA-12	08/15/1991	30SA1201Y	1.000	1,900.0	=JS12	2.74	UGG
			SELENIUM	30-SA-13	08/15/1991	30SA1301Y	0.700	0.681	=JD20	0.449	UGG
			SILVER	30-SA-01	08/14/1991	30SA0101Y	0.500	4.72	=JS12	0.803	UGG
			ZINC	30-SA-02	08/14/1991	30SA0201Y	0.500	452.0	=JS12	2.34	UGG
				30-SA-03	08/14/1991	30SA0301Y	0.500	211.0	=JS12	2.34	UGG
				30-SA-09	08/14/1991	30SA0901Y	1.000	156.0	=JS12	2.34	UGG
				30-SA-10	08/14/1991	30SA1001Y	0.500	143.0	=JS12	2.34	UGG
				30-SA-12	08/15/1991	30SA1201Y	1.000	3,900.0	=JS12	2.34	UGG
		RADIONUCLIDES	ACTINIUM 228	30-SA-13	08/15/1991	30SA1301Y	0.700	1.1	=99	0.0	PCG
			ALPHA GROSS	30-SA-01	08/14/1991	30SA0101N	0.500	4.8	=00	0.0	PCG

Table 3-32a

IAAP-30 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			CESIUM 137	30-SA-03	08/14/1991	30SA0301N	0.500	0.27	=99	0.0	PCG
			GROSS BETA	30-SA-01	08/14/1991	30SA0101N	0.500	29.3	=00	0.0	PCG
				30-SA-02	08/14/1991	30SA0201N	0.500	17.7	=00	0.0	PCG
				30-SA-03	08/14/1991	30SA0301N	0.500	21.0	=00	0.0	PCG
				30-SA-04	08/14/1991	30SA0401Y	1.000	10.8	=00	0.0	PCG
				30-SA-07	08/14/1991	30SA0701N	0.500	11.0	=00	0.0	PCG
				30-SA-11	08/14/1991	30SA1101Y	1.000	10.8	=00	0.0	PCG
				30-SA-13	08/15/1991	30SA1301Y	0.700	12.6	=00	0.0	PCG
			LEAD 212	30-SA-02	08/14/1991	30SA0201N	0.500	0.85	=99	0.0	PCG
				30-SA-03	08/14/1991	30SA0301N	0.500	0.93	=99	0.0	PCG
				30-SA-13	08/15/1991	30SA1301Y	0.700	0.78	=99	0.0	PCG
			LEAD 214	30-SA-02	08/14/1991	30SA0201N	0.500	0.84	=99	0.0	PCG
	SW	EXPLOSIVES	NITROBENZENE	30-SW-06	08/15/1991	30SW0601Y	0.300	2.3	=UW01	1.13	UGL
		RADIONUCLIDES	GAMMA SCAN / GAMMA SCREEN	30-SW-05	08/15/1991	30SW0501Y	0.300	2.0	=99	2.0	PCL
				30-SW-06	08/15/1991	30SW0601Y	0.300	2.0	=99	2.0	PCL
						30SW0602YD	0.300	2.0	=99	2.0	PCL

3.33 IAAP-31 (YARD B AMMUNITION BOX CHIPPER DISPOSAL PIT)

3.33.1 Site Description and History

The Yard B Ammunition Box Chipper Disposal Pit is located approximately 750 feet west of the southwest corner of the Explosive Disposal Area (EDA) in Yard B (Plate 1; D-3). The Boxcar Unloading Area (IAAP-14) is located approximately 1500 feet north of the pit.

The Yard B Ammunition Box Chipper Disposal Pit measures approximately 120 by 40 feet and is 8 feet deep (Figure 3-31). The pit was used for a three-month period sometime between 1972 and 1975. Residue from wooden ammunition boxes, primarily 90-millimeter cartridge boxes, was placed in the disposal pit after being shredded at the box chipper. During the 14 August 1990 visual inspection, the pit could not be located. However, the weathered remains of approximately two dozen boxes were observed on the ground in the vicinity of the site. Wastes consisted of shredded ammunition boxes treated with the wood preservative pentachlorophenol (PCP).

The site setting is described in detail in Section 3.16.1. The nearest surface water to the disposal pit is Spring Creek, a perennial stream which runs through the EDA from north to south, and provides drainage to the area. The creek flows directly into the Mississippi River less than one mile above the confluence of the Skunk and Mississippi rivers. (The Skunk River confluence is approximately 6 miles from the southeast corner of the IAAP property.) Spring Creek originates north of the facility and receives effluent from the sewage treatment facility of West Burlington, Iowa. The floodplain of the stream valley is approximately 400 feet wide (EBASCO 1988; AEHA 1985).

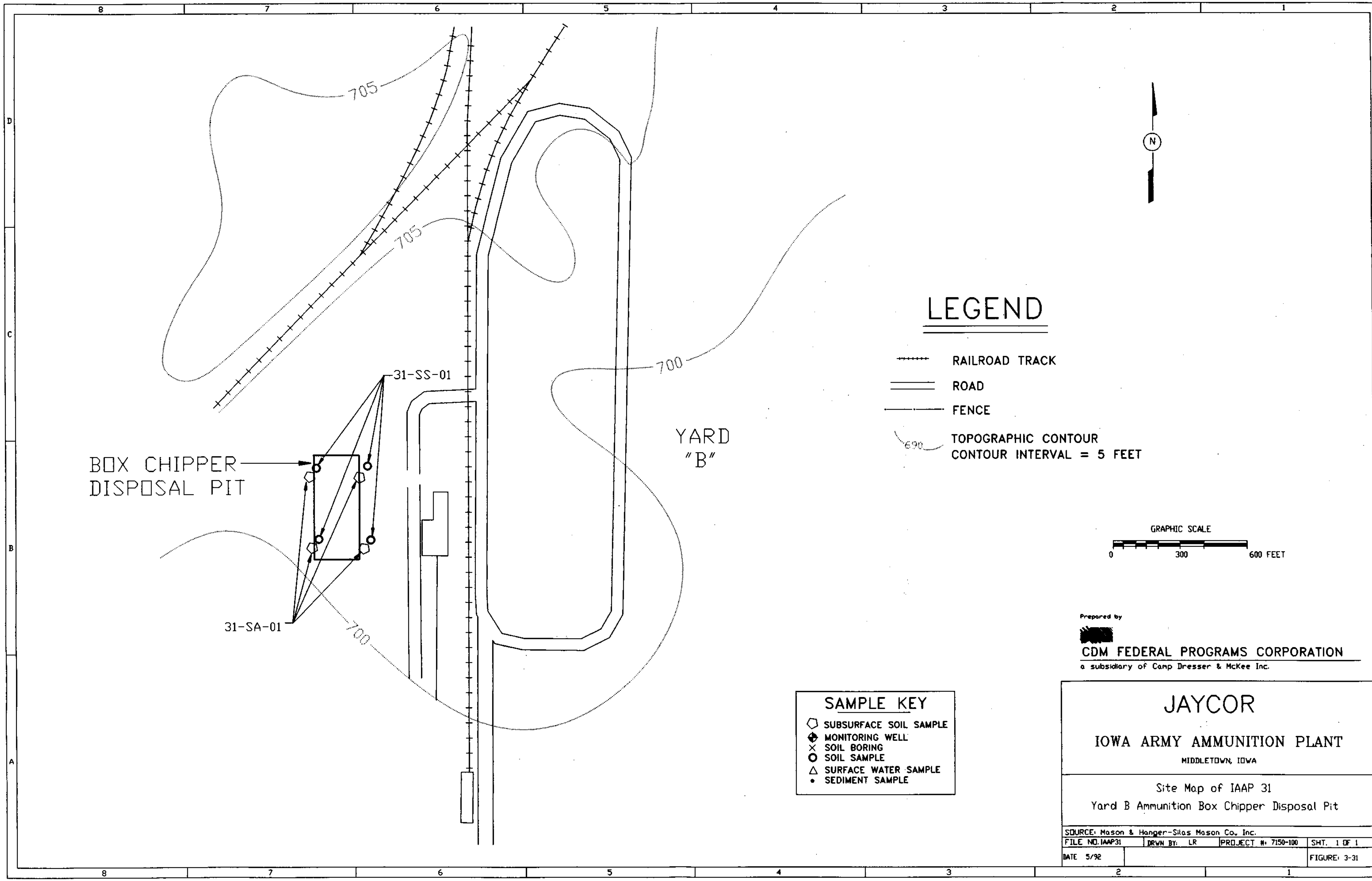
Groundwater recharge occurs in the broad, flat fields that lie along the stream divides, and results from precipitation. Recharge is expected to be low due to the low permeability of the soil. While no quantitative evidence substantiating groundwater recharge from Spring Creek exists, the upper bedrock aquifer may be recharged during runoff events in drought seasons. Specifically, recharge would occur in the lower reaches of the creek where deep stream incisions have exposed bedrock.

Public access to IAAP is restricted, and IAAP-31 is in a remote area of the facility. Flora and fauna are potential receptors of contamination, particularly those species that inhabit the vicinity of Spring Creek. Consumption of deer and other wild game affected by contamination may provide a vehicle for food chain uptake to human receptors.

3.33.2 Summary of Previous Investigations

No sampling, other than the SI, has been conducted at IAAP-14. SI samples were stratified to characterize surface soils and soils at depth to determine whether PCP or other contaminants were present at this location.

SI sample locations are summarized below and sample locations are depicted on Figure 3-31.


705
705
700
700
31-SS-01
BOX CHIPPER
DISPOSAL PIT
31-SA-01
YARD
"B"
N
LEGEND
RAILROAD TRACK
ROAD
FENCE
690
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
GRAPHIC SCALE
0
300
600 FEET
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 31
Yard B Ammunition Box Chipper Disposal Pit
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP31
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-31

Sample	Analyses	Sample Type	Depth	Location
31-SS-01-01	Explosives Metals SemiVOCs	C	0-6"	Sample obtained from four points situated in the north, south, east, and western portions of the suspected pit location. Sample intended to characterize any contamination present over a wide area.
31-SA-01-02	Explosives Metals SemiVOCs	C	3'	Sample obtained from the same four points as sample 31-SS-01-01.

3.33.3 Evaluation of Site

During the SI, the location of the pit was delineated, and composite surface and subsurface soil samples were collected to characterize the nature and extent of any contamination present. Both samples were reported to contain low levels of several metals (Table 3-33). No metals were reported at levels above the evaluation criteria (Table 3-2a), except for arsenic which was reported at 10.9 mg/kg. However, this level of arsenic falls within the naturally occurring range of arsenic in uncultivated B horizon soils as compiled by the USGS (Table 3-2b) for the area. No semivolatiles or explosives were reported above CRLs.

SI sample results indicated that no significant contaminant is present at the site. However, samples could not be collected beyond the 3-foot depth due to hand auger refusal. The pit may have been 8 feet deep. Therefore, the depth of SI samples may not accurately indicate whether contamination is present. Therefore, it is recommended IAAP-31 be included in the Phase I RI. During Phase I samples will be collected from a depth below the bottom of the pit to determine whether contamination is present. Before samples are collected, the pit boundaries will be accurately delineated by Mr. Jack Polson, former Chief Scientist at IAAP.

Table 3-33

IAAP-31 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP31	SO	METALS	ARSENIC	31-SA-01	08/15/1991	31SA0102Y	3.000	10.9	=B9	2.5	UGG
				31-SS-01	08/15/1991	31SS0101Y	0.500	5.97	=B9	2.5	UGG
			BARIUM	31-SA-01	08/15/1991	31SA0102Y	3.000	235.0	=JS12	3.29	UGG
				31-SS-01	08/15/1991	31SS0101Y	0.500	194.0	=JS12	3.29	UGG
			BERYLLIUM	31-SA-01	08/15/1991	31SA0102Y	3.000	1.04	=JS12	0.427	UGG
				31-SS-01	08/15/1991	31SS0101Y	0.500	0.802	=JS12	0.427	UGG
			CHROMIUM	31-SA-01	08/15/1991	31SA0102Y	3.000	28.4	=JS12	1.04	UGG
				31-SS-01	08/15/1991	31SS0101Y	0.500	16.3	=JS12	1.04	UGG
			COPPER	31-SA-01	08/15/1991	31SA0102Y	3.000	25.5	=JS12	2.84	UGG
				31-SS-01	08/15/1991	31SS0101Y	0.500	15.8	=JS12	2.84	UGG
			LEAD	31-SA-01	08/15/1991	31SA0102Y	3.000	14.0	=JD21	0.467	UGG
				31-SS-01	08/15/1991	31SS0101Y	0.500	23.0	=JD21	0.467	UGG
			NICKEL	31-SA-01	08/15/1991	31SA0102Y	3.000	25.8	=JS12	2.74	UGG
				31-SS-01	08/15/1991	31SS0101Y	0.500	13.3	=JS12	2.74	UGG
			SELENIUM	31-SA-01	08/15/1991	31SA0102Y	3.000	0.656	=JD20	0.449	UGG
			ZINC	31-SA-01	08/15/1991	31SA0102Y	3.000	72.6	=JS12	2.34	UGG
				31-SS-01	08/15/1991	31SS0101Y	0.500	69.0	=JS12	2.34	UGG
		SEMIVOLATILES	FLUORANTHENE	31-SS-01	08/15/1991	31SS0101Y	0.500	0.063	=LM25	0.032	UGG

Table 3-33a

IAAP-31 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP31	SO	METALS	ARSENIC	31-SA-01	08/15/1991	31SA0102Y	3.000	10.9	=B9	2.5	UGG
			SELENIUM	31-SA-01	08/15/1991	31SA0102Y	3.000	0.656	=JD20	0.449	UGG
		SEMIVOLATILES	FLUORANTHENE	31-SS-01	08/15/1991	31SS0101Y	0.500	0.063	=LM25	0.032	UGG

3.34 IAAP-32 (BURN CAGES)

3.34.1 Site Description and History

The Burn Cages abut the southeast boundary of the West Burn Pads (Plate 1;D-2). The cages are located just west of center in the Explosive Disposal Area (EDA), which lies in the northeast corner of the IAAP facility. In the past, the site consisted of three burn cages, each measuring approximately 30 by 60 feet (Figure 3-32). The cages were active from 1949 to 1982, and used for the incineration of inert and explosives-contaminated packaging. Metal parts flashing was also performed. Since the SWMU became inactive, the cages have been removed (Denz 1990). The site setting and hydrogeology for the Burn Cages is consistent with the EDA as a whole, and is detailed in section 3.14.1.

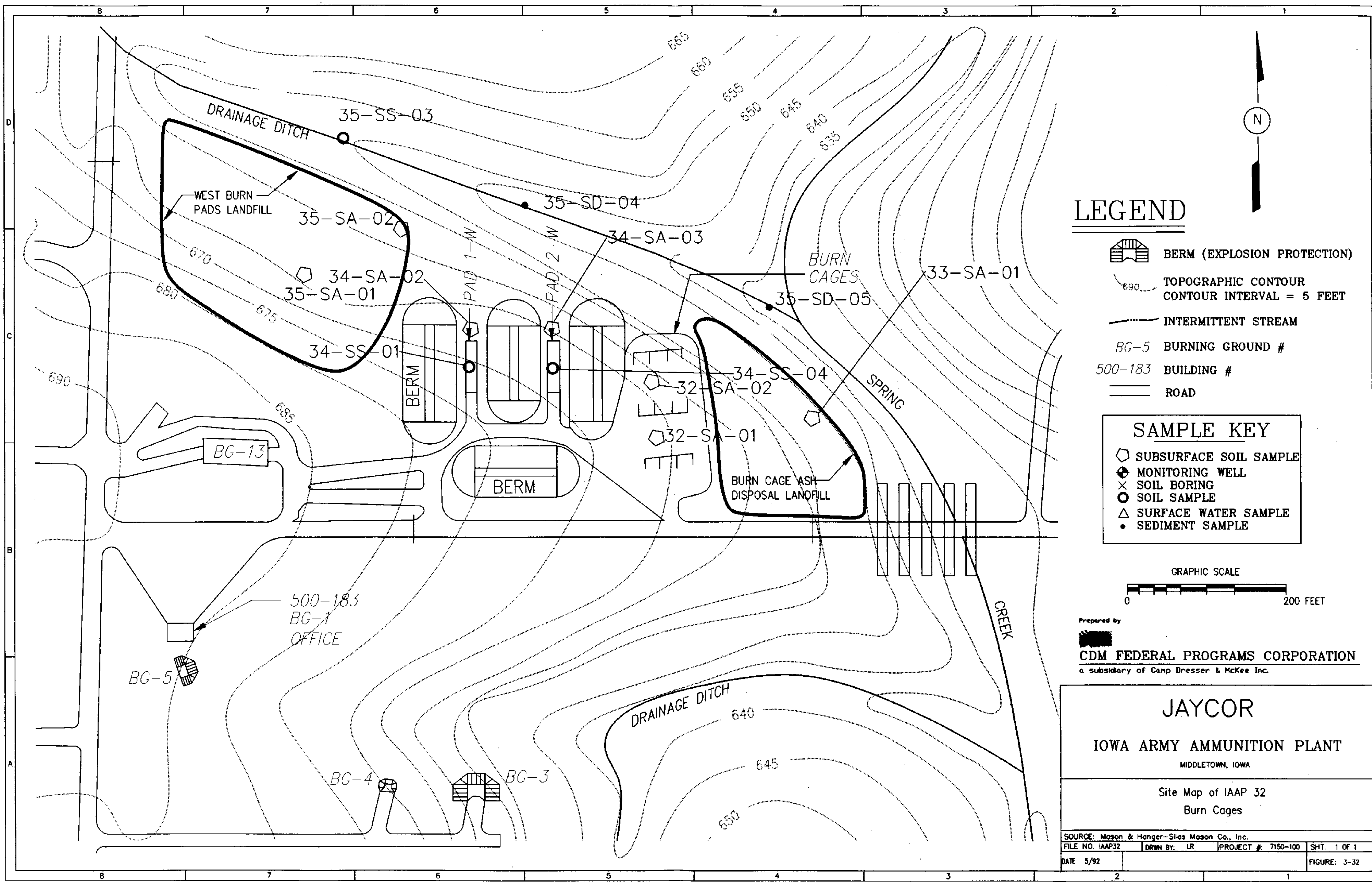
The nearest surface water to the Burn Cages is Spring Creek, a perennial stream which runs through the EDA from north to south, and provides drainage to the area. The creek flows directly into the Mississippi River less than one mile above the confluence of the Skunk and Mississippi rivers. (The Skunk River confluence is approximately 6 miles from the sewage treatment facility of West Burlington, Iowa.) The floodplain of the Spring creek valley is approximately 400 feet wide (EBASCO 1988; AEHA 1985). Runoff in the Burn Cages SWMU is to the north.

Groundwater recharge occurs in the broad, flat fields that lie along the stream divides, and results from precipitation. Recharge is expected to be low due to the low permeability of the soil. While no quantitative evidence substantiating groundwater recharge from Spring Creek exists, the upper bedrock aquifer may be recharged during runoff events in drought seasons. Specifically, recharge would occur in the lower reaches of the creek where deep stream incisions have exposed bedrock.

Public access to IAAP is restricted, and the EDA is in a remote area of the facility. Shallow groundwater beneath the area is known to be contaminated, as are the soils in the area; however, it is unknown whether this contamination is attributable to the Burn Cages or to other activities at the EDA (See Section 3.34.2). Flora and fauna are potential receptors of contamination, particularly those species that inhabit the vicinity of Spring Creek. Consumption of deer and other wild game affected by contamination may provide a vehicle for food chain uptake to human receptors.

3.34.2 Summary of Previous Investigations

While no documented sampling had occurred at the Burn Cages prior to the August 1991 SI, previous investigations have taken place in the vicinity of the EDA East Burn Pads which are similar to the IAAP-32 Burn Cages in purpose and historic use, and are situated approximately 1800 feet east-northeast of the SWMU. In 1987, Ecology and Environment, Inc. performed a contamination assessment of the EDA as part of a RCRA Facility Assessment (RFA). Samples obtained from soils immediately adjacent to the east burn pads revealed very high levels of RDX, HMX, 1,3,5 trinitrobenzene, and 2,4,6-TNT. Sediment samples collected from Spring Creek showed no significant levels of the aforementioned compounds; however, chromium was present at high levels in all downgradient samples. Background soil and upstream sediment samples showed these contaminants to be within acceptable concentrations of barium which could suggest that the EDA was not the source. High levels of lead and zinc were also present throughout the area.



DRAINAGE DITCH
35-SS-03
WEST BURN PADS LANDFILL
35-SA-02
35-SD-04
34-SA-03
34-SA-02
35-SA-01
PAD 1-W
PAD 2-W
BURN CAGES
33-SA-01
35-SD-05
34-SS-01
34-SS-04
32-SA-02
32-SA-01
BERM
BERM
SPRING
BURN CAGE ASH DISPOSAL LANDFILL
BG-13
500-183 BG-1 OFFICE
BG-5
BG-4
BG-3
DRAINAGE DITCH
CREEK
665
660
655
650
645
640
635
670
675
680
685
690
640
645
650
LEGEND
BERM (EXPLOSION PROTECTION)
TOPOGRAPHIC CONTOUR CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM
BG-5 BURNING GROUND #
500-183 BUILDING #
ROAD
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0
200 FEET
N
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 32
Burn Cages
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP32
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-32

A groundwater study of the EDA was performed by the AMC from February 1984 to March 1985. The study involved sampling the 5 monitoring wells surrounding the EDA East Burn Pads for explosive and organic compounds. Monitoring well EDA02 revealed low concentrations of 2,4,6 - TNT; however, the remaining wells registered concentrations below the U.S. Army suggested interim drinking water limit of 44 µg/L. HMX and 2,4 - DNT were also identified only in EDA02. Additionally, RDX was found in wells EDA02 and EDA04 at levels above the Army interim drinking water limit of 35 µg/L. A Dames and Moore facility-wide groundwater investigation from late 1985 to early 1986 revealed elevated levels of RDX and HMX in EDA area wells.

Groundwater sample results obtained from wells situated in the EDA during the 1985-1986 Dames and Moore investigation revealed RDX at 149 µg/L in well EDA02, and both HMX and RDX in well EDA04 at 35 µg/L and 24 µg/L, respectively. Soil samples collected adjacent to EDA East Burn Pads during the 1987 RFA revealed RDX levels ranging from 93,000 µg/kg to 2,000,000 µg/kg; HMX from 34,000 µg/kg to 430,000 µg/kg; 1,3,5-trinitrobenzene from 13,000 µg/kg to 480,000 µg/kg; and TNT from 34,000 µg/kg to 9,700,000 µg/kg. Additionally, soil and sediment samples obtained throughout the area revealed barium levels ranging from 43,000 µg/kg to 1,600,000 µg/kg; lead from 6,600 µg/kg to 57,000 µg/kg; and zinc from 21,000 µg/kg to 150,000 µg/kg (Ecology and Environment 1987; Dames and Moore 1985).

The SI was designed to sample the locations of the former burn cages as determined by historical information, believing them to have been potential point sources for soil contamination. SI samples are summarized below, and sample locations are depicted on Figure 3-32.

Sample	Analyses	Sample Type	Depth	Location
32-SA-01-01	Explosives Metals VOCs SemiVOCs	C	0-18"	Collected from southern area of SWMU, approximately 165 feet N.W. of the "Gate Control" sign situated on the main east-west road through the area. Three aliquots.
32-SA-02-01	Explosives Metals	C	0-18"	Collected from the northern portion of the SWMU, approximately 75 feet N.N.E. of location 32-SA-01-01. Three aliquots.

Table 3-34 summarizes the SI sample results reported above CRLs; Table 3-34a reports those results above exceedance criteria.

3.34.3 Evaluation of Site

Sample 32-SA-01-01 was reported to contain low levels of several metals, however these were found to be within acceptable exceedance criteria. No volatile or explosive compounds were detected above associated CRLs. A value of 3.2 mg/kg was reported for the semivolatile di-n-butyl phthalate, which exceeded the CRL.

Sample 32-SA-02-01 contained low levels of several metals, all within acceptable naturally occurring limits. No explosives were reported in this sample above the CRLs.

SI sampling results collected from this SWMU indicated no significant levels of explosives, metals, or volatiles. A reportable semivolatile value was noted in the sample obtained from the southern portion of the SWMU.

Based on the SI sampling, it does not appear that contamination is widespread at this location. Further, the small semivolatile reading may not necessarily warrant the SWMU's inclusion in the RI. However, because of the nature of the SWMU, it is probable that any contamination would exist in close proximity to the point source burn cages, the exact former locations of which are not known. Additionally, adjacent SWMUs to the east and west of the burn cages (SWMUs 34 and 33, respectively) exhibited significant explosives and metals contamination. It is therefore recommended that this SWMU be included in the RI, to further attempt to pinpoint the former burn cage locations and any associated contamination, and to investigate the possibility of overland contaminant migration from the aforementioned adjacent SWMUs. A summary report of all analytical results associated with the SI of this site is included in Appendix B.

Table 3-34

IAAP-32 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP32	SO	METALS	ARSENIC	32-SA-01	08/13/1991	32SA0101Y	1.500	6.96	=B9	2.5	UGG
				32-SA-02	08/13/1991	32SA0201Y	1.500	5.78	=B9	2.5	UGG
			BARIUM	32-SA-01	08/13/1991	32SA0101Y	1.500	202.0	=JS12	3.29	UGG
				32-SA-02	08/13/1991	32SA0201Y	1.500	174.0	=JS12	3.29	UGG
			BERYLLIUM	32-SA-01	08/13/1991	32SA0101Y	1.500	0.831	=JS12	0.427	UGG
				32-SA-02	08/13/1991	32SA0201Y	1.500	0.921	=JS12	0.427	UGG
			CHROMIUM	32-SA-01	08/13/1991	32SA0101Y	1.500	22.7	=JS12	1.04	UGG
				32-SA-02	08/13/1991	32SA0201Y	1.500	23.8	=JS12	1.04	UGG
			COPPER	32-SA-01	08/13/1991	32SA0101Y	1.500	19.3	=JS12	2.84	UGG
				32-SA-02	08/13/1991	32SA0201Y	1.500	25.6	=JS12	2.84	UGG
			LEAD	32-SA-01	08/13/1991	32SA0101Y	1.500	20.0	=JD21	0.467	UGG
				32-SA-02	08/13/1991	32SA0201Y	1.500	15.0	=JD21	0.467	UGG
			MERCURY	32-SA-01	08/13/1991	32SA0101Y	1.500	0.057	=Y9	0.05	UGG
				32-SA-02	08/13/1991	32SA0201Y	1.500	0.07	=Y9	0.05	UGG
			NICKEL	32-SA-01	08/13/1991	32SA0101Y	1.500	18.7	=JS12	2.74	UGG
				32-SA-02	08/13/1991	32SA0201Y	1.500	17.9	=JS12	2.74	UGG
			ZINC	32-SA-01	08/13/1991	32SA0101Y	1.500	66.1	=JS12	2.34	UGG
				32-SA-02	08/13/1991	32SA0201Y	1.500	60.5	=JS12	2.34	UGG
		SEMIVOLATILES	DI-N-BUTYL PHTHALATE	32-SA-01	08/13/1991	32SA0101Y	1.500	3.2	=LM25	1.3	UGG

Table 3-34a

IAAP-32 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP32	SO	SEMIVOLATILES	DI-N-BUTYL PHTHALATE	32-SA-01	08/13/1991	32SA0101Y	1.500	3.2	=LM25	1.3	UGG

3.35 IAAP-33 (BURN CAGE ASH DISPOSAL LANDFILL)

3.35.1 Site Description and History

The Burn Cage Ash Disposal Landfill is situated east of and adjacent to the Burn Cages (IAAP-32). The landfill is located near the center of the EDA, which lies in the northeast corner of the IAAP facility (Plate 1; D-2). The Burn Cage Ash Disposal Landfill consists of an old landfill measuring approximately 350 by 125 feet. The landfill is covered with vegetation showing no significant signs of stress (Figure 3-33). It was in operation from 1949 to 1982. The landfill received residual ash generated from the Burn Cages. The SWMU is situated on the side of a hill bottoming out at a ravine. Combustion residue was pushed over the side and covered with soil (Denz 1990). The site setting and hydrogeology for the Burn Cage Ash Disposal Landfill is consistent with the EDA as a whole, and is detailed in section 3.14.1.

The surface water nearest the Burn Cage Ash Disposal Landfill is Spring Creek, a perennial stream which runs through the EDA from north to south, and provides drainage to the area. The creek flows directly into the Mississippi River less than one mile above the confluence of the Skunk and Mississippi rivers. (The Skunk River confluence is approximately 6 miles from the southeast corner of the IAAP property.) Spring Creek originates north of the facility and receives effluent from the sewage treatment facility of West Burlington, Iowa. The floodplain of the stream valley is approximately 400 feet wide (EBASCO 1988; AEHA 1985). Runoff is to the northeast, towards Spring Creek.

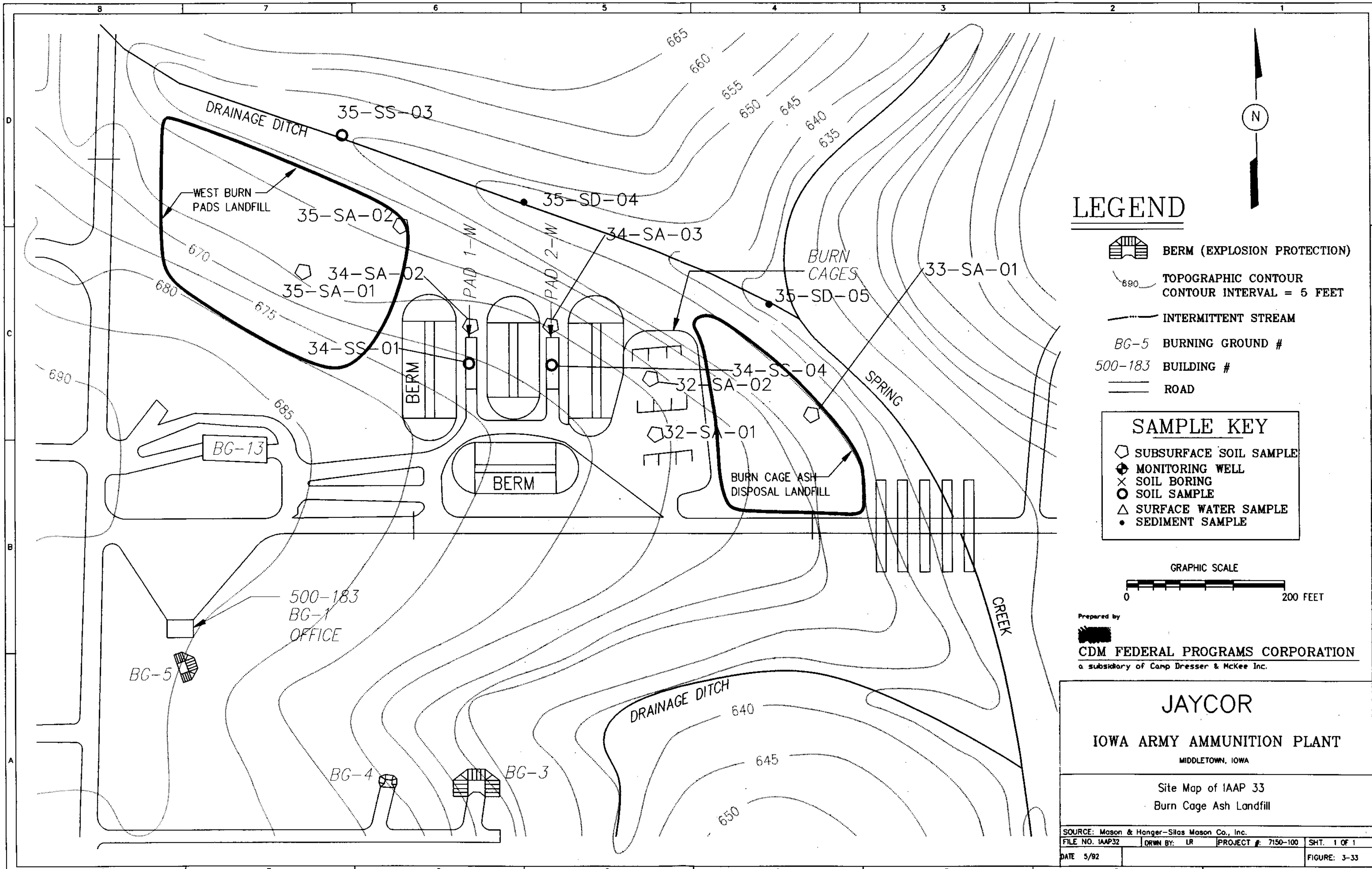
Groundwater recharge occurs in the broad, flat fields that lie along the stream divides, and results from precipitation. Recharge is expected to be low due to the low permeability of the soil. While no quantitative evidence substantiating groundwater recharge from Spring Creek exists, the upper bedrock aquifer may be recharged during runoff events in drought seasons. Specifically, recharge would occur in the lower reaches of the creek where deep stream incisions have exposed bedrock.

Public access to IAAP is restricted, and the EDA is in a remote area of the facility. Shallow groundwater beneath the area is known to be contaminated, as are soils in the area; however, it is unknown whether this contamination is attributable to the Burn Cage Ash Disposal Landfill, or to other activities at the EDA (See Section 3.35.2). Flora and fauna are potential receptors of contamination, particularly those species that inhabit the vicinity of Spring Creek. Consumption of deer and other wild game affected by contamination may provide a vehicle for food chain uptake to human receptors.

3.35.2 Summary of Previous Investigations

No previous investigations have taken place in this specific vicinity of the EDA. For information on the overall EDA investigation, refer to section 3.34.2.

The SI sampling rational focused on characterizing the soil quality at and below the surface of the landfill. SI samples are summarized below, and sample locations are depicted on Figure 3-33.


DRAINAGE DITCH
35-SS-03
WEST BURN PADS LANDFILL
35-SD-04
35-SA-02
34-SA-03
34-SA-02
35-SA-01
PAD 1-W
PAD 2-W
BURN CAGES
33-SA-01
35-SD-05
34-SS-01
34-SS-04
32-SA-02
32-SA-01
BERM
BERM
SPRING
BG-13
BURN CAGE ASH DISPOSAL LANDFILL
CREEK
500-183
BG-1
OFFICE
BG-5
DRAINAGE DITCH
BG-4
BG-3
665
660
655
650
645
640
635
670
680
675
690
685
640
645
650
N
LEGEND
BERM (EXPLOSION PROTECTION)
690
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM
BG-5 BURNING GROUND #
500-183 BUILDING #
ROAD
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0
200 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 33
Burn Cage Ash Landfill
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP32
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-33

Sample	Analyses	Sample Type	Depth	Location
33-SA-01-01	Explosives Metals	G	0-6"	Sample was obtained approximately 196 feet north of the "Gate Check" sign in road.
33-SA-02-01	Explosives Metals	G	12-18"	Collected from same borehole as 33-SA-01-01.

Table 3-35 summarizes the SI sample results reported above CRLs; Table 3-35a reports those results above exceedance criteria.

3.35.3 Evaluation of Site

Sample 33-SA-01-01 was reported to contain low levels of lead, copper, and zinc above established exceedance levels. HMX was the only explosive detected at the qualified level of one-half of the CRL.

Sample 33-SA-01-02 reported notable contamination. All of the metals analyzed for were found at levels above the criteria, except for arsenic and mercury (see Table 3-35a). Additionally, several explosives were also found above respective CRLs: 2,4,6-trinitrotoluene at 49 mg/kg; 2,4-dinitrotoluene at 2.4 mg/kg; 2,6-dinitrotoluene at .47 mg/kg; RDX at 140 mg/kg; HMX at 87 mg/kg; and 1,3,5-trinitrobenzene at 30 mg/kg.

Based on the SI sampling, it appeared that contamination at the surface of the landfill may not exist at significant levels. However, elevated concentrations of metals and explosives were revealed in soils obtained at the stated depth below the cover horizon.

Based on current analytical results, it is recommended that this site does warrant inclusion in the Remedial Investigation. A summary report of all analytical results associated with the SI of this site is included in Appendix B.

Table 3-35

IAAP-33 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP33	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	33-SA-01	08/10/1991	33SA0102Y	1.000	30.0	=LW02	2.09	UGG
			2,4,6-TNT	33-SA-01	08/10/1991	33SA0102Y	1.000	49.0	=LW02	1.92	UGG
			2,4-DINITROTOLUENE	33-SA-01	08/10/1991	33SA0102Y	1.000	2.4	=LW02	0.42	UGG
			2,6-DINITROTOLUENE	33-SA-01	08/10/1991	33SA0102Y	1.000	0.47	=LW02	0.4	UGG
			HMX	33-SA-01	08/10/1991	33SA0101YP	0.500	0.68	=LW02	1.27	UGG
						33SA0102Y	1.000	87.0	=LW02	1.27	UGG
			RDX	33-SA-01	08/10/1991	33SA0102Y	1.000	140.0	=LW02	0.98	UGG
		METALS	ARSENIC	33-SA-01	08/10/1991	33SA0101Y	0.500	4.72	=B9	2.5	UGG
						33SA0102Y	1.000	5.44	=B9	2.5	UGG
			BARIUM	33-SA-01	08/10/1991	33SA0101Y	0.500	288.0	=JS12	3.29	UGG
						33SA0102Y	1.000	3,400.0	=JS12	3.29	UGG
			BERYLLIUM	33-SA-01	08/10/1991	33SA0101Y	0.500	0.729	=JS12	0.427	UGG
						33SA0102Y	1.000	1.27	=JS12	0.427	UGG
			CADMIUM	33-SA-01	08/10/1991	33SA0102Y	1.000	12.5	=JS12	1.2	UGG
			CHROMIUM	33-SA-01	08/10/1991	33SA0101Y	0.500	24.3	=JS12	1.04	UGG
						33SA0102Y	1.000	106.0	=JS12	1.04	UGG
			COPPER	33-SA-01	08/10/1991	33SA0101Y	0.500	40.7	=JS12	2.84	UGG
						33SA0102Y	1.000	1,150.0	=JS12	2.84	UGG
			LEAD	33-SA-01	08/10/1991	33SA0101Y	0.500	40.0	=JD21	0.467	UGG
						33SA0102Y	1.000	170.0	=JD21	0.467	UGG
			MERCURY	33-SA-01	08/10/1991	33SA0101Y	0.500	0.307	=Y9	0.05	UGG
						33SA0102Y	1.000	0.436	=Y9	0.05	UGG
			NICKEL	33-SA-01	08/10/1991	33SA0101Y	0.500	23.1	=JS12	2.74	UGG
						33SA0102Y	1.000	81.5	=JS12	2.74	UGG
			SILVER	33-SA-01	08/10/1991	33SA0102Y	1.000	11.7	=JS12	0.803	UGG
			ZINC	33-SA-01	08/10/1991	33SA0101Y	0.500	92.1	=JS12	2.34	UGG
						33SA0102Y	1.000	3,300.0	=JS12	2.34	UGG

Table 3-35a

IAAP-33 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP33	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	33-SA-01	08/10/1991	33SA0102Y	1.000	30.0	=LW02	2.09	UGG
			2,4,6-TNT	33-SA-01	08/10/1991	33SA0102Y	1.000	49.0	=LW02	1.92	UGG
			2,4-DINITROTOLUENE	33-SA-01	08/10/1991	33SA0102Y	1.000	2.4	=LW02	0.42	UGG
			2,6-DINITROTOLUENE	33-SA-01	08/10/1991	33SA0102Y	1.000	0.47	=LW02	0.4	UGG
			HMX	33-SA-01	08/10/1991	33SA0101YP	0.500	0.68	=LW02	1.27	UGG
						33SA0102Y	1.000	87.0	=LW02	1.27	UGG
			RDX	33-SA-01	08/10/1991	33SA0102Y	1.000	140.0	=LW02	0.98	UGG
		METALS	BARIUM	33-SA-01	08/10/1991	33SA0102Y	1.000	3,400.0	=JS12	3.29	UGG
			BERYLLIUM	33-SA-01	08/10/1991	33SA0102Y	1.000	1.27	=JS12	0.427	UGG
			CADMIUM	33-SA-01	08/10/1991	33SA0102Y	1.000	12.5	=JS12	1.2	UGG
			CHROMIUM	33-SA-01	08/10/1991	33SA0102Y	1.000	106.0	=JS12	1.04	UGG
			COPPER	33-SA-01	08/10/1991	33SA0101Y	0.500	40.7	=JS12	2.84	UGG
						33SA0102Y	1.000	1,150.0	=JS12	2.84	UGG
			LEAD	33-SA-01	08/10/1991	33SA0101Y	0.500	40.0	=JD21	0.467	UGG
						33SA0102Y	1.000	170.0	=JD21	0.467	UGG
			NICKEL	33-SA-01	08/10/1991	33SA0102Y	1.000	81.5	=JS12	2.74	UGG
			SILVER	33-SA-01	08/10/1991	33SA0102Y	1.000	11.7	=JS12	0.803	UGG
			ZINC	33-SA-01	08/10/1991	33SA0101Y	0.500	92.1	=JS12	2.34	UGG
						33SA0102Y	1.000	3,300.0	=JS12	2.34	UGG

3.36 IAAP-34 (WEST BURN PADS)

3.36.1 Site Description and History

The West Burn Pads are situated near center of the EDA between the West Burn Pads Landfill to the west, and the Burn Cages to the east. The EDA is located in the northeast corner of the IAAP facility (Plate 1; D-2). The West Burn Pads consist of two Burn Pads each measuring approximately 50 by 15 feet (Figure 3-34). The pads were used from 1949 to 1982 to flash explosives-contaminated metal parts to achieve a "XXXXX" decontamination status (denoting the cleanest rating for decontaminated materials-approved for sale to the public). Although the site has been abandoned, some metal parts, munitions casings, and staining on the ground surface were observed during the 14 August 1990 visual inspection (Denz 1990). The site setting and hydrogeology for the West Burn Pads is consistent with the EDA as a whole, and is detailed in section 3.14.1.

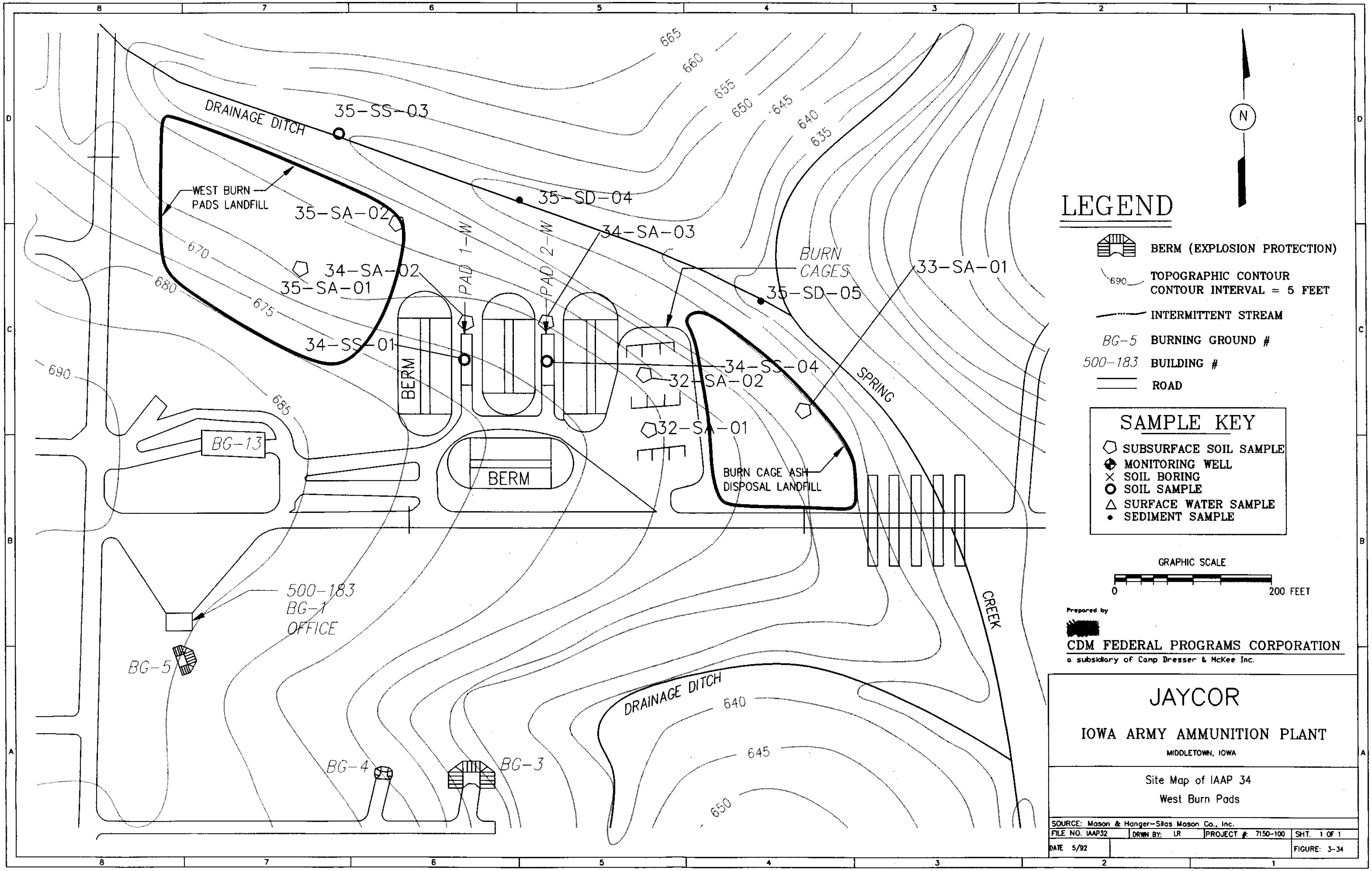
The nearest surface water to the West Burn Pads is Spring Creek, a perennial stream which runs through the EDA from north to south, and provides drainage to the area. The creek flows directly into the Mississippi River less than one mile above the confluence of the Skunk and Mississippi rivers. (The Skunk River confluence is approximately 6 miles from the southeast corner of the IAAP property.) Spring Creek originates north of the facility and receives effluent from the sewage treatment facility of West Burlington, Iowa. The floodplain of the stream valley is approximately 400 feet wide (EBASCO 1988; AEHA 1985). Runoff is to the north.

Groundwater recharge occurs in the broad, flat fields that lie along the stream divides, and results from precipitation. Recharge is expected to be low due to the low permeability of the soil. While no quantitative evidence substantiating groundwater recharge from Spring Creek exists, the upper bedrock aquifer may be recharged during runoff events in drought seasons. Specifically, recharge would occur in the lower reaches of the creek where deep stream incisions have exposed bedrock.

Public access to IAAP is restricted, and the EDA is in a remote area of the facility. Shallow groundwater beneath the area is known to be contaminated, as are soils in the area; however, it is unknown whether this contamination is attributable to the West Burn Pads or to other activities at the EDA (See Section 3.36.2). Flora and fauna are potential receptors of contamination, particularly those species that inhabit the vicinity of Spring Creek. Consumption of deer and other wild game affected by contamination may provide a vehicle for food chain uptake to human receptors.

3.36.2 Summary of Previous Investigations

While no documented sampling has occurred at the West Burn Pads prior to the August 1991 SI, previous investigations have taken place in the vicinity of the EDA East Burn Pads, which are similar to the IAAP-34 West Burn Pads in purpose and historic use. The West Burn Pads are situated approximately 1800 feet east-northeast of the SWMU. In 1987, Ecology and Environment, Inc. performed a contamination assessment of the EDA as part of a RCRA Facility Assessment (RFA). Samples obtained from soils immediately adjacent to the east burn pads revealed very high levels of RDX, HMX, 1,3,5 trinitrobenzene, and 2,4,6 - TNT. Sediment samples collected from Spring Creek showed no significant levels of the aforementioned compounds; however, chromium was present at high levels in all downgradient samples. Background soil and upstream sediment samples showed these contaminants to be within


DRAINAGE DITCH
35-SS-03
WEST BURN PADS LANDFILL
35-SD-04
35-SA-02
34-SA-03
34-SA-02
35-SA-01
PAD 1-W
PAD 2-W
BURN CAGES
33-SA-01
35-SD-05
34-SS-01
34-SS-04
32-SA-02
32-SA-01
BERM
BERM
SPRING
CREEK
BURN CAGE ASH DISPOSAL LANDFILL
BG-13
500-183
BG-1
OFFICE
BG-5
BG-4
BG-3
DRAINAGE DITCH
665
660
655
650
645
640
635
670
675
680
685
690
640
645
650
LEGEND
BERM (EXPLOSION PROTECTION)
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM
BG-5 BURNING GROUND #
500-183 BUILDING #
ROAD
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0
200 FEET
N
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 34
West Burn Pads
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP32
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-34

acceptable levels. All samples, however, showed extremely high concentrations of barium, which could suggest that the EDA was not the source. Further, high levels of lead and zinc were also present throughout the area.

A groundwater study of the EDA was performed by the AMC from February 1984 to March 1985. The study involved sampling the 5 monitoring wells surrounding the EDA east burn pads for explosive and organic compounds. Monitoring well EDA02 revealed low concentrations of 2,4,6 - TNT; however, the remaining wells registered concentrations below the U.S. Army suggested interim drinking water limit of 44 µg/L. HMX and 2,4-DNT were also identified only in EDA02. Additionally, RDX was found in wells EDA02 and EDA04 at levels above the Army interim drinking water limit of 35 µg/L. A Dames and Moore facility-wide groundwater investigation from late 1985 to early 1986 revealed elevated levels of RDX and HMX in EDA area wells.

Groundwater sample results obtained from wells situated in the EDA during the 1985-1986 Dames and Moore investigation revealed RDX at 149 µg/L in well EDA02, and both HMX and RDX in well EDA04 at 35 µg/L and 24 µg/L, respectively. Soil samples adjacent to EDA east burn pads obtained during the 1987 RFA revealed RDX levels ranging from 93,000 µg/kg to 2,000,000 µg/kg; HMX from 34,000 µg/kg to 430,000 µg/kg; 1,3,5 trinitrobenzene from 13,000 µg/kg to 480,000 µg/kg; and TNT from 34,000 µg/kg to 9,700,000 µg/kg. Additionally, soil and sediment samples obtained throughout the area revealed barium levels ranging from 43,000 µg/kg to 1,600,000 µg/kg; lead from 6,600 µg/kg to 57,000 µg/kg; and zinc from 21,000 µg/kg to 150,000 µg/kg (Ecology and Environment 1987; Dames and Moore 1985).

The SI sampling rational focused on characterizing soil quality at the locations on the pads where flashing explosives took place, and in the initial drainage pathway of the pads. SI samples are summarized below, and sample locations are depicted on Figure 3-34.

Sample	Analyses	Sample Type	Depth	Location
34-SS-01-01	Explosives Metals VOCs SemiVOCs	G	0-6"	Surface grab obtained from the western burn pad, beneath the gravel covering, one foot from the termination of the gravel path.
34-SA-02-01	Explosives Metals VOCs SemiVOCs	C	0-18"	Composite of three aliquots: 0-6 inches, 6-12 inches, and 12-18 inches. Sample was obtained 3 feet north of the termination of the westernmost burn pad gravel path.
34-SA-03-01	Explosives Metals VOCs SemiVOCs	C	0-18"	Composite of three aliquots: 0-6 inches, 6-12 inches, and 12-18 inches. Sample was obtained 3 feet north of the termination of the easternmost burn pad gravel path.
34-SS-04-01	Explosives Metals VOCs SemiVOCs	G	0-6"	Surface grab obtained from the eastern burn pad, beneath the gravel covering, one foot from the termination of the gravel path.

Table 3-36 summarizes the SI sample results reported above CRLs; Table 3-36a reports those results above exceedance criteria.

3.36.3 Evaluation of Site

Sample 34-SS-01-01 was reported to contain elevated levels of four metals: zinc at 501 mg/kg, copper at 341 mg/kg, lead at 57 mg/kg, and cadmium at 1.83 mg/kg. Additionally, HMX at 3.1 mg/kg and di-n-butyl-phthalate at 2.27 mg/kg were detected above their respective CRL levels. RDX was detected at the qualified level of 0.4 mg/kg; one-half of the CRL. No volatiles were detected above CRLs.

Sample 34-SA-02-01 contained levels of copper (138 mg/kg), chromium (156 mg/kg), beryllium (1.15 mg/kg), and zinc (106 mg/kg) above background values. The semivolatile di-n-butyl-phthalate was also detected at 3.48 mg/kg, above its CRL. No volatile or explosive contaminants were reported above CRLs.

Sample 34-SA-03-01 yielded levels of copper (74.8 mg/kg), zinc (309 mg/kg), cadmium (1.88 mg/kg), and a significant lead value at 760 mg/kg. Di-n-butyl-phthalate was detected at 3.01 mg/kg, above its CRL. No volatile or explosive contaminants were reported above CRLs.

Sample 34-SS-04-01 reported the greatest contamination of the samples obtained at the SWMU. All metals were detected above exceedance criteria, with the exception of arsenic and mercury, the most notable metals found were lead at 1,000 mg/kg; barium at 1,210 mg/kg; and cadmium at 21.3 mg/kg. In addition, the semivolatiles di-n-butyl-phthalate (2.16 mg/kg); phenanthrene (0.265 mg/kg), 2-methylnaphtalene (0.284 mg/kg), Bis-2 Ethylhexyl Phthalate (1.22 mg/kg), Benzo-Anthracene (0.112 mg/kg), Chrysene (0.553 mg/kg), and Pyrene (0.304 mg/kg) were found above the CRLs. No explosives were detected above CRLs.

Results from samples collected during the SI indicate contamination at notable levels both in the vicinity of historical flashing and burning, and at minimum in the immediate drainage pathway of the pads. While organic and explosives contamination was not detected in all samples at relatively high concentrations, metal compounds at significant levels appear to be present at this location.

Based on current analytical results, it is recommended that this site does warrant inclusion in the Remedial Investigation. A summary report of all analytical results associated with the SI of this site is included in Appendix B.

Table 3-36

IAAP-34 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP34	SO	EXPLOSIVES	HMX	34-SS-01	08/13/1991	34SS0101Y	0.500	3.1	=LW02	1.27	UGG
				34-SS-04	08/13/1991	34SS0401YP	0.500	0.78	=LW02	1.27	UGG
			RDX	34-SS-01	08/13/1991	34SS0101YP	0.500	0.4	=LW02	0.98	UGG
		METALS	ARSENIC	34-SA-02	08/13/1991	34SA0201Y	1.500	5.81	=B9	2.5	UGG
				34-SA-03	08/13/1991	34SA0301Y	1.500	5.27	=B9	2.5	UGG
				34-SS-01	08/13/1991	34SS0101Y	0.500	5.62	=B9	2.5	UGG
				34-SS-04	08/13/1991	34SS0401Y	0.500	6.63	=B9	2.5	UGG
			BARIUM	34-SA-02	08/13/1991	34SA0201Y	1.500	268.0	=JS12	3.29	UGG
				34-SA-03	08/13/1991	34SA0301Y	1.500	474.0	=JS12	3.29	UGG
				34-SS-01	08/13/1991	34SS0101Y	0.500	9.49	=JS12	3.29	UGG
				34-SS-04	08/13/1991	34SS0401Y	0.500	1,210.0	=JS12	3.29	UGG
			BERYLLIUM	34-SA-02	08/13/1991	34SA0201Y	1.500	1.15	=JS12	0.427	UGG
				34-SA-03	08/13/1991	34SA0301Y	1.500	0.629	=JS12	0.427	UGG
				34-SS-01	08/13/1991	34SS0101Y	0.500	0.812	=JS12	0.427	UGG
				34-SS-04	08/13/1991	34SS0401Y	0.500	1.25	=JS12	0.427	UGG
			CADMIUM	34-SA-03	08/13/1991	34SA0301Y	1.500	1.88	=JS12	1.2	UGG
				34-SS-01	08/13/1991	34SS0101Y	0.500	1.83	=JS12	1.2	UGG
				34-SS-04	08/13/1991	34SS0401Y	0.500	21.3	=JS12	1.2	UGG
			CHROMIUM	34-SA-02	08/13/1991	34SA0201Y	1.500	156.0	=JS12	1.04	UGG
				34-SA-03	08/13/1991	34SA0301Y	1.500	27.0	=JS12	1.04	UGG
				34-SS-01	08/13/1991	34SS0101Y	0.500	54.2	=JS12	1.04	UGG
				34-SS-04	08/13/1991	34SS0401Y	0.500	148.0	=JS12	1.04	UGG
			COPPER	34-SA-02	08/13/1991	34SA0201Y	1.500	138.0	=JS12	2.84	UGG
				34-SA-03	08/13/1991	34SA0301Y	1.500	74.8	=JS12	2.84	UGG
				34-SS-01	08/13/1991	34SS0101Y	0.500	341.0	=JS12	2.84	UGG
				34-SS-04	08/13/1991	34SS0401Y	0.500	2,900.0	=JS12	2.84	UGG
			LEAD	34-SA-02	08/13/1991	34SA0201Y	1.500	24.0	=JD21	0.467	UGG
				34-SA-03	08/13/1991	34SA0301Y	1.500	760.0	=JD21	0.467	UGG
				34-SS-01	08/13/1991	34SS0101Y	0.500	57.0	=JD21	0.467	UGG
				34-SS-04	08/13/1991	34SS0401Y	0.500	1,000.0	=JD21	0.467	UGG
			MERCURY	34-SA-02	08/13/1991	34SA0201Y	1.500	0.056	=Y9	0.05	UGG
				34-SA-03	08/13/1991	34SA0301Y	1.500	0.086	=Y9	0.05	UGG
				34-SS-04	08/13/1991	34SS0401Y	0.500	0.157	=Y9	0.05	UGG
			NICKEL	34-SA-02	08/13/1991	34SA0201Y	1.500	23.8	=JS12	2.74	UGG
				34-SA-03	08/13/1991	34SA0301Y	1.500	19.3	=JS12	2.74	UGG
				34-SS-01	08/13/1991	34SS0101Y	0.500	38.6	=JS12	2.74	UGG
				34-SS-04	08/13/1991	34SS0401Y	0.500	60.4	=JS12	2.74	UGG
			SILVER	34-SS-04	08/13/1991	34SS0401Y	0.500	1.73	=JS12	0.803	UGG
			ZINC	34-SA-02	08/13/1991	34SA0201Y	1.500	106.0	=JS12	2.34	UGG
				34-SA-03	08/13/1991	34SA0301Y	1.500	309.0	=JS12	2.34	UGG
				34-SS-01	08/13/1991	34SS0101Y	0.500	501.0	=JS12	2.34	UGG
				34-SS-04	08/13/1991	34SS0401Y	0.500	4,600.0	=JS12	2.34	UGG
		SEMIVOLATILES	2-METHYLNAPHTHALENE	34-SS-04	08/13/1991	34SS0401Y	0.500	0.284	=LM25	0.032	UGG
			BENZO(A)ANTHRACENE	34-SS-04	08/13/1991	34SS0401Y	0.500	0.112	=LM25	0.48	UGG
			BIS (2-ETHYLHEXYL) PHTHALATE	34-SS-04	08/13/1991	34SS0401Y	0.500	1.22	=LM25	0.48	UGG
			CHRYSENE	34-SS-04	08/13/1991	34SS0401Y	0.500	0.553	=LM25	0.032	UGG
			DI-N-BUTYL PHTHALATE	34-SA-02	08/13/1991	34SA0201Y	1.500	3.48	=LM25	1.3	UGG
				34-SA-03	08/13/1991	34SA0301Y	1.500	3.01	=LM25	1.3	UGG
				34-SS-01	08/13/1991	34SS0101Y	0.500	2.27	=LM25	1.3	UGG
				34-SS-04	08/13/1991	34SS0401Y	0.500	2.16	=LM25	1.3	UGG
			PHENANTHRENE	34-SS-04	08/13/1991	34SS0401Y	0.500	0.265	=LM25	0.032	UGG

Table 3-36

IAAP-34 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			PYRENE	34-SS-04	08/13/1991	34SS0401Y	0.500	0.304	=LM25	0.083	UGG

Table 3-36a

IAAP-34 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP34	SO	EXPLOSIVES	HMX	34-SS-01	08/13/1991	34SS0101Y	0.500	3.1	=LW02	1.27	UGG
				34-SS-04	08/13/1991	34SS0401YP	0.500	0.78	=LW02	1.27	UGG
			RDX	34-SS-01	08/13/1991	34SS0101YP	0.500	0.4	=LW02	0.98	UGG
		METALS	BARIUM	34-SS-04	08/13/1991	34SS0401Y	0.500	1,210.0	=JS12	3.29	UGG
			BERYLLIUM	34-SA-02	08/13/1991	34SA0201Y	1.500	1.15	=JS12	0.427	UGG
				34-SS-04	08/13/1991	34SS0401Y	0.500	1.25	=JS12	0.427	UGG
			CADMIUM	34-SA-03	08/13/1991	34SA0301Y	1.500	1.88	=JS12	1.2	UGG
				34-SS-01	08/13/1991	34SS0101Y	0.500	1.83	=JS12	1.2	UGG
				34-SS-04	08/13/1991	34SS0401Y	0.500	21.3	=JS12	1.2	UGG
			CHROMIUM	34-SA-02	08/13/1991	34SA0201Y	1.500	156.0	=JS12	1.04	UGG
				34-SS-01	08/13/1991	34SS0101Y	0.500	54.2	=JS12	1.04	UGG
				34-SS-04	08/13/1991	34SS0401Y	0.500	148.0	=JS12	1.04	UGG
			COPPER	34-SA-02	08/13/1991	34SA0201Y	1.500	138.0	=JS12	2.84	UGG
				34-SA-03	08/13/1991	34SA0301Y	1.500	74.8	=JS12	2.84	UGG
				34-SS-01	08/13/1991	34SS0101Y	0.500	341.0	=JS12	2.84	UGG
				34-SS-04	08/13/1991	34SS0401Y	0.500	2,900.0	=JS12	2.84	UGG
			LEAD	34-SA-03	08/13/1991	34SA0301Y	1.500	760.0	=JD21	0.467	UGG
				34-SS-01	08/13/1991	34SS0101Y	0.500	57.0	=JD21	0.467	UGG
				34-SS-04	08/13/1991	34SS0401Y	0.500	1,000.0	=JD21	0.467	UGG
			NICKEL	34-SS-04	08/13/1991	34SS0401Y	0.500	60.4	=JS12	2.74	UGG
			SILVER	34-SS-04	08/13/1991	34SS0401Y	0.500	1.73	=JS12	0.803	UGG
			ZINC	34-SA-02	08/13/1991	34SA0201Y	1.500	106.0	=JS12	2.34	UGG
				34-SA-03	08/13/1991	34SA0301Y	1.500	309.0	=JS12	2.34	UGG
				34-SS-01	08/13/1991	34SS0101Y	0.500	501.0	=JS12	2.34	UGG
				34-SS-04	08/13/1991	34SS0401Y	0.500	4,600.0	=JS12	2.34	UGG
		SEMIVOLATILES	2-METHYLNAPHTHALENE	34-SS-04	08/13/1991	34SS0401Y	0.500	0.284	=LM25	0.032	UGG
			BENZO(A)ANTHRACENE	34-SS-04	08/13/1991	34SS0401Y	0.500	0.112	=LM25	0.48	UGG
			BIS (2-ETHYLHEXYL) PHTHALATE	34-SS-04	08/13/1991	34SS0401Y	0.500	1.22	=LM25	0.48	UGG
			CHRYSENE	34-SS-04	08/13/1991	34SS0401Y	0.500	0.553	=LM25	0.032	UGG
			DI-N-BUTYL PHTHALATE	34-SA-02	08/13/1991	34SA0201Y	1.500	3.48	=LM25	1.3	UGG
				34-SA-03	08/13/1991	34SA0301Y	1.500	3.01	=LM25	1.3	UGG
				34-SS-01	08/13/1991	34SS0101Y	0.500	2.27	=LM25	1.3	UGG
				34-SS-04	08/13/1991	34SS0401Y	0.500	2.16	=LM25	1.3	UGG
			PHENANTHRENE	34-SS-04	08/13/1991	34SS0401Y	0.500	0.265	=LM25	0.032	UGG
			PYRENE	34-SS-04	08/13/1991	34SS0401Y	0.500	0.304	=LM25	0.083	UGG

3.37 IAAP-35 (WEST BURN PADS LANDFILL)

3.37.1 Site Description and History

The West Burn Pads Landfill is situated immediately west of the West Burn Pads, and immediately north of Building BG-13. The landfill is just west of the center of the EDA, which lies in the northeast corner of the IAAP facility (Plate 1; D-2). The site is an old landfill measuring approximately 200 by 300 feet. The landfill is covered with soil, and the majority of the surface is vegetated. It was in operation from 1950 to 1975, receiving residue from the West Burn Pads (IAAP-34), as well as various types of solid waste such as waste paper, wood, and metal cans. The landfill also received waste from the EDA East Burn Pads (IAAP-12). The site supports varying amounts of vegetation, with the exception of the northeast section, which forms a wall of a drainage ditch running east-west (Figure 3-35). The face of the drainage ditch that abuts the landfill on its northeast side was observed to be stained with light reddish-brown soils. This discoloration may indicate the presence of explosives (Denz 1990). The site setting and hydrogeology for the West Burn Pads Landfill is consistent with the EDA as a whole, and is detailed in section 3.14.1.

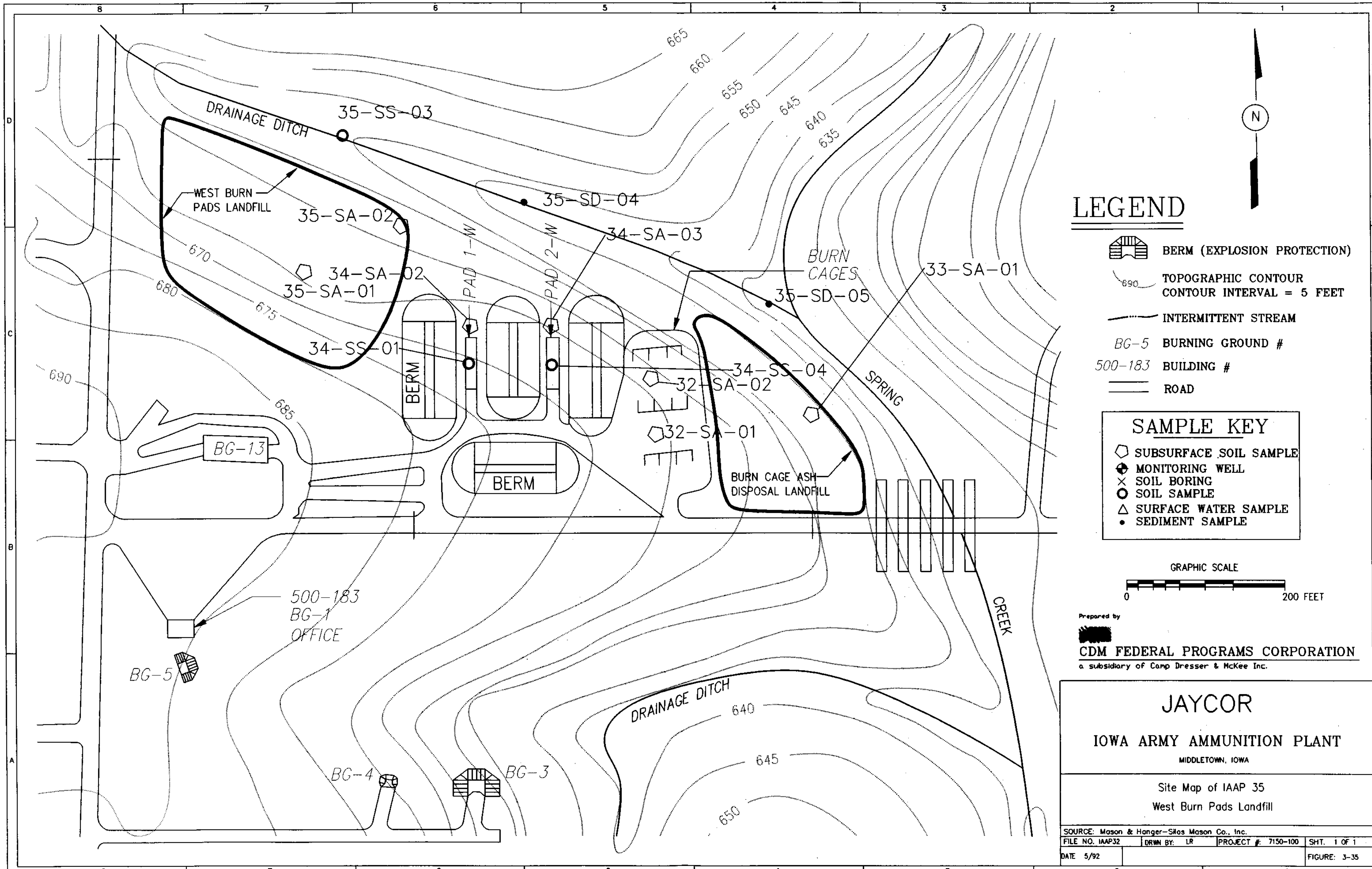
The nearest surface water to the West Burn Pads Landfill is Spring Creek, a perennial stream which runs through the EDA from north to south, and provides drainage to the area. The creek flows directly into the Mississippi River less than one mile above the confluence of the Skunk and Mississippi rivers. (The Skunk River confluence is approximately 6 miles from the southeast corner of the IAAP property.) Spring Creek originates north of the facility and receives effluent from the sewage treatment facility of West Burlington, Iowa. The floodplain of the stream valley is approximately 400 feet wide (EBASCO 1988; AEHA 1985). Runoff from the landfill is to the north, running directly into a drainage ditch which flows east into a confluence with Spring Creek approximately 400 feet away.

Groundwater recharge occurs in the broad, flat fields that lie along the stream divides, and results from precipitation. Recharge is expected to be low due to the low permeability of the soil. While no quantitative evidence substantiating groundwater recharge from Spring Creek exists, the upper bedrock aquifer may be recharged during runoff events in drought seasons. Specifically, recharge would occur in the lower reaches of the creek where deep stream incisions have exposed bedrock.

Public access to IAAP is restricted, and the EDA is in a remote area of the facility. Shallow groundwater beneath the area is known to be contaminated, as are soils in the area; however, it is unknown whether this contamination is attributable to the West Burn Pads Landfill or to other activities at the EDA (See Section 3.37.2). Flora and fauna are potential receptors of contamination, particularly those species that inhabit the vicinity of Spring Creek. Consumption of deer and other wild game affected by contamination may provide a vehicle for food chain uptake to human receptors.

3.37.2 Summary of Previous Investigations

No previous investigations have taken place in this specific vicinity of the EDA. For information on the overall EDA investigation refer to section 3.34.2.


DRAINAGE DITCH
35-SS-03
35-SD-04
34-SA-03
WEST BURN PADS LANDFILL
35-SA-02
34-SA-02
35-SA-01
PAD 1-W
PAD 2-W
BURN CAGES
33-SA-01
35-SD-05
34-SS-01
34-SS-04
32-SA-02
32-SA-01
BERM
BERM
SPRING
CREEK
BURN CAGE ASH DISPOSAL LANDFILL
BG-13
500-183 BG-1 OFFICE
BG-5
BG-4
BG-3
DRAINAGE DITCH
665
660
655
650
645
640
635
670
675
680
685
690
640
645
650
N
LEGEND
BERM (EXPLOSION PROTECTION)
690
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM
BG-5 BURNING GROUND #
500-183 BUILDING #
ROAD
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0
200 FEET
Prepared by
[redacted]
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 35
West Burn Pads Landfill
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP32
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-35

The SI sampling scheme was designed to characterize soil quality at and below the landfill surface, and sediment quality in the adjacent drainage ditch. Soil samples were obtained from upper and lower portions of the landfill, while sediment samples were collected from upstream, midstream, and downstream points along the ditch. SI samples are summarized below, and sample locations are depicted on Figure 3-35.

Sample	Analyses	Sample Type	Depth	Location
35-SA-01-01	Explosives Metals VOCs	G	0-6"	Surface grab obtained from 0-6 inches beneath the vegetated cover. Sample point was situated approximately 113.5 feet NNE of the NE corner of the wash building.
35-SA-01-02	Explosives Metals VOCs	G	8-14"	Subsurface grab obtained from 8-14 inches beneath the vegetated cover. Sample was from same borehole as 35-SA-01-01.
35-SA-02-01	Explosives Metals VOCs	C	0-18"	Composite of three aliquots: 0-6 inches, 6-12 inches, and 12-18 inches. Sample was obtained 75 feet south and upgradient of the ditch from unvegetated stained area.
35-SS-03-01	Explosives Metals VOCs	G	0-6"	Surface grab obtained from the drainage ditch, approximately 120 feet east of road.
35-SD-04-01	Explosives Metals VOCs	G	0-6"	Surface sediment collected 75 feet east of 35-SS-03-01 in ditch.
35-SD-04-02	Explosives Metals VOCs	G	0-12"	Duplicate of 35-SD-04-01.
35-SD-05-01	Explosives Metals VOCs	G	0-6"	Surface sediment collected 175 feet ESE of 35-SD-04-01 in ditch near Spring Creek confluence.
35-SD-06-01	Explosives Metals VOCs	G	0-6"	Surface sediment collected 40 feet west of road, in ditch.

Table 3-37 summarizes the SI sample results reported above CRLs; Table 3-37a reports those results above exceedance criteria.

3.37.3 Evaluation of Site

Sample 35-SA-01-01 was reported to contain low levels of several metals. All concentrations were under established exceedance levels, except for copper at 32.7 mg/kg. No explosives or volatiles were detected above the CRLs.

Sample 35-SA-01-02 reported the greatest contamination of the samples obtained at the SWMU. All metals were detected at significant levels above exceedance criteria (except for beryllium), most notably lead at 1,800 mg/kg; barium at 32,000 mg/kg; zinc at 18,000 mg/kg; copper at 27,000 mg/kg; and cadmium at 13.9 mg/kg. Significant concentrations of explosives were also reported, specifically 1,3,5-TNB at 38 mg/kg, RDX at 460 mg/kg, HMX at 230 mg/kg, and quantitated below criteria were 1,3 DNB at 0.46 mg/kg, and 2,4,6 TNT at 0.85 mg/kg. No volatiles were detected above CRLs.

Sample 35-SA-02-01 contained low levels of metals, all below exceedance criteria, with the exception of lead (63 mg/kg), and copper (35.9 mg/kg). Explosives above CRLs consisted of HMX (5.6 mg/kg) and RDX (1.9g/kg). No volatiles were reported above CRLs.

Sample 35-SS-03-01 contained levels of metals including copper (187 mg/kg), zinc (241 mg/kg), lead (48 mg/kg), chromium (29.4 mg/kg), silver (1.1 mg/kg), and barium (608 mg/kg). One explosive was reported above the CRL: HMX at 3.6 mg/kg. No volatiles were reported above CRLs.

Sample 35-SD-04-01 contained lead (55 mg/kg), zinc (141 mg/kg), and copper (197 mg/kg). No explosives or volatiles were reported above CRLs.

Sample 35-SD-04-02 was a duplicate of 35-SD-04-01 and contained lead (34 mg/kg), zinc (104 mg/kg), and copper (344/kg), as well as, beryllium (2.94 mg/kg), barium (549 mg/kg), and chromium (31 mg/kg) above the exceedance criteria. One explosive was reported above the CRL: 1,3-dinitrobenzene at 4.3 mg/kg. No volatiles were reported above CRLs.

Sample 35-SD-05-01 was reported to contain low levels of several metals. All concentrations were under established exceedance levels, with the exception of lead at 28.0 mg/kg. No explosives or volatiles were detected above the CRLs.

Sample 35-SD-06-01 was reported to contain low levels of several metals. All concentrations were under established exceedance levels. No explosives or volatiles were detected above the CRLs.

Results from samples collected during the SI indicate significant metals and explosives contamination below the landfill cover, as well as notable levels in midstream drainage ditch sediment samples. This may indicate potential migration of contamination from the landfill via the ditch, which confluences with Spring Creek several hundred feet downstream of the landfill.

Based on current analytical results, it is recommended that this site does warrant inclusion in the Remedial Investigation. A summary report of all analytical results associated with the SI of this site is included in Appendix B.

Table 3-37

IAAP-35 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP35	SD	EXPLOSIVES	1,3-DINITROBENZENE	35-SD-04	08/12/1991	35SD0402YD	0.300	4.3	=LW02	0.59	UGG
		METALS	ARSENIC	35-SD-04	08/12/1991	35SD0401Y	0.300	4.0	=B9	2.5	UGG
						35SD0402YD	0.300	5.73	=B9	2.5	UGG
				35-SD-05	08/12/1991	35SD0501Y	0.300	5.23	=B9	2.5	UGG
				35-SD-06	08/12/1991	35SD0601Y	0.300	4.13	=B9	2.5	UGG
			BARIUM	35-SD-04	08/12/1991	35SD0401Y	0.300	534.0	=JS12	3.29	UGG
						35SD0402YD	0.300	549.0	=JS12	3.29	UGG
				35-SD-05	08/12/1991	35SD0501Y	0.300	176.0	=JS12	3.29	UGG
				35-SD-06	08/12/1991	35SD0601Y	0.300	171.0	=JS12	3.29	UGG
			BERYLLIUM	35-SD-04	08/12/1991	35SD0401Y	0.300	0.902	=JS12	0.427	UGG
						35SD0402YD	0.300	2.94	=JS12	0.427	UGG
				35-SD-05	08/12/1991	35SD0501Y	0.300	0.799	=JS12	0.427	UGG
				35-SD-06	08/12/1991	35SD0601Y	0.300	0.774	=JS12	0.427	UGG
			CHROMIUM	35-SD-04	08/12/1991	35SD0401Y	0.300	27.2	=JS12	1.04	UGG
						35SD0402YD	0.300	31.0	=JS12	1.04	UGG
				35-SD-05	08/12/1991	35SD0501Y	0.300	23.1	=JS12	1.04	UGG
				35-SD-06	08/12/1991	35SD0601Y	0.300	22.0	=JS12	1.04	UGG
			COPPER	35-SD-04	08/12/1991	35SD0401Y	0.300	197.0	=JS12	2.84	UGG
						35SD0402YD	0.300	344.0	=JS12	2.84	UGG
				35-SD-05	08/12/1991	35SD0501Y	0.300	14.1	=JS12	2.84	UGG
				35-SD-06	08/12/1991	35SD0601Y	0.300	17.3	=JS12	2.84	UGG
			LEAD	35-SD-04	08/12/1991	35SD0401Y	0.300	55.0	=JD21	0.467	UGG
						35SD0402YD	0.300	54.0	=JD21	0.467	UGG
				35-SD-05	08/12/1991	35SD0501Y	0.300	28.0	=JD21	0.467	UGG
				35-SD-06	08/12/1991	35SD0601Y	0.300	20.0	=JD21	0.467	UGG
			MERCURY	35-SD-04	08/12/1991	35SD0401Y	0.300	0.073	=Y9	0.05	UGG
			NICKEL	35-SD-04	08/12/1991	35SD0401Y	0.300	32.6	=JS12	2.74	UGG
						35SD0402YD	0.300	15.3	=JS12	2.74	UGG
				35-SD-05	08/12/1991	35SD0501Y	0.300	14.5	=JS12	2.74	UGG
				35-SD-06	08/12/1991	35SD0601Y	0.300	15.5	=JS12	2.74	UGG
			ZINC	35-SD-04	08/12/1991	35SD0401Y	0.300	141.0	=JS12	2.34	UGG
						35SD0402YD	0.300	104.0	=JS12	2.34	UGG
				35-SD-05	08/12/1991	35SD0501Y	0.300	55.6	=JS12	2.34	UGG
				35-SD-06	08/12/1991	35SD0601Y	0.300	63.6	=JS12	2.34	UGG
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	35-SA-01	08/12/1991	35SA0102Y	1.200	38.0	=LW02	2.09	UGG
			1,3-DINITROBENZENE	35-SA-01	08/12/1991	35SA0102YP	1.200	0.46	=LW02	0.59	UGG
			2,4,6-TNT	35-SA-01	08/12/1991	35SA0102YP	1.200	0.85	=LW02	1.92	UGG
			HMX	35-SA-01	08/12/1991	35SA0102Y	1.200	230.0	=LW02	1.27	UGG
				35-SA-02	08/13/1991	35SA0201Y	1.500	5.6	=LW02	1.27	UGG
				35-SS-03	08/12/1991	35SS0301Y	0.500	3.6	=LW02	1.27	UGG
			RDX	35-SA-01	08/12/1991	35SA0102Y	1.200	460.0	=LW02	0.98	UGG
				35-SA-02	08/13/1991	35SA0201Y	1.500	1.9	=LW02	0.98	UGG
		METALS	ARSENIC	35-SA-01	08/12/1991	35SA0101Y	0.500	6.37	=B9	2.5	UGG
						35SA0102Y	1.200	12.8	=B9	2.5	UGG
				35-SA-02	08/13/1991	35SA0201Y	1.500	3.46	=B9	2.5	UGG
				35-SS-03	08/12/1991	35SS0301Y	0.500	6.98	=B9	2.5	UGG
			BARIUM	35-SA-01	08/12/1991	35SA0101Y	0.500	248.0	=JS12	3.29	UGG
						35SA0102Y	1.200	32,000.0	=JS12	3.29	UGG
				35-SA-02	08/13/1991	35SA0201Y	1.500	368.0	=JS12	3.29	UGG
				35-SS-03	08/12/1991	35SS0301Y	0.500	608.0	=JS12	3.29	UGG
			BERYLLIUM	35-SA-01	08/12/1991	35SA0101Y	0.500	0.839	=JS12	0.427	UGG

Table 3-37

IAAP-35 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						35SA0102Y	1.200	0.626	=JS12	0.427	UGG
				35-SA-02	08/13/1991	35SA0201Y	1.500	0.682	=JS12	0.427	UGG
				35-SS-03	08/12/1991	35SS0301Y	0.500	0.766	=JS12	0.427	UGG
			CADMIUM	35-SA-01	08/12/1991	35SA0102Y	1.200	13.9	=JS12	1.2	UGG
			CHROMIUM	35-SA-01	08/12/1991	35SA0101Y	0.500	28.1	=JS12	1.04	UGG
						35SA0102Y	1.200	213.0	=JS12	1.04	UGG
				35-SA-02	08/13/1991	35SA0201Y	1.500	18.2	=JS12	1.04	UGG
				35-SS-03	08/12/1991	35SS0301Y	0.500	29.4	=JS12	1.04	UGG
			COPPER	35-SA-01	08/12/1991	35SA0101Y	0.500	32.7	=JS12	2.84	UGG
						35SA0102Y	1.200	27,000.0	=JS12	2.84	UGG
				35-SA-02	08/13/1991	35SA0201Y	1.500	35.9	=JS12	2.84	UGG
				35-SS-03	08/12/1991	35SS0301Y	0.500	187.0	=JS12	2.84	UGG
			LEAD	35-SA-01	08/12/1991	35SA0101Y	0.500	16.0	=JD21	0.467	UGG
						35SA0102Y	1.200	1,800.0	=JD21	0.467	UGG
				35-SA-02	08/13/1991	35SA0201Y	1.500	63.0	=JD21	0.467	UGG
				35-SS-03	08/12/1991	35SS0301Y	0.500	48.0	=JD21	0.467	UGG
			MERCURY	35-SA-01	08/12/1991	35SA0101Y	0.500	0.062	=Y9	0.05	UGG
						35SA0102Y	1.200	1.04	=Y9	0.05	UGG
				35-SA-02	08/13/1991	35SA0201Y	1.500	0.071	=Y9	0.05	UGG
				35-SS-03	08/12/1991	35SS0301Y	0.500	0.078	=Y9	0.05	UGG
			NICKEL	35-SA-01	08/12/1991	35SA0101Y	0.500	18.9	=JS12	2.74	UGG
						35SA0102Y	1.200	511.0	=JS12	2.74	UGG
				35-SA-02	08/13/1991	35SA0201Y	1.500	10.6	=JS12	2.74	UGG
				35-SS-03	08/12/1991	35SS0301Y	0.500	21.8	=JS12	2.74	UGG
			SILVER	35-SA-01	08/12/1991	35SA0102Y	1.200	11.3	=JS12	0.803	UGG
				35-SS-03	08/12/1991	35SS0301Y	0.500	1.1	=JS12	0.803	UGG
			ZINC	35-SA-01	08/12/1991	35SA0101Y	0.500	64.2	=JS12	2.34	UGG
						35SA0102Y	1.200	18,000.0	=JS12	2.34	UGG
				35-SA-02	08/13/1991	35SA0201Y	1.500	58.9	=JS12	2.34	UGG
				35-SS-03	08/12/1991	35SS0301Y	0.500	241.0	=JS12	2.34	UGG
		VOLATILES	TOLUENE	35-SA-01	08/12/1991	35SA0102Y	1.200	0.127	=LM23	0.1	UGG

Table 3-37a

IAAP-35 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP35	SD	EXPLOSIVES	1,3-DINITROBENZENE	35-SD-04	08/12/1991	35SD0402YD	0.300	4.3	=LW02	0.59	UGG
		METALS	BERYLLIUM	35-SD-04	08/12/1991	35SD0402YD	0.300	2.94	=JS12	0.427	UGG
			CHROMIUM	35-SD-04	08/12/1991	35SD0402YD	0.300	31.0	=JS12	1.04	UGG
			COPPER	35-SD-04	08/12/1991	35SD0401Y	0.300	197.0	=JS12	2.84	UGG
						35SD0402YD	0.300	344.0	=JS12	2.84	UGG
			LEAD	35-SD-04	08/12/1991	35SD0401Y	0.300	55.0	=JD21	0.467	UGG
						35SD0402YD	0.300	54.0	=JD21	0.467	UGG
				35-SD-05	08/12/1991	35SD0501Y	0.300	28.0	=JD21	0.467	UGG
			ZINC	35-SD-04	08/12/1991	35SD0401Y	0.300	141.0	=JS12	2.34	UGG
						35SD0402YD	0.300	104.0	=JS12	2.34	UGG
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	35-SA-01	08/12/1991	35SA0102Y	1.200	38.0	=LW02	2.09	UGG
			1,3-DINITROBENZENE	35-SA-01	08/12/1991	35SA0102YP	1.200	0.46	=LW02	0.59	UGG
			2,4,6-TNT	35-SA-01	08/12/1991	35SA0102YP	1.200	0.85	=LW02	1.92	UGG
			HMX	35-SA-01	08/12/1991	35SA0102Y	1.200	230.0	=LW02	1.27	UGG
				35-SA-02	08/13/1991	35SA0201Y	1.500	5.6	=LW02	1.27	UGG
				35-SS-03	08/12/1991	35SS0301Y	0.500	3.6	=LW02	1.27	UGG
			RDX	35-SA-01	08/12/1991	35SA0102Y	1.200	460.0	=LW02	0.98	UGG
				35-SA-02	08/13/1991	35SA0201Y	1.500	1.9	=LW02	0.98	UGG
		METALS	ARSENIC	35-SA-01	08/12/1991	35SA0102Y	1.200	12.8	=B9	2.5	UGG
			BARIUM	35-SA-01	08/12/1991	35SA0102Y	1.200	32,000.0	=JS12	3.29	UGG
				35-SS-03	08/12/1991	35SS0301Y	0.500	608.0	=JS12	3.29	UGG
			CADMIUM	35-SA-01	08/12/1991	35SA0102Y	1.200	13.9	=JS12	1.2	UGG
			CHROMIUM	35-SA-01	08/12/1991	35SA0102Y	1.200	213.0	=JS12	1.04	UGG
				35-SS-03	08/12/1991	35SS0301Y	0.500	29.4	=JS12	1.04	UGG
			COPPER	35-SA-01	08/12/1991	35SA0101Y	0.500	32.7	=JS12	2.84	UGG
						35SA0102Y	1.200	27,000.0	=JS12	2.84	UGG
				35-SA-02	08/13/1991	35SA0201Y	1.500	35.9	=JS12	2.84	UGG
				35-SS-03	08/12/1991	35SS0301Y	0.500	187.0	=JS12	2.84	UGG
			LEAD	35-SA-01	08/12/1991	35SA0102Y	1.200	1,800.0	=JD21	0.467	UGG
				35-SA-02	08/13/1991	35SA0201Y	1.500	63.0	=JD21	0.467	UGG
				35-SS-03	08/12/1991	35SS0301Y	0.500	48.0	=JD21	0.467	UGG
			MERCURY	35-SA-01	08/12/1991	35SA0102Y	1.200	1.04	=Y9	0.05	UGG
			NICKEL	35-SA-01	08/12/1991	35SA0102Y	1.200	511.0	=JS12	2.74	UGG
			SILVER	35-SA-01	08/12/1991	35SA0102Y	1.200	11.3	=JS12	0.803	UGG
				35-SS-03	08/12/1991	35SS0301Y	0.500	1.1	=JS12	0.803	UGG
			ZINC	35-SA-01	08/12/1991	35SA0102Y	1.200	18,000.0	=JS12	2.34	UGG
				35-SS-03	08/12/1991	35SS0301Y	0.500	241.0	=JS12	2.34	UGG
		VOLATILES	TOLUENE	35-SA-01	08/12/1991	35SA0102Y	1.200	0.127	=LM23	0.1	UGG

3.38 IAAP-36 (NORTH BURN PADS)

3.38.1 Site Description and History

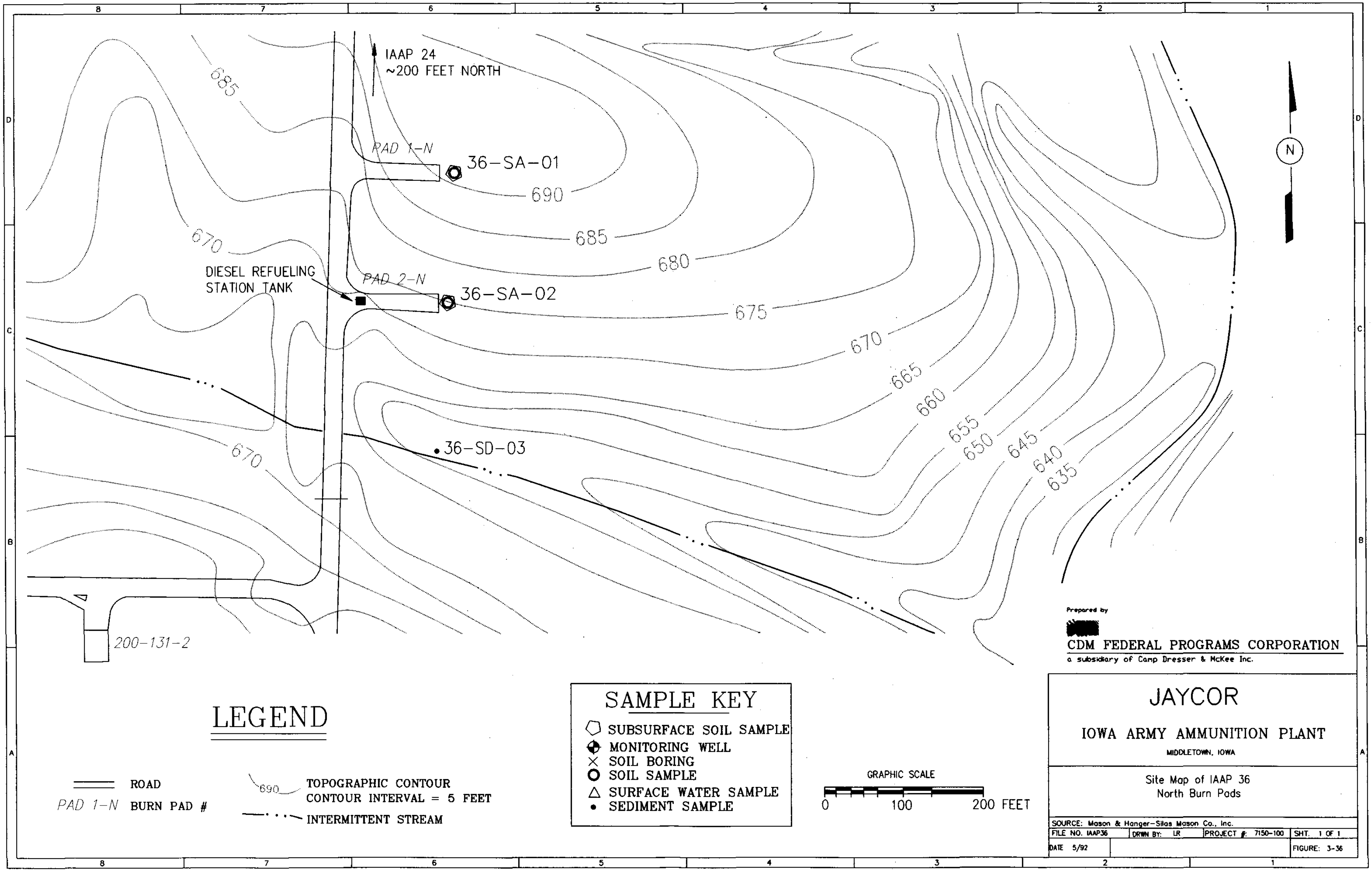
The North Burn Pads are situated within the EDA and just northwest of the center of the EDA, which is located in the northeast corner of the IAAP facility (Plate 1; E-2). The pads lie on the east side of the major roadway running north-south through the EDA. The Contaminated Waste Processor (IAAP-24) is located approximately 500 feet northeast of the pads.

The North Burn Pads consists of Pads 1-N and 2-N (Figure 3-36). Each pad measures about 20 by 50 feet. The reason is unclear, but approximately half of the gravel drive leading to the burn pad areas has been covered with fill dirt. The portion which has been covered is the part nearest to the access road. There are no visual signs indicating intentional burial of contamination or debris. The pads were in operation from 1968 to 1972. Lead azide and gun powder were burned on the same day the material was placed on the pads. A 275-gallon diesel fuel refueling station is located at the base of Pad 2-N immediately adjacent to the road. The station consists of an aboveground tank which is still being used to fuel equipment operating in the EDA. This tank is being excluded from further investigation as part of this RI, since it is still operational and would be regulated under RCRA.

The site setting is described in detail in Section 3.14.1, which presents the geology and surface features of the EDA. Geology over the entire EDA may vary considerably. Currently there have been no site specific geologic investigations performed at the North Burn Pads. However, general geologic conditions which exist at the EDA are believed to be representative of geology at the North Burn Pads. Site specific geology at the North Burn Pads would be further investigated, as necessary, to verify site specific characteristics. Five monitoring wells were installed in the vicinity of the EDA; monitoring well locations are shown on Plate 2. Analytical results of samples collected from these wells are presented in Section 3.38.2. This data and other geologic and hydrogeologic information from the EDA should be viewed with the knowledge that the EDA is approximately ¼ mile away and is separated from the North Burn Pads by Spring Creek.

The nearest surface water feature is an intermittent stream which flows just south of the burn pads. This streambed flows most consistently during the rainy periods of the spring and fall. The nearest perennial surface water to the EDA SWMUs is Spring Creek, a stream which runs through the EDA from north to south, and provides drainage to the area. The creek flows directly into the Mississippi River less than one mile above the confluence of the Skunk and Mississippi rivers. (The Skunk River confluence is approximately 6 miles from the southeast corner of the IAAP property.) Spring Creek originates north of the facility and receives effluent from the sewage treatment facility of West Burlington, Iowa. The floodplain of the stream valley is approximately 400 feet wide (EBASCO 1988; AEHA 1985).

Runoff in the western portion of the EDA is toward monitoring wells EDA02 and EDA03, and toward EDA04 in eastern portions. EDA02 and EDA04 are located in a possible recharge area, so it is likely that any contamination is due to the percolation of surface water tainted by open burning (Army Munitions Command 1988; AEHA 1985).


IAAP 24
~200 FEET NORTH
PAD 1-N
36-SA-01
690
685
680
675
670
665
660
655
650
645
640
635
DIESEL REFUELING
STATION TANK
PAD 2-N
36-SA-02
36-SD-03
200-131-2
N
LEGEND
ROAD
PAD 1-N BURN PAD #
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0 100 200 FEET
Prepared by
[redacted]
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 36
North Burn Pads
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP36
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-36

Groundwater recharge and results from precipitation and occurs in the broad, flat fields that lie along the stream divides. Recharge is expected to be low due to the low permeability of the soil. While no quantitative evidence substantiating groundwater recharge from Spring Creek exists, the upper bedrock aquifer may be recharged during runoff events in drought seasons. Specifically, recharge would occur in the lower reaches of the creek where deep stream incisions have exposed bedrock (Army Munitions Command 1985; EBASCO 1988).

Public access to IAAP is restricted, and the EDA is in a remote area of the facility. Shallow groundwater beneath the area is known to be contaminated, as are soils in the area; however, it is unknown whether this contamination is attributable to the North Burn Pads, or the result of other activities at the EDA (See Section 3.38.2). Flora and fauna are potential receptors of contamination, particularly those species that inhabit the vicinity of Spring Creek. Consumption of deer and other wild game affected by contamination may provide a vehicle for food chain uptake to human receptors.

3.38.2 Summary of Previous Investigations

Numerous contaminant studies have been performed at IAAP, primarily centering around entire watersheds at the early stages, moving toward more SWMU-based sampling in the last several years. The first facility-wide investigation was conducted by ERG, Inc. in 1982. A follow-up study in 1984 by Battelle centered on areas found to be contaminated in the ERG study, specifically the Spring and Brush Creek watersheds. Additionally, the AMC performed a groundwater study of EDA monitoring wells from February 1984 to March 1985. As a result of a citizen's complaint, the Army Environmental Hygiene Agency sampled 41 monitoring wells, primarily off-site, checking for contaminant migration. In 1986 Dames & Moore performed a study similar to the ERG investigation. An RFA was staged by Ecology and Environment (E & E) in August 1986. Recently, EBASCO conducted RCRA Part B inspections focusing on several SWMUs, including the EDA open burn area.

While no documented sampling has occurred at the North Burn Pads, previous investigations have taken place in the vicinity of the EDA East Burn Pads, situated approximately 1500 feet east of this SWMU. In August 1986, E & E performed a contamination assessment of the EDA as part of a RFA. Samples obtained from soils immediately adjacent to the EDA East Burn Pads revealed high levels of RDX, HMX, 1,3,5 trinitrobenzene, and 2,4,6 - TNT. Sediment samples collected from Spring Creek showed no significant levels of the aforementioned compounds; however, chromium was present at high levels in all downgradient samples. Background soil and upstream sediment samples showed these contaminants to be within acceptable levels. All samples, however, showed high concentrations of barium, which could suggest that the EDA was not the source.

A groundwater study of the EDA was performed by the Army Armament Munitions Command (AMC) from February 1984 to March 1985. The study involved sampling the 5 monitoring wells surrounding the EDA East Burn Pads (IAAP-12) for explosive and organic compounds. Monitoring well EDA02 revealed low concentrations of 2,4,6 - TNT; however, the remaining monitoring wells registered concentrations below the U.S. Army suggested interim drinking water limit of 44 μg/L. HMX and 2,4-DNT were also identified only in monitoring well EDA02. Additionally, RDX was found in monitoring wells EDA02 and EDA04 at levels above the Army interim drinking water limit of 35 μg/L. A Dames & Moore facility-wide groundwater investigation from late 1985 to early 1986 revealed elevated levels of RDX and HMX in EDA area monitoring wells (Plate 2).

Groundwater sample results obtained from monitoring wells situated in the EDA during the 1985-1986 Dames & Moore investigation revealed RDX at 149 µg/L in monitoring well EDA02, and both HMX and RDX in monitoring well EDA04 at 35 µg/L and 24 µg/L, respectively. Analytical results from these monitoring wells are provided for informational purposes since they are the nearest monitoring wells to the North Burn Pads. This data should be reviewed with the knowledge that the monitoring wells are approximately ¼ mile away, and are separated by Spring Creek.

The SI sampling scheme was designed to assess possible contamination at the two North Burn Pads and any associated surface water drainage pathways servicing this area. SI samples are summarized below and sample locations are depicted on Figure 3-36.

Sample	Analyses	Sample Type	Depth	Location
36-SA-01-01	Metals Explosives	G	0-6"	The surface sample was obtained 55 feet east of edge of gravel road. This sample associated with Pad 1-N.
36-SA-01-02	Metals Explosives VOCs SemiVOCs	G	12-18"	The sample was collected from the same hole as 36-SA-01-01 at a depth of 1-1½ feet. This sample associated with Pad 1-N.
36-SA-02-01	Metals Explosives VOCs SemiVOCs	G	0-6"	The surface sample was obtained 32 feet east of northeast leg of diesel tank, approximately 20 feet east of road. This sample associated with Pad 2-N.
36-SA-02-02	Metals Explosives VOCs SemiVOCs	G	12-18"	The surface sample was obtained from the same hole as 36-SA-02-01, at a depth of 1½ feet. This sample associated with Pad 2-N.
36-SD-03-01	Metals Explosives	G	0-6"	The sample was collected 4½ feet south of south end of culvert under road where diesel tank is located, in drainage trench bottom. This sample associated with Pad 2-N.

Table 3-38 summarizes all results that were reported above CRLs; Table 3-38a presents those results that were reported above the evaluation criteria.

3.38.3 Evaluation of Site

This site evaluation is based solely upon data collected during the SI since no previous data applies directly to the North Burn Pads area.

All samples collected at the North Burn Pads contained metals above the evaluation criteria (Table 3-2a). Sample location 36-SA-01 contained copper and zinc above the evaluation criteria.

Sample locations 36-SA-02 and 36-SD-03 contained high levels of lead, barium, chromium, nickel, and zinc. The sample locations and metal concentrations are presented in Table 3-38.

Sample 36-SA-01-02 contained 2.5 mg/kg of bis(2-ethylhexyl) phthalate which is a common laboratory contaminant, and therefore, is not being considered a process contaminant.

Based on review of the SI sample results for the North Burn Pads, it is recommended that additional sampling be conducted to more accurately determine the degree and extent of contamination which exists at the site. Since no other compounds were detected for which analyses were performed (i.e. volatiles, semivolatiles, or explosives), analyses conducted during the Phase I RI should be limited to metals only.

A summary report of all analytical results associated with this site is included in Appendix B.

Table 3-38

IAAP-36 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP36	SD	METALS	ARSENIC	36-SD-03	08/09/1991	36SD0301Y	0.500	5.2	=B9	2.5	UGG
			BARIUM	36-SD-03	08/09/1991	36SD0301Y	0.500	164.0	=JS12	3.29	UGG
			CHROMIUM	36-SD-03	08/09/1991	36SD0301Y	0.500	43.8	=JS12	1.04	UGG
			COPPER	36-SD-03	08/09/1991	36SD0301Y	0.500	1,600.0	=JS12	2.84	UGG
			LEAD	36-SD-03	08/09/1991	36SD0301Y	0.500	50.0	=JD21	0.467	UGG
			NICKEL	36-SD-03	08/09/1991	36SD0301Y	0.500	25.3	=JS12	2.74	UGG
			ZINC	36-SD-03	08/09/1991	36SD0301Y	0.500	582.0	=JS12	2.34	UGG
	SO	METALS	ARSENIC	36-SA-01	08/09/1991	36SA0101Y	0.500	5.86	=B9	2.5	UGG
						36SA0102Y	1.500	6.7	=B9	2.5	UGG
				36-SA-02	08/09/1991	36SA0201Y	0.500	6.22	=B9	2.5	UGG
						36SA0202Y	1.500	7.29	=B9	2.5	UGG
			BARIUM	36-SA-01	08/09/1991	36SA0101Y	0.500	199.0	=JS12	3.29	UGG
						36SA0102Y	1.500	216.0	=JS12	3.29	UGG
				36-SA-02	08/09/1991	36SA0201Y	0.500	183.0	=JS12	3.29	UGG
						36SA0202Y	1.500	982.0	=JS12	3.29	UGG
			BERYLLIUM	36-SA-01	08/09/1991	36SA0101Y	0.500	0.637	=JS12	0.427	UGG
						36SA0102Y	1.500	0.667	=JS12	0.427	UGG
				36-SA-02	08/09/1991	36SA0201Y	0.500	0.747	=JS12	0.427	UGG
						36SA0202Y	1.500	0.705	=JS12	0.427	UGG
			CADMIUM	36-SA-02	08/09/1991	36SA0202Y	1.500	2.88	=JS12	1.2	UGG
			CHROMIUM	36-SA-01	08/09/1991	36SA0101Y	0.500	23.4	=JS12	1.04	UGG
						36SA0102Y	1.500	25.9	=JS12	1.04	UGG
				36-SA-02	08/09/1991	36SA0201Y	0.500	25.3	=JS12	1.04	UGG
						36SA0202Y	1.500	304.0	=JS12	1.04	UGG
			COPPER	36-SA-01	08/09/1991	36SA0101Y	0.500	45.5	=JS12	2.84	UGG
						36SA0102Y	1.500	64.3	=JS12	2.84	UGG
				36-SA-02	08/09/1991	36SA0201Y	0.500	58.5	=JS12	2.84	UGG
						36SA0202Y	1.500	17,000.0	=JS12	2.84	UGG
			LEAD	36-SA-01	08/09/1991	36SA0101Y	0.500	27.0	=JD21	0.467	UGG
						36SA0102Y	1.500	26.0	=JD21	0.467	UGG
				36-SA-02	08/09/1991	36SA0201Y	0.500	17.0	=JD21	0.467	UGG
						36SA0202Y	1.500	760.0	=JD21	0.467	UGG
			MERCURY	36-SA-01	08/09/1991	36SA0102Y	1.500	0.057	=Y9	0.05	UGG
			NICKEL	36-SA-01	08/09/1991	36SA0101Y	0.500	18.4	=JS12	2.74	UGG
						36SA0102Y	1.500	19.8	=JS12	2.74	UGG
				36-SA-02	08/09/1991	36SA0201Y	0.500	19.4	=JS12	2.74	UGG
						36SA0202Y	1.500	87.4	=JS12	2.74	UGG
			ZINC	36-SA-01	08/09/1991	36SA0101Y	0.500	73.3	=JS12	2.34	UGG
						36SA0102Y	1.500	136.0	=JS12	2.34	UGG
				36-SA-02	08/09/1991	36SA0201Y	0.500	73.0	=JS12	2.34	UGG
						36SA0202Y	1.500	10,000.0	=JS12	2.34	UGG
		SEMIVOLATILES	BIS (2-ETHYLHEXYL) PHTHALATE	36-SA-01	08/09/1991	36SA0102Y	1.500	2.49	=LM25	0.48	UGG

Table 3-38a

IAAP-36 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP36	SD	METALS	CHROMIUM	36-SD-03	08/09/1991	36SD0301Y	0.500	43.8	=JS12	1.04	UGG
			COPPER	36-SD-03	08/09/1991	36SD0301Y	0.500	1,600.0	=JS12	2.84	UGG
			LEAD	36-SD-03	08/09/1991	36SD0301Y	0.500	50.0	=JD21	0.467	UGG
			ZINC	36-SD-03	08/09/1991	36SD0301Y	0.500	582.0	=JS12	2.34	UGG
	SO	METALS	BARIUM	36-SA-02	08/09/1991	36SA0202Y	1.500	982.0	=JS12	3.29	UGG
			CADMIUM	36-SA-02	08/09/1991	36SA0202Y	1.500	2.88	=JS12	1.2	UGG
			CHROMIUM	36-SA-02	08/09/1991	36SA0202Y	1.500	304.0	=JS12	1.04	UGG
			COPPER	36-SA-01	08/09/1991	36SA0101Y	0.500	45.5	=JS12	2.84	UGG
						36SA0102Y	1.500	64.3	=JS12	2.84	UGG
				36-SA-02	08/09/1991	36SA0201Y	0.500	58.5	=JS12	2.84	UGG
						36SA0202Y	1.500	17,000.0	=JS12	2.84	UGG
			LEAD	36-SA-02	08/09/1991	36SA0202Y	1.500	760.0	=JD21	0.467	UGG
			NICKEL	36-SA-02	08/09/1991	36SA0202Y	1.500	87.4	=JS12	2.74	UGG
			ZINC	36-SA-01	08/09/1991	36SA0102Y	1.500	136.0	=JS12	2.34	UGG
				36-SA-02	08/09/1991	36SA0202Y	1.500	10,000.0	=JS12	2.34	UGG
		SEMIVOLATILES	BIS (2-ETHYLHEXYL) PHTHALATE	36-SA-01	08/09/1991	36SA0102Y	1.500	2.49	=LM25	0.48	UGG

3.39 IAAP-37 (NORTH BURN PADS LANDFILL)

3.39.1 Site Description and History

The North Burn Pads Landfill is situated just north of the center of the EDA, north of and immediately adjacent to the Contaminated Waste Processor (IAAP-24). The EDA is located in the northeast corner of the IAAP facility (Plate 1; E-2). A ravine parallels the northern border of the landfill.

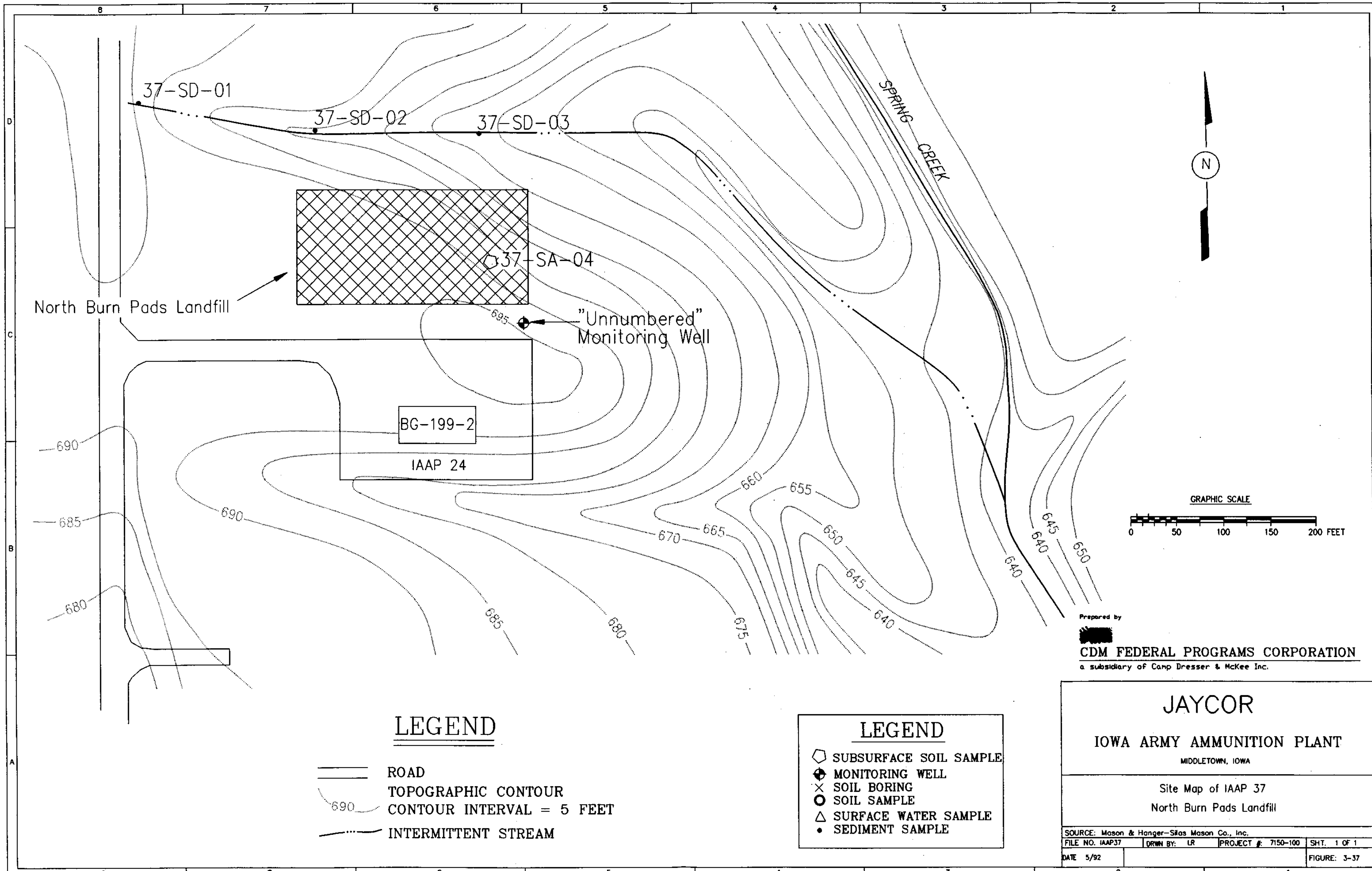
The North Burn Pads Landfill measures approximately 125 by 250 feet (Figure 3-37). It has been capped with clay and now supports vigorous vegetative growth. Waste types consisted of residue from the North Burn Pads, reported only to be flashed cans and containers. A clean-up operation was performed in 1980 during which all contents of the landfill were removed to the Inert Disposal Area. The landfill area was capped with clay and closed. The closure was not, however, a RCRA closure (Miller 1992). Due to the age and the manner in which it appears to have been constructed, the landfill is not believed to contain a liner or leachate collection system.

The site setting is described in detail in Section 3.14.1, which presents the geology and surface features of the EDA. Geology over the entire EDA may vary considerably. Currently there have been no site-specific geologic investigations performed at the North Burn Pads Landfill. However, general geologic conditions which exist at the EDA are believed to be representative of geology at the North Burn Pads Landfill. Site-specific geology at the North Burn Pads Landfill would be further investigated, as necessary, to verify site-specific characteristics. Five monitoring wells were installed in the vicinity of the EDA; well locations are shown on Plate 2. Analytical results of samples collected from these wells are presented in Section 3.39.2. This data and other geologic and hydrogeologic information from the EDA should be viewed with the knowledge that the EDA is approximately ¼ mile away and is separated from the North Burn Pads Landfill by Spring Creek.

One groundwater monitoring well (not numbered) is located just off the southeast corner of this site. The well was installed in November 1991 to monitor groundwater in the vicinity of a fuel oil tank formerly used with the Contaminated Waste Processor (IAAP-24). The tank has been removed and surrounding soil excavated. The monitoring well is approximately 26 feet deep. The well has been monitored for BTEX.

The nearest surface water to the EDA SWMUs is Spring Creek, a perennial stream which runs through the EDA from north to south, and provides drainage to the area. The creek flows directly into the Mississippi River less than one mile above the confluence of the Skunk and Mississippi rivers. (The Skunk River confluence is approximately 6 miles from the southeast corner of the IAAP property.) Spring Creek originates north of the facility and receives effluent from the sewage treatment facility of West Burlington, Iowa. The floodplain of the stream valley is approximately 400 feet wide (EBASCO 1988; AEHA 1985).

Runoff in the western portion of the EDA is toward monitoring wells EDA02 and EDA03, and toward EDA04 in eastern portions. EDA02 and EDA04 are located in a possible recharge area, so it is likely that any contamination is due to the percolation of surface water tainted by open burning (EBASCO 1988: Army Munitions Command 1985).


37-SD-01
37-SD-02
37-SD-03
SPRING CREEK
N
37-SA-04
North Burn Pads Landfill
695
"Unnumbered" Monitoring Well
BG-199-2
IAAP 24
690
685
680
690
660
655
670
665
650
645
640
685
680
675
645
640
640
650
GRAPHIC SCALE
0 50 100 150 200 FEET
LEGEND
ROAD
TOPOGRAPHIC CONTOUR
690 CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM
LEGEND
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 37
North Burn Pads Landfill
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP37
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-37

Groundwater recharge is believed to occur in the broad, flat fields that lie along the stream divides, and results from precipitation. Recharge is expected to be low due to the low permeability of the soil. While no quantitative evidence substantiating groundwater recharge from Spring Creek exists, the upper bedrock aquifer may be recharged during runoff events in drought seasons. Specifically, recharge would occur in the lower reaches of the creek where deep stream incisions have exposed bedrock.

Public access to IAAP is restricted, and the EDA is in a remote area of the facility. Shallow groundwater beneath the area is known to be contaminated, as are soils in the area; however, it is unknown whether this contamination is attributable to the North Burn Pads Landfill, or to other activities at the EDA (See Section 3.39.2). Flora and fauna are potential receptors of contamination, particularly those species that inhabit the vicinity of Spring Creek. Consumption of deer and other wild game affected by contamination may provide a vehicle for food chain uptake to human receptors.

3.39.2 Summary of Previous Investigations

Numerous contaminant studies have been performed at IAAP, primarily centering around entire watersheds at the early stages, moving toward more SWMU-based sampling in the last several years. The first facility-wide investigation was conducted by ERG, Inc. in 1982. A follow-up study in 1984 by Battelle centered on areas found to be contaminated in the ERG study, specifically the Spring and Brush Creek watersheds. Additionally, the AMC performed a groundwater study of EDA wells from February 1984 to March 1985. As a result of a citizen's complaint, the AEHA sampled 41 wells, primarily off-site, checking for contaminant migration. In 1986 Dames & Moore performed a study similar to the ERG investigation. An RFA was staged by Ecology and Environment (E & E) in August 1986. Recently, EBASCO conducted RCRA Part B inspections focusing on several SWMUs, including the EDA open burn area.

While no documented sampling has occurred at the North Burn Pads Landfill, previous investigations have taken place in the vicinity of the EDA East Burn Pads, situated approximately 2000 feet southeast of this SWMU. In August 1986, E & E performed a contamination assessment of the EDA as part of a RFA. Samples obtained from soils immediately adjacent to the EDA East Burn Pads revealed high levels of RDX, HMX, 1,3,5 trinitrobenzene, and 2,4,6 - TNT. Sediment samples collected from Spring Creek showed no significant levels of the aforementioned compounds; however, chromium was present at high levels in all downgradient samples. Background soil and upstream sediment samples showed these contaminants to be within acceptable levels.

A groundwater study of the EDA was performed by the AMC from February 1984 to March 1985. The study involved sampling the 5 monitoring wells surrounding the EDA east burn pads (IAAP-12) for explosive and organic compounds. Monitoring well EDA02 revealed low concentrations of 2,4,6 - TNT; however, the remaining monitoring wells registered concentrations below the U.S. Army suggested interim drinking water limit of 44 μg/L. HMX and 2,4-DNT were also identified only in monitoring well EDA02. Additionally, RDX was found in monitoring wells EDA02 and EDA04 at levels above the Army interim drinking water limit of 35 μg/L. A Dames & Moore facility-wide groundwater investigation from late 1985 to early 1986 revealed elevated levels of RDX and HMX in EDA area monitoring wells.

Groundwater sample results obtained from monitoring wells situated in the EDA during the 1985-1986 Dames & Moore investigation revealed RDX at 149 µg/L in monitoring well EDA02, and both HMX and RDX in monitoring well EDA04 at 35 µg/L and 24 µg/L, respectively. Analytical results from these monitoring wells are provided for informational purposes since they are the nearest monitoring wells to the North Burn Pads Landfill. This data should be reviewed with the knowledge that the monitoring wells are approximately ¼ mile away, and are separated from the North Burn Pads Landfill by Spring Creek. The groundwater monitoring well, which is not numbered, is located southeast of the landfill and revealed no BTEX contaminants.

The SI sampling scheme was designed to assess possible contamination at the North Burn Pads Landfill and any associated surface water drainage pathways in the area. SI samples are summarized below and sample locations are depicted on Figure 3-37.

Sample	Analyses	Sample Type	Depth	Location
37-SD-01-01	Metals Explosives	G	0-6".	The sample was collected from sediments in the ravine approximately 20 feet upstream (west) of the western edge of the landfill.
37-SD-02-01	Metals Explosives	G	0-6"	The sample was obtained from ravine sediments at a point approximately 150 feet east of (down-gulley) 39-SD-01-01.
37-SD-03-01	Metals Explosives	G	0-6"	The sample was obtained from ravine sediments at a point approximately 170 feet east of (down-gulley) 37-SD-02-01.
37-SA-04-01	Metals Explosives	G	0-6"	This sample was obtained approximately 150 feet north of the vent pipe of the contaminated waste processor (IAAP-24), north of building, north side of parking lot.
37-SA-04-02	Metals Explosives	G	4'-5'	Same location as 37-SA-04-01; depth of 4 to 5 feet.
37-SA-04-03	Metals Explosives	G	0-6"	Duplicate of 37-SA-04-01.

Six soil samples were collected from four locations at IAAP-37. Three samples were collected from separate locations in a ravine north and adjacent to the landfill, to determine if any leachate or surface runoff was impacting this drainage pathway. Three samples were collected from the same location (37-SA-04), at the south-central portion of the landfill near the Contaminated Waste Processor (IAAP-24).

3.39.3 Evaluation of Site

This site evaluation is based solely on data collected during the SI since no previous data applies directly to the North Burn Pads Landfill.

Several metals were detected in all samples. Chromium and selenium were detected slightly above the evaluation criteria (Table 3-2a). These concentrations were, however, within background values reported by the USGS (Table 3-2b). Sample 37-SA-04-02, collected 4 to 5 feet below ground surface on the landfill, revealed no contamination except selenium, which was reported slightly above background but within USGS background values.

No explosives were reported in any SI samples above CRLs.

Based on the reported fact that all wastes were removed from the North Burn Pads Landfill in 1980, that the extent of wastes deposited in the landfill during the period of use were flashed metal cans and containers, and that SI data revealed no contaminant levels above what can be considered background concentrations, this site does not warrant further investigation during the Remedial Investigation.

A summary report of all analytical results associated with the site is included in Appendix B.

Table 3-39

IAAP-37 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP37	SD	METALS	ARSENIC	37-SD-03	08/10/1991	37SD0301Y	0.500	5.24	=B9	2.5	UGG
			BARIUM	37-SD-01	08/10/1991	37SD0101Y	0.500	224.0	=JS12	3.29	UGG
				37-SD-02	08/10/1991	37SD0201Y	0.500	127.0	=JS12	3.29	UGG
				37-SD-03	08/10/1991	37SD0301Y	0.500	60.1	=JS12	3.29	UGG
			BERYLLIUM	37-SD-01	08/10/1991	37SD0101Y	0.500	0.709	=JS12	0.427	UGG
				37-SD-02	08/10/1991	37SD0201Y	0.500	0.968	=JS12	0.427	UGG
			CHROMIUM	37-SD-01	08/10/1991	37SD0101Y	0.500	21.1	=JS12	1.04	UGG
				37-SD-02	08/10/1991	37SD0201Y	0.500	29.9	=JS12	1.04	UGG
				37-SD-03	08/10/1991	37SD0301Y	0.500	9.55	=JS12	1.04	UGG
			COPPER	37-SD-01	08/10/1991	37SD0101Y	0.500	10.9	=JS12	2.84	UGG
				37-SD-02	08/10/1991	37SD0201Y	0.500	13.6	=JS12	2.84	UGG
			LEAD	37-SD-01	08/10/1991	37SD0101Y	0.500	21.0	=JD21	0.467	UGG
				37-SD-02	08/10/1991	37SD0201Y	0.500	10.0	=JD21	0.467	UGG
				37-SD-03	08/10/1991	37SD0301Y	0.500	11.0	=JD21	0.467	UGG
			MERCURY	37-SD-01	08/10/1991	37SD0101Y	0.500	0.094	=Y9	0.05	UGG
			NICKEL	37-SD-01	08/10/1991	37SD0101Y	0.500	16.0	=JS12	2.74	UGG
				37-SD-02	08/10/1991	37SD0201Y	0.500	19.3	=JS12	2.74	UGG
				37-SD-03	08/10/1991	37SD0301Y	0.500	4.71	=JS12	2.74	UGG
			ZINC	37-SD-01	08/10/1991	37SD0101Y	0.500	58.0	=JS12	2.34	UGG
				37-SD-02	08/10/1991	37SD0201Y	0.500	38.7	=JS12	2.34	UGG
				37-SD-03	08/10/1991	37SD0301Y	0.500	21.7	=JS12	2.34	UGG
	SO	METALS	ARSENIC	37-SA-04	08/09/1991	37SA0401Y	0.500	7.5	=B9	2.5	UGG
						37SA0402Y	5.000	4.16	=B9	2.5	UGG
						37SA0403YD	0.500	7.4	=B9	2.5	UGG
			BARIUM	37-SA-04	08/09/1991	37SA0401Y	0.500	195.0	=JS12	3.29	UGG
						37SA0402Y	5.000	123.0	=JS12	3.29	UGG
						37SA0403Y	0.500	200.0	=JS12	3.29	UGG
			BERYLLIUM	37-SA-04	08/09/1991	37SA0401Y	0.500	0.969	=JS12	0.427	UGG
						37SA0402Y	5.000	0.576	=JS12	0.427	UGG
						37SA0403Y	0.500	0.989	=JS12	0.427	UGG
			CHROMIUM	37-SA-04	08/09/1991	37SA0401Y	0.500	39.9	=JS12	1.04	UGG
						37SA0402Y	5.000	24.0	=JS12	1.04	UGG
						37SA0403Y	0.500	40.1	=JS12	1.04	UGG
			COPPER	37-SA-04	08/09/1991	37SA0401Y	0.500	22.4	=JS12	2.84	UGG
						37SA0402Y	5.000	8.54	=JS12	2.84	UGG
						37SA0403Y	0.500	22.2	=JS12	2.84	UGG
			LEAD	37-SA-04	08/09/1991	37SA0401Y	0.500	13.0	=JD21	0.467	UGG
						37SA0402Y	5.000	7.8	=JD21	0.467	UGG
						37SA0403YD	0.500	15.0	=JD21	0.467	UGG
			MERCURY	37-SA-04	08/09/1991	37SA0403YD	0.500	0.148	=Y9	0.05	UGG
			NICKEL	37-SA-04	08/09/1991	37SA0401Y	0.500	24.0	=JS12	2.74	UGG
						37SA0402Y	5.000	11.7	=JS12	2.74	UGG
						37SA0403Y	0.500	23.5	=JS12	2.74	UGG
			SELENIUM	37-SA-04	08/09/1991	37SA0402YD	5.000	0.735	=JD20	0.449	UGG
			ZINC	37-SA-04	08/09/1991	37SA0401Y	0.500	62.9	=JS12	2.34	UGG
						37SA0402Y	5.000	29.7	=JS12	2.34	UGG
						37SA0403Y	0.500	63.2	=JS12	2.34	UGG

Table 3-39a

IAAP-37 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP37	SD	METALS	CHROMIUM	37-SD-02	08/10/1991	37SD0201Y	0.500	29.9	=JS12	1.04	UGG
	SO	METALS	CHROMIUM	37-SA-04	08/09/1991	37SA0401Y	0.500	39.9	=JS12	1.04	UGG
						37SA0403Y	0.500	40.1	=JS12	1.04	UGG
			SELENIUM	37-SA-04	08/09/1991	37SA0402YD	5.000	0.735	=JD20	0.449	UGG

3.40 IAAP-38 (BUILDING 600-86 SEPTIC SYSTEM)

3.40.1 Site Description and History

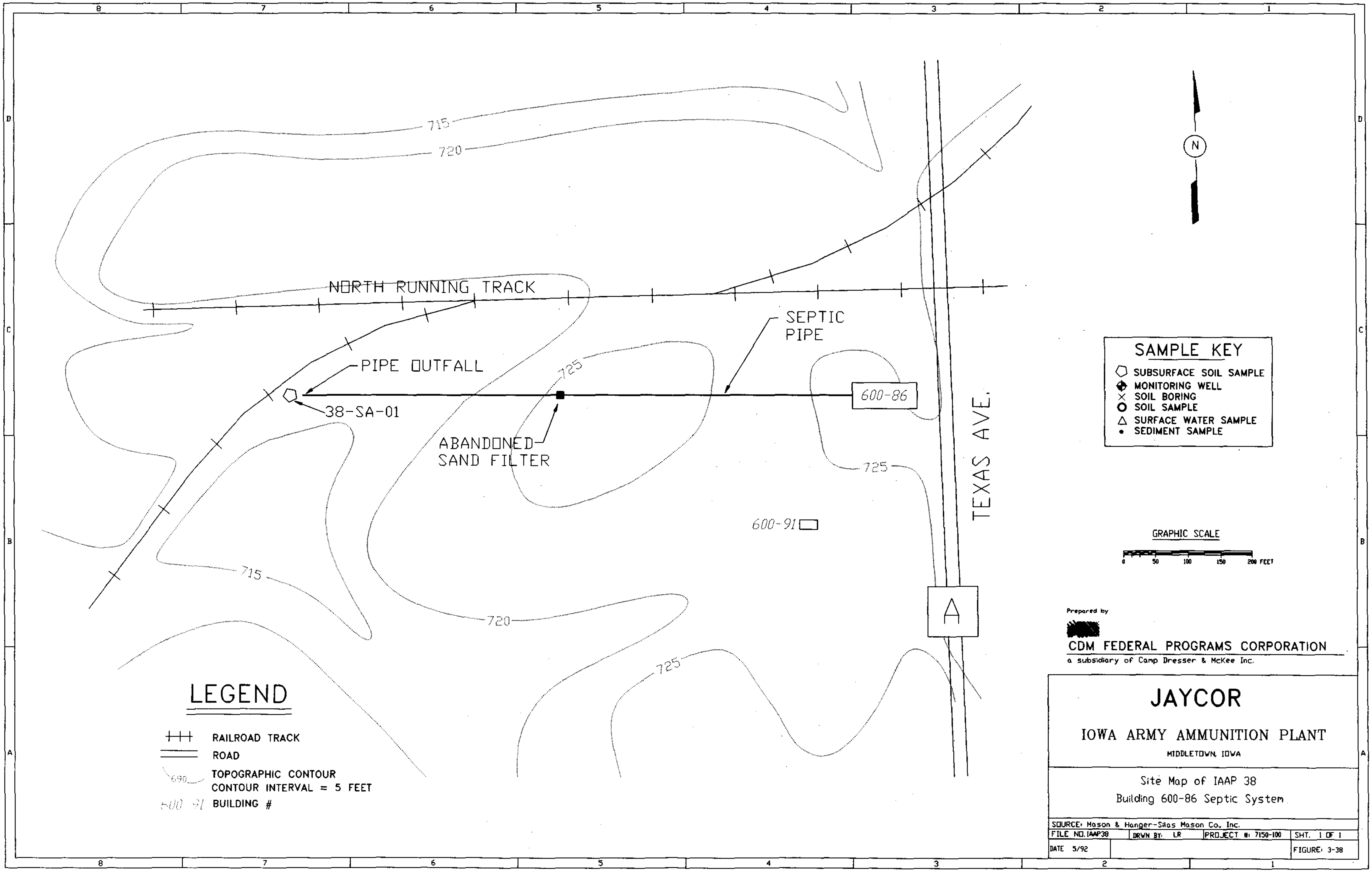
Building 600-86 is located in the north-central portion of the facility, on Texas Road where it intersects the north running track of the railroad (Plate 1; E-6). At least three other buildings are situated in the vicinity of 600-86; they serve as storage structures for inert materials, TNT, and fulminate of mercury. During the records search conducted as part of the PA for this site, a 1941 map indicated the existence of a well to the north of Building 600-86, and an Underground Storage Tank (UST) farm to the east. The focus of this site is the building's septic system which runs to the west of the building for approximately 865 feet. Building 600-86 and its septic system is illustrated in Figure 3-38.

Building 600-86, which measures 80 by 30 feet, has a central corridor and eight rooms. The building has served two known roles since its construction in 1941: it was an analytical lab (Central Chemical Lab) until approximately 1953; since 1953 two specific rooms within the building have been used for storage of RCRA hazardous wastes (EBASCO 1988). Additionally, one room houses a small solvent filtration unit. Small amounts of solvents that may be contaminated with explosives are accumulated in Room C, then filtered through a carbon column before being manifested off-site. The remainder of the building is unused.

Based on the limited documentation available on building 600-86, the function of the laboratory during its operation was to perform drinking water and wastewater analyses, as well as analysis of primer mixes containing lead azide in quantities of 10 to 20 milligrams. The waste from the primer tests was deactivated with ceric ammonium nitrate and the resultant waste solution was disposed of in the Explosive Disposal Area (IAAP-12) (USEPA 1990).

Room A is used to store spent solvents (primarily acetone and xylene) with a permitted capacity of 2640 gallons. The waste stored in Room A comes primarily from a solvent recovery system located at Building 103 at Line 1. The closed loop system at Line 1 recovers acetone, which is reused. The still bottoms from the system are containerized in 55-gallon drums and stored in Room A until manifested off-site as a D waste and incinerated. Heartland Environmental is the contractor IAAP uses to transport D waste materials from Room A off-site. Room A measures 28 feet, 11 inches by 14 feet, 11 inches. Room B is used to store waste liquids containing cyanide salts, and has a maximum capacity of 220 gallons. The room, which is permitted for storage of RCRA hazardous waste, measures 8 feet by 7 feet, 6 inches. Both Rooms A and B have concrete curbing 4 inches high, surrounding the perimeter. The building was reported to be completely enclosed and dry, with no leaks apparent, and was believed to have no affect on the area's surface water (Ecology and Environment, Inc. 1987).

Room C, which measures 28 feet, 6 inches by 12 feet, is used to treat explosive contaminated solvents by use of carbon filters, and to store excess laboratory chemicals. The solvent treatment system in Room C receives waste solvent from around the facility (primarily acetone), which may potentially be contaminated with explosives. The carbon filters are used to separate the explosives from the solvents. The waste solvents, less the explosives, are manifested off-site as contaminated still bottoms (D waste) and incinerated. Carbon filters are manifested off-site via another contractor. A notice of permit modification to modify Hazardous Waste Management Permit No. IA7213820445 was submitted to the EPA in May 1991 to amend the permit to include the activities performed in Room C.



NORTH RUNNING TRACK
SEPTIC PIPE
PIPE OUTFALL
38-SA-01
ABANDONED SAND FILTER
600-86
600-91
TEXAS AVE.
A
715
720
725
N
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0 50 100 150 200 FEET
LEGEND
RAILROAD TRACK
ROAD
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
600 91 BUILDING #
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 38
Building 600-86 Septic System
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP38
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-38

The laboratory building was constructed with its own septic tank and drain. This septic system is reported to have received primarily sanitary wastewater, while the titrated primer mixes were disposed of at IAAP-12. The 1991 VSI confirmed the existence of a number of drains entering the floor. These drains lead to the septic system. Sometime after 1983, sludge from the septic tank was removed and the tank filled with sand. The waste pipe opening that led to the septic tank from the floor drains was also plugged in 1983.

The following waste types have been/are present at Building 600-86:

Laboratory Wastes:

IAAP wastewater (and chemicals required to perform analyses)
Lead Azide
Ceric Ammonium Nitrate

RCRA Hazardous Wastes and Codes:

Acetone	F003
Xylene	F003
Toluene	F005
Alcohols	F003
Benzene	F005
Chloroform	D044
Karl Fisher Reagent	D001
Methyl Ethyl Ketone	F005
Acetonitrile	D003
Thinner	D001
Stoddard Solvent	D001
1,1,1-Trichloroethane	F001
Trichloroethylene	F001
Soluble Cyanide Salts	P030

The closest known well for which a geologic log is available is monitoring well DM-10, located approximately 2000 feet north/northeast of Building 600-86 (Dames & Moore 1990) (Plate 2). Well DM-10 is 18 feet deep, with a surface elevation of 728.6 feet. Stratigraphy consists of 0-10 feet of moist, stiff clay grading to soft clay; then, from 10-18 feet, clay, some silt, and trace sand grading to trace gravel at depth.

The surface elevation of Building 600-86 is at 720 to 725 feet above msl. The building is located near the top of the Long Creek watershed, just south of the easternmost fork of the creek which is intermittent in that proximity. Runoff would naturally move north and west into the eastern fork of Long Creek. Long Creek is a habitat for aquatic life, and a source of food and water for wildlife. Further downstream Long Creek empties into Mathes Lake, which is used for recreation.

3.40.2 Summary of Previous Investigations

After the septic tank was closed, the tank sludge was tested for EP Toxicity on 18 November 1983. The results indicated there was no EP Toxicity listed contamination outside of the limits allowed for sewage.

The SI sampling effort for IAAP-38 focused on the soil below the septic drain outfall. The sample obtained was analyzed for explosives, volatiles, semivolatiles, nitrates/sulfates, metals, pesticides/PCBs, and radionuclides. The SI sample location is depicted on Figure 3-38. SI sample locations and analyses are summarized below.

Sample	Analysis	Sample Type	Depth	Location
38-SA-01-01	Explosives VOCs SemiVOCs Nitrates Sulfates Metals Pesticides/PCBs Radionuclides	C	0-18"	Outfall of Building 600-86 septic system.

3.40.3 Evaluation of Site

Table 3-38 summarizes all SI data reported above CRLs; those compounds reported above evaluation criteria are presented in Table 3-38a.

Soil sample 38-SA-01-01 contained metals above the established evaluation levels: chromium at 88.4 mg/kg, cadmium at 6.46 mg/kg, and mercury at 4.8 mg/kg. The sample was also reported to contain radionuclides, but at background levels. Low levels of several polycyclic aromatic hydrocarbons (PAHs) also were reported. These compounds are ubiquitous in the environment and their presence at these low levels is not considered to be significant. They are believed to be of anthropogenic origin; the outfall discharges in a ditch adjacent to the railroad tracks and their presence is likely the result of incomplete combustion of fossil fuels. No explosives, volatiles, nitrates/sulfates, or pesticides/PCBs were reported in this sample above the CRLs.

Review of the SI sampling data indicates the presence of metals at the subject site. The presence of these constituents at this location may be attributable to the use and storage of a variety of chemicals at this facility. Although the septic system is reported to have received primarily sanitary wastewater, floor drains within the buildings were believed to have led to the septic system. These drains would have allowed spills and residue on the floors to enter the septic system.

Based on SI results, it is recommended that IAAP-38 be included in the Phase I RI. Additional soil sampling should be conducted to confirm the presence of the reported metals compounds at the outfall location, and downgradient. Surface water samples should also be obtained from these locations, if available. At least two subsurface soil samples are suggested at two locations along the 825-foot length of pipe between the building and the outfall. All samples should be analyzed for metals. Additionally, samples should be analyzed for volatiles and semivolatiles, since the site has been used as a solvent storage facility.

Table 3-40

IAAP-38 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP38	SO	ANIONS	NITRITE, NITRATE - NONSPECIFIC	38-SA-01	08/09/1991	38SA0101Y	0.800	8.82	=KF17	1.0	UGG
			SULFATE	38-SA-01	08/09/1991	38SA0101Y	0.800	50.4	=KT07	5.0	UGG
		METALS	ARSENIC	38-SA-01	08/09/1991	38SA0101Y	0.800	3.95	=B9	2.5	UGG
			BARIUM	38-SA-01	08/09/1991	38SA0101Y	0.800	163.0	=JS12	3.29	UGG
			CADMIUM	38-SA-01	08/09/1991	38SA0101Y	0.800	6.46	=JS12	1.2	UGG
			CHROMIUM	38-SA-01	08/09/1991	38SA0101Y	0.800	88.4	=JS12	1.04	UGG
			COPPER	38-SA-01	08/09/1991	38SA0101Y	0.800	31.5	=JS12	2.84	UGG
			LEAD	38-SA-01	08/09/1991	38SA0101Y	0.800	22.0	=JD21	0.467	UGG
			MERCURY	38-SA-01	08/09/1991	38SA0101Y	0.800	4.8	=Y9	0.05	UGG
			NICKEL	38-SA-01	08/09/1991	38SA0101Y	0.800	26.0	=JS12	2.74	UGG
			SELENIUM	38-SA-01	08/09/1991	38SA0101Y	0.800	0.731	=JD20	0.449	UGG
			ZINC	38-SA-01	08/09/1991	38SA0101Y	0.800	87.1	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-TR	38-SA-01	08/09/1991	38SA0101YC	0.800	0.011	=LH17	0.0034	UGG
		RADIONUCLIDES	ALPHA GROSS	38-SA-01	08/09/1991	38SA0101Y	0.800	3.0	=00	0.0	PCG
			BISMUTH 214	38-SA-01	08/09/1991	38SA0101Y	0.800	0.37	=99	0.0	PCG
			CESIUM 137	38-SA-01	08/09/1991	38SA0101Y	0.800	0.06	=99	0.0	PCG
			GAMMA SCAN / GAMMA SCREEN	38-SA-01	08/09/1991	38SA0101Y	0.800	0.0	=99	0.25	PCG
			GROSS BETA	38-SA-01	08/09/1991	38SA0101Y	0.800	12.6	=00	0.0	PCG
			LEAD 212	38-SA-01	08/09/1991	38SA0101Y	0.800	0.57	=99	0.0	PCG
			LEAD 214	38-SA-01	08/09/1991	38SA0101Y	0.800	0.36	=99	0.0	PCG
			RADIUM 226	38-SA-01	08/09/1991	38SA0101Y	0.800	0.25	=99	0.0	PCG
			THALLIUM 208	38-SA-01	08/09/1991	38SA0101Y	0.800	0.38	=99	0.0	PCG
		SEMIVOLATILES	BENZO(A)ANTHRACENE	38-SA-01	08/09/1991	38SA0101Y	0.800	0.107	=LM25	0.48	UGG
			CHRYSENE	38-SA-01	08/09/1991	38SA0101Y	0.800	0.104	=LM25	0.032	UGG
			FLUORANTHENE	38-SA-01	08/09/1991	38SA0101Y	0.800	0.152	=LM25	0.032	UGG
			PHENANTHRENE	38-SA-01	08/09/1991	38SA0101Y	0.800	0.137	=LM25	0.032	UGG

Table 3-40a

IAAP-38 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP38	SO	ANIONS	NITRITE, NITRATE - NONSPECIFIC	38-SA-01	08/09/1991	38SA0101Y	0.800	8.82	=KF17	1.0	UGG
			SULFATE	38-SA-01	08/09/1991	38SA0101Y	0.800	50.4	=KT07	5.0	UGG
		METALS	CADMIUM	38-SA-01	08/09/1991	38SA0101Y	0.800	6.46	=JS12	1.2	UGG
			CHROMIUM	38-SA-01	08/09/1991	38SA0101Y	0.800	88.4	=JS12	1.04	UGG
			COPPER	38-SA-01	08/09/1991	38SA0101Y	0.800	31.5	=JS12	2.84	UGG
			MERCURY	38-SA-01	08/09/1991	38SA0101Y	0.800	4.8	=Y9	0.05	UGG
			SELENIUM	38-SA-01	08/09/1991	38SA0101Y	0.800	0.731	=JD20	0.449	UGG
			ZINC	38-SA-01	08/09/1991	38SA0101Y	0.800	87.1	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-TR	38-SA-01	08/09/1991	38SA0101YC	0.800	0.011	=LH17	0.0034	UGG
		RADIONUCLIDES	GROSS BETA	38-SA-01	08/09/1991	38SA0101Y	0.800	12.6	=00	0.0	PCG
		SEMIVOLATILES	BENZO(A)ANTHRACENE	38-SA-01	08/09/1991	38SA0101Y	0.800	0.107	=LM25	0.48	UGG
			CHRYSENE	38-SA-01	08/09/1991	38SA0101Y	0.800	0.104	=LM25	0.032	UGG
			FLUORANTHENE	38-SA-01	08/09/1991	38SA0101Y	0.800	0.152	=LM25	0.032	UGG
			PHENANTHRENE	38-SA-01	08/09/1991	38SA0101Y	0.800	0.137	=LM25	0.032	UGG

3.41 IAAP-39 (FIRE TRAINING PIT)

3.41.1 Site Description and History

The Fire Training Pit is located in the southwestern portion of the EDA, approximately 200 feet southeast of the Fire Fighters Smoke Training Vault (200-30) (Figure 3-39). The EDA is situated in the northeast corner of the IAAP facility (Plate 1; E-3). The site is an unlined open pit that measures approximately 40 by 16 by 2 feet (Figure 3-39). The pit was used from 1982 to 1987. During training sessions, 55-gallon drums of solvent and/or fuel was placed in the pit, set ablaze, and then extinguished by fire fighters. Nonvegetated areas exhibiting dark-brown staining and a petroleum odor were noted at the pit during the 14 August 1990 visual inspection. Waste solvents were burned until 1984; fuels were burned thereafter (Denz 1990). All that is known about the hydrogeology for the Fire Training Pit is contained in the information related to the overall EDA site (section 3.14.1).

The nearest surface water to the EDA SWMUs is Spring Creek, a perennial stream which runs through the EDA from north to south, and provides drainage to the area. The creek flows directly into the Mississippi River less than one mile above the confluence of the Skunk and Mississippi rivers. (The Skunk River confluence is approximately 6 miles from the southeast corner of the IAAP property.) Spring Creek originates north of the facility and receives effluent from the sewage treatment facility of West Burlington, Iowa. The floodplain of the stream valley is approximately 400 feet wide (EBASCO 1988; AEHA 1985). Runoff is to the southwest.

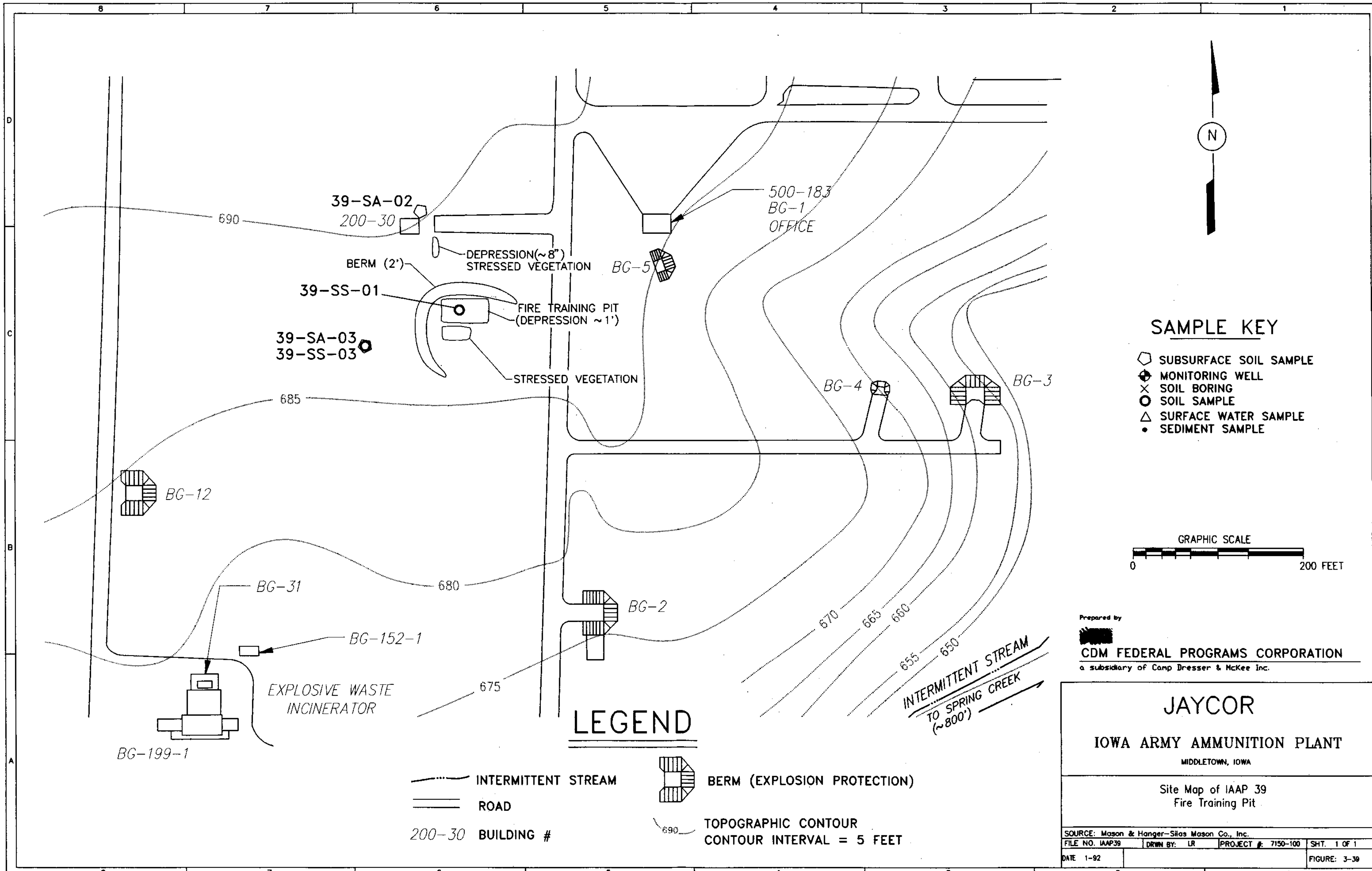
Groundwater recharge occurs in the broad, flat fields that lie along the stream divides, and results from precipitation. Recharge is expected to be low due to the low permeability of the soil. While no quantitative evidence substantiating groundwater recharge from Spring Creek exists, the upper bedrock aquifer may be recharged during runoff events in drought seasons. Specifically, recharge would occur in the lower reaches of the creek where deep stream incisions have exposed bedrock.

Public access to IAAP is restricted, and the EDA is in a remote area of the facility. Shallow groundwater beneath the area is known to be contaminated, as are soils in the area; however, it is unknown whether this contamination is attributable to the Fire Training Pit, or to other activities at the nearby EDA (See Section 3.41.2). Flora and fauna are potential receptors of contamination, particularly those species that inhabit Spring Creek. Consumption of deer and other wild game affected by contamination may provide a vehicle for food chain uptake to human receptors.

3.41.2 Summary of Previous Investigations

No environmental investigations have taken place in the Fire Training Pit area prior to the SI activities. The nearest monitoring well is G-30, which is approximately 600 feet east of the pit; however, the well is not downgradient of the site. The nearest media sampling occurred downgradient of the East Burn Pads (IAAP-12) during the 1987 RFA. IAAP-12 is approximately 1000 feet east of the pit.

The SI sampling rational focused on characterizing soil quality within and adjacent to the pit, and outside the entrance to the smoke training vault (200-30). Surface and subsurface horizons


N
39-SA-02
200-30
690
DEPRESSION(~8")
STRESSED VEGETATION
BERM (2')
39-SS-01
FIRE TRAINING PIT
(DEPRESSION ~1')
39-SA-03
39-SS-03
STRESSED VEGETATION
500-183
BG-1
OFFICE
BG-5
BG-4
BG-3
685
BG-12
680
BG-31
BG-152-1
BG-2
675
670
665
660
655
650
EXPLOSIVE WASTE
INCINERATOR
BG-199-1
INTERMITTENT STREAM
TO SPRING CREEK
(~800')
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0
200 FEET
LEGEND
INTERMITTENT STREAM
ROAD
200-30 BUILDING #
BERM (EXPLOSION PROTECTION)
690
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
Prepared by
[redacted]
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 39
Fire Training Pit
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP39
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 1-92
FIGURE: 3-39

were sampled. During the SI, elevated HNU readings were observed in the pit, at levels such that sample 39-SA-01-02 could not be obtained in Level D protection. SI samples are summarized below, and sample locations are depicted on Figure 3-39.

Sample	Analyses	Sample Type	Depth	Location
39-SS-01-01	Metals VOCs SemiVOCs	G	0-6"	Surface grab obtained approximately 4 feet from the west edge of the stained, non-vegetated area within the Fire Training Pit.
39-SS-01-03	Metals VOCs SemiVOCs	G	0-6"	Duplicate of 39-SA-01-01.
39-SS-02-01	Metals VOCs SemiVOCs	C	0-18"	Composite of three aliquots: 0-6 inches, 6-12 inches, and 12-18 inches. Sample was obtained 5 feet east of the NE corner of the smoke training vault.
39-SS-03-01	Metals VOCs SemiVOCs	G	0-6"	Surface grab obtained from 0-6 inches below the vegetated horizon. Sample was situated 50 feet SW of the SW edge of the pit.
39-SA-03-02	Metals VOCs SemiVOCs	G	12-18"	Subsurface grab obtained from 12-18 inches below the vegetated horizon. Sample was obtained from the same borehole as 39-SA-03-01.

Table 3-41 summarizes the SI sample results reported above CRLs; Table 3-41a reports those results above exceedance criteria.

3.41.3 Evaluation of Site

Sample 39-SS-01-01 reported notable levels of volatiles, semivolatiles, metals, and explosives. All metals were detected above exceedance criteria with the exception of arsenic, nickel, and mercury. The most notable elevated metals were; lead at 2,600 mg/kg, copper at 285 mg/kg, and cadmium at 62 mg/kg. Two semivolatiles, 2-methylnaphtalene (6.35 mg/kg) and ethylbenzene (62 mg/kg), were found above the CRLs. Numerous volatiles were also detected above CRLs in this sample, including 1,1,1-trichloroethane (10 mg/kg); 1,1-dichloroethane (6.08 mg/kg); toluene (10 mg/kg); xylene (12.2 mg/kg); and 1,3-dimethylbenzene (10 mg/kg). No explosive were detected above CRLs.

Sample 39-SS-01-03 (duplicate of 39-SS-01-01) reported the greatest total contamination at the SWMU. All metals were detected above exceedance criteria, except for arsenic, beryllium, nickel, and mercury. Two semivolatiles, 2-methylnaphtalene (7.92 mg/kg) and ethylbenzene (62 mg/kg), were found above the CRLs. Numerous volatiles were also detected above CRLs in this sample, including 1,1,1-trichloroethane (10 mg/kg); 1,1-dichloroethane (8.91 mg/kg); toluene (10 mg/kg); xylene (9.44 mg/kg); and 1,3-dimethylbenzene (9.39 mg/kg). No explosive were detected above CRLs.

Sample 39-SS-02-01 was reported to contain a slightly elevated level of copper (61.5 mg/kg), lead (49 mg/kg), and silver (2.21 mg/kg). All other metals were below exceedance criteria. No volatiles, semivolatiles, or explosives were detected above CRLs.

Sample 39-SS-03-01 was reported to contain low levels of arsenic (8.48 mg/kg), lead (31.0 mg/kg), and silver (1.19 mg/kg). All other metals concentrations were under established exceedance levels. No explosives, volatiles, or semivolatiles were reported above CRLs.

Sample 39-SA-03-02 was reported to contain low levels of several metals. All concentrations were under established exceedance levels. A semivolatile value of 6.28 mg/kg for di-n-butyl-phthalate was the only organic contaminant found above CRLs. No explosives were reported above CRLs.

Results from samples collected during the SI indicate clearly that significant contamination at this SWMU is centered within the pit. Significantly lower contaminant levels in soils outside the pit or outside the smoke training vault were reported.

Based on current analytical results, it is recommended that this site does warrant inclusion in the Remedial Investigation. A summary report of all analytical results associated with the SI of this site is included in Appendix B.

Table 3-41

IAAP-39 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP39	SO	METALS	ARSENIC	39-SA-01	08/14/1991	39SA0101Y	0.500	3.52	=B9	2.5	UGG
						39SA0103YD	0.500	4.03	=B9	2.5	UGG
				39-SA-02	08/14/1991	39SA0201Y	1.500	7.41	=B9	2.5	UGG
				39-SA-03	08/14/1991	39SA0301Y	0.500	8.48	=B9	2.5	UGG
						39SA0302Y	1.500	3.22	=B9	2.5	UGG
			BARIUM	39-SA-01	08/14/1991	39SA0101Y	0.500	1,400.0	=JS12	3.29	UGG
						39SA0103YD	0.500	1,180.0	=JS12	3.29	UGG
				39-SA-02	08/14/1991	39SA0201Y	1.500	209.0	=JS12	3.29	UGG
				39-SA-03	08/14/1991	39SA0301Y	0.500	236.0	=JS12	3.29	UGG
						39SA0302Y	1.500	251.0	=JS12	3.29	UGG
			BERYLLIUM	39-SA-01	08/14/1991	39SA0101Y	0.500	3.4	=JS12	0.427	UGG
						39SA0103YD	0.500	0.732	=JS12	0.427	UGG
				39-SA-02	08/14/1991	39SA0201Y	1.500	0.63	=JS12	0.427	UGG
				39-SA-03	08/14/1991	39SA0301Y	0.500	0.82	=JS12	0.427	UGG
						39SA0302Y	1.500	0.85	=JS12	0.427	UGG
			CADMIUM	39-SA-01	08/14/1991	39SA0101Y	0.500	62.0	=JS12	1.2	UGG
						39SA0103YD	0.500	7.19	=JS12	1.2	UGG
			CHROMIUM	39-SA-01	08/14/1991	39SA0101Y	0.500	259.0	=JS12	1.04	UGG
						39SA0103YD	0.500	358.0	=JS12	1.04	UGG
				39-SA-02	08/14/1991	39SA0201Y	1.500	19.7	=JS12	1.04	UGG
				39-SA-03	08/14/1991	39SA0301Y	0.500	22.5	=JS12	1.04	UGG
						39SA0302Y	1.500	25.5	=JS12	1.04	UGG
			COPPER	39-SA-01	08/14/1991	39SA0101Y	0.500	285.0	=JS12	2.84	UGG
						39SA0103YD	0.500	1,150.0	=JS12	2.84	UGG
				39-SA-02	08/14/1991	39SA0201Y	1.500	61.5	=JS12	2.84	UGG
				39-SA-03	08/14/1991	39SA0301Y	0.500	16.7	=JS12	2.84	UGG
						39SA0302Y	1.500	15.0	=JS12	2.84	UGG
			LEAD	39-SA-01	08/14/1991	39SA0101Y	0.500	2,600.0	=JD21	0.467	UGG
						39SA0103YD	0.500	3,000.0	=JD21	0.467	UGG
				39-SA-02	08/14/1991	39SA0201Y	1.500	49.0	=JD21	0.467	UGG
				39-SA-03	08/14/1991	39SA0301Y	0.500	31.0	=JD21	0.467	UGG
						39SA0302Y	1.500	10.0	=JD21	0.467	UGG
			MERCURY	39-SA-01	08/14/1991	39SA0101Y	0.500	0.265	=Y9	0.05	UGG
						39SA0103YD	0.500	0.197	=Y9	0.05	UGG
				39-SA-02	08/14/1991	39SA0201Y	1.500	0.072	=Y9	0.05	UGG
			NICKEL	39-SA-01	08/14/1991	39SA0101Y	0.500	22.3	=JS12	2.74	UGG
						39SA0103YD	0.500	23.7	=JS12	2.74	UGG
				39-SA-02	08/14/1991	39SA0201Y	1.500	15.6	=JS12	2.74	UGG
				39-SA-03	08/14/1991	39SA0301Y	0.500	14.6	=JS12	2.74	UGG
						39SA0302Y	1.500	19.6	=JS12	2.74	UGG
			SILVER	39-SA-01	08/14/1991	39SA0101Y	0.500	1.65	=JS12	0.803	UGG
						39SA0103YD	0.500	3.78	=JS12	0.803	UGG
				39-SA-02	08/14/1991	39SA0201Y	1.500	2.21	=JS12	0.803	UGG
				39-SA-03	08/14/1991	39SA0301Y	0.500	1.19	=JS12	0.803	UGG
			ZINC	39-SA-01	08/14/1991	39SA0101Y	0.500	305.0	=JS12	2.34	UGG
						39SA0103YD	0.500	1,400.0	=JS12	2.34	UGG
				39-SA-02	08/14/1991	39SA0201Y	1.500	81.2	=JS12	2.34	UGG
				39-SA-03	08/14/1991	39SA0301Y	0.500	75.3	=JS12	2.34	UGG
						39SA0302Y	1.500	57.8	=JS12	2.34	UGG
		SEMIVOLATILES	2-METHYLNAPHTHALENE	39-SA-01	08/14/1991	39SA0101Y	0.500	6.35	=LM25	0.032	UGG
						39SA0103YD	0.500	7.92	=LM25	0.032	UGG

Table 3-41

IAAP-39 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			BIS (2-ETHYLHEXYL) PHTHALATE	39-SA-01	08/14/1991	39SA0101Y	0.500	62.0	>LM25	0.48	UGG
						39SA0103YD	0.500	62.0	>LM25	0.48	UGG
			DI-N-BUTYL PHTHALATE	39-SA-03	08/14/1991	39SA0302Y	1.500	6.28	=LM25	1.3	UGG
		VOLATILES	1,1,1-TRICHLOROETHANE	39-SA-01	08/14/1991	39SA0101Y	0.500	10.0	>LM23	0.2	UGG
						39SA0103YD	0.500	10.0	>LM23	0.2	UGG
			1,1-DICHLOROETHANE	39-SA-01	08/14/1991	39SA0101Y	0.500	6.08	=LM23	0.49	UGG
						39SA0103YD	0.500	8.91	=LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	39-SA-01	08/14/1991	39SA0101Y	0.500	1.68	=LM23	0.27	UGG
						39SA0103YD	0.500	1.88	=LM23	0.27	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	39-SA-01	08/14/1991	39SA0101Y	0.500	1.07	=LM23	0.32	UGG
						39SA0103YD	0.500	2.23	=LM23	0.32	UGG
			1,3-DIMETHYLBENZENE/M-XYLENE	39-SA-01	08/14/1991	39SA0101Y	0.500	10.0	>LM23	0.23	UGG
						39SA0103YD	0.500	9.39	=LM23	0.23	UGG
			ETHYLBENZENE	39-SA-01	08/14/1991	39SA0101Y	0.500	1.43	=LM23	0.19	UGG
						39SA0103YD	0.500	1.01	=LM23	0.19	UGG
			METHYLISOBUTYL KETONE	39-SA-01	08/14/1991	39SA0103YD	0.500	0.758	=LM23	0.63	UGG
			TETRACHLOROETHYLENE/TETRACHLOR	39-SA-01	08/14/1991	39SA0101Y	0.500	0.589	=LM23	0.16	UGG
						39SA0103YD	0.500	0.639	=LM23	0.16	UGG
			TOLUENE	39-SA-01	08/14/1991	39SA0101Y	0.500	10.0	>LM23	0.1	UGG
						39SA0103YD	0.500	10.0	>LM23	0.1	UGG
			TRICHLOROETHYLENE/TRICHLOROETH	39-SA-01	08/14/1991	39SA0101Y	0.500	0.453	=LM23	0.23	UGG
						39SA0103YD	0.500	0.695	=LM23	0.23	UGG
			XYLENES	39-SA-01	08/14/1991	39SA0101Y	0.500	12.2	=LM23	0.78	UGG
						39SA0103YD	0.500	9.44	=LM23	0.78	UGG

Table 3-41a

IAAP-39 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP39	SO	METALS	ARSENIC	39-SA-03	08/14/1991	39SA0301Y	0.500	8.48	=B9	2.5	UGG
			BARIUM	39-SA-01	08/14/1991	39SA0101Y	0.500	1,400.0	=JS12	3.29	UGG
						39SA0103YD	0.500	1,180.0	=JS12	3.29	UGG
			BERYLLIUM	39-SA-01	08/14/1991	39SA0101Y	0.500	3.4	=JS12	0.427	UGG
			CADMIUM	39-SA-01	08/14/1991	39SA0101Y	0.500	62.0	=JS12	1.2	UGG
						39SA0103YD	0.500	7.19	=JS12	1.2	UGG
			CHROMIUM	39-SA-01	08/14/1991	39SA0101Y	0.500	259.0	=JS12	1.04	UGG
						39SA0103YD	0.500	358.0	=JS12	1.04	UGG
			COPPER	39-SA-01	08/14/1991	39SA0101Y	0.500	285.0	=JS12	2.84	UGG
						39SA0103YD	0.500	1,150.0	=JS12	2.84	UGG
				39-SA-02	08/14/1991	39SA0201Y	1.500	61.5	=JS12	2.84	UGG
			LEAD	39-SA-01	08/14/1991	39SA0101Y	0.500	2,600.0	=JD21	0.467	UGG
						39SA0103YD	0.500	3,000.0	=JD21	0.467	UGG
				39-SA-02	08/14/1991	39SA0201Y	1.500	49.0	=JD21	0.467	UGG
				39-SA-03	08/14/1991	39SA0301Y	0.500	31.0	=JD21	0.467	UGG
			SILVER	39-SA-01	08/14/1991	39SA0101Y	0.500	1.65	=JS12	0.803	UGG
						39SA0103YD	0.500	3.78	=JS12	0.803	UGG
				39-SA-02	08/14/1991	39SA0201Y	1.500	2.21	=JS12	0.803	UGG
				39-SA-03	08/14/1991	39SA0301Y	0.500	1.19	=JS12	0.803	UGG
			ZINC	39-SA-01	08/14/1991	39SA0101Y	0.500	305.0	=JS12	2.34	UGG
						39SA0103YD	0.500	1,400.0	=JS12	2.34	UGG
		SEMIVOLATILES	2-METHYLNAPHTHALENE	39-SA-01	08/14/1991	39SA0101Y	0.500	6.35	=LM25	0.032	UGG
						39SA0103YD	0.500	7.92	=LM25	0.032	UGG
			BIS (2-ETHYLHEXYL) PHTHALATE	39-SA-01	08/14/1991	39SA0101Y	0.500	62.0	>LM25	0.48	UGG
						39SA0103YD	0.500	62.0	>LM25	0.48	UGG
			DI-N-BUTYL PHTHALATE	39-SA-03	08/14/1991	39SA0302Y	1.500	6.28	=LM25	1.3	UGG
		VOLATILES	1,1,1-TRICHLOROETHANE	39-SA-01	08/14/1991	39SA0101Y	0.500	10.0	>LM23	0.2	UGG
						39SA0103YD	0.500	10.0	>LM23	0.2	UGG
			1,1-DICHLOROETHANE	39-SA-01	08/14/1991	39SA0101Y	0.500	6.08	=LM23	0.49	UGG
						39SA0103YD	0.500	8.91	=LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	39-SA-01	08/14/1991	39SA0101Y	0.500	1.68	=LM23	0.27	UGG
						39SA0103YD	0.500	1.88	=LM23	0.27	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	39-SA-01	08/14/1991	39SA0101Y	0.500	1.07	=LM23	0.32	UGG
						39SA0103YD	0.500	2.23	=LM23	0.32	UGG
			1,3-DIMETHYLBENZENE/M-XYLENE	39-SA-01	08/14/1991	39SA0101Y	0.500	10.0	>LM23	0.23	UGG
						39SA0103YD	0.500	9.39	=LM23	0.23	UGG
			ETHYLBENZENE	39-SA-01	08/14/1991	39SA0101Y	0.500	1.43	=LM23	0.19	UGG
						39SA0103YD	0.500	1.01	=LM23	0.19	UGG
			METHYLISOBUTYL KETONE	39-SA-01	08/14/1991	39SA0103YD	0.500	0.758	=LM23	0.63	UGG
			TETRACHLOROETHYLENE/TETRACHLOR	39-SA-01	08/14/1991	39SA0101Y	0.500	0.589	=LM23	0.16	UGG
						39SA0103YD	0.500	0.639	=LM23	0.16	UGG
			TOLUENE	39-SA-01	08/14/1991	39SA0101Y	0.500	10.0	>LM23	0.1	UGG
						39SA0103YD	0.500	10.0	>LM23	0.1	UGG
			TRICHLOROETHYLENE/TRICHLOROETH	39-SA-01	08/14/1991	39SA0101Y	0.500	0.453	=LM23	0.23	UGG
						39SA0103YD	0.500	0.695	=LM23	0.23	UGG
			XYLENES	39-SA-01	08/14/1991	39SA0101Y	0.500	12.2	=LM23	0.78	UGG
						39SA0103YD	0.500	9.44	=LM23	0.78	UGG

3.42 IAAP-40 (ROUNDHOUSE TRANSFORMER STORAGE AREA)

3.42.1 Site Description and History

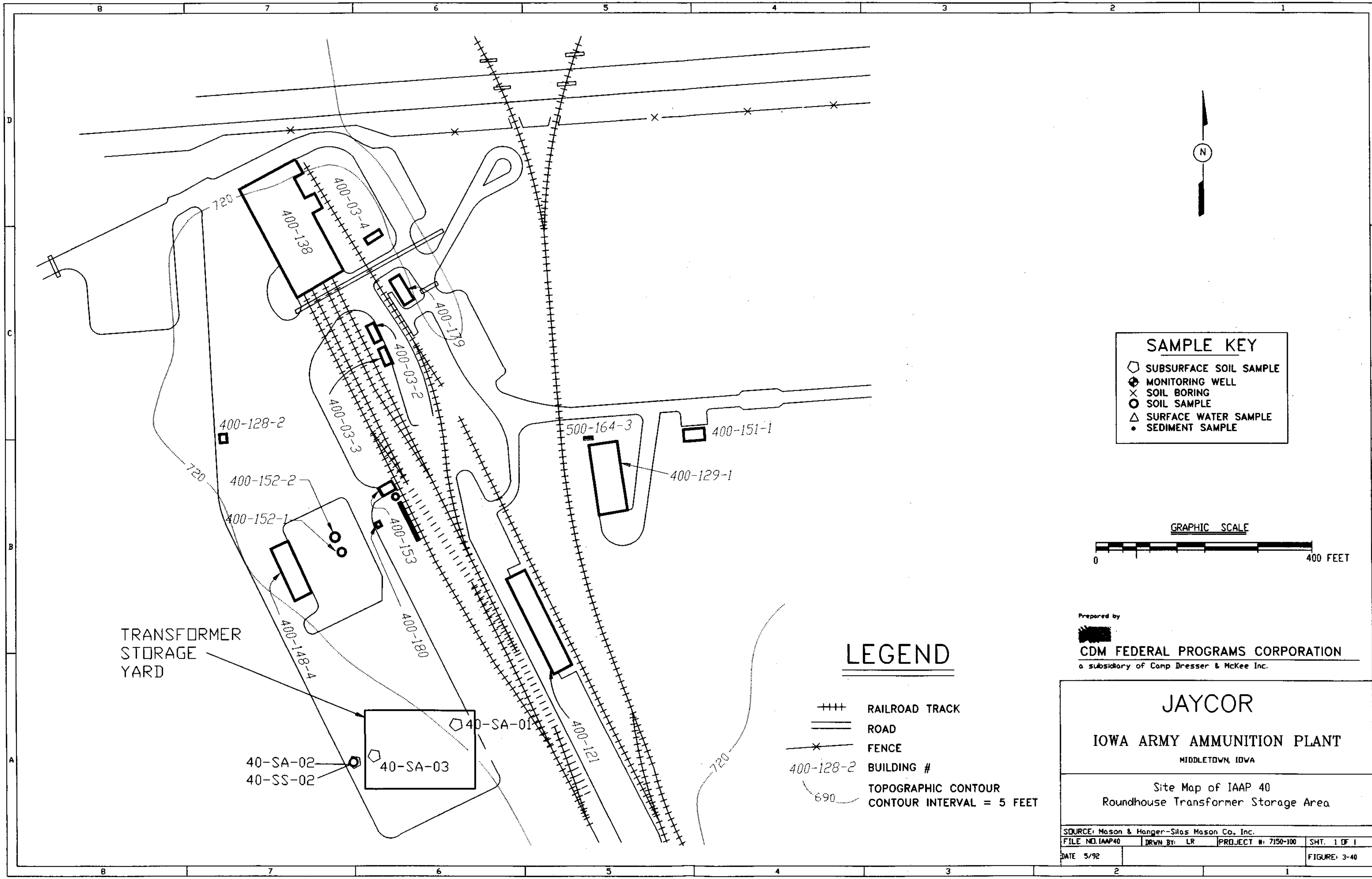
The Roundhouse Transformer Storage Area lies in the northeast corner of IAAP northwest of Yard A (Plate 1; F-4). It is situated approximately 1000 feet south of the northern property boundary. Figure 3-40 shows the Roundhouse in Yard A, and the location of the transformer storage area. IAAP-40 is within the main maintenance yard of the plant. The area has been used since the 1940s to store transformers pending reuse or disposal. Serviceable transformers are currently stored in the center of the storage area; formerly, they were stored along the west side of the area. Non-serviceable transformers and transformers with greater than 50 ppm PCB content are stored in Building L-37-34 in pans to prevent leakage onto the floor. Building L-37-34, Room A, is a active Part A Permitted RCRA facility. These non-serviceable transformers remain at this facility until the Defense Resources Management Operations (DRMO) can find a vendor or buyer. The site map indicates a fence along the western boundary of the storage area. During a recent visit to the facility, however, no fence was observed.

The storage yard is a large, flat, graded area with crushed stone on a hard base, possible clay. To the west of the storage area is a field which appears to be used occasionally to grow crops. The elevation of the field is about a foot lower than the level of the storage yard.

Transformers were tested by a contractor on-site to determine if the dielectric fluid contained 50 ppm of PCB content. Transformers found in storage to contain greater than 50 ppm of PCB, or that were unusable, were moved to Building L-37-34 and stored in pans for future disposal. According to IAAP facility personnel, no draining of transformers occurred at the facility. The contractor did top off the fluid of any serviceable transformers found to contain less than 50 ppm PCB content. A green tag is affixed to the transformers determined to contain less than 50 ppb of PCB. Most of the transformers in storage during the SI in May 1991 were green tagged.

The nearest soil boring to the Roundhouse Transformer Storage Area is Well G-49. Well G-49 is located approximately 2000 feet southwest of the transformer storage yard. This boring indicated that the groundwater was about 9 feet below the soil surface, and that the soil above this water table was silt, fine sand, and gravel. This soil type will enhance percolation of leachate to below the surface and subsequently to the groundwater. Although the subsurface soils appear to be conducive to vertical migration, the surface of the storage platform has crushed stone on compacted clay. This hard surface would facilitate the surface migration of spilled PCBs from the storage pad and impede the vertical migration of contaminants. Runoff from this area is directed into sewers, and then through the wastewater treatment plant which discharges into Brush Creek.

Spills or leakage of PCB-contaminated oils from transformer stored in the yard could have occurred. PCBs are highly persistent and have an affinity for organic matter in soil. Therefore, surface water transport is the primary pathway of concern; percolation to groundwater is less likely.



400-138
400-03-4
400-179
400-03-2
400-03-3
400-128-2
400-152-2
400-152-1
400-153
400-148-4
400-180
400-121
500-164-3
400-151-1
400-129-1
720
TRANSFORMER
STORAGE
YARD
40-SA-01
40-SA-02
40-SS-02
40-SA-03
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0
400 FEET
LEGEND
RAILROAD TRACK
ROAD
FENCE
400-128-2 BUILDING #
690
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 40
Roundhouse Transformer Storage Area
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP40
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-40

Runoff of stormwater into the adjacent field could lead to uptake of PCB by the crops, which may be ingested by humans directly. Consumption of milk or other animal products affected by contamination may also affect human receptors.

3.42.2 Summary of Previous Investigations

SI sampling focused on the current transformer storage area, and on the western edge of the area where transformers have been stored in the past. The SI sample locations are depicted on Figure 3-40. SI sample locations and the parameters analyzed are summarized in the table below.

Sample	Analyses	Sample Type	Depth	Location
40-SA-01-01	SemiVOCs Pesticides/PCBs	G	6-12"	Sample site is within 10 feet off northeast corner boundary of transformers currently in storage in the center of the yard. Sample in area of discolored soil if possible. Grab at depth of 18 inches.
40-SA-01-02	SemiVOCs Pesticides/PCBs	G	6-12"	Southwest corner of transformers in storage in the center of the yard. Grab sample at a depth of 12 inches.
40-SS-02-01	SemiVOCs Pesticides/PCBs	C	0-6"	Sample site is in fallow field west of graded transformer storage yard. Aerial composite sample within 10 feet of western edge of yard, midway between north and south boundaries (former transformer storage area).
40-SA-02-02	SemiVOCs Pesticides/PCBs	C	12-18"	Sample will be taken at the same location as 40-SA-02-01, at a depth of three feet.
40-SA-03-01	SemiVOCs Pesticides/PCBs	G	0-6"	Grab sample at a depth of 12 inches in soil due west of transformer storage area.

3.42.3 Evaluation of Site

Table 3-42 summarizes all SI data that were reported above CRLs; those compounds reported above evaluation criteria are presented in Table 3-42a.

Sample 40-SS-02-01 was found to contain trace amount (generally <1.0 ppm) of the semivolatile compounds benzol (B) fluoranthene, benzo (A) anthracene, chrysene, fluoranthene, and pyrene. These compounds all are polycyclic aromatic hydrocarbons (PAHs). PAHs are ubiquitous in the environment at low levels. The presence of these compounds at extremely low levels in one on-site sample is not significant.

Soil samples 40-SA-01-01, 40-SA-01-02, and 40-SS-02-01 were reported to contain trace amounts of the PCB aroclor 1260: 0.13 μg/g, 0.14 μg/g, and 0.067 μg/g respectively. The presence of PCBs in soil at this location may indicate that PCB-contaminated dielectric fluid has leaked or spilled from transformers stored in the yard, or that spills have occurred during the moving of old transformers.

No contaminants of concern were reported in soil sample 40-SA-03-01 above the established criteria.

Based on SI results, which indicate low levels of PCBs in on-site soils, IAAP-40 warrants further study in the Phase I RI. Surface and subsurface soil sampling should be conducted to verify the presence of PCBs in soil in the area where transformers are stored and handled.

Natural drainage pathways, believed to be south to southeast, should be defined. Sediment samples should be obtained from the drainage pathways to assess the possible surface migration of contaminants from the subject site. A corresponding surface water sample should be obtained from these downgradient locations, if available. Because of the hard surface of the storage area, PCBs affinity to organic matter in soil, and the lack of evidence indicating pervasive PCB contamination of the site, groundwater sampling is not necessary during this phase of the study. If Phase I RI sampling indicates widespread contamination at the site, a groundwater study will be included in the Phase II study.

Table 3-42

IAAP-40 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP40	SO	PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-TR	40-SA-01	08/16/1991	40SA0101YU	1.000	0.033	=LH17	0.0034	UGG
						40SA0102YU	0.500	0.017	=LH17	0.0034	UGG
				40-SS-02	08/16/1991	40SS0201YC	0.600	0.02	=LH17	0.0034	UGG
			ALDRIN	40-SS-02	08/16/1991	40SS0201YU	0.600	0.002	=LH17	0.0014	UGG
			PCB 1260	40-SA-01	08/16/1991	40SA0101YC	1.000	0.13	=LH17	0.0479	UGG
						40SA0102YC	0.500	0.104	=LH17	0.0479	UGG
				40-SS-02	08/16/1991	40SS0201YC	0.600	0.067	=LH17	0.0479	UGG
		SEMIVOLATILES	BENZO(A)ANTHRACENE	40-SS-02	08/16/1991	40SS0201Y	0.600	0.297	=LM25	0.48	UGG
			BENZO(B)FLUORANTHENE	40-SS-02	08/16/1991	40SS0201Y	0.600	1.27	=LM25	0.31	UGG
			CHRYSENE	40-SS-02	08/16/1991	40SS0201Y	0.600	0.707	=LM25	0.032	UGG
			FLUORANTHENE	40-SS-02	08/16/1991	40SS0201Y	0.600	0.418	=LM25	0.032	UGG
			PYRENE	40-SS-02	08/16/1991	40SS0201Y	0.600	0.829	=LM25	0.083	UGG

Table 3-42a

IAAP-40 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP40	SO	PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-TR	40-SA-01	08/16/1991	40SA0101YU	1.000	0.033	=LH17	0.0034	UGG
						40SA0102YU	0.500	0.017	=LH17	0.0034	UGG
				40-SS-02	08/16/1991	40SS0201YC	0.600	0.02	=LH17	0.0034	UGG
			ALDRIN	40-SS-02	08/16/1991	40SS0201YU	0.600	0.002	=LH17	0.0014	UGG
			PCB 1260	40-SA-01	08/16/1991	40SA0101YC	1.000	0.13	=LH17	0.0479	UGG
						40SA0102YC	0.500	0.104	=LH17	0.0479	UGG
				40-SS-02	08/16/1991	40SS0201YC	0.600	0.067	=LH17	0.0479	UGG
		SEMIVOLATILES	BENZO(A)ANTHRACENE	40-SS-02	08/16/1991	40SS0201Y	0.600	0.297	=LM25	0.48	UGG
			BENZO(B)FLUORANTHENE	40-SS-02	08/16/1991	40SS0201Y	0.600	1.27	=LM25	0.31	UGG
			CHRYSENE	40-SS-02	08/16/1991	40SS0201Y	0.600	0.707	=LM25	0.032	UGG
			FLUORANTHENE	40-SS-02	08/16/1991	40SS0201Y	0.600	0.418	=LM25	0.032	UGG
			PYRENE	40-SS-02	08/16/1991	40SS0201Y	0.600	0.829	=LM25	0.083	UGG

3.43 IAAP-41 (LINE 3A POND)

3.43.1 Site Description and History

The Line 3A Pond is located in the southeastern section of Line 3A (Plate 1; C-7). The Line 3A Pond was an excavated, unlined pit, measuring approximately 60 feet long, 30 feet wide, and 8 feet deep. The pond area is relatively flat and slopes gently to the west and south. There is no appreciable mounding of the soil over the pond location.

An interview was conducted with Jack Polson, who worked at IAAP for 30 years and was the plant's Chief Scientist prior to retirement. According to Mr. Polson, the pond was excavated in 1956-57; it was 5 to 6 feet deep with an 8-foot berm. The pond was not lined and was left open until it was covered over and bulldozed flat in the 1970s.

At Line 3A, casings for 500-pound bombs were treated with an alkaline degreaser and solvent paint stripper. The casings were then bathed in phosphoric acid to prime the surface. A diluted (5%) chromic acid rinse was then applied to seal iron phosphate to the casing surface. Approximately 15,000 gallons of spent sulfuric and hydrochloric acid were disposed in the pond and neutralized with sodium hydroxide. The same chromic acid was used for the duration of the operation, and was not disposed in the pond. According to Mr. Polson, no explosives or pesticides were disposed of in the pond. The area where the pond was located is covered with natural vegetation (Figure 3-41). The site setting is described in Section 3.6.1, which details the site-specific geology and surface features in the area of Line 3A.

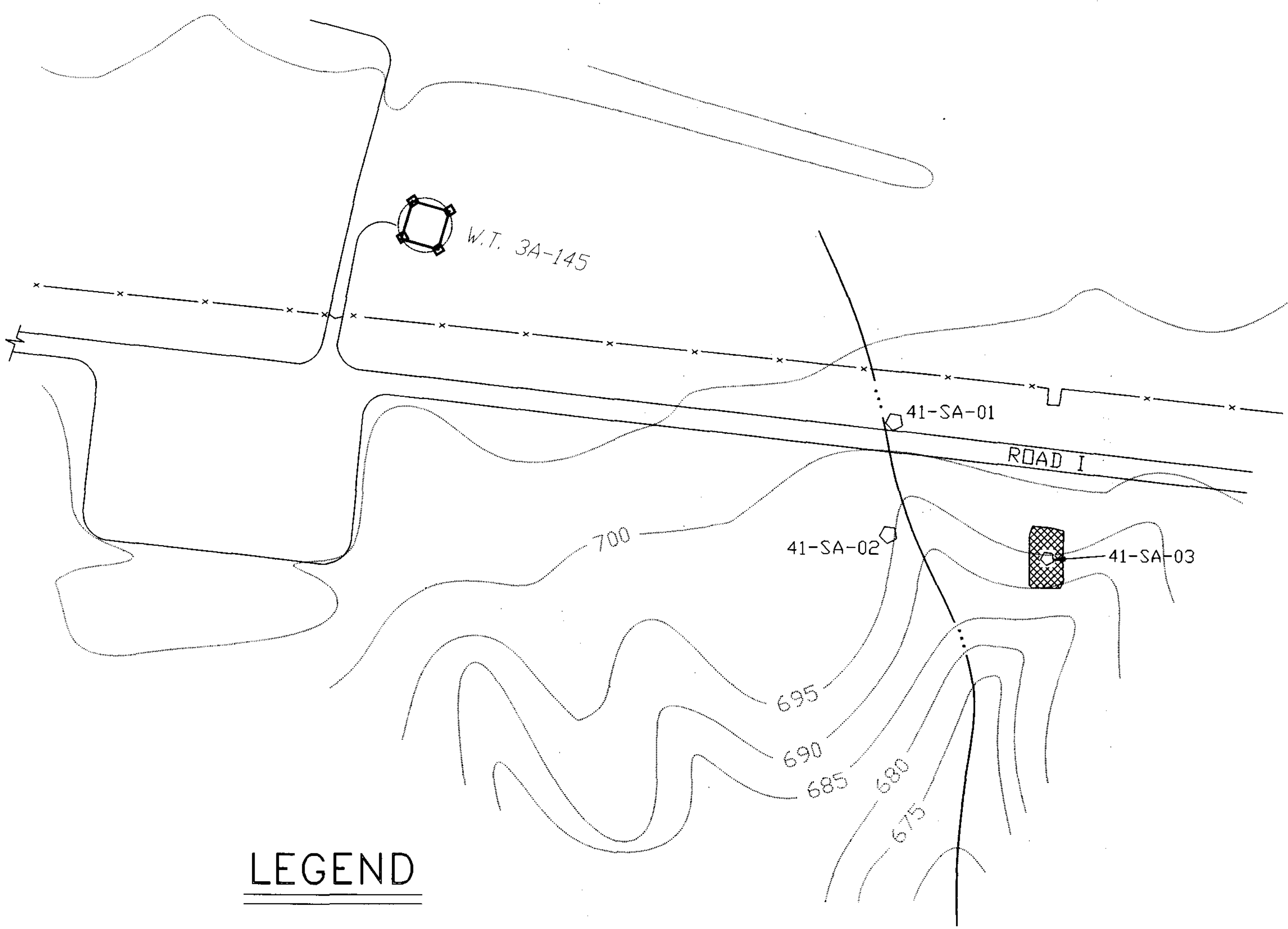
Drainage from the area of the Line 3A Pond flows about 50 to 75 feet west and south, into an unnamed intermittent stream, which is a tributary of the Skunk River. The USGS topographic map of the area (1964 and 1976) also shows a pond in the approximate location of the Line 3A Pond.

Soil, groundwater, and surface water (via sheet flow from the pond area) are potential pathways for contaminant migration; neutralized salts are very mobile in subsurface soil and the pond was unlined. Potentially contaminated surface drainage travels down a tributary into the Skunk River. The potential receptors are residences and recreational users downstream along the Skunk River.

3.43.2 Summary of Previous Investigations

During the SI, soil samples were collected at depth in an effort to characterize soil constituents in the relict pond. Associated drainageways also were sampled. SI samples are summarized in the chart below, and sample locations are depicted in Figure 3-41.

Sample	Analyses	Sample Type	Depth	Location
41-SA-01-01	Metals Explosives Nitrates/Sulfates	G	2-3'	North of culvert by Road I near southeast corner of fence line of Line 3A.



SAMPLE KEY

- SUBSURFACE SOIL SAMPLE
- MONITORING WELL
- SOIL BORING
- SOIL SAMPLE
- SURFACE WATER SAMPLE
- SEDIMENT SAMPLE

GRAPHIC SCALE

0 150 300 FEET

LEGEND

- ROAD
- FENCE
- W.T 3A-145 BUILDING #
- TOPOGRAPHIC CONTOUR (690); CONTOUR INTERVAL = 5 FEET
- INTERMITTENT STREAM
- APPROXIMATE FORMER POND AREA

Prepared by

CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.

JAYCOR

IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

Site Map of IAAP 41
Line 3A Pond

SOURCE: Mason & Hanger-Silas Mason Co., Inc.			
FILE NO. IAAP41	DRWN BY: LR	PROJECT #: 7150-100	SHT. 1 OF 1
DATE 5/92			FIGURE: 3-41

Sample	Analyses	Sample Type	Depth	Location
41-SA-02-01	Metals Explosives Nitrates/Sulfates	G	2-3'	Dry bed of intermittent stream, 125-135 feet south of culvert from sample location 41-SA-01-01.
41-SA-03-01	Metals Explosives Nitrates/Sulfates	G	7'	Area of former pond, approximately 120 feet south of Road I.

Table 3-43 summarizes all SI results reported above CRLs.

3.43.3 Evaluation of Site

No contaminants were reported in any samples above the associated exceedance levels. A summary report of all SI analytical results associated with this site is included in Appendix B. Based on analytical results of the SI and information from Mr. Polson, it is recommended that IAAP-41 be included in the RI for further investigation. The intermittent stream should be sampled (both surface water and sediment) after a rainfall, if possible. Groundwater samples should also be taken downgradient of the pond. Samples should be analyzed for volatiles, semivolatiles, and metals.

Table 3-43

IAAP-41 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP41	SO	ANIONS	NITRITE, NITRATE - NONSPECIFIC	41-SA-01	08/21/1991	41SA0101Y	3.000	2.27	=KF17	1.0	UGG
			SULFATE	41-SA-01	08/21/1991	41SA0101Y	3.000	8.77	=KT07	5.0	UGG
				41-SA-02	08/21/1991	41SA0201Y	3.000	31.3	=KT07	5.0	UGG
				41-SA-03	08/21/1991	41SA0301Y	7.000	15.6	=KT07	5.0	UGG
		METALS	ARSENIC	41-SA-01	08/21/1991	41SA0101Y	3.000	6.4	=B9	2.5	UGG
				41-SA-02	08/21/1991	41SA0201Y	3.000	8.23	=B9	2.5	UGG
			BARIUM	41-SA-01	08/21/1991	41SA0101Y	3.000	159.0	=JS12	3.29	UGG
				41-SA-02	08/21/1991	41SA0201Y	3.000	117.0	=JS12	3.29	UGG
				41-SA-03	08/21/1991	41SA0301Y	7.000	145.0	=JS12	3.29	UGG
			CHROMIUM	41-SA-01	08/21/1991	41SA0101Y	3.000	32.2	=JS12	1.04	UGG
				41-SA-02	08/21/1991	41SA0201Y	3.000	24.0	=JS12	1.04	UGG
				41-SA-03	08/21/1991	41SA0301Y	7.000	31.8	=JS12	1.04	UGG
			COPPER	41-SA-01	08/21/1991	41SA0101Y	3.000	17.2	=JS12	2.84	UGG
				41-SA-02	08/21/1991	41SA0201Y	3.000	15.6	=JS12	2.84	UGG
				41-SA-03	08/21/1991	41SA0301Y	7.000	13.1	=JS12	2.84	UGG
			LEAD	41-SA-01	08/21/1991	41SA0101Y	3.000	16.0	=JD21	0.467	UGG
				41-SA-02	08/21/1991	41SA0201Y	3.000	8.0	=JD21	0.467	UGG
				41-SA-03	08/21/1991	41SA0301Y	7.000	11.0	=JD21	0.467	UGG
			NICKEL	41-SA-01	08/21/1991	41SA0101Y	3.000	17.5	=JS12	2.74	UGG
				41-SA-02	08/21/1991	41SA0201Y	3.000	25.7	=JS12	2.74	UGG
				41-SA-03	08/21/1991	41SA0301Y	7.000	14.7	=JS12	2.74	UGG
			ZINC	41-SA-01	08/21/1991	41SA0101Y	3.000	43.7	=JS12	2.34	UGG
				41-SA-02	08/21/1991	41SA0201Y	3.000	41.3	=JS12	2.34	UGG
				41-SA-03	08/21/1991	41SA0301Y	7.000	42.9	=JS12	2.34	UGG

Table 3-43a

IAAP-41 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP41	SO	ANIONS	NITRITE, NITRATE - NONSPECIFIC	41-SA-01	08/21/1991	41SA0101Y	3.000	2.27	=KF17	1.0	UGG
			SULFATE	41-SA-01	08/21/1991	41SA0101Y	3.000	8.77	=KT07	5.0	UGG
				41-SA-02	08/21/1991	41SA0201Y	3.000	31.3	=KT07	5.0	UGG
				41-SA-03	08/21/1991	41SA0301Y	7.000	15.6	=KT07	5.0	UGG
		METALS	CHROMIUM	41-SA-01	08/21/1991	41SA0101Y	3.000	32.2	=JS12	1.04	UGG
				41-SA-03	08/21/1991	41SA0301Y	7.000	31.8	=JS12	1.04	UGG

3.44 IAAP-42 (ABANDONED COAL STORAGE YARD)

3.44.1 Site Description and History

From 1950 through 1968, coal was the primary fuel used for the Steam Generating Plant at Line 1. Coal was brought in by rail cars and deposited in an area slightly northwest of Line 1. The Coal Pile is bounded on the north and east by railroad tracks and on the southeast by the head of Brush Creek. The stockpiled coal was left in place when the plant switched to No. 2 fuel oil in 1968. The coal deposited at this site is now scattered around an area of about 4 acres; runoff from the coal pile, augmented by water brought into the area by the three culverts below the rail tracks has caused the widespread dispersal of the coal pile (Plate 1; Figure 3-42). There was no cover on the pile to reduce infiltration of precipitation; therefore, it can be expected that leaching and runoff have occurred since 1950.

Although the coal pile covers an area of approximately 3 to 4 acres, runoff may have spread coal to a greater area; the abandoned pile is not capped or lined. Severe erosion of the pile has resulted in furrows several feet deep as evidenced by vegetation stress observed on the adjacent storage yards.

The nearest soil boring to the Coal Pile is Well G-49, located approximately 750 feet north of the coal pile. The location of this well is depicted on Plate 2. The boring log indicates that the groundwater occurs about 9 feet below the soil surface, and that the soil above the water table is silt, fine sand, and gravel.

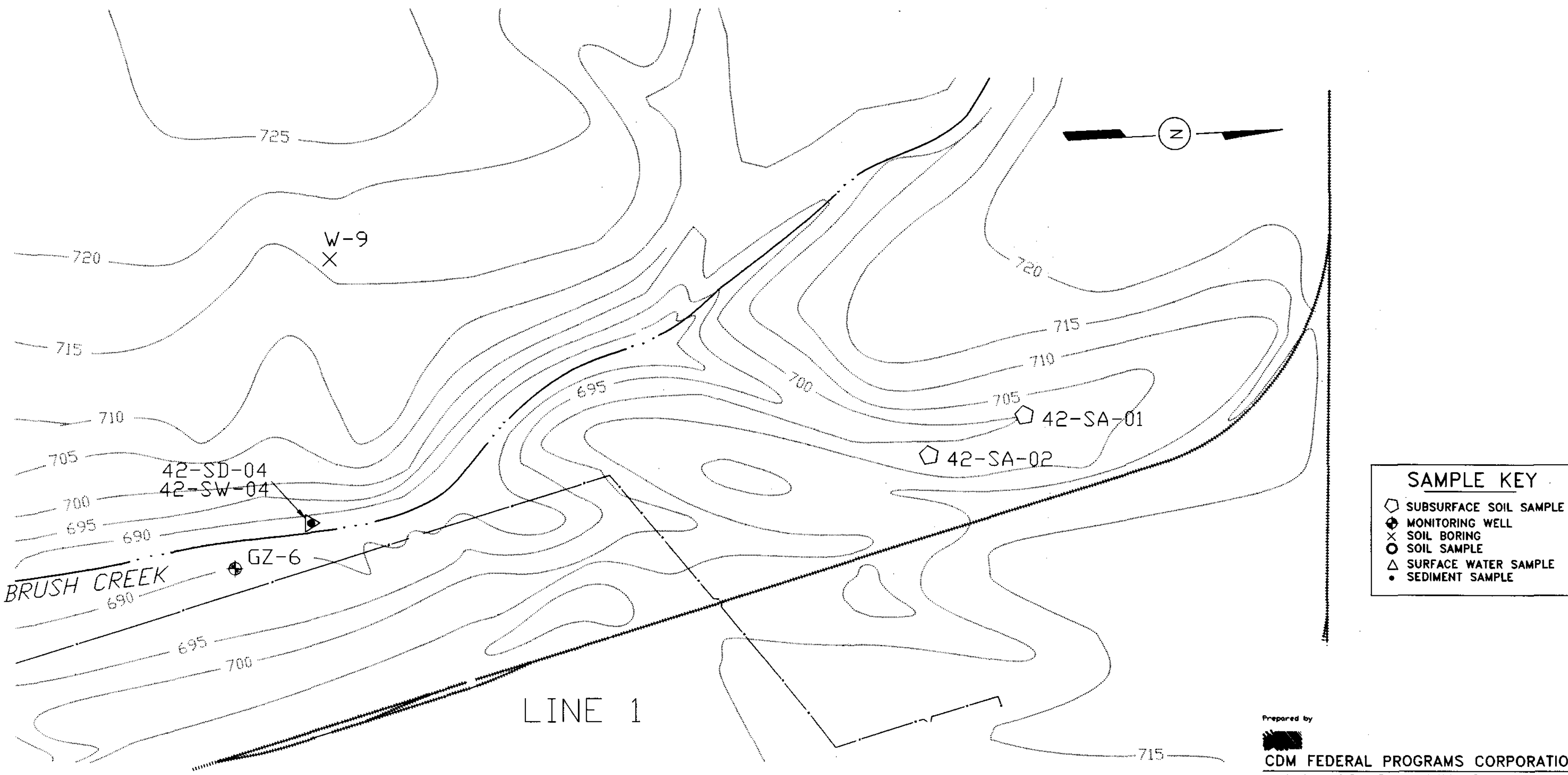
The land slopes gently from the rail lines in a southerly direction toward Brush Creek. Three culverts under the rail lines transport runoff water from other areas north of the coal pile (IAAP-42). The runoff water flows over the coal pile to Brush Creek. Leachate and runoff of contaminants have probably stabilized at this point. Similarly, the potential for airborne particles is low, as the smallest particles probably have been dispersed. Coal fines are still present at Brush Creek. The release of soluble materials such as metals, organics, and salts from the coal pile is also expected to have occurred. Coal fines and leached materials may have been ingested by fish in Brush Creek and wildlife using the creek for drinking water. Human ingestion of fish and game could be a source of contaminant uptake.

3.44.2 Summary of Previous Investigations

A water sample was taken at the head of Brush Creek on 5 October 1985. The levels of contaminants were consistent with the background levels of the site for the contaminants of concern at that time. The contaminants of concern were mainly RDX, HMX, and other explosives. Most of the compounds indicated a level below the detection limit of the study.

There is evidence that direct migration from the Coal Pile to Brush Creek has taken place. It can also be assumed that leaching into the water table below the soil surface may have occurred.

The SI sampling scheme was designed to characterize on-site soils, together with possible migration pathways and local surface water.



GRAPHIC SCALE

0 300 600 FEET

LEGEND

- RAILROAD TRACK
- ROAD
- WALKWAY
- FENCE
- BUILDING #
- BERM (EXPLOSION PROTECTION)
- TOPOGRAPHIC CONTOUR
- CONTOUR INTERVAL = 5 FEET
- INTERMITTENT STREAM

Prepared by

CDM FEDERAL PROGRAMS CORPORATION

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JAYCOR

IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

Site Map of IAAP 42

Abandoned Coal Storage Yard

SOURCE: Mason & Hanger-Silas Mason Co., Inc.

FILE NO. IAAP42	DRWN BY: LR	PROJECT #: 7150-100	SHT. 1 OF 1
DATE 5/92			FIGURE: 3-42

SI sample locations are depicted in Figure 3-42. Table 3-44 summarizes the SI sample results reported above CRLs; Table 3-44a reports those results above evaluation criteria. A summary report of all analytical results associated with the SI of this site is included in Appendix B.

Sample	Analyses	Sample Type	Depth	Location
42-SA-01-01	Metals Nitrates Sulfates	G	N/A	Surface sample from a hand-augured hole at the center of the coal pile.
42-SA-01-02	Metals Nitrates Sulfates	C	3′	Same location as 42-SA-01-01, at a depth of three feet.
42-SA-01-03	Metals Nitrates Sulfates	C	6′	Same location as 42-SA-01-01, at a depth of six feet.
42-SA-02-01	Metals Nitrates Sulfates	G	0-6"	Adjacent to main coal pile, 0 to 6 inch depth.
42-SA-02-02	Metals Nitrates Sulfates	C	3′	Same location as 42-SA-02-01, at a depth of three feet.
42-SW-03-01	Metals Nitrates Sulfates	G	N/A	Surface water sample from the small pond fed by storm water outlet at the head of Brush Creek.
42-SD-03-01	Metals Nitrates Sulfates	G	0-6"	Corresponds to 42-SW-03-01.
42-SW-04-01	Metals Nitrates Sulfates	G	N/A	Surface water sample from Brush Creek, 200 feet downstream from its head.
42-SD-04-01	Metals Nitrates Sulfates	G	0-6"	Corresponds to 42-SW-04-01.

3.44.3 Evaluation of Site

Both surface water samples contained metals and sulfates. Sample 42-SW-03-01 contained zinc (841 μg/L), barium (63.7 μg/L), and sulfates (150,000 μg/L). Sample 42-SW-04-01 contains zinc (1030 μg/L), barium (25.3 μg/L), mercury (2.8 μg/L), and sulfates (150,000 μg/L).

Both sediment samples (42-SD-03-01 and 42-SD-04-01) were tested for metals, nitrates and sulfates. No elevated levels of metals were found. Sulfate concentrations were 107 and 190 mg/kg, which is not considered high.

For the five soil samples collected, only one (42-SA-01-01) contained elevated levels of metals (selenium at 1.39 mg/kg). Because this is the only metal of elevated concentration, and because it is less than the high end of the reported USGS range (Table 3-2b) of 2.7 mg/kg, it is not considered significant. Sulfate concentrations ranged from 190 to 1500 mg/kg, which is not considered high.

Based on review of the SI data there does not appear to be significant or pervasive contamination emerging from the abandoned coal pile. While both surface water samples contained several metals above the evaluation criteria, these metals concentrations were well below either the safe Drinking Water Act MCLs or the EPA Ambient Water Quality Criteria (barium, MCL 1000 µg/L; zinc, AWQC 5000 µg/L; mercury, AWQC 10 µg/L). Sulfate concentrations reported in the surface water samples were less than sulfate concentrations in background groundwater samples, reported at 210,000 µg/L.

The Abandoned Coal Storage Yard (IAAP-42) was identified in the IAG as a SWMU, and therefore, was investigated during the SI.

SI sampling focused on the adjacent Brush Creek, where surface water and sediment sampling was concentrated in an effort to determine whether the eroding coal pile was having a deleterious effect on the water quality. No significant metals contamination was reported in these SI samples.

The coal pile is assumed to contain pyrite (ferrous sulfide). The decomposition products of pyrite are known to be sulfate, iron, and acidity. Therefore, it can be concluded that when precipitation passes over the pyrite within the coal, acid is produced, which then percolates through the coal pile to the native soils. In the native soil environment this acid has the potential to leach (solubilize) available metals and transport them into receiving surface water, in this case, Brush Creek. The coal pile is devoid of significant vegetation; therefore the percolation and leaching described can be expected to continue as long as the pile remains in place.

On 11 February 1992 IAAP submitted a proposal to IDNR outlining its approach for eliminating the coal pile. The proposal states:

> "We recommend removing the remains of the abandoned coal storage yard and relocating it to the new coal storage facility where it would be used as a base for storing new coal. The new coal storage is a lined, permitted facility with a leachate collection and treatment system. Once the coal pile has been removed, the area will be graded and vegetated to prevent erosion and runoff."

No sampling was proposed. The proposal had a suspense of 16 days; IAAP assumed that if no response was received from IDNR by 27 February 1992, the proposal was accepted.

A copy of the IAAP proposal was provided to Mr. Ken Herstowski, Iowa RCRA.

No sampling is proposed for the Phase I RI because the removal of the coal pile has not occurred. If required, and if it coincides with the RI, post-removal sampling will be outlined in an addendum to the work plan in a separate memorandum.

Table 3-44

IAAP-42 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP42	SD	ANIONS	NITRITE, NITRATE - NONSPECIFIC	42-SD-04	08/21/1991	42SD0401Y	0.300	1.55	=KF17	1.0	UGG
			SULFATE	42-SD-03	08/21/1991	42SD0301Y	0.300	190.0	=KT07	5.0	UGG
				42-SD-04	08/21/1991	42SD0401Y	0.300	107.0	=KT07	5.0	UGG
		METALS	BARIUM	42-SD-03	08/21/1991	42SD0301Y	0.300	19.3	=JS12	3.29	UGG
				42-SD-04	08/21/1991	42SD0401Y	0.300	47.8	=JS12	3.29	UGG
			BERYLLIUM	42-SD-03	08/21/1991	42SD0301Y	0.300	0.841	=JS12	0.427	UGG
			CHROMIUM	42-SD-03	08/21/1991	42SD0301Y	0.300	10.3	=JS12	1.04	UGG
				42-SD-04	08/21/1991	42SD0401Y	0.300	12.7	=JS12	1.04	UGG
			COPPER	42-SD-03	08/21/1991	42SD0301Y	0.300	9.38	=JS12	2.84	UGG
				42-SD-04	08/21/1991	42SD0401Y	0.300	17.6	=JS12	2.84	UGG
			LEAD	42-SD-03	08/21/1991	42SD0301Y	0.300	5.12	=JD21	0.467	UGG
				42-SD-04	08/21/1991	42SD0401Y	0.300	18.0	=JD21	0.467	UGG
			MERCURY	42-SD-03	08/21/1991	42SD0301Y	0.300	0.112	=Y9	0.05	UGG
				42-SD-04	08/21/1991	42SD0401Y	0.300	0.859	=Y9	0.05	UGG
			NICKEL	42-SD-04	08/21/1991	42SD0401Y	0.300	6.65	=JS12	2.74	UGG
			SELENIUM	42-SD-04	08/21/1991	42SD0401Y	0.300	0.928	=JD20	0.449	UGG
			ZINC	42-SD-03	08/21/1991	42SD0301Y	0.300	78.1	=JS12	2.34	UGG
				42-SD-04	08/21/1991	42SD0401Y	0.300	41.9	=JS12	2.34	UGG
	SO	ANIONS	NITRITE, NITRATE - NONSPECIFIC	42-SA-01	08/21/1991	42SA0101Y	0.500	1.71	=KF17	1.0	UGG
				42-SA-02	08/21/1991	42SA0201Y	6.000	5.11	=KF17	1.0	UGG
			SULFATE	42-SA-01	08/21/1991	42SA0101Y	0.500	1,400.0	=KT07	5.0	UGG
						42SA0102Y	4.000	470.0	=KT07	5.0	UGG
						42SA0103Y	6.000	470.0	=KT07	5.0	UGG
				42-SA-02	08/21/1991	42SA0201Y	6.000	1,500.0	=KT07	5.0	UGG
						42SA0202Y	3.000	880.0	=KT07	5.0	UGG
		METALS	ARSENIC	42-SA-01	08/21/1991	42SA0101Y	0.500	12.4	=B9	2.5	UGG
						42SA0102Y	4.000	4.74	=B9	2.5	UGG
						42SA0103Y	6.000	12.0	=B9	2.5	UGG
				42-SA-02	08/21/1991	42SA0201Y	6.000	8.7	=B9	2.5	UGG
						42SA0202Y	3.000	4.76	=B9	2.5	UGG
			BARIUM	42-SA-01	08/21/1991	42SA0101Y	0.500	62.8	=JS12	3.29	UGG
						42SA0102Y	4.000	274.0	=JS12	3.29	UGG
						42SA0103Y	6.000	152.0	=JS12	3.29	UGG
				42-SA-02	08/21/1991	42SA0201Y	6.000	159.0	=JS12	3.29	UGG
						42SA0202Y	3.000	225.0	=JS12	3.29	UGG
			BERYLLIUM	42-SA-01	08/21/1991	42SA0101Y	0.500	0.599	=JS12	0.427	UGG
			CHROMIUM	42-SA-01	08/21/1991	42SA0101Y	0.500	12.0	=JS12	1.04	UGG
						42SA0102Y	4.000	30.0	=JS12	1.04	UGG
						42SA0103Y	6.000	29.8	=JS12	1.04	UGG
				42-SA-02	08/21/1991	42SA0201Y	6.000	19.5	=JS12	1.04	UGG
						42SA0202Y	3.000	34.4	=JS12	1.04	UGG
			COPPER	42-SA-01	08/21/1991	42SA0101Y	0.500	11.3	=JS12	2.84	UGG
						42SA0102Y	4.000	18.2	=JS12	2.84	UGG
						42SA0103Y	6.000	16.7	=JS12	2.84	UGG
				42-SA-02	08/21/1991	42SA0201Y	6.000	17.2	=JS12	2.84	UGG
						42SA0202Y	3.000	28.7	=JS12	2.84	UGG
			LEAD	42-SA-01	08/21/1991	42SA0101Y	0.500	25.0	=JD21	0.467	UGG
						42SA0102Y	4.000	12.0	=JD21	0.467	UGG
						42SA0103Y	6.000	12.0	=JD21	0.467	UGG
				42-SA-02	08/21/1991	42SA0201Y	6.000	20.0	=JD21	0.467	UGG
						42SA0202Y	3.000	14.0	=JD21	0.467	UGG

Table 3-44

IAAP-42 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			MERCURY	42-SA-01	08/21/1991	42SA0101Y	0.500	0.156	=Y9	0.05	UGG
				42-SA-02	08/21/1991	42SA0201Y	6.000	0.083	=Y9	0.05	UGG
			NICKEL	42-SA-01	08/21/1991	42SA0101Y	0.500	6.08	=JS12	2.74	UGG
						42SA0102Y	4.000	22.3	=JS12	2.74	UGG
						42SA0103Y	6.000	16.4	=JS12	2.74	UGG
				42-SA-02	08/21/1991	42SA0201Y	6.000	8.78	=JS12	2.74	UGG
						42SA0202Y	3.000	17.6	=JS12	2.74	UGG
			SELENIUM	42-SA-01	08/21/1991	42SA0101Y	0.500	1.39	=JD20	0.449	UGG
				42-SA-02	08/21/1991	42SA0201Y	6.000	1.01	=JD20	0.449	UGG
			ZINC	42-SA-01	08/21/1991	42SA0101Y	0.500	20.6	=JS12	2.34	UGG
						42SA0102Y	4.000	55.1	=JS12	2.34	UGG
						42SA0103Y	6.000	53.9	=JS12	2.34	UGG
				42-SA-02	08/21/1991	42SA0201Y	6.000	48.3	=JS12	2.34	UGG
						42SA0202Y	3.000	74.5	=JS12	2.34	UGG
	SW	ANIONS	NITRITE, NITRATE - NONSPECIFIC	42-SW-04	08/21/1991	42SW0401Y	0.500	4,600.0	=LL8	10.0	UGL
			SULFATE	42-SW-04	08/21/1991	42SW0401Y	0.500	150,000.0	=TT09	175.0	UGL
		METALS	ARSENIC	42-SW-04	08/21/1991	42SW0401Y	0.500	2.66	=AX8	2.35	UGL
			BARIUM	42-SW-04	08/21/1991	42SW0401Y	0.500	25.3	=SS12	2.82	UGL
			LEAD	42-SW-04	08/21/1991	42SW0401Y	0.500	9.23	=SD18	4.47	UGL
			MERCURY	42-SW-04	08/21/1991	42SW0401Y	0.500	2.8	=CC8	0.1	UGL
			ZINC	42-SW-04	08/21/1991	42SW0401Y	0.500	1,030.0	=SS12	18.0	UGL

Table 3-44a

IAAP-42 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP42	SD	ANIONS	NITRITE, NITRATE - NONSPECIFIC	42-SD-04	08/21/1991	42SD0401Y	0.300	1.55	=KF17	1.0	UGG
			SULFATE	42-SD-03	08/21/1991	42SD0301Y	0.300	190.0	=KT07	5.0	UGG
				42-SD-04	08/21/1991	42SD0401Y	0.300	107.0	=KT07	5.0	UGG
		METALS	MERCURY	42-SD-04	08/21/1991	42SD0401Y	0.300	0.859	=Y9	0.05	UGG
			SELENIUM	42-SD-04	08/21/1991	42SD0401Y	0.300	0.928	=JD20	0.449	UGG
	SO	ANIONS	NITRITE, NITRATE - NONSPECIFIC	42-SA-01	08/21/1991	42SA0101Y	0.500	1.71	=KF17	1.0	UGG
				42-SA-02	08/21/1991	42SA0201Y	6.000	5.11	=KF17	1.0	UGG
			SULFATE	42-SA-01	08/21/1991	42SA0101Y	0.500	1,400.0	=KT07	5.0	UGG
						42SA0102Y	4.000	470.0	=KT07	5.0	UGG
						42SA0103Y	6.000	470.0	=KT07	5.0	UGG
				42-SA-02	08/21/1991	42SA0201Y	6.000	1,500.0	=KT07	5.0	UGG
						42SA0202Y	3.000	880.0	=KT07	5.0	UGG
		METALS	ARSENIC	42-SA-01	08/21/1991	42SA0101Y	0.500	12.4	=B9	2.5	UGG
						42SA0103Y	6.000	12.0	=B9	2.5	UGG
				42-SA-02	08/21/1991	42SA0201Y	6.000	8.7	=B9	2.5	UGG
			CHROMIUM	42-SA-01	08/21/1991	42SA0102Y	4.000	30.0	=JS12	1.04	UGG
						42SA0103Y	6.000	29.8	=JS12	1.04	UGG
				42-SA-02	08/21/1991	42SA0202Y	3.000	34.4	=JS12	1.04	UGG
			SELENIUM	42-SA-01	08/21/1991	42SA0101Y	0.500	1.39	=JD20	0.449	UGG
				42-SA-02	08/21/1991	42SA0201Y	6.000	1.01	=JD20	0.449	UGG
	SW	ANIONS	NITRITE, NITRATE - NONSPECIFIC	42-SW-04	08/21/1991	42SW0401Y	0.500	4,600.0	=LL8	10.0	UGL
			SULFATE	42-SW-04	08/21/1991	42SW0401Y	0.500	150,000.0	=TT09	175.0	UGL
		METALS	MERCURY	42-SW-04	08/21/1991	42SW0401Y	0.500	2.8	=CC8	0.1	UGL

3.45 IAAP-43 (FLY ASH DISPOSAL AREA)

3.45.1 Site Description and History

The inactive Fly Ash Disposal Area is located on approximately 5 acres in west-central IAAP, directly to the west of the existing Fly Ash Landfill (IAAP-27) (Plate 1; D-6). The power plant is to the southeast of IAAP-27.

In operation from the 1940s to the early 1950s, this area was used after IAAP-15, for disposal of fly ash, residual coal, clinkers, and other residue from the coal-fired power plant (Figure 3-43). The site is abandoned, and covered by natural vegetation, but has no final soil or clay cover. Vegetative stress was not observed during a 14 August 1990 visual site inspection (Denz 1990). A 25 September 1990 visual inspection identified a stressed area near a small cherry tree, where old kiln or fire brick was piled, surrounded by what appeared to be slag from a furnace cleaning operation. This pile contained some rusty metal buckets and other discarded pieces of scrap iron.

Runoff from the coal pile and leachate from the leachate collection system beneath the new fly ash landfill (IAAP-27) are directed to a holding pond. The pond also receives boiler blowdown from the power plant, which serves to equilibrate the pH in the pond. Water from the Pond is run through a lime column to precipitate the iron. Treated effluent from the column is piped to a concrete holding basin. Basin water is tested for compliance with NPDES discharge permit. If levels are out of compliance, water from the basin is piped back into the pond. Sludge from the lime column is dumped on the new fly ash landfill (approved by IDNR). The Power Plant is shut down from May to September, so this activity is suspended; during this period of inactivity, there is not enough water in the pond to discharge because there is no boiler blowdown.

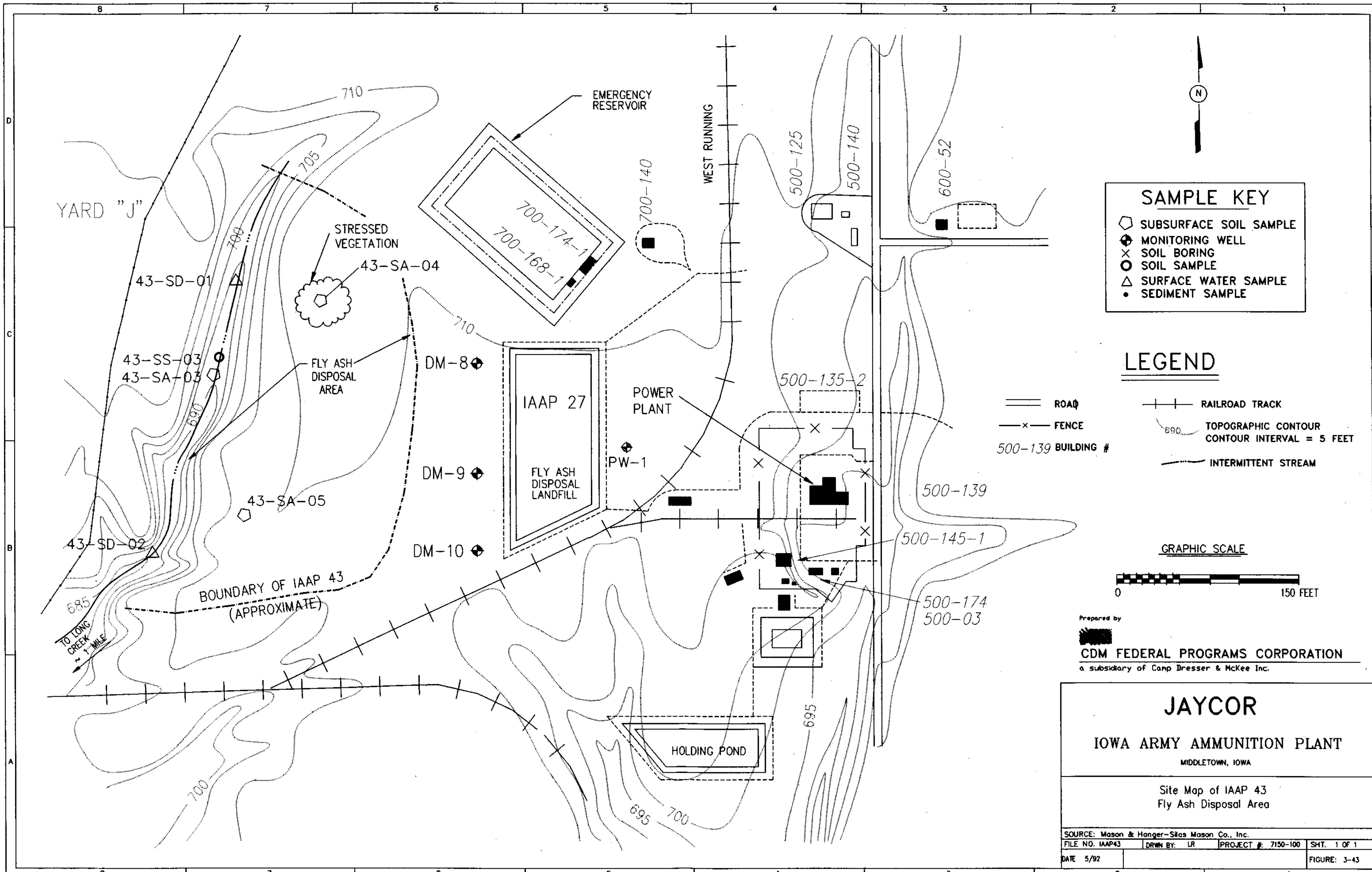
The nearest stratigraphic column was logged at the power plant, approximately 500 feet to the east-southeast of IAAP-43. Ground surface was at an elevation of 715 feet above msl. Approximately 1 foot of topsoil was encountered, part of which is planted with corn. This is underlain by about 6 feet of lean, moist clay, followed by 29 feet of various moist clays. The water table was encountered at approximately 688 to 693 feet above msl. Drilling was stopped at 675 feet above msl, with the water level in the boring continuing to rise.

Surface runoff flows into an unnamed intermittent stream west of the site, which flows approximately 3000 feet into Mathes Lake. The potential migration pathways are soil, sediment, surface water, and groundwater. During a VSI conducted in 1987 in support of a RFA conducted by Ecology and Environment, Inc., it was noted that IAAP-43 received no final cover before closing; however, the area was covered with natural vegetation, and there was no significant vegetative stress apparent, despite a lack of soil cover.

Crops and hay are grown in leased fields to the north and east of the Fly Ash Disposal Area.

3.45.2 Summary of Previous Investigations

Samples from monitoring Well DM-9, located mid-way between IAAP-27 and IAAP-43 were collected on 24 June 1987 (ESE 1987). The analysis showed no chlorinated solvents were present above detection limits. Analysis was not conducted for metals or other contaminants. During the SI for IAAP-27, samples were taken from wells DM-8, DM-9, and DM-10 and analyzed for



YARD "J"
43-SD-01
43-SS-03
43-SA-03
43-SA-04
43-SA-05
43-SD-02
STRESSED VEGETATION
FLY ASH DISPOSAL AREA
BOUNDARY OF IAAP 43 (APPROXIMATE)
TO LONG CREEK ~ 1 MILE
EMERGENCY RESERVOIR
700-174-1
700-168-1
700-140
WEST RUNNING
DM-8
DM-9
DM-10
IAAP 27
FLY ASH DISPOSAL LANDFILL
PW-1
POWER PLANT
500-125
500-140
600-52
500-135-2
500-139
500-145-1
500-174
500-03
HOLDING POND
710
705
700
695
690
685
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
LEGEND
ROAD
FENCE
500-139 BUILDING #
RAILROAD TRACK
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM
GRAPHIC SCALE
0
150 FEET
Prepared by
[redacted]
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 43
Fly Ash Disposal Area
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP43
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-43

explosives, metals, and nitrates/sulfates. This sampling helps to delineate any contributions from the Fly Ash Landfill (IAAP-27) that may have migrated into IAAP-43.

The SI sampling scheme was designed to characterize the ash at the point where it abuts the intermittent stream and to determine the extent and nature of any contaminants that leach or runoff into the stream bed. SI samples are summarized in the chart below, and sample locations are depicted in Figure 3-43.

Planned surface water samples at the upstream and downstream boundaries of the fly ash area were not taken because no water was present in the stream bed. All samples were analyzed for explosives, nitrates, sulfates, and metals. Table 3-45 summarizes all SI data reported above CRLs; those samples reported above evaluation criteria levels are presented in Table 3-45a.

Sample	Analyses	Sample Type	Depth	Location
43-SD-01-01	Metals Explosives Nitrates/Sulfates	G	0-6"	In dry creek bed on north end of site to represent background.
43-SD-02-01	Metals Explosives Nitrates/Sulfates	G	0-6"	In dry creek bed at south end of site.
43-SS-03-01	Metals Explosives Nitrates/Sulfates	C	0-6"	Composite of three soil samples: one at the top of the ash pile along the creek (30' up) at the north end; one near the middle of the pile; and one near the bottom of the pile at the south end along the creek.
43-SA-03-01	Metals Explosives Nitrates/Sulfates	C	3'	Soil aliquots taken at depth, perpendicular to the ash pile wall at the same locations as 43-SS-03-01.
43-SA-04-01	Metals Explosives Nitrates/Sulfates	G	0-12"	Soil sample from stressed vegetation area, downgradient (west) from furnace cleanout pile near wild cherry tree.
43-SA-05-01	Metals Explosives Nitrates/Sulfates	G	0-12"	Surface drainage near the southwest corner of the site near the tree line.

3.45.3 Evaluation of Site

No explosives were reported in samples taken at this site. No contaminants of concern were reported in sediment samples above the associated exceedance levels. Beryllium was found in surface soil and soil auger samples above the exceedance level. Arsenic, selenium, and zinc were also found in samples above the exceedance levels, but the values were within the ranges established by the USGS for soil types found at IAAP (See Table 3-2b). Elevated levels of sulfates and nitrates were also found, but it is expected that high levels of these constituents would be present in the soil. Groundwater samples taken at IAAP-27 (wells DM-8, DM-9, and DM-10) indicate the presence of explosives.

The absence of contaminants in sediment samples taken from the stream bed indicates that the ash disposal area is stable and that contaminants are not leaching from the ash pile to the stream. Moreover, the intermittent nature of the stream flow would tend to limit the migration of any contaminants that may reach the stream bed. The ash pile is heavily vegetated, and the slope to the stream bed is fairly gentle and well-vegetated, except for one or two steep bank areas at the north end. The sample taken at the cherry tree (43-SA-04-01) indicates no contamination above exceedance levels.

Accordingly, it is recommended that the fly ash disposal area be advanced to the RI. Surface water should be sampled from the intermittent stream immediately after a rainfall (if possible). Also, limited groundwater sampling (Geoprobe) should be conducted at the site and compared with RI groundwater sampling results from the wells (DM-4, DM-9, and DM-10) at IAAP-27. Determination of further action can be made at that time. A summary report of all SI analytical results associated with this site is included in Appendix B.

Table 3-45

IAAP-43 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP43	SD	ANIONS	NITRITE, NITRATE - NONSPECIFIC	43-SD-01	08/22/1991	43SD0101Y	0.500	8.59	=KF17	1.0	UGG
				43-SD-02	08/22/1991	43SD0201Y	0.500	4.62	=KF17	1.0	UGG
			SULFATE	43-SD-01	08/22/1991	43SD0101Y	0.500	98.3	=KT07	5.0	UGG
				43-SD-02	08/22/1991	43SD0201Y	0.500	160.0	=KT07	5.0	UGG
		METALS	ARSENIC	43-SD-01	08/22/1991	43SD0101Y	0.500	4.49	=B9	2.5	UGG
				43-SD-02	08/22/1991	43SD0201Y	0.500	6.77	=B9	2.5	UGG
			BARIUM	43-SD-01	08/22/1991	43SD0101Y	0.500	178.0	=JS12	3.29	UGG
				43-SD-02	08/22/1991	43SD0201Y	0.500	116.0	=JS12	3.29	UGG
			BERYLLIUM	43-SD-01	08/22/1991	43SD0101Y	0.500	0.738	=JS12	0.427	UGG
			CHROMIUM	43-SD-01	08/22/1991	43SD0101Y	0.500	17.7	=JS12	1.04	UGG
				43-SD-02	08/22/1991	43SD0201Y	0.500	12.0	=JS12	1.04	UGG
			COPPER	43-SD-01	08/22/1991	43SD0101Y	0.500	15.6	=JS12	2.84	UGG
				43-SD-02	08/22/1991	43SD0201Y	0.500	14.2	=JS12	2.84	UGG
			LEAD	43-SD-01	08/22/1991	43SD0101Y	0.500	21.0	=JD21	0.467	UGG
				43-SD-02	08/22/1991	43SD0201Y	0.500	15.0	=JD21	0.467	UGG
			NICKEL	43-SD-01	08/22/1991	43SD0101Y	0.500	16.2	=JS12	2.74	UGG
				43-SD-02	08/22/1991	43SD0201Y	0.500	16.5	=JS12	2.74	UGG
			SELENIUM	43-SD-02	08/22/1991	43SD0201Y	0.500	0.976	=JD20	0.449	UGG
			ZINC	43-SD-01	08/22/1991	43SD0101Y	0.500	62.8	=JS12	2.34	UGG
				43-SD-02	08/22/1991	43SD0201Y	0.500	57.6	=JS12	2.34	UGG
	SO	ANIONS	NITRITE, NITRATE - NONSPECIFIC	43-SA-03	08/22/1991	43SA0301Y	0.500	12.8	=KF17	1.0	UGG
				43-SA-04	08/22/1991	43SA0401Y	1.000	2.98	=KF17	1.0	UGG
				43-SA-05	08/22/1991	43SA0501Y	1.000	3.57	=KF17	1.0	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	23.0	=KF17	1.0	UGG
			SULFATE	43-SA-03	08/22/1991	43SA0301Y	0.500	1,200.0	=KT07	5.0	UGG
				43-SA-04	08/22/1991	43SA0401Y	1.000	23.4	=KT07	5.0	UGG
				43-SA-05	08/22/1991	43SA0501Y	1.000	8.7	=KT07	5.0	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	560.0	=KT07	5.0	UGG
		METALS	ARSENIC	43-SA-03	08/22/1991	43SA0301Y	0.500	20.5	=B9	2.5	UGG
				43-SA-04	08/22/1991	43SA0401Y	1.000	7.81	=B9	2.5	UGG
				43-SA-05	08/22/1991	43SA0501Y	1.000	7.9	=B9	2.5	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	10.8	=B9	2.5	UGG
			BARIUM	43-SA-03	08/22/1991	43SA0301Y	0.500	166.0	=JS12	3.29	UGG
				43-SA-04	08/22/1991	43SA0401Y	1.000	178.0	=JS12	3.29	UGG
				43-SA-05	08/22/1991	43SA0501Y	1.000	163.0	=JS12	3.29	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	220.0	=JS12	3.29	UGG
			BERYLLIUM	43-SA-03	08/22/1991	43SA0301Y	0.500	2.69	=JS12	0.427	UGG
				43-SA-04	08/22/1991	43SA0401Y	1.000	1.11	=JS12	0.427	UGG
				43-SA-05	08/22/1991	43SA0501Y	1.000	1.12	=JS12	0.427	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	2.96	=JS12	0.427	UGG
			CADMIUM	43-SA-03	08/22/1991	43SA0301Y	0.500	1.99	=JS12	1.2	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	1.89	=JS12	1.2	UGG
			CHROMIUM	43-SA-03	08/22/1991	43SA0301Y	0.500	28.2	=JS12	1.04	UGG
				43-SA-04	08/22/1991	43SA0401Y	1.000	24.1	=JS12	1.04	UGG
				43-SA-05	08/22/1991	43SA0501Y	1.000	20.3	=JS12	1.04	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	28.7	=JS12	1.04	UGG
			COPPER	43-SA-03	08/22/1991	43SA0301Y	0.500	42.1	=JS12	2.84	UGG
				43-SA-04	08/22/1991	43SA0401Y	1.000	19.7	=JS12	2.84	UGG
				43-SA-05	08/22/1991	43SA0501Y	1.000	24.2	=JS12	2.84	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	44.6	=JS12	2.84	UGG
			LEAD	43-SA-03	08/22/1991	43SA0301Y	0.500	42.0	=JD21	0.467	UGG

Table 3-45

IAAP-43 Results Above Certified Reporting Limit (CRL)

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				43-SA-04	08/22/1991	43SA0401Y	1.000	19.0	=JD21	0.467	UGG
				43-SA-05	08/22/1991	43SA0501Y	1.000	17.0	=JD21	0.467	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	29.0	=JD21	0.467	UGG
			MERCURY	43-SA-03	08/22/1991	43SA0301Y	0.500	0.151	=Y9	0.05	UGG
				43-SA-04	08/22/1991	43SA0401Y	1.000	0.09	=Y9	0.05	UGG
				43-SA-05	08/22/1991	43SA0501Y	1.000	0.099	=Y9	0.05	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	0.217	=Y9	0.05	UGG
			NICKEL	43-SA-03	08/22/1991	43SA0301Y	0.500	40.7	=JS12	2.74	UGG
				43-SA-04	08/22/1991	43SA0401Y	1.000	18.3	=JS12	2.74	UGG
				43-SA-05	08/22/1991	43SA0501Y	1.000	22.0	=JS12	2.74	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	41.2	=JS12	2.74	UGG
			SELENIUM	43-SA-03	08/22/1991	43SA0301Y	0.500	1.4	=JD20	0.449	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	0.997	=JD20	0.449	UGG
			ZINC	43-SA-03	08/22/1991	43SA0301Y	0.500	237.0	=JS12	2.34	UGG
				43-SA-04	08/22/1991	43SA0401Y	1.000	67.5	=JS12	2.34	UGG
				43-SA-05	08/22/1991	43SA0501Y	1.000	78.1	=JS12	2.34	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	236.0	=JS12	2.34	UGG

Table 3-45a

IAAP-43 Results Above Evaluation Criteria

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP43	SD	ANIONS	NITRITE, NITRATE - NONSPECIFIC	43-SD-01	08/22/1991	43SD0101Y	0.500	8.59	=KF17	1.0	UGG
				43-SD-02	08/22/1991	43SD0201Y	0.500	4.62	=KF17	1.0	UGG
			SULFATE	43-SD-01	08/22/1991	43SD0101Y	0.500	98.3	=KT07	5.0	UGG
				43-SD-02	08/22/1991	43SD0201Y	0.500	160.0	=KT07	5.0	UGG
		METALS	SELENIUM	43-SD-02	08/22/1991	43SD0201Y	0.500	0.976	=JD20	0.449	UGG
	SO	ANIONS	NITRITE, NITRATE - NONSPECIFIC	43-SA-03	08/22/1991	43SA0301Y	0.500	12.8	=KF17	1.0	UGG
				43-SA-04	08/22/1991	43SA0401Y	1.000	2.98	=KF17	1.0	UGG
				43-SA-05	08/22/1991	43SA0501Y	1.000	3.57	=KF17	1.0	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	23.0	=KF17	1.0	UGG
			SULFATE	43-SA-03	08/22/1991	43SA0301Y	0.500	1,200.0	=KT07	5.0	UGG
				43-SA-04	08/22/1991	43SA0401Y	1.000	23.4	=KT07	5.0	UGG
				43-SA-05	08/22/1991	43SA0501Y	1.000	8.7	=KT07	5.0	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	560.0	=KT07	5.0	UGG
		METALS	ARSENIC	43-SA-03	08/22/1991	43SA0301Y	0.500	20.5	=B9	2.5	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	10.8	=B9	2.5	UGG
			BERYLLIUM	43-SA-03	08/22/1991	43SA0301Y	0.500	2.69	=JS12	0.427	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	2.96	=JS12	0.427	UGG
			CADMIUM	43-SA-03	08/22/1991	43SA0301Y	0.500	1.99	=JS12	1.2	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	1.89	=JS12	1.2	UGG
			COPPER	43-SA-03	08/22/1991	43SA0301Y	0.500	42.1	=JS12	2.84	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	44.6	=JS12	2.84	UGG
			LEAD	43-SA-03	08/22/1991	43SA0301Y	0.500	42.0	=JD21	0.467	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	29.0	=JD21	0.467	UGG
			SELENIUM	43-SA-03	08/22/1991	43SA0301Y	0.500	1.4	=JD20	0.449	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	0.997	=JD20	0.449	UGG
			ZINC	43-SA-03	08/22/1991	43SA0301Y	0.500	237.0	=JS12	2.34	UGG
				43-SS-03	08/22/1991	43SS0301Y	0.500	236.0	=JS12	2.34	UGG

3.46 IAAP-44 (LINE 800 PINK WATER LAGOON)

3.46.1 Site Description and History

The Line 800 Pink Water Lagoon and the Former Line 1 Impoundment (IAAP-16) were the focus of an RI/FS conducted by Dames & Moore in 1989. Some of the information used by Dames & Moore in the risk assessment associated with this study was historical sampling data obtained from 1981 through 1986. After review, EPA determined that the data was too old to support conclusions and that additional current data was required. Although IAAP-44 was not originally under consideration for the current investigation, it has since been included in order to obtain additional samples so that updated data can be available to reevaluate the risk assessment. The historical information associated with past investigations at this unit is summarized below.

IAAP-44 is located immediately south of Line 800 and approximately 2000 feet west of Brush Creek. Plate 1 depicts the Line 800 Pink Water Lagoon and its location relative to other SWMUs. Figure 3-44 is a site map of IAAP-44.

The Line 800 Pink Water Lagoon consists of an unlined, five-acre impoundment surrounded by an earthen berm. The primary activity at Line 800 was ammunition renovation, from 1943 to 1945. The Pink Water Lagoon was constructed in 1943 for the disposal of effluent from Line 800 and sludges trucked in from other operations around IAAP (D & M 1989).

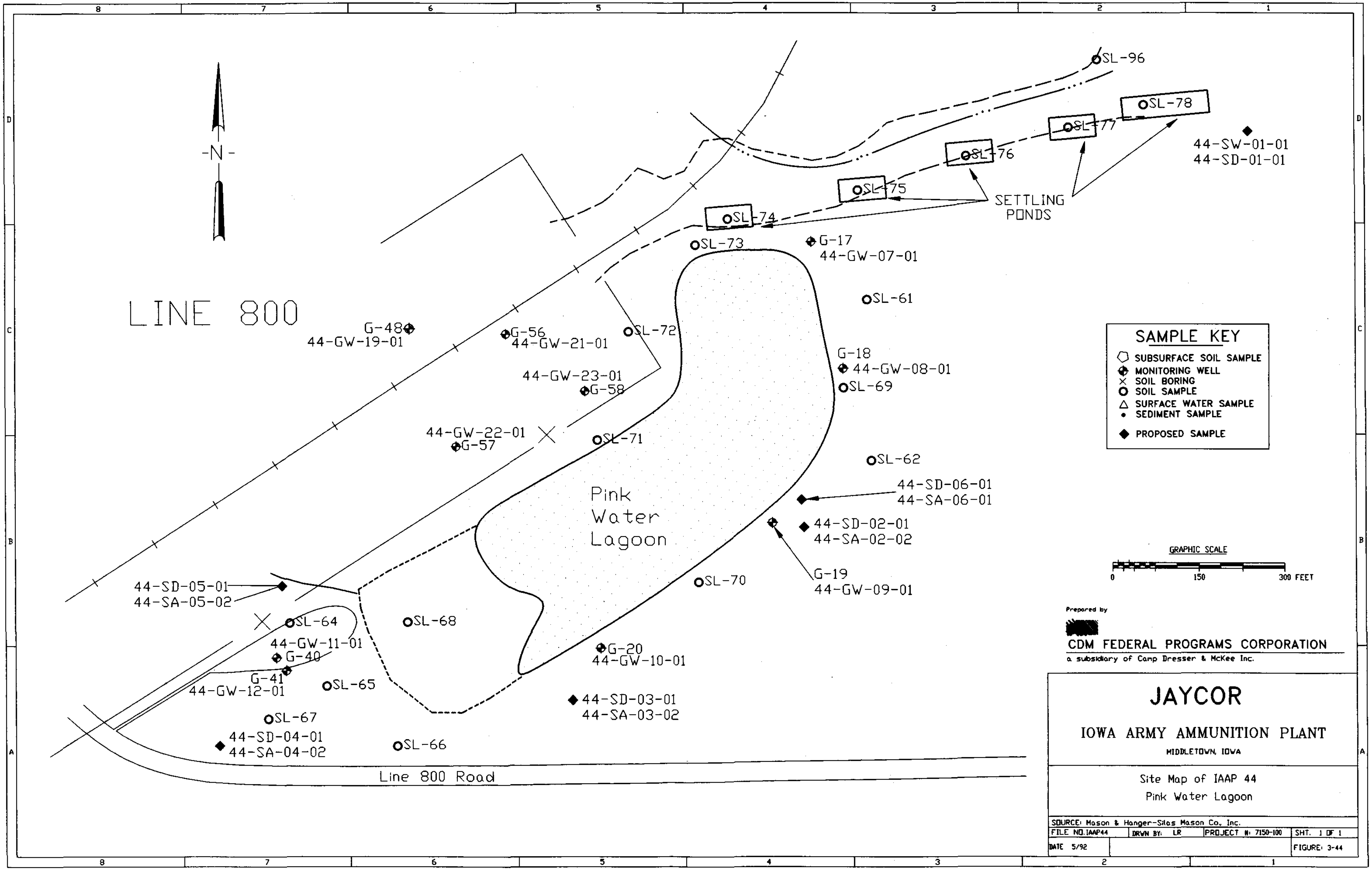
Previous studies indicate that the primary waste disposed at the site included explosives-contaminated wash water and heavy metals from operations occurring at Line 800. Previous studies also indicate that carbon and fly ash disposal may have also occurred at the site. The actual volume or quantity of waste generated by Line 800 or other facilities and disposed of in the Pink Water Lagoon was not documented and is not known.

Currently the lagoon is not used for wastewater disposal and holds only accumulated sediments and standing water. Sampling and analysis results indicate that significant quantities of explosives residues still remain in the pond sediments and also in the soils around the southwest corner of the impoundment (D & M 1989).

Previous studies have produced limited documentation of the waste management practices utilized at the lagoon. Previous research indicates that originally, wastewater was drained onto the ground surface and allowed to infiltrate or run off into surface drainageways (D & M 1989). It is believed the lagoon eventually was used as a settling pond to reduce particulates and solids prior to discharge to surface drainage (D & M 1989). A series of five settling basins were located along the surface drainageway to which the lagoon was connected at one time. Previous studies indicate that no known water treatment process was utilized at the lagoon.

3.46.2 Summary of Previous Investigations

As a result of receiving contaminated wastewater, considerable amounts of particulate material contaminated by explosives and heavy metals were deposited in the lagoon. Based on previous sampling and analysis, significant quantities of explosives are present in the groundwater, surface water, and the soil/sediments immediately adjacent to the Pink Water Lagoon. The contaminated surface water is confined to the lagoon as long as the outlet is closed.



N
LINE 800
SL-96
SL-78
SL-77
SL-76
SL-75
SL-74
SL-73
SETTLING PONDS
44-SW-01-01
44-SD-01-01
G-17
44-GW-07-01
SL-61
G-48
44-GW-19-01
G-56
44-GW-21-01
SL-72
44-GW-23-01
G-58
G-18
44-GW-08-01
SL-69
44-GW-22-01
G-57
SL-71
SL-62
Pink Water Lagoon
44-SD-06-01
44-SA-06-01
44-SD-02-01
44-SA-02-02
G-19
44-GW-09-01
SL-70
44-SD-05-01
44-SA-05-02
SL-64
SL-68
44-GW-11-01
G-40
G-41
44-GW-12-01
SL-65
G-20
44-GW-10-01
44-SD-03-01
44-SA-03-02
SL-67
44-SD-04-01
44-SA-04-02
SL-66
Line 800 Road
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
PROPOSED SAMPLE
GRAPHIC SCALE
0
150
300 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
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JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP 44
Pink Water Lagoon
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP44
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 3-44

Explosives detected in the shallow aquifer include RDX; HMX; 2,4,6-TNT; 2,4-DNT; 2,6-DNT; 1,3,5-TNB; and 1,3-DNB. The explosives detected in the deeper bedrock aquifer include RDX; 2,4,6-TNT; 2,4-DNT; 2,6-DNT; and 1,3,5-TNB. Metals were not detected at elevated levels in groundwater. Explosive concentrations are much greater in the shallow groundwater aquifer. RDX is present at the greatest concentrations, ranging from undetected to 36,000 μg/L in the till and from undetected to 238 μg/L in the bedrock aquifer. The explosives 1,2,3-TNB and 2,4,6-TNT were also frequently detected at concentrations exceeding other explosives.

Contaminant migration is confirmed in bedrock to a distance of 450 feet from the lagoon (Well GZ-44). Contamination beyond this point has not been evaluated, though data from a downgradient monitoring well located 2100 feet beyond the site (G-50) indicates that contaminants have not reached Brush Creek. The data indicate that groundwater contamination is moving laterally and downward through the till.

Explosives are present in surface water in the lagoon, at concentrations significantly less than the concentrations observed in the underlying groundwater (D & M 1989). The elevated concentrations of explosives in groundwater is probably caused by the contaminated sediments leaching out during surface water infiltration. RDX exhibits the most elevated concentrations in the lagoon, ranging from undetected to 270 μg/L. Other detected explosives were reported at concentrations <20 μg/L including 2,4-DNT; 2,6-DNT; 1,3,5-DNT; 1,3,5-TNB; and 2,4,6-TNT. Elevated concentrations of metals including cadmium, copper, and lead are also present in the lagoon, though they appear not to be as susceptible to leaching as evidenced by their absence from the groundwater at elevated concentrations. The contaminated surface water is confined to the Line 800 Pink Water Lagoon as long as the outlet is closed.

The predominant explosives detected in soils and sediments were RDX; HMX; 2,4,6-TNT; and 1,3,5-TNB at concentrations up to 800, 110, 2000, and 200 mg/kg, respectively. Few of the soil and sediment samples showed other explosives above detection limits including tetryl; 1,3-DNB; 2,4-DNT; and 2,6-DNT. The highest explosives concentrations were exhibited in the southwest portion of the lagoon, or the location of the former sludge dumping area. Soil samples from other portions of the lagoon and from the settling basins also display elevated explosives concentrations. The perimeter soil sampling suggests explosives contamination in sediments throughout the lagoon boundaries (D & M 1989). Previous sampling indicates that explosives concentrations decrease with depth. At all locations, explosives concentrations in soil are predominately nondetectable below 10 to 11.5 feet. Metals detected in soil/sediment samples in previous studies include copper, cadmium, and lead. Copper is the only metal that has been detected at elevated levels (172 mg/kg), and the boring locations exhibiting these elevated concentrations were in the general area of the former sludge dumping area on the western portion of the lagoon.

3.46.3 Follow-up Sampling

EPA directed that follow-up sampling include resampling the wells from which data were evaluated to support the Dames & Moore Risk Assessment as well as collecting limited surface water and soil/sediment samples. In addition, during previous studies, samples were analyzed only for explosives and metals; EPA has requested VOC analysis as well.

The 21 groundwater wells to be sampled as part of the Line 800 Pink Water Lagoon study are listed in Table 3-46. Samples from 3 wells (G-15, G-49, and G-51) will be obtained under the work plan for IAAP-16, but the data will be used in the evaluations of both sites. Monitoring well locations are depicted on Plate 2. Samples will be obtained following the groundwater sampling protocols as described in the QAPjP (Appendix A). The well construction details and associated boring logs are presented in Appendix C. The 40 wells to be sampled during the EPA directed follow-up sampling are listed in Table 3-46a, which also presents the chronology of past sampling events.

Soil, sediment, and surface water samples will be obtained from areas around the Pink Water Lagoon in an attempt to further define the extent of the contamination at this unit. Proposed sample locations and analyses are illustrated in Figure 3-44 and summarized in Table 3-46.

One sediment and an accompanying surface water sample (44-SD-01-01 and 44-SW-01-01) will be obtained 50 feet downgradient from the location of the five settling basins in the intermittent drainage ditch that once received wastewater from Line 800 and/or the lagoon. According to previous studies, low levels of explosive contamination exist in the settling basins. The sample would provide data on the extent of contamination further downgradient.

Samples will be obtained in at least two locations (44-SA-02-01 and 02; and 44-SA-03-01 and 02) 60 feet from the southeastern border of the lagoon. Samples will be obtained at intervals of 0-2 feet and 2-4 feet. In the Dames & Moore Endangerment Assessment, the study indicated that the lagoon may have previously extended 30-60 feet southeast of its current position. These two samples would provide data to further define the contaminated area.

Soil samples (44-SA-04-01 and 44-SA-04-02) will be obtained from an area southwest of the lagoon adjacent to the intersection of the dirt access road and the Line 800 Road. The samples will be taken at intervals of 0-2 feet and 2-4 feet. In the Dames & Moore study, there was contamination indicated on the southwest corner of the lagoon where the dirt road accesses the lagoon. The report stated that it was probable that dumping of materials containing explosives occurred at this location. Elevated levels of copper also were reported, which was also attributed to sludge disposal. This sample would assist in defining the extent of contamination in this area.

Soil samples (44-SA-05-01 and 44-SA-05-02) will be taken from an area southwest of the lagoon, and 75 feet west of the dirt access road loop. These samples should provide further information in an attempt to define the extent of the contamination in this area that possibly was used for dumping explosive waste and sludge.

Table 3-46
Proposed Sample Locations; IAAP-44 Follow-up Sampling

Sample	Analyses	Sample Type	Depth	Location
44-SW-01-01	Explosives Metals VOCs	G	N/A	Approximately 50 feet downgradient from the location of the five settling basins in the drainage ditch.
44-SD-01-01	Explosives Metals VOCs	G	0-6"	The sample will be obtained from the same location as 44-SW-01-01.
44-SA-02-01	Explosives Metals VOCs	G	0-6"	50 feet from the southeastern corner of the lagoon.
44-SA-02-02	Explosives Metals VOCs	G	36"	Corresponds to 44-SA-02-01.
44-SD-03-01	Explosives Metals VOCs	G	0-6"	50 feet from the southern border of the lagoon and 300 feet southwest of 44-SA-02-01.
44-SA-03-01	Explosives Metals VOCs	G	36"	Corresponds to 44-SD-03-01.
44-SD-04-01	Explosives Metals VOCs	G	0-6"	Adjacent to the northwest corner of the intersection of the dirt access road and the Line 800 Road.
44-SA-04-02	Explosives Metals VOCs	G	36"	Corresponds to 44-SD-04-01.
44-SD-05-01	Explosives Metals VOCs	G	0-6"	75 feet west of the dirt access road loop.
44-SA-05-02	Explosives Metals VOCs	G	36"	Corresponds to 44-SD-05-01.
44-SD-06-01	Explosives Metals VOCs	G	0-6"	30 feet east of southeastern corner of the lagoon.
44-SA-06-01	Explosives Metals VOCs	G	36"	Corresponds to 44-SD-06-01.
44-GW-07-01	Explosives Metals VOCs	G	N/A	Well G-17. Depth of well = 20 feet.
44-GW-08-01	Explosives Metals VOCs	G	N/A	Well G-18. Depth of well = 20 feet.
44-GW-09-01	Explosives Metals VOCs	G	N/A	Well G-19. Depth of well = 20 feet.

Table 3-46 (Continued)

Sample	Analyses	Sample Type	Depth	Location
44-GW-10-01	Explosives Metals VOCs	G	N/A	Well G-20. Depth of well = 20 feet.
44-GW-11-01	Explosives Metals VOCs	G	N/A	Well G-40. Depth of well = 83 feet.
44-GW-12-01	Explosives Metals VOCs	G	N/A	Well G-41. Depth of well = 22 feet.
44-GW-13-01	Explosives Metals VOCs	G	N/A	Well G-42. Depth of well = 77 feet.
44-GW-14-01	Explosives Metals VOCs	G	N/A	Well G-43. Depth of well = 42 feet.
44-GW-15-01	Explosives Metals VOCs	G	N/A	Well G-44. Depth of well = 80 feet.
44-GW-16-01	Explosives Metals VOCs	G	N/A	Well G-45. Depth of well = 40 feet.
44-GW-17-01	Explosives Metals VOCs	G	N/A	Well G-46. Depth of well = 68 feet.
44-GW-18-01	Explosives Metals VOCs	G	N/A	Well G-47. Depth of well = 29 feet.
44-GW-19-01	Explosives Metals VOCs	G	N/A	Well G-48. Depth of well = 33 feet.
44-GW-20-01	Explosives Metals VOCs	G	N/A	Well G-55. Depth of well = 16 feet.
44-GW-21-01	Explosives Metals VOCs	G	N/A	Well G-56. Depth of well = 31 feet.
44-GW-22-01	Explosives Metals VOCs	G	N/A	Well G-57. Depth of well = 31 feet.
44-GW-23-01	Explosives Metals VOCs	G	N/A	Well G-58. Depth of well = 31 feet.

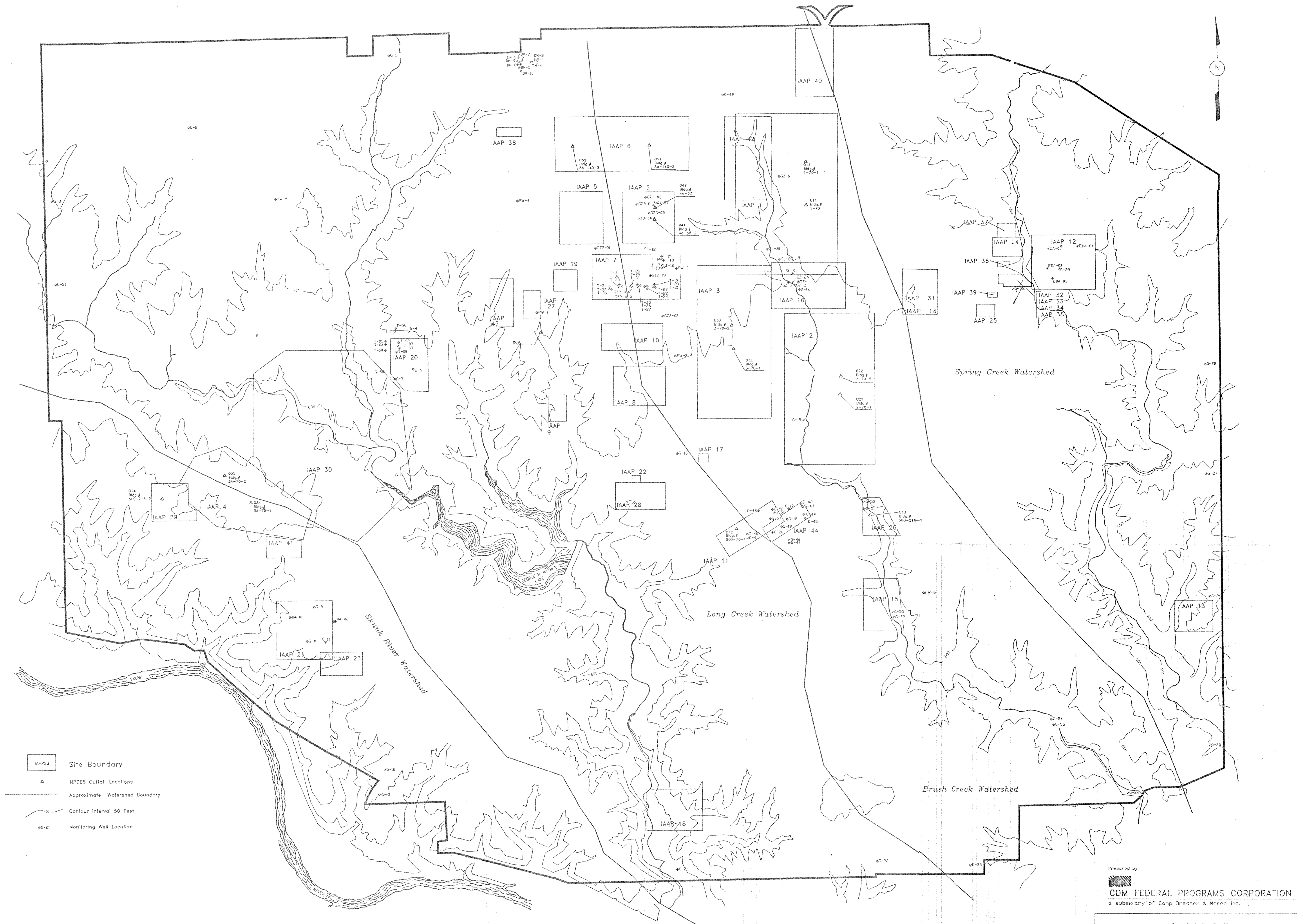
Table 3-46a
Summary of D & M Endangerment Assessment
Monitoring Wells

WELL	SCS 1981	ERG 1982	BATTELLE 1984	AEHA 1985	D & M 1986
GZ-1	X				
GZ-2	X				
GZ-3	X				
GZ-6					X
G-1		X			X
G-2		X			X
G-3		X			X
G-14		X	X		X
G-15		X	X		X
G-17		X	X		X
G-18		X	X		X
G-19		X	X		X
G-20		X	X		X
G-21			X		X
G-22		X	X	X	X
G-23		X	X	X	X
G-24		X		X	X
G-26		X			X
G-27		X			X

Table 3-46 (Continued)

WELL	SCS 1981	ERG 1982	BATTELLE 1984	AEHA 1985	D & M 1986	D & M 1987
G-28		X			X	
G-31		X			X	
G-40			X		X	
G-41			X		X	
G-42			X		X	
G-43			X		X	
G-44			X		X	
G-45			X		X	
G-46			X		X	
G-47			X		X	
G-48						X
G-49						X
G-50						X*
G-51						X
G-52						X
G-53						X
G-54						X
G-55						X
G-56						X
G-57						X
G-58						X
TOTAL 40 WELLS						

* Grouted and abandoned.



SCALE

0 500 1000 2000 3000 4000 5000

INDEX TO SITES

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IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

IAAP Facility Showing Key Environmental Features, Monitoring Well Locations, and NPDES Outfalls

DATE: 1-92 | DRWN BY: LR | 1 OF 1

PLATE 2

Report No. 00012659.91

US Army Corps of Engineers

Toxic and Hazardous Materials Agency

FINAL WORK PLAN

IOWA ARMY AMMUNITION PLANT

PHASE I REMEDIAL INVESTIGATION/FEASIBILITY STUDY

Volume 2 of 3

Sections 4.0 through Appendices

Contract No.: DAAA15-90-D-0006
Task No. 0002

Prepared for:

U.S. ARMY TOXIC AND HAZARDOUS MATERIALS AGENGY
Aberdeen Proving Ground, Maryland

Prepared by:

JAYCOR
1901 N. Beauregard Street, Suite 503
Alexandria, VA 22311-1703

CDM FEDERAL PROGRAMS CORPORATION
13135 Lee Jackson Memorial Highway, Suite 200
Fairfax, VA 22033

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SECTION 4.0 RI WORK PLAN RATIONALE

4.1 DATA QUALITY OBJECTIVES

4.1.1 General Description of the Data Quality Objectives

Data quality objectives (DQOs) are qualitative and quantitative criteria used to establish requirements for sample collection and analysis, and are based on the needs and intended uses of the data. The overall intent of DQOs is to ensure decision makers that data of appropriate type and quality are generated to support their decisions regarding remedial actions and risk characterization.

DQOs are established throughout the RI/FS and remedial design planning process. EPA's guidance for the development of DQOs is not to compile DQOs into a single document, but rather to describe DQOs as an integral part of all planning documents (e.g., work plans, quality assurance project plans, and field sampling and analysis plans). The preliminary DQOs discussed in this section represent general data use objectives for the major RI tasks for the overall IAAP RI/FS. Sampling objectives for each of the sites under investigation and for the base-wide groundwater contamination problem will be presented in greater detail in each site-specific Field Sampling Plan in the subsections Data Requirements and Sampling Objectives.

Development of DQOs is an iterative and interactive process involving reassessment of data quality needs as site information is collected. The DQOs, as described herein, reflect the present status of the overall project planning process and therefore may not be strictly defined. Preliminary DQOs have been developed to allow definition of a scope of work (Sections 5.0 and 6.0) for conduct and completion of the IAAP RI/FS.

As data become available from the RI field activities, the data will be compared with the quantitative and qualitative DQOs to assess whether DQOs for the particular task have been achieved. If not, additional work may be necessary to achieve the DQOs. Reevaluation and assessment of the data objectives will therefore be an ongoing process.

4.1.2 Preliminary DQO Development

Preliminary DQOs have been developed based on the following three-stage process:

Stage 1 - Identify decision types

Stage 2 - Identify data uses and needs

Stage 3 - Design data collection program

During Stage 1, questions are asked about the current knowledge of the site problem to aid in establishing data requirements for site remedy decisions. Decisions at this stage could include: Are available data adequate to determine a need for an action? What type of an action is necessary to reduce or eliminate the apparent risk? Will a risk assessment be necessary? Who needs to know and be involved in the decision? (manager, scientist, hydrologist, engineer, etc.).

Who will be using the data and for what purpose? Answers to these questions aid in defining the general scope of RI/FS and remedial design programs.

During Stage 2, questions are asked about specific data requirements, users, and purposes. These questions can include: What additional data do the data users need (including detection limits, sample location, and sample volume) to identify nature, extent, volumes, transport and fate, etc. of contamination? What data are necessary to perform a risk assessment? What physical tests are required to evaluate the site relative to contaminant mobility or remedial design? Based on the media affected and contaminant type, what treatability tests are warranted? What data will the feasibility study engineer need to describe and evaluate technologies and alternatives? What data will a design engineer need to develop the full-scale remedy?

During Stage 3, the data acquisition program is conceptualized and planned. The conceptual plan is developed jointly by the project managers, data collectors, data analyzers, and data users.

Stage 1, 2, and 3 considerations reflect the sampling programs discussed for each individual site in Section 5.3. Stage 3 considerations also are discussed in the Quality Assurance Project Plan.

4.1.3 Quantitative DQOs

In addition to the qualitative DQOs discussed in Section 4.1.2., quantitative DQOs are established for any activity involving a measurement. Measurement activities can include chemical analyses, flow rate determinations, water level determinations, physical tests, and surveying. To ensure that the data collected reflect site conditions within a known range of error, limits are established for the accuracy, precision, and completeness of the data and data sets. These numerical limits are based on the media being analyzed or measured, type of test being conducted, type of measurement method used, and any other considerations. The quantitative DQOs establish quality control limits and direct the level of QC performed during field activities. The quantitative QC parameters establish units for precision, accuracy, representativeness, comparability, and completeness (PARCC). The identification of specific quantitative PARCC parameters is described in Section 2.14 of the QAPjP.

4.1.4 Appropriate Analytical Levels

There are a number of factors, that if not controlled or measured, could significantly affect quality of the data produced during a field and analytical program. Some of these factors include variability in sample concentration, the ability to collect a representative sample, the ability to accurately identify or quantify an analyte, loss of analytes due to sampling technique, bias due to sample container cleanliness, proper laboratory preparation and analytical techniques, proper field and laboratory QC, and accurate documentation and reporting of results.

Field and analytical data can be used for a vast number of purposes ranging from mere determination of the presence of a chemical, to enforcement level data which can sustain scrutiny within a court of law. Variability in the factors described above can strongly affect the usability of data collected as part of an RI/FS. To ensure that data will be usable for the intended purpose for which they have been collected, analytical levels have been established which define data uses and limitations for field and laboratory data. To provide guidance, this section defines analytical levels and indicates the levels appropriate to different RI/FS data uses.

The analytical levels are defined as follows:

- Level I - field screening or analysis using portable instruments. Results are often not compound-specific and not quantitative, but results are available in real-time. It is the least costly of the analytical options, but the least defensible due to greatest potential for error, and precision and accuracy limitations. Level I is used to identify the presence of a target compound or group of compounds, without actually identifying or quantifying the specific compound. Level I is normally used for health and safety purposes, but can also be used to identify media or samples that can be subject to further analyses. Field pH, conductivity, and temperature measurements are included in this level.

For IAAP, Level I field screening will be restricted to field equipment (e.g., HNu, pH conductivity meter, OVA, and radiation meter). This equipment will be used to support health and safety decisions and may be used to screen soil samples for volatile organic contaminant content.

- Level II - field analyses using more sophisticated portable analytical instruments that allow identification of compounds, and in some instances, quantification with relatively broad accuracy and precision limits. Normally the instruments are used in a mobile or temporary laboratory on site. Quality of data generated by the on-site laboratory are dependent on the QC procedures and the adherence to procedures. QC depends on the use of suitable calibration standards, reference materials, sample preparation equipment, sophistication of the detection equipment, and the training of the operator. Results are available in real-time or within several hours of sample collection. Level II allows identification of compounds, but precision and accuracy limitations may restrict use of results. Level II results are normally used to identify where samples should be collected for Level III or IV analyses.

For IAAP, Level II data will come from explosive analyses using a liquid chromatographic method adapted from EPA-SW846, Method 8330. This method is included as Appendix K of the QAPjP. Additionally, metal determinations by X-ray fluorescence spectroscopy will be conducted using an on-site mobile laboratory. Level II data will also be obtained from on-site soil gas analyses. The Level II analytical data will be used to select additional sampling locations for delineating the horizontal and vertical extent of contamination.

- Level III - all analyses performed in an off-site analytical laboratory using established analytical procedures and strict QC. Level III analyses may or may not use USATHAMA Certified Laboratory (UCL) procedures, and do not usually utilize the full validation or documentation procedures required of a normal UCL Level IV analysis. The laboratory may or may not be a UCL laboratory. Analytical results from Level III analyses are normally available for use throughout the RI/FS and remedial design process. The results may not be usable for enforcement cases, however.

No Level III data collection activities are planned for the IAAP RI.

- Level IV - all analyses are based on the UCL routine analytical services (RAS) requirements. All analyses are performed in an off-site analytical laboratory capable of providing UCL deliverables and all analyses follow UCL protocols. Level IV is characterized by rigorous QA/QC protocols and documentation. Full UCL data validation procedures are used. Analytical results from Level IV analyses are available for all RI/FS and design purposes.

All off-site laboratory samples submitted from inorganic and organic analyses will be subject to Level IV QC criteria.

- Level V - fixed base analysis by non-standard methods. All analyses are performed in an off-site analytical laboratory which may or may not be a UCL laboratory. Method development or method modification may be required for specific constituents or detection limits. Level of data validation is dependent on the technique and proposed use of the data.

In the future, treatability studies may be deemed necessary to evaluate remedial alternatives. In that case, selected soil samples would then be analyzed for physical parameters based on Level V criteria.

4.1.5 DQOs for IAAP RI/FS

The DQOs for the IAAP site were developed in stages, as summarized below.

Stage 1; Identify Decision Types: At the completion of the SI, a site conceptual model was developed to evaluate data against maximum background levels for naturally occurring compounds, and against USATHAMA laboratory detection limits (CRLs) for man-made compounds in order to determine which sites should be carried forward into the RI process (see Section 3.2). Table 4-1 identifies the RI sites (as well as the Former Line 1 Impoundment and Line 800 Pink Water Lagoon) and illustrates which contaminant groups are of concern, broken down by media.

A phased approach will be used to define the extent of contaminated soil, groundwater, sediment, and surface water. During Phase I, delineation of source areas and an initial characterization of contaminant migration will be accomplished. More extensive data will be collected in Phase II with the purpose of further characterizing contamination at depth, as well as, to fill any data gaps from Phase I and provide data to support the risk assessment and feasibility study.

Phase I sampling includes field screening for soil metals, soil explosives, water explosives, and soil VOCs, and environmental sample collection from the various media. The activities will also include shallow piezometer installation along with soil and groundwater sampling utilizing a Geoprobe, as well as, sampling existing monitoring and residential wells. Phase II will include the installation of additional monitoring wells, borings, and deep subsurface soil samples utilizing a drill rig, and will fill any data gaps in surface water/sediment sampling. Additional details are provided in Sections 4.1.5.1.

Table 4-1
Phase I IAAP RI/FS - Summary of Contaminants by Matrix

RI SITES/NAMES		SOIL							SEDIMENT							GROUNDWATER							SURFACE WATER						
		Metals	Explosives	VOCs	SVOCs	Pesticides/PCBs	Radionuclides	Anions	Metals	Explosives	VOCs	SVOCs	Pesticides/PCBs	Radionuclides	Anions	Metals	Explosives	VOCs	SVOCs	Pesticides/PCBs	Radionuclides	Anions	Metals	Explosives	VOCs	SVOCs	Pesticides/PCBs	Radionuclides	Anions
R1	Line 1	●	●		●		●		●					●														●	
R2	Line 2	●	●		●				●																				
R3	Line 3	●	●		●	●	●		●															●	●				
R4	Line 3A	●	●		●				●	●														●					
R5	Lines 4A & 4B	●							●	●																			
R6	Lines 5A & 5B	●	●																										
R7	Line 6	●	●																										
R8	Line 7	●		●	●	●																	●	●					
R9	Line 8	●			●				●															●					
R10	Line 9	●	●																				●	●					
R11	Line 800	●	●	●	●	●																							
R12	EDA East Burn Pads	●	●		●												●	●											
R13	Pesticide Pit	●				●														●									
R14	Inert Disposal Area	●	●						●														●		●				
R15	Demolition Area/Deactivation Furnace	●	●	●	●											●	●												
R16	Contaminated Waste Processor	●																					●	●					
R17	Explosive Waste Incinerator	●		●																									
R18	STP/Sludge Drying Beds	●																					●	●					
R19	Flyash Landfill	●																					●	●					
R20	Construction Debris Landfill		●			●																							
R21	Line 3A STP/Sludge Beds	●	●																				●	●					
R22	Firing Site Area	●	●				●		●	●				●										●				●	
R23	Ammo Box Chipper Disposal Pit	●			●																								
R24	Burn Cages/Landfill - W. Burn Pads/Landfill	●	●	●	●				●	●				●										●				●	
R25	North Burn Pads	●							●																				
R26	Building 600-86 Septic System	●		●																									
R27	Fire Training Pit	●		●	●																								
R28	Roundhouse Transformer Storage Yard				●	●																							
R29	Line 3A Pond																												
R30	Fly Ash Disposal Area	●																											
Former Line 1 Impoundment (IAAP-16)			●							●							●							●					
Line 800 Pink Water Lagoon (IAAP-44)		●	●						●	●							●						●	●					

684-0104.6/92

Stage 2; Identify Data Needs/Users: Stage 2 activities entail defining the quality and quantity of data that will be required to meet the objectives set in Stage 1. Data are required for the Risk Assessment, site characterization, evaluation of alternatives, and engineering design. Refer to Section 4.1.1 for a data quality summary.

The detection limits for metals in soil be XRF are summarized Appendix K of the QAPjP. Detection limits for laboratory analyses will meet the CLP Contract Required Detection Limits for soil methods, and the ARARs for water samples (Table 6-1). All laboratory results will be reported to the USATHAMA Criterion of Detection (COD) which is half the CRL. CRLs and CODs are summarized in Appendix H of the QAPjP.

Stage 3; Design Data Collection Program: The Stage 3 data acquisition methods are summarized for Phase I in Section 4.2.3 and discussed specifically for each respective site in Section 5.0. The Phase II data collection program is outlined in Section 4.2.5. Preliminary human risk and ecological assessments, and the preliminary screening of remedial alternative actions are being performed commensurate with Phase I sampling activities. At the conclusion of these actions, the DQOs will be reassessed and the work plan will be amended as necessary.

The general data quality objectives for the IAAP RI/FS are listed below. Specific DQOs for each site and activity are described in Section 5.0.

- Determine the nature and extent of soil and groundwater contamination at each of the sites under investigation (Site Characterization).
- Determine if human and environmental receptors are at risk from exposure to contaminants from each of the sites (Risk Assessment).
- Determine and evaluate feasible remedies (Feasibility Study).

4.1.5.1 Remedial Investigation Data Collection

Data developed during the Remedial Investigation field program will be used to characterize the nature and extent of contamination at IAAP. These data will be generated through sampling and analysis of environmental media. Data required to determine site characteristics are physical and chemical in nature.

Physical data will come from investigation of the local stratigraphy, hydrogeologic formations, and sediment characteristics related to groundwater movement, surface water hydrology, and atmospheric conditions. These data will be collected through geophysical testing, water level monitoring, and monitoring and sampling and analysis of environmental media. These data will be used to characterize the physical attributes of the site which affect major contaminant transport and fate pathways.

Chemical data collected during the RI/FS will be used to identify chemicals of concern, determine their concentrations, define fate and transport mechanisms, and to define the nature and extent of contamination. Data will be collected through sampling and analysis of environmental media and through a review of pertinent literature. Sampling will involve groundwater, surface water, soil, and sediment.

4.1.5.2 Risk Assessment

To support development of a risk assessment, data will be collected and evaluated to assess human health and environmental threat posed by exposure to contaminants at IAAP. Risk assessment data will be generated from sampling and analysis of environmental media. Major data requirements for the IAAP include collection of surface soil data (0- to 6-inch interval), which represents the soil interval most likely to result in an exposure, and groundwater data downgradient of existing monitoring wells, related to potential drinking water exposure. This information is required to determine the exposure from potential ingestion or inhalation of contaminated soil or groundwater.

Surface water contamination will be addressed in the risk assessment. Sampling locations and parameters for analyses are provided in Section 4.2.2. The migration from groundwater to surface water will be considered in the fate and transport section of the RI report.

To address potential air contaminant exposure, basewide air monitoring will be performed focusing on the facilities of concern. Clusters of SWMUs and AOCs will be evaluated for air contaminant migration from soil contamination. The locations of air monitoring stations and air sampling protocols will be submitted to EPA at a later date.

Demographic and epidemiologic data, to the extent available, will also be used in the risk assessment process.

4.1.5.3 Feasibility Study

Another DQO for the IAAP is to collect sufficient data to allow development and evaluation of alternatives for completion of the feasibility study. This study will evaluate remedial technologies and group technologies into alternatives to allow selection of a viable remedy. Selected remedies must be protective of human health and the environment and data must be available for making this decision. Data required for alternative development and evaluation include contaminant type (metal or organic); chemical characteristics (volatile, semivolatile, non-volatile, soluble, insoluble, etc.); media affected; site physical characteristics and data; site physical constraints; location specific ARARs; potential chemical-specific ARARs that may limit a remedy; action specific ARARs that may preclude or limit a remedy; results of treatability tests for this site or similar sites; and general design data such as soil characteristics and general water quality parameters. This information is collected in support of remedial alternative evaluation and to develop cost estimates.

The evaluation of alternatives may involve performing bench-scale or pilot scale studies to determine is particular process or material may be effective in mitigating site contamination. Data types collected during the RI/FS which are applicable to the evaluation process include waste characterization, preliminary volume estimates, and physical and biological characteristics of soil and water.

4.2 RI WORK PLAN TASKS

4.2.1 Project Plan Development

The RI/FS Work Plan details the site-specific and base-wide tasks associated with the Phase I RI. The plan elements include a discussion of the DQOs, and the general work plan approach that details the specific tasks of the Phase I RI. The work plan is designed to provide guidance for all field work by defining in detail the sampling and data-gathering methods to be used on the project. Furthermore, the work plan was developed to ensure that sampling data collection activities will be comparable to and compatible with previous data collection activities at the site, particularly the SI.

Basic issues associated with the Risk Assessment, which includes the human health assessment and ecological assessment, also are presented herein. Specific Risk Assessment issues will be detailed in the Risk Assessment Protocol Document that will be submitted for EPA Region VII review and comment in September 1992. This document will address the following specific elements: the criteria to be used to evaluate the potential chemicals of concern; the exposure assumptions for pathways of potential exposure, types of exposure, and the duration of exposure for each SWMU (or like SWMUs); the potential for and procedure for assessing the risk associated with exposure to multiple sources; and a description of how exposure dosage will be calculated.

The work plan presents, for each site included in the RI, a discussion of the contaminants of concern, the sampling objectives, the sample location and frequency, and sample designation. A scaled map, delineating SI sample points and designating the Phase I RI sample points, also is provided for each site.

The work plan also presents base-wide sampling activities that will be implemented in support of the contaminant migration characterization at the facility.

Because the RI/FS process is iterative, the work plan may be modified during the investigation to incorporate new information and refined project objectives. As the RI site characterization progresses, the need for field activities will be reassessed and rescoped and the plan amended accordingly.

After the Phase I activities are completed and data are evaluated, Phase II tasks will be detailed in an addendum to this work plan. Phase II tasks are anticipated to consist primarily of the collection of continuous soil samples from deep borings, and the emplacement of permanent monitoring wells. Other Phase II activities will be identified and incorporated into the addendum as project objectives are refined after Phase I.

4.2.2 Risk Assessment

The overall objective of the RI/FS process is to arrive at site remedies which mitigate threats to human health and the environment posed by the site contamination. The risk assessment provides the basis for determining if remedial action is necessary, and allows for the evaluation of risk reduction for each remedial alternative under consideration.

Human Health Risk Assessment

Prior to performing the risk assessment, a protocol document will be submitted to EPA for review and comment. The protocol will detail the methodology to be used in completing the risk assessment. The following elements will be included in the protocol document:

- a site conceptual model;
- the criteria to be used to evaluate the potential chemicals of concern;
- the exposure assumptions for pathways of potential exposure, types of exposure, and the duration of exposure for each SWMU or groups of geographically similar SWMUs;
- a description of how exposure dosages will be calculated;
- a description of how compounds with no toxicity values in IRIS or HEAST will be evaluated; and,
- a description of how route to route extrapolation will be performed.

The Baseline Risk Assessment (BRA) will be prepared by the project team, following the Risk Assessment Guidance for Superfund, Volume 1 - Human Health Evaluation Manual (EPA 1989). The BRA will be performed concurrently with the RI/FS. It will begin by gathering and analyzing site data and identifying potential chemicals of concern. Following data collection and evaluation, the project team will conduct an exposure assessment to identify potentially exposed populations and pathways of exposure. This exposure information will then be integrated with toxicological information of contaminants to arrive at a quantitative estimate of risk.

The BRA will estimate human health risks posed by contaminants at the site at the present and also estimate future risks posed if no remedial action is taken. During the FS phase of the project, estimated risks after proposed remedial action will be presented. This will draw specific attention to the risk reduction attributed to the remedial action, in relation to background conditions and other potential contamination sources.

The BRA process contains the following components which are discussed in detail in the following paragraphs:

- Data Collection and Evaluation
- Exposure Assessment
- Toxicity Assessment
- Risk Characterization.

Data Collection and Evaluation

The details (sample location, frequency, and methods) of data collection are discussed in the RI portions of this work plan.

The results of chemical analysis of environmental samples will be evaluated to determine the nature and magnitude of contamination at the site. These data will be compared to data from background samples to distinguish site contamination from naturally occurring chemicals. In addition, the site analytical data will be compared to quality control data to distinguish artifacts of sample collection and analysis from site contaminants. Chemicals considered to be site related and of potential risk will be further evaluated as potential chemicals of concern (COCs).

Exposure Assessment

The exposure assessment will estimate the magnitude of exposure posed by the COCs at the site. Pathways of potential exposure, types of exposure, and the duration of exposure will be characterized. For pathways which present realistic exposures, estimates of contaminant intake for exposed populations will be calculated.

Contaminant intake estimates incorporate information such as contaminant concentration, frequency of exposure, and exposure duration, and will be calculated for applicable routes of entry into the body. For example, the exposure from dermal contact may be calculated for contaminated soil. The contaminant intake estimates are intended to represent "reasonable maximum exposures" which are greater than average exposures, but within the range of possible exposures.

Populations on or near IAAP will be characterized with respect to location relative to the site, activity patterns, and sensitive subgroups. Information for this characterization will be obtained from the following potential sources: site visits, demographic assessment, private well survey, population/census surveys, topography, land use, housing or other maps. Local land use sources will include zoning maps, land use-related laws and regulations, and aerial photographs. Additionally, it will be assumed that the IAAP will eventually be developed for civilian purposes, including residential development.

Toxicity Assessment

The toxicity assessment will evaluate the adverse health effects associated with chemical exposures, the relationship between concentrations of exposures at the site and adverse effects, and uncertainties in the toxicity information available.

A dose-response relationship for each chemical will be addressed in the BRA by considering toxicity values which have been derived for noncarcinogenic and carcinogenic effects as reference doses (RfD) and slope factors (SF), respectively. Specific toxicity values have been developed for varying exposure conditions including chronic versus subchronic duration and oral versus inhalation exposure routes. Appropriate toxicity values will be identified for COCs. These values will be retrieved from the Integrated Risk Information System (IRIS), a data base which contains toxicity information which has been reviewed and accepted by the EPA, or from the Health Effects Assessment Summary Tables which are published by the EPA.

Risk Characterization

The risk characterization process will integrate findings from the exposure assessment and toxicity assessment. Risks will be estimated for potential carcinogenic and noncarcinogenic effects of the chemicals by comparing estimated contaminant intakes with appropriate toxicity values. Calculated risks from multiple chemicals will then be summed to obtain a total exposure pathway risk. Essential to the appropriate interpretation of calculated risks is consideration of the numerous assumptions and uncertainties inherent in the BRA process which will be described and presented with risk estimates.

During this process current exposure as well as future exposure will be estimated. The future exposure scenario will be developed by considering the fate and transport of COCs.

Ecological Risk Assessment

The risk assessment protocol document will also detail the methodology to be used in performing the ecological risk assessment. As previously noted, the protocol document will be submitted to EPA for review and approval. As it relates to the ecological risk assessment, the protocol document will address the approach to the following elements:

- objectives of the assessment;
- site characterization;
- habitat identification and structure;
- preliminary identification of the chemicals of concern;
- design of field surveys;
- data evaluation;
- exposure assessment;
- toxicity assessment; and,
- risk characterization.

The objective of this component of the BRA is to evaluate the actual or potential adverse effects of site contaminants on sensitive environments or areas influenced by the site. The Ecological Risk Assessment will be prepared using the following documents:

- <u>Risk Assessment Guidance for Superfund, Volume 2 - Environmental Evaluation Manual</u> (EPA 1989)
- <u>Ecological Assessment of Hazardous Waste Sites: A Field and Laboratory Reference</u> (EPA 1989)
- <u>Rapid Bioassessment Protocols for Use in Streams and Rivers</u> (EPA 1989)

The concepts for ecological assessments are much less defined compared to the human health evaluation described in the previous four components. However, the overall approach to environmental assessment is analogous to that of human health assessment and includes identifying contaminants of potential concern, pathways of contamination migration, and populations (flora and fauna) potentially affected by site contamination, as well as any impact on wetland areas. To the extent possible, actual adverse impacts to natural habitats will be determined. Similarly, the potential for future environmental impact will also be described.

The information obtained from the ecological assessment will be used to identify and characterize potentially affected environments and to assess the potential or actual effects posed by the site and any subsequent remediation. Based on the results of the Phase I RI sampling activities, further biological testing may be required. This could include additional bioassays, sampling of aquatic and terrestrial species, and benthic organism studies.

Basewide Surface Water and Sediment Sampling

As part of the Phase I RI activities basewide surface water and sediment sampling will be conducted in support of the Ecological Risk Assessment and Human Health Risk Assessment. The proposed basewide sampling program will be used to: 1) assess the overall impact of the IAAP processes on the regional surface water quality; 2) evaluate surface water quality of area streams at probable points of entry of any contaminants present and available to migrate via this route; and, 3) determine the levels of potential contaminants at probable points of human exposure and representative points of exposure to resident and transient species.

In conjunction with the basewide sampling program, surface water and sediment sampling will be conducted to determine if contamination is present and available to migrate via surface water routes and to determine the extent of any contamination along surface water pathways. Generally, an upgradient, adjacent, and downgradient set of these samples will be collected to determine whether contamination at the related site is migrating to surface water, and to what extent the site is impacting surface water in the immediate site area and downgradient locations.

Basewide sampling stations have been established to assess contaminant levels throughout the watersheds present at IAAP. Sample station locations are depicted on Plate 3.

At all basewide sample stations, surface water samples will be collected for the following chemical constituent analyses:

metals
explosives
VOCs
Semivolatiles

Sediment samples will also be collected at each of the basewide sample locations. Sediment samples will be collected for the following chemical constituent analyses:

metals
explosives
VOCs
Semivolatiles
pesticides
PCBs

Fifteen basewide sample locations are also targeted for the collection of samples for biotoxicity testing. At the noted sample locations, samples will be collected for 7-day and 14-day toxicity tests utilizing Ceriodaphnia sp. and fathead minnows (Pimephales promelas) as test species.

At all surface water locations, aqueous samples will also be collected for the following parameters:

Total Suspended Solids (TSS)
Alkalinity
Hardness

Sediment samples will also be collected at each location for the following parameters:

Total Organic Carbon (TOC)
(EPA 415.13 combustion methodology;
TOC = % Organic Carbon)
Grain Size Analysis
(ASTM Method with hydrometer analysis)
% Moisture
% Solids

In addition, at locations where biotoxicity samples are collected, samples will be collected for the following parameters:

BOD
COD
TDS
TOC

The following field parameters will be recorded for each surface water sample:

Temperature
Dissolved Oxygen (DO)
Eh
pH
Specific Conductance

The following field parameters will be recorded for each sediment sample:

Temperature
Eh
pH
Specific Conductance
Color

It should be noted that surface water and sediment samples will be collected at each sample station located on a perennial water body; both samples will also be collected from intermittant streams when water is present. If intermittant streams are dry at the time of sampling, only sediment samples will be collected; attempts will be made to collect aqueous samples during subsequent rainfall events.

Field sampling sheets will be developed which will incorporate data prompts for sample location descriptions. The data will be required, at a minimum, to evaluate the aquatic habitat quality. Alternatively, available EPA field data sheets may be utilized.

Based on the results of the aforementioned basewide sampling program, additional sampling locations may targeted for Phase II sampling.

4.2.3 Phase I RI

The field work for the RI will be implemented in a phased approach. The Phase I tasks will include field screening and sampling methods designed to determine the areal and vertical extent of soil contamination and to approximate the nature and extent of migration to the groundwater and surface water.

All data acquired through Phase I tasks are will be evaluated as appropriate to characterize the site(s) and to develop a base-wide risk assessment. Phase I data will be evaluated to determine if they are sufficient for the development and evaluation of potential remedial alternatives. The need for additional field study will be identified and Phase II tasks will be designed.

Anticipated Phase I tasks are described below.

4.2.3.1 Field Screening

Field screening methods will be undertaken in an attempt to collect real-time data in the field that will optimize sample locations, and aid field personnel in positioning subsequent samples that must be collected to more completely and accurately characterize the site. Field screening will be used to qualitatively identify the presence of explosives in soil, and to semi-quantify metals in soil using X-ray fluorescence (XRF) (or equivalent technology) and volatile organics in soil using soil gas analysis. Another objective of field screening is to optimize laboratory costs by minimizing the number of clean samples submitted for analyses, and to focus subsequent RI sampling. Confirmatory samples will be submitted for laboratory analyses at a frequency of 10 percent.

The sampling protocols for these explosives screening and metals screening by XRF are discussed in the following sections. The analytical SOPs for these screening techniques are provided in Appendix K of the QAPjP (Volume 3).

Soil gas analysis is another field screening technique that will be used at IAAP. Soil gas surveys will be conducted at potential sources of volatile organic contamination in an effort to determine the presence and extent of volatiles in soil, and to characterize any subsurface contaminant plumes present. Initial soil gas points are delineated on survey maps included in appropriate FSP subsections of Section 5.0. Confirmatory soil samples will be collected at depth from soil gas survey areas. These samples are included in the associated proposed sample summary that accompanies each FSP.

4.2.3.1.1 Explosives in Soil

Soil samples will be screened for the qualitative presence of explosives in soil. A temporary laboratory will be installed in the field trailer at the IAAP facility. The sampling protocol developed for field screening for explosives assumes that two basic on-site conditions will be encountered: explosives emanating from an obvious point source, such as an outfall or sump, and explosives contamination of soil with no obvious source. The sampling protocols that will be implemented accordingly are biased sampling at point sources and in associated migration pathways, and grid sampling at non-point source contaminated areas. Though discussed in some detail in the following sections, these protocols are intended to provide guidance; field personnel will determine optimal field screening sampling locations based on site conditions as encountered.

Depending on the number of confirmatory samples required at each site, samples for laboratory analyses will be collected according to the following priority: first, from the area of highest contamination; second, from a non-detect screening sample near the contaminant zone; and third, from a mid-range location.

Biased Sampling

If an SI sample indicated contamination with an obvious point source, such as the soil directly beneath an outfall, an initial screening sample will be collected from surface soils approximately five feet downgradient in the associated drainage pathway. Then a sample will be collected at approximate 10-foot intervals in downgradient drainageways until the extent of surface migration has been defined. A depth sample will be collected from the 1-foot interval at the SI sample location originally showing contamination. If contamination is present, depth sampling will continue until auger refusal indicates a confining layer. The lateral extent of contamination at depth will be characterized in the same manner as surface contamination.

Biased sampling protocols generally will be determined in the field, based on site conditions and topography.

Grid Sampling

If SI sampling indicates explosive contamination with no apparent point source, then grid sampling will be considered, as appropriate.

A grid will be laid out in 10-foot intervals with the original SI sample location as the central node. Surface scoop samples will be taken 10 feet north, south, east, and west of the contaminated SI sample location. If the initial 4 samples show qualitatively no explosive contamination, then the areal extent of explosives contamination of surface soil samples will be estimated to encompass an area not to exceed 400 square feet. If one or more of the initial 4 samples show explosive contamination, then additional samples should be taken 10 feet north, south, east, or west from the contaminated sample location (if screening of these locations has not already been done). This should continue with the grid enlarging in 10-feet increments in the north, south, east, and west directions until all perimeter grid samples show no contamination from explosives. This methodology and grid pattern should minimize repeated field effort (shared sample locations are not resampled) while providing the optimum amount of samples locations and corresponding data for delineating contamination.

After delineating explosive contamination in surface soils, initial depth samples (grab) at 1 foot below the surface will be taken at each contaminated surface soil location. If explosive contamination is found at a depth of 1 foot at any sample location, then additional samples will be taken at 1-foot intervals. Sampling at 1-foot intervals will continue at the sample location until screening indicates that no explosive contamination is present.

If cultural (man-made) barriers are encountered which prevent surface and subsurface sampling at their specified grid interval, then the following procedures will be followed:

1. If large surface structures are encountered (such as a building), then a surface sample should be taken within 1 foot of the foundation along the direction (north, south, east, and west) from the previous contaminated sample location. If explosive contamination is encountered at the surface, subsurface sampling should be done in 1-foot intervals until contamination is not encountered.

2. If small structures (shacks, cement slabs, above-ground tanks, etc.) are encountered and inhibit sampling a location, then a surface sample should be taken within 1 foot of the structure along the direction (north, south, east, and west) from the previous contaminated sampling location. If explosive contamination is encountered at the surface of this location, then additional surface samples should be taken 10 feet north, south, east, or west of this location or within 1 foot of the structure, whichever is further. If these additional sample locations are found to be contaminated with explosives, the sampling of locations should continue in a regular grid pattern. Additionally, all surface locations around a small structure that are found to be contaminated should be sampled at depth at 1-foot intervals until no contamination is found.

Any other cultural barriers that may be encountered will be accommodated on a case-by-case basis. Samples which are located around such cultural barriers should facilitate the RI sampling scheme.

If physical (environmental) barriers are encountered which would prevent surface and subsurface sampling at their specified grid interval, then the following procedures should be followed:

1. If water bodies (stream, pond, etc.) are encountered, then a surface sample should be taken within 1 foot of the water's edge or as close as judgment allows. In the case of a stream, a surface sample should be taken on both sides of the stream within 1 foot of the water's edge. If further sampling is warranted because one or the other of these samples showed explosive contamination, then appropriate subsurface samples should be taken at that location and the surface grid expanded. Large bodies of water (lakes, ponds, etc.) will have a surface sample taken within 1 foot of the water's edge if possible. Further sampling at depth and at expanded surface sample grid locations near the water's edge will be done if warranted by explosive contamination at the surface sample location.

2. If surface physical barriers such as gravel, rocks, or boulders are encountered, then the sample grid location will be cleared of such obstructions if possible or the sample site relocated to a clear location as near as possible to the original surface grid location. Gravel and rocks will be cleared at the surface of the sample location if possible, then the sample taken. If boulders are evident at the surface sample location, then the sample will be relocated to the nearest unobstructed location and the

surface sample and any related subsurface samples taken there. If explosive contamination is found at this surface sample and further grid sampling is warranted, then the originally established expanded sample grid locations will be sampled.

3. If subsurface physical barriers (refusal) such as a tight clay layer, gravel, rocks, etc. are encountered at depth, then all effort should be made to get through the layer for the sample to be taken. If refusal cannot be penetrated, then a sample for screening will be taken at the bottom of the hole and the depth noted. If further sampling at depth is warranted, then the location will be relocated to within 2 feet of the refusal location and further screening at depth at this hole shall be done. If refusal is encountered at this new location, then a sample for screening will be taken at the maximum depth of refusal encountered, the depth noted, and the sample location abandoned.

Additionally, two subsurface locations will be sampled at depth 10 feet outside the perimeter of the surface contamination delineation. These two samples will be located downgradient of the contaminated SI site according to groundwater flow. These samples should be taken to a depth of 5 feet in 1-foot increments or until a clay layer is encountered. Sampling to this depth shall be done whether explosive contamination is encountered or not. This sampling will ensure that contamination was not spread below the ground surface along an impermeable layer and also will provide additional data on possible groundwater contamination from the SI site.

<u>Example of Screening Grid</u>

It has been determined that SI sample location 1 (Figure 4-1) should be investigated during the Phase I RI/FS because analytical results show high concentrations of explosives. SI sample location 1 has a building approximately 18 feet west of its location, a large boulder approximately 20 feet northeast of it, and a pond located approximately 30 feet northeast of the sample site.

A grid was laid out over the site in 10-foot increments (show locations) with SI location 1 located in the center of the grid (Figure 4-1) (X_1). Initially 4 sample locations were sampled (shown on the figure with a 0 icon and numbered as samples 2, 3, 4, and 5) 10 feet east, north, west, and south of SI sample 1. Samples 2, 3, and 4 were found to be explosive contaminated (sample location delineated as contaminated with an X through the sample (0) icon).

Because of contamination located at these 3 locations, the locations for further sampling on the grid were found. Looking 10 feet north, south, east, and west of sample location 2, it was found that location 1 (west) was already sampled; sample 6* (west) was established and screened within 1 foot of the building foundation because sample 6 was located within the building; sample 7 (south) was established and screened; and finally sample 8 (north) was screened. Only sample 6* was found to be contaminated by using the screening method.

Locations 9 and 10 were screened (north and east of sample 3), while it was found that sample location 8 would already be screened because of sample 2 and that again SI sample 1 was a previously sampled location. Sample locations 9 and 10 were determined to be contaminated with explosives using the screening method.

Locations 11 and 12 were screened (east and south of sample location 4), while it was found that sample location 10 would already be screened because sample 3 and sample 1 had been already sampled. Again only sample site 10 was found to be contaminated with explosives.

The third round of surface screening was done for the locations that expanded from the previously found contaminated sites of 6, 9, and 10.

Expanded locations for contaminated site 6* were done from the original grid location 6, hence sites 13, 14, and 15 (10 feet south, west, and north of sample location 6). None of these 3 sample locations showed explosive contamination by the screening method.

Location 16, 17, and 18 were screened (10 feet west, north, and east of site 9) while it was found that sample location 3 was already sampled. None of these 3 sample locations showed any explosive contamination by the screening method.

Location 18 was screened (10 feet north of site 10) and because sample 19 was located where a boulder was, the sample was moved and taken at 19*. Sample 3 and 4 were previously done in the first round of sampling at the site. Only sample 19* of the 2 sampled sites showed explosive contamination.

Round four of screening at this site had only expanded sampling around sample location 19*. These locations for expansion (10, 11, 20, and 21) were once again based on the original sample location 19. Location 20 and 21 were screened (10 feet north and east of sample 19), while samples 10 and 11 were not sampled because of the previous sampling already done. Only sample location 20 of the two sampled during this round was found to be contaminated with explosives at the surface.

Round five of the screening centered on expanded sample locations around sample site 20. Sample 23 was screened and sample 22* was screened because sample location 22 was found to be slightly offshore in the pond (site 22* is approximately 1 foot west of the waterline and approximately 4 feet west of site 22). Sample sites 18 and 19 were not sampled because of sampling in previous rounds. Only sample location 22* of the 2 sampled sites during this round was found to be contaminated with explosives.

Round six of the screening saw only sample location 24 sampled. Location 24 was screened (10 feet north of 22), while sample sites 20 and 21 have been sampled in previous rounds and sample site 25 cannot be sampled because of its location within the pond.

Subsurface sampling of all surface contaminated locations (known from explosive screening) was done, locations 1, 2, 3, 4, 6,*, 9, 10, 19*, 20, and 22*. Additionally, subsurface sampling was done at depth at locations 18 and 21 to check for subsurface migration along a possible impermeable clay layer and etc. Subsurface sampling was done in 1-foot increments until no explosive contamination was encountered (except in the case of locations 18 and 21 where sampling was done to the clay layer or to a depth of 5 feet).

A total of 24 surface samples and 32 subsurface samples were taken which required 6 confirmation and 1 QC sample to be taken and sent to the laboratory. The 6 confirmation samples were taken at the surface and subsurface from locations 18, 20, and 21. The QC sample was taken at depth at location 20.

4.2.3.1.2 Metals in Soil

X-ray fluorescence will be used to screen soil samples for metals. Detection limits are provided in Appendix K of the QAPjP. Samples will be sent off-site for analysis with 48-hour data turn around. The sampling protocols for the semi-quantitative determination of metals in soil using XRF generally will follow the sampling techniques for biased and grid sampling as detailed for explosives. Biased sampling will target point sources and associated drainage pathways. Grid sampling will provide areal delineation of metals contamination from non-point sources.

4.2.3.1.3 Soil Gas

Field screening for the presence of volatile organics in soil will be accomplished using soil gas survey techniques in which a volume of soil gas is withdrawn from the vadose zone and analyzed on a field GC. Soil gas sampling will be conducted before soil samples for explosives or metals screening are collected. Initially, the Geoprobe unit will be used to determine the depth to the water table in the survey area. Soil gas sampling will be conducted 5 feet above the water table. Appendix G of the QAPjP details sampling and analyses protocols for soil gas surveys and analysis. The initial point of biased or grid samples to be screened will be the contaminated point delineated by SI results. Sampling will progress until the approximate extent of contamination has been delineated. Three non-detects in a row will indicate that no VOC contamination is present.

4.2.3.2 Soil Sampling

Soil samples will be collected from the 0 to 6 inch horizon (surface soils) and from depth in an effort to delineate the extent of surface contamination, and the associated migration of contaminants to the subsurface. Depth samples will be collected with hand augers, provided this sampling technique will provide the samples necessary to accurately characterize the site. If appropriate, an alternative depth sampling technique, such as trailer-mounted power auger, will be considered with approval from USATHAMA. UXO support will be provided by USATHAMA in areas where unexploded ordnance may be present.

4.2.3.3 Surface Water/Sediment Sampling

Surface water and sediment sampling will be conducted to determine if contamination is present and available to migrate via surface water routes and to determine the extent of any contamination along surface water pathways. Generally, an upgradient, adjacent, and downgradient set of these samples will be collected to determine whether contamination at the related site is migrating to surface water, and to what extent the site is impacting surface water in the immediate site area and downgradient locations. These samples are summarized in the associated FSP for each site, and are designated as screening or analytical samples.

Base-wide surface water and sediment sampling will be conducted in support of the Ecological Risk Assessment and Human Health Risk Assessment as discussed in Section 4.2.2. Base-wide sampling, discussed in Section 5.1.1, will help determine the overall impact of the IAAP processes on the regional surface water quality. All base-wide samples will be laboratory analyzed.

4.2.3.4 Groundwater Sampling

Groundwater samples will be collected from wells associated with specific sites, and in support of base-wide groundwater characterization. Sampling will be conducted in four rounds as required for the future residential use evaluation in the Risk Assessment, or as appropriate based on Army and EPA Region VII agreement. Data will be used to assess whether contaminants have migrated to groundwater via percolation from surface sources, or whether groundwater is being contaminated by recharge from contaminated surface water. When groundwater samples are collected from existing wells, water level measurements will be taken from all wells in the relevant well field in an effort to determine groundwater flow gradients, and assess seasonal fluctuations in the water table. Groundwater sampling protocols are detailed in Appendix A of the QAPjP; procedures for taking field measurements are in Appendix C.

Groundwater samples also will be collected from groundwater sampling tubes emplaced with a Geoprobe hydraulic sampling device. This sampling technique will be used to install a small screened casing, that will serve both as a piezometer, and a collection point for discrete groundwater samples. Using this device, a groundwater sample can be obtained from immediately downgradient of an area of concern, to determine whether migration to groundwater from surface sources has occurred. The SOP for installation of piezometers is included as Appendix L of the QAPjP.

4.2.4 Phase II RI

The locations and extent of Phase II RI activities will be determined on the basis of Phase I data. Phase II tasks will be focused to fill remaining data gaps, to incorporate new information acquired during Phase I, and to support risk assessment needs. Anticipated Phase II tasks are described below.

4.2.4.1 Soil Borings

Soil borings will be drilled to obtain additional data on subsurface stratigraphy and to define the vertical extent of contamination. The borings will be emplaced in conjunction with monitoring well installation. Split spoon or continuous samplers will likely be used to collect samples which will composited over appropriate depth intervals. The borings will be logged to describe and document subsurface conditions.

4.2.4.2 Monitoring Wells

Permanent monitoring wells will be installed to intercept suspected contaminant migration to characterize the presence and extent of groundwater contamination. Well locations and depths will be determined on the basis of Phase I screening data and evaluation of groundwater flow directions from the base-wide monitoring.

4.2.4.3 Surface Water/Sediment Sampling

Additional surface water and sediment samples may be required during Phase II, as determined by data needs identified for the Risk and Ecological Assessments. Past investigations suggest that bedrock outcrops along creek channels provide a conduit for aqueous contaminant migration via the groundwater/surface water interface. Therefore, any additional surface water/sediment sampling will likely focus on bedrock outcrops along Brush and Spring Creeks, where the potential for surface water recharge to the groundwater is high.

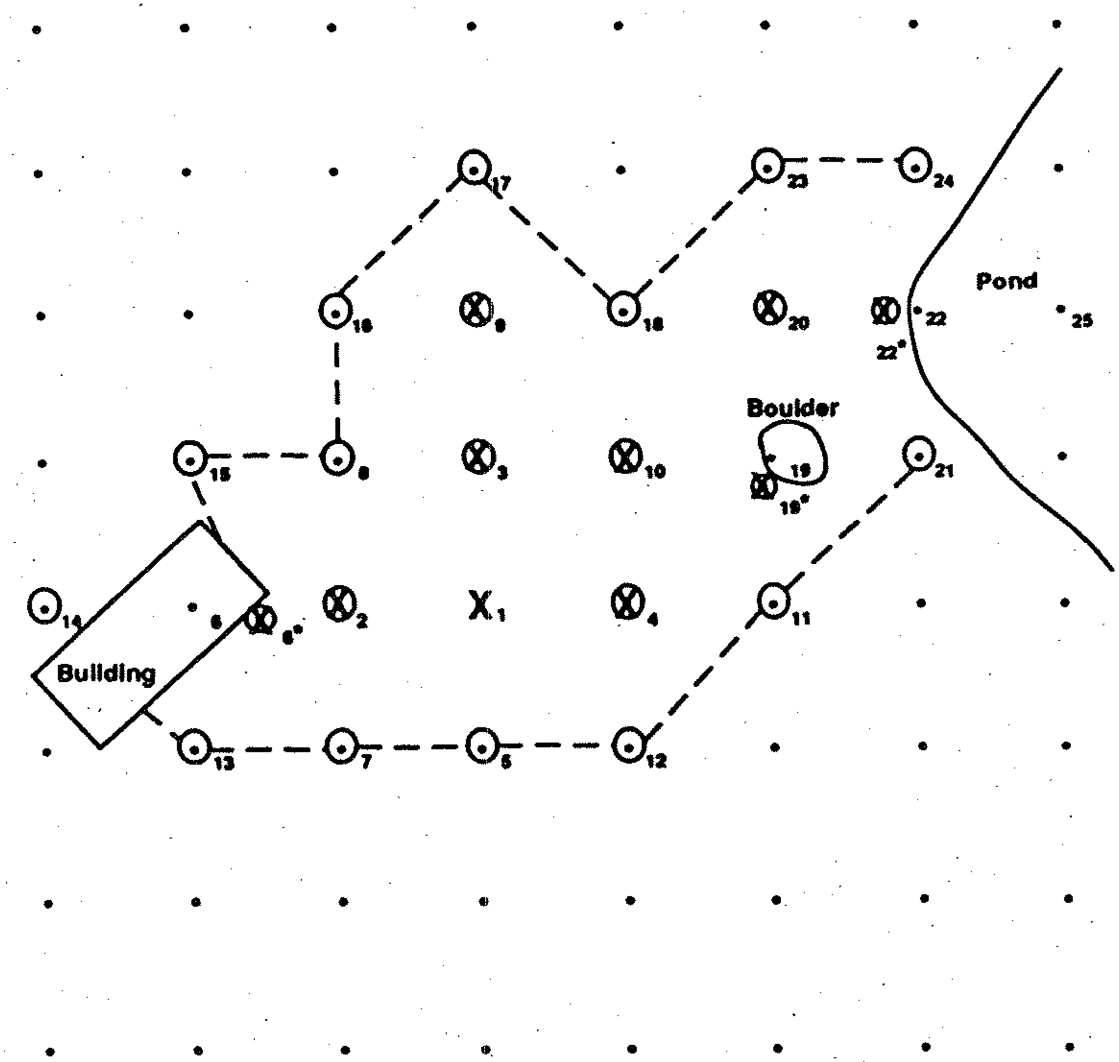


Figure 4-1
Example of Screening Grid

0 10 20 feet
(Scale is approximate)

- - - - (Area of Contamination)

↑ N

SECTION 5.0 REMEDIAL INVESTIGATION FIELD SAMPLING PLAN

5.1 INTRODUCTION

The Phase I RI field work will consist of site-specific sampling designed to characterize the nature and extent of contaminant sources identified during the SI. Additionally, an installation-wide sampling effort will be undertaken to characterize groundwater and surface water/sediments on a base-wide scale. Background surface and subsurface soil samples will be collected to establish natural ranges for soil constituents, and establish soil metals detection limits for XRF screening.

RI sample point locations were assigned a nine character alphanumeric that designates the RI site, the sample matrix, the sample location, and the number of samples collected from the same location. The alphanumeric sample designation was developed as follows:

RI Site #			Alpha		Location #		Sample #	

ALPHA (matrix)	
SS - Soil Scoop	SD - Sediment
SA - Soil Auger	PZ - Piezometer
SW - Surface Water	GP - Geoprobe Soil
GW - Groundwater	

The first three digits indicate which RI site is being referenced. The alpha designates the matrix, or sample type (See Alpha Key). The location number indicates the specific location within a given site, and the sample number indicates chronologically how many samples were collected from a specific location. Samples designated PZ are groundwater samples that will be collected from piezometers emplaced with a Geoprobe hydraulic subsurface sampling device. The SOP for piezometer installation and sampling is provided as Appendix G in the QAPjP.

Sites identified for inclusion in the RI/FS were grouped with respect to contiguous geographic location and like contamination, and each site was assigned an RI site designation (Section 3.2). The Field Sampling Plan (FSP) portion of the RI/FS Work Plan presents, for each RI site, a summary of the contamination identified during the SI, a discussion of the remaining data requirements, and a proposed sampling scheme for the Phase I RI. A scaled map depicting proposed sample locations and screening locations also is provided for each site. Soil gas survey maps also are provided as required.

Site-specific samples to be submitted for THAMA-certified laboratory analyses are designated according to the naming convention described earlier in Section 5.1.

The naming conventions for metals screening samples, explosives screening samples, and soil gas survey points are described as follows, using remedial site R14 as an example.

Metals Screening

Samples for metals screening are identified by the RI site, then sequential numbers assigned in series to designate the area of concern. 'M' indicates that the sample will be screened for metals.

R14-001M through 099M: 001 to 099 (001 series) for screening samples collected from the first subject area.

R14-100M through 199M: 100 to 199 (100 series) for screening samples collected from the second subject area.

R14-200M through 299M: 200 to 299 (200 series) for screening samples collected from the third subject area.

This naming convention will be followed in series until all areas of concern at the site have been characterized.

Explosives Screening

Samples for explosives screening are identified by the RI site, then sequential numbers assigned in series to designate the area of concern. 'E' indicates that the sample will be screened for explosives.

R14-001E through 099E: 001 to 099 (001 series) for screening samples collected from the first area.

R14-100E through 199E: 100 to 199 (100 series) for screening samples collected from the second subject area.

R14-200E through 299E: 200 to 299 (200 series) for screening samples collected from the third subject area.

This naming convention will be followed in series until all areas of concern at the site have been characterized.

Soil Gas

Soil gas sample points will be designated according the RI site, then in series according to the subject area.

R14-001 through 099: 001 to 099 (001 series) for screening samples collected from the first survey area.

R14-100 through 199: 100 to 199 (100 series) for screening samples collected from the second survey area.

R14-200 through 299: 200 to 299 (200 series) for screening samples collected from the third survey area.

This naming convention will be followed in series until all areas of concern at the site have been characterized.

Screening samples selected for confirmatory analyses are assigned an analytical sample number in accordance to the naming convention described earlier in Section 5.1.

5.2 BASE-WIDE SAMPLING

5.2.1 Background Soil Samples

The number of SI soil background samples was minimal, and therefore, may not accurately reflect natural soil constituents in the site vicinity. Of particular concern are the background soil metals ranges, developed based on limited SI background samples, to which all on-site soil metals levels were compared. The soil metals ranges were significantly below naturally occurring ranges for regional soils as compiled by the USGS (Table 3-2b).

The determination of accurate, representative background ranges for soil constituents is critical to successful Phase I activities. Many on-site soils exhibited metals levels that were elevated with respect to SI background ranges, but are believed to be too low to represent contamination resulting from on-site processes or waste disposal practices. Furthermore, XRF screening for metals is proposed for many sites as an approach for delineating the lateral and vertical extent of soil contamination. Accurate background soil metals levels must be obtained in order to establish reasonable detection limits for this technology.

An expanded background soil sampling program, the first step of the Phase I RI/FS, will be conducted one month in advance of the primary Phase I field effort. The expanded background sampling program is scheduled to commence June 1, 1992. Twenty-eight locations will be sampled, each at three depth intervals, to characterize soil types most prevalent across the site. These data will then be evaluated and more accurate background soil background ranges established; their effect on project objectives will then be assessed. Project objectives for Phase I activities will be refined as appropriate.

Background soil sample locations are designated according to the naming convention described in Section 5.1, with the site identifier of RBK, indicating (R)emedial (B)ac(k)ground. Background soil sample locations and are summarized on Table 5-1 and their locations are depicted on Plate 3.

5.2.2 Installation Wide Samples

Base-wide sample locations were selected to establish ambient surface water/sediment, and groundwater quality at IAAP, to support the risk assessment as described in Section 4.2.2, and identify whether off-post migration of contaminants is occurring via surface water or groundwater. Base-wide sample locations are designated according to the convention described above, with the site identifier of RBW, indicating (R)emdial (B)ase-(W)ide.

Base-wide groundwater sample locations and analyses are summarized in Table 5-2 and their locations are depicted on Plate 3. Additionally, as part of the base-wide groundwater sampling effort, wells will be sampled to establish ambient background conditions at IAAP. Background well locations were selected as upgradient (with respect to groundwater flow) and to represent all aquifers of concern. Background groundwater samples are designated with the site identifier of RBK, indicating (R)emedial (B)ac(k)ground.

A limited number of off-post wells in the Augusta area, and on the lower reaches of Brush Creek will be sampled during Phase I. An initial well survey will be conducted, and the wells to be sampled will be identified in the field. Permission from property owners will be obtained before samples are collected. Base-wide surface water/sediment samples are not summarized in a table because there are no benchmarks for describing or otherwise noting sample locations. Instead, these sample locations are depicted on Plate 3. The sample icon (described in the map key) denotes the type of analyses. These samples are further described in Section 4.2.2.

Table 5-1
Background Sample Summary
IAAP Phase I RI/FS

RI Sample Number	Analyses	Sample Type	Depth	Location
RBK-SS-01-01	Metals Pesticides/PCBs Radionuclides	G	0-6"	Plate 3; Map area F-8.
RBK-SA-01-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-01-01.
RBK-SA-01-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-01-01.
RBK-SS-02-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	G	0-6"	Plate 3; Map area F-4.
RBK-SA-02-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-02-01.
RBK-SA-02-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-02-01.
RBK-SS-03-01	Metals Pesticides/PCBs Radionuclides	G	18-24"	Plate 3; Map area F-3.

C = Composite G = Grab

Table 5-1 (Continued)

RI Sample Number	Analyses	Sample Type	Depth	Location
RBK-SA-03-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-03-01.
RBK-SA-03-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-03-01.
RBK-SS-04-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	G	0-6"	Plate 3; Map area E-2.
RBK-SS-04-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	G	0-6"	Duplicate of RBK-SS-04-01.
RBK-SA-04-03	Metals VOC SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-04-01.
RBK-SA-04-04	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-04-01.
RBK-SS-05-01	Metals Pesticides/PCBs Radionuclides	G	0-6"	Plate 3; Map area F-8.

C = Composite G = Grab

Table 5-1 (Continued)

RI Sample Number	Analyses	Sample Type	Depth	Location
RBK-SA-05-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-05-01.
RBK-SA-05-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-05-01.
RBK-SS-06-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides Explosives	G	0-6"	Plate 3; Map area F-4.
RBK-SS-06-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides Explosives	G	0-6"	Duplicate of RBK-SS-06-01.
RBK-SA-06-03	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides Explosives	C	18-24"	Corresponds to RBK-SS-06-01.
RBK-SA-06-04	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-06-01.

C = Composite G = Grab

Table 5-1 (Continued)

RI Sample Number	Analyses	Sample Type	Depth	Location
RBK-SS-07-01	Metals Pesticides/PCBs Radionuclides	G	0-6"	Plate 3; Map area F-3.
RBK-SA-07-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-07-01.
RBK-SA-07-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-07-01.
RBK-SS-08-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides Explosives	G	0-6"	Plate 3; Map area E-2.
RBK-SA-08-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-08-01.
RBK-SA-08-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-08-01.
RBK-SS-09-01	Metals Pesticides/PCBs Radionuclides	G	0-6"	Plate 3; Map area E-7.

C = Composite G = Grab

Table 5-1 (Continued)

RI Sample Number	Analyses	Sample Type	Depth	Location
RBK-SA-09-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-09-01.
RBK-SA-09-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-09-03.
RBK-SS-10-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	G	0-6"	Plate 3; Map area E-9.
RBK-SA-10-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-10-01.
RBK-SA-10-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-10-01.
RBK-SA-10-04	Metals Radionuclides	C	36-42"	Duplicate of RBK-SA-10-03.
RBK-SS-11-01	Metals Pesticides/PCBs Radionuclides Explosives	G	0-6"	Plate 3; Map area E-3.

C = Composite G = Grab

Table 5-1 (Continued)

RI Sample Number	Analyses	Sample Type	Depth	Location
RBK-SA-11-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-11-01.
RBK-SA-11-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-11-01.
RBK-SS-12-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	G	0-6"	Plate 3; Map area D-1.
RBK-SA-12-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-12-01.
RBK-SA-12-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-12-01.
RBK-SS-13-01	Metals Pesticides/PCBs Radionuclides	G	0-6"	Plate 3; Map area F-9.
RBK-SA-13-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-13-01.

C = Composite G = Grab

Table 5-1 (Continued)

RI Sample Number	Analyses	Sample Type	Depth	Location
RBK-SA-13-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-13-01.
RBK-SS-14-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides Explosives	G	0-6"	Plate 3; Map area E-7.
RBK-SA-14-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-14-01.
RBK-SA-14-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-14-01.
RBK-SS-15-01	Metals Pesticides/PCBs Radionuclides	G	0-6"	Plate 3; Map area E-8.
RBK-SA-15-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-15-01.
RBK-SA-15-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-15-01.

C = Composite G = Grab

Table 5-1 (Continued)

RI Sample Number	Analyses	Sample Type	Depth	Location
RBK-SS-16-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides Explosives	G	0-6"	Plate 3; Map area E-3.
RBK-SA-16-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-16-01.
RBK-SA-16-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-16-01.
RBK-SS-17-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	G	0-6"	Plate 3; Map area E-9.
RBK-SA-17-02	Metals Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-17-01.
RBK-SA-17-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-17-01.
RBK-SS-18-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides Explosives	G	0-6"	Plate 3; Map area C-9.

C = Composite G = Grab

Table 5-1 (Continued)

RI Sample Number	Analyses	Sample Type	Depth	Location
RBK-SA-18-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-18-01.
RBK-SA-18-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-18-01.
RBK-SA-18-04	Metals Radionuclides	C	36-42"	Duplicate of RBK-SA-18-03.
RBK-SS-19-01	Metals Pesticides/PCBs Radionuclides Explosives	G	0-6"	Plate 3; Map area D-1.
RBK-SA-19-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-19-01.
RBK-SA-19-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-19-01.
RBK-SS-20-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	G	0-6"	Plate 3; Map area E-2.
RBK-SA-20-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-20-01.

C = Composite G = Grab

Table 5-1 (Continued)

RI Sample Number	Analyses	Sample Type	Depth	Location
RBK-SA-20-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-20-01.
RBK-SS-21-01	Metals Pesticides/PCBs Radionuclides	G	0-6"	Plate 3; Map area E-8.
RBK-SA-21-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-21-01.
RBK-SA-21-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-21-01.
RBK-SS-22-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides Explosives	G	0-6"	Plate 3; Map area E-3.
RBK-SA-22-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-22-01.
RBK-SA-22-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-22-01.
RBK-SS-23-01	Metals Pesticides/PCBs Radionuclides	G	0-6"	Plate 3; Map area C-9.

C = Composite G = Grab

Table 5-1 (Continued)

RI Sample Number	Analyses	Sample Type	Depth	Location
RBK-SA-23-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-23-01.
RBK-SA-23-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-23-01.
RBK-SS-24-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides Explosives	G	0-6"	Plate 3; Map area D-1.
RBK-SS-24-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-24-01.
RBK-SA-24-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-24-01.
RBK-SS-25-01	Metals Pesticides/PCBs Radionuclides	G	0-6"	Plate 3; Map area E-4.
RBK-SA-25-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-25-01.
RBK-SA-25-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-25-01.

C = Composite G = Grab

Table 5-1 (Continued)

RI Sample Number	Analyses	Sample Type	Depth	Location
RBK-SS-26-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	G	0-6"	Plate 3; Map area D-9.
RBK-SA-26-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-26-01.
RBK-SA-26-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-26-01.
RBK-SS-27-01	Metals Pesticides/PCBs Radionuclides	G	0-6"	Plate 3; Map area E-3.
RBK-SA-27-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-27-01.
RBK-SA-27-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-27-01.
RBK-SS-28-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	G	0-6"	Plate 3; Map area D-1.
RBK-SA-28-02	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides	C	18-24"	Corresponds to RBK-SS-28-01.

C = Composite G = Grab

Table 5-1 (Continued)

RI Sample Number	Analyses	Sample Type	Depth	Location
RBK-SA-28-03	Metals Radionuclides	C	36-42"	Corresponds to RBK-SS-28-01.
RBK-EB-29-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides Explosives	G	N/A	Equipment Rinsate from soil augers and trowels.
RBK-EB-30-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides Explosives	G	N/A	Equipment Rinsate from soil augers and trowels.
RBK-EB-31-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides Explosives	G	N/A	Equipment Rinsate from soil augers and trowels.
RBK-EB-32-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides Explosives	G	N/A	Equipment Rinsate from soil augers and trowels.
RBK-FB-33-01	Metals VOCs SemiVOCs Pesticides/PCBs Radionuclides Explosives	G	N/A	Field blank prepared from laboratory provided HPLC water.
TB1	VOCs	N/A	N/A	Trip Blank in coolers containing samples for VOCs analysis.

C = Composite G = Grab

Table 5-1 (Continued)

RI Sample Number	Analyses	Sample Type	Depth	Location
TB2	VOCs	N/A	N/A	Trip Blank in coolers containing samples for VOCs analysis.
TB3	VOCs	N/A	N/A	Trip Blank in coolers containing samples for VOCs analysis.
TB4	VOCs	N/A	N/A	Trip Blank in coolers containing samples for VOCs analysis.

C = Composite G = Grab

Table 5-2
Base-Wide Groundwater Sample Summary
IAAP Phase I RI/FS

RI Sample Number	Analyses	Sample Type	Depth	Location
RBK-GW-01	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-1; depth = 20 feet.
RBK-GW-02	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-2; depth = 18 feet.
RBK-GW-03	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-3; depth = 30 feet.
RBK-GW-04	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-31; depth = 16 feet.
RBK-GW-05	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-28; depth = 20 feet.
RBK-GW-06	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-49; depth = 32 feet.
RBW-GW-01	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-13; depth = 30 feet.
RBW-GW-02	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-21; depth = 18 feet.

C = Composite G = Grab

Table 5-2 (Continued)

RI Sample Number	Analyses	Sample Type	Depth	Location
RBW-GW-03	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-12; depth = 20 feet.
RBW-GW-04	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-23; depth = 20 feet.
RBW-GW-05	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-24; depth = 17 feet.
RBW-GW-06	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-25; depth = 81 feet.
RBW-GW-07	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-26; depth = 100 feet.
RBW-GW-08	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-16; depth = 20 feet.
RBW-GW-09	Explosives Metals VOCs SemiVOCs	G	TBD	Well PW-5; depth = 300 feet.
RBW-GW-10	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-15; depth = 18 feet.

C = Composite G = Grab

Table 5-2 (Continued)

RI Sample Number	Analyses	Sample Type	Depth	Location
RBW-GW-11	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-23-01; depth = 21 feet.
RBW-GW-12	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-51; depth = 16 feet.
RBW-GW-13	Explosives Metals VOCs SemiVOCs	G	TBD	Well PW-1; depth = 456 feet.
RBW-GW-14	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-8; depth = 16 feet.
RBW-GW-15	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-30; depth = 17 feet.
RBW-GW-16	Explosives Metals VOCs SemiVOCs	G	TBD	Well T-6; depth = 129 feet.
RBW-GW-17	Explosives Metals VOCs SemiVOCs	G	TBD	Well T-8; depth = 128 feet.
RBW-GW-18	Explosives Metals VOCs SemiVOCs	G	TBD	Well T-9; depth = 137 feet.

C = Composite G = Grab

Table 5-2 (Continued)

RI Sample Number	Analyses	Sample Type	Depth	Location
RBW-GW-19	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-22; depth = 42 feet.
RBW-GW-20	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-27; depth = 16 feet.
RBW-GW-21	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-52; depth = 39 feet.
RBW-GW-22	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-53; depth = 35 feet.
RBW-GW-23	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-54; depth = 65 feet.
RBW-GW-24	Explosives Metals VOCs SemiVOCs	G	TBD	Well G-55; depth = 16 feet.

C = Composite G = Grab

Note: Available well logs are provided in Appendix C.

5.3 IAAP-R1 (LINE 1)

IAAP-R1 (designated IAAP-1 in the SI; Section 3.3) contains the Line 1 heavy artillery production line facility. IAAP-R1 is located southeast of the Administration Building, east of Lines 4A and 5A, and north of Lines 2 and 3 (Figure 5-1). Brush Creek flows to the south, along the western perimeter of Line 1. The primary function of Line 1 is heavy artillery and projectile production using rail-shipped explosives which are melted and packed into metal casings. Waste products associated with this line include explosives related to production activities. Explosives contaminated wash water, the result of wasing down the floors of buildings, was discharged onto the ground surface. Explosives contaminated process water was discharged to the Former Line 1 Impoundment located southwest of Line 1. The Former Line 1 Impoundment (IAAP-16) is under investigation (Section 3.18).

In August 1991, SI sampling of soils, sediments and surface water concentrated on the buildings historically recognized for generating or treating hazardous waste and associated drainage pathways. Low levels of metals were reported for surface and subsurface soil samples for five of the six samples within the Line; SI samples 01-SD-03, 01-SA-05, and 01-SA-06 contained elevated concentrations of explosives and metals. The surface water sample (01-SW-08) collected from the outfall ditch near Building 1-207-2 contained low levels of metals, and an unidentified compound reported at a concentration of 1000 mg/kg. Low levels of explosives were detected in one SI sediment sample (01-SD-03), taken from a gully near Filter House 1-70-1.

5.3.1 Data Requirements and Sampling Objectives

The emphasis of the Phase I RI sampling evaluation will be to assess the areal (both horizontal and vertical) extent of metals and explosive contamination in soils and sediments within the Line, found during the SI. In conjunction with surface soil measurements, the vertical extent of contamination will be determined by subsurface soil sampling. During the Phase I RI sampling, initial assessment of the shallow groundwater (<5 feet) will be investigated using a Geoprobe and temporary piezometers.

The primary contaminants of concern at IAAP-R1 are metals (lead, barium, chromium, copper and zinc) and explosives (2,4,6-TNT, HMX and RDX). Also, the presence of fluoranthene and pyrene in the vicinity of the sump near Building 01-05-2 will require additional confirmatory sampling. Surface soil and surface water samples will be collected to delineate both point and non-point sources of contamination.

5.3.2 Proposed Sampling Scheme

Sampling for Phase I of the RI will focus on four potential areas of contamination: (1) production activity facilities identified by SI sampling at this line and by evaluation of contamination at other production lines; (2) screening for metals and explosives for SI sample locations; (3) limited investigations of the vertical extent of contamination in subsurface soils and the associated groundwater by Geoprobe; and (4) surface water and sediment samples along drainage pathways.

SI sampling of the production lines identified several potential areas of contamination associated with production activities. Process operations causing contamination at other production lines which are also present at Line 1 include the following: Assembly and Shipping facility (1-12); Fuse Service Magazines (1-17); Booster Service Magazines (1-16); Drilling and Boostering areas (1-10); Melt (1-05) and Filter (1-70) Buildings; and Loading Line Storage (1-01). Also, the Ammonium Nitrate Service Magazines (1-06); TNT Screening areas (1-50), and TNT Service Magazines (1-08) will be sampled and screened for potential soil contamination. Surface soil samples will be located adjacent to the explosive production areas which parallel the railroad tracks.

Table 5-3 summarizes the proposed samples at IAAP-R1 for the Phase I RI/FS. All proposed sample locations are depicted on Figure 5-1. All analytical samples will be analyzed for metals, explosives, semivolatile and volatile organic compounds. Sixty-seven surface soil samples will be collected for the analytical analyses. A minimum of 54 soil samples will be field screened for possible metals and explosives contamination (see Sections 4.2.3.1.1 and 4.2.3.1.2 for screening methodologies).

Gridded field screening of surface and subsurface soils for determining metals and explosives will be conducted near the sump behind Melt Building 1-05-1. SI sampling (01-SA-05-01) reported high levels of metals of concern and explosives in this area. The sump near this building is unprotected from the weather and may have overflowed. SI sample 01-SA-05-01 will be the central node for the grid sampling.

The gully sediment and associated surface water will be sampled to determine the extent of contamination for Filter House 1-70-1 (SI sample 01-SD-03-01). If the gully is initially dry, surface water sampling will be completed following a rainfall event. The SI sample location of approximately 30 feet downstream of the outfall will be supplemented by two additional downgradient sediment and surface water samples. The locations of these samples are listed below. Identification of the lateral and vertical extent of soil and groundwater contamination is important because of the proximity of this drainage pathway to the Brush Creek watershed. Also, surface water and co-located sediment samples will be collected in the drainage ditch near SI sample location 01-SW-08. The sediment and surface water samples will be analyzed for metals, explosives, semivolatile and volatile organic compounds.

The groundwater beneath IAAP-R1 has been estimated to occur at <5 feet. Initial groundwater measurements for assessing potential shallow ground water contamination will be completed using ten temporary piezometers placed at separation distances of approximately 300 feet along the west perimeter of the site. The piezometer locations are depicted in Figure 5-1. Ground water sampling will also be conducted at six previously-installed well locations.

Soil gas surveys will be conducted near the seven solvent storage buildings (1-03-1 to 1-03-7) and the underground storage tanks (1-152 series). The soil gas surveys are illustrated in Figures 5-1a through 5-1h. Confirmatory soil samples will be collected for volatile and semivolatile analyses in the survey areas.

LEGEND

- RAILROAD TRACK
- ROAD
- WALKWAY
- FENCE
- BUILDING #
- BERM (EXPLOSION PROTECTION)
- TOPOGRAPHIC CONTOUR
- CONTOUR INTERVAL = 5 FEET
- INTERMITTENT STREAM

NOTE: SURFACE SOIL SAMPLE (O) LOCATIONS WITHOUT SAMPLE NUMBER DESIGNATION WILL BE SCREENED FOR EXPLOSIVES AND METALS.

SAMPLE KEY

- SUBSURFACE SOIL SAMPLE
- MONITORING WELL
- SOIL BORING
- SOIL SAMPLE
- SURFACE WATER SAMPLE
- SEDIMENT SAMPLE
- GEOPROBE

GRAPHIC SCALE

0 300 600 FEET

Prepared by

CDM FEDERAL PROGRAMS CORPORATION

a subsidiary of Camp Dresser & McKee Inc.

JAYCOR

IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

Site Map of IAAP R1
Line 1
(Formerly IAAP 1)

SOURCE: Mason & Hanger-Silas Mason Co., Inc.

FILE NO. IAAP1	DRWN BY: LR	PROJECT #: 7150-100	SHT. 1 OF 1
DATE 5-92			FIGURE: 5-1

Table 5-3
Proposed Sample Summary
IAAP-R1 (LINE 1)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R01-SS-01-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the southwest corner of the Shipping Building (1-53).
R01-SS-02-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the northeast corner of Building 1-12.
R01-SS-03-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	200 feet south of the northeast corner of Building 1-12.
R01-SS-04-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the loading dock along the east wall of Building 1-12.
R01-SS-05-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet south of the southeast corner of Building 1-12.
R01-SS-06-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet north of the northeast corner of Building 1-17.
R01-SS-07-01	Metals Explosives SemiVOCs VOCs	G	S	0-6"	25 feet east of the northeast corner of Building 1-16.
R01-SS-08-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet south of the southeast corner of Building 1-16.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-3 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R01-SS-09-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	150 feet northeast of R01-SS-18-01 near the railroad track.
R01-SS-10-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the entry road to Building 1-99-2.
R01-SS-11-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the southeast corner of Building 1-100.
R01-SS-12-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the northeast corner of Building 1-100.
R01-SS-13-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the southeast corner of Melt Building 1-05-1.
R01-SS-14-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the southeast corner of Melt Building 1-05-2.
R01-SS-15-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	50 feet east of the east wall of Melt Building 1-05-2 near the railroad track junction.
R01-SS-16-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet north of the northwest corner of the Ammoniun Nitrate Igloo (1-40).
R01-SS-17-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet north of the northeast corner of Melt Building 1-05-2.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-3 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R01-SS-18-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the southwest corner of the Powerhouse (1-02).
R01-SS-19-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the east wall of the Powerhouse (1-02).
R01-SS-20-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the northwest corner of the Powerhouse (1-02).
R01-SS-21-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the southwest corner the Primer Loading area (1-36).
R01-SS-22-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	100 feet northwest of Building 1-36.
R01-SS-23-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	75 feet south of the southeast corner of the Loading Line Storage (1-01).
R01-SS-24-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet south of the southeast corner of the Loading Line Storage (1-01).
R01-SS-25-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	200 feet north of the southeast corner of Building 1-01 along the east wall.
R01-SS-26-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	50 feet east of the northeast corner of Building 1-01.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-3 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R01-SS-27-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	50 feet north of Building 1-03-7.
R01-SS-28-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of Building 1-169-D.
R01-SS-29-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the southwest corner of Emergency Power (1-211).
R01-SS-30-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet south of the loading platform near the southeast corner of the Element Rest House (1-62).
R01-SS-31-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet northwest of the loading platform near the northwest corner of Building 1-62.
R01-SS-32-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet north of the center of the north wall of Building 1-62.
R01-SS-33-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the loading platform near the southwest corner of Building 1-62.
R01-SS-34-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet south of the southwest corner of the Fuse and Ignition Service Magazine (1-11).
R01-SS-35-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet north of the north wall of Building 1-11.

C = Composite   S = Screening Sample   G = Grab   A = Analytical Sample

Table 5-3 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R01-SS-36-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the northeast corner of Building 1-11.
R01-SS-37-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the southeast corner of Building 1-11.
R01-SS-38-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the southwest corner of the Garage (1-129).
R01-SS-39-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the southwest corner of the General Shop (1-124-2).
R01-SS-40-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	75 feet west of Substation 1-169-25.
R01-SS-41-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the southwest corner of the Ammonium Nitrate Service Magazine (1-06-2).
R01-SS-42-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the northwest corner of Building 1-06-2.
R01-SS-43-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the northwest corner of the Element Dry House (1-60).
R01-SS-44-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet south of the southwest corner of Building 1-60.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-3 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R01-SS-45-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the northwest corner of the TNT Screening area (1-50).
R01-SS-46-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the northeast corner of Building 1-50.
R01-SS-47-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet south of the southeast corner of Building 1-50.
R01-SS-48-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the southwest corner of Building 1-50.
R01-SS-49-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the TNT Service Magazine (1-08-1-A).
R01-SS-50-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the TNT Service Magazine (1-08-1-A).
R01-SS-51-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the northwest corner of Building 1-08.
R01-SS-52-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet south of the southwest corner of Building 1-08.
R01-SS-53-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the northwest corner of Building 1-06-1.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-3 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R01-SS-54-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the northeast corner of Building 1-06-1.
R01-SS-55-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet south of the southeast corner of Building 1-06-1.
R01-SS-56-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the southwest corner of Building 1-06-1.
R01-SS-57-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the southwest corner of Building 1-14.
R01-SS-58-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the southeast corner of Building 1-14.
R01-SS-59-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the southwest corner of the Propellant Charge Area 1-13A.
R01-SS-60-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the Propellant Charge Area 1-13D.
R01-SS-61-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the Propellant Charge Area 1-13-E.
R01-SS-62-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the Propellant Charge Area 1-13-E.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-3 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R01-SS-63-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the northwest corner of the Smokeless Powder Service Magazine (1-15).
R01-SS-64-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the northeast corner of Building 1-15.
R01-SS-65-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet south of the southeast corner of Building 1-15.
R01-SS-66-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the southwest corner of Building 1-15.
R01-SS-67-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	10 feet east of the rail intersection south of Building 1-15.
R01-SW-68-01	Metals Explosives SemiVOCs VOCs	G	A	-	100 feet downgradient of the outfall near Building 1-207-2.
R01-SD-68-01	Metals Explosives SemiVOCs VOCs	G	A		Corresponds to sample R01-SW-68-01.
R01-SW-69-01	Metals Explosives SemiVOCs VOCs	G	A		200 feet downgradient of the outfall near Building 1-207-2.
R01-SD-69-01	Metals Explosives SemiVOCs VOCs	G	A		Corresponds to sample R01-SW-69-01.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-3 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R01-GW-70-01	Metals Explosives SemiVOCs VOCs	G	A	-	Well G-49. Well screened at 19 to 29 feet below ground surface (BGS).
R01-GW-71-01	Metals Explosives SemiVOCs VOCs	G	A	-	Well GZ-6. Well screened at 39 to 49 feet BGS.
R01-GW-72-01	Metals Explosives SemiVOCs VOCs	G	A	-	Well SL-81. Well screened at 6 to 11 feet BGS.
R01-GW-73-01	Metals Explosives SemiVOCs VOCs	G	A	-	Well GZ-1. Well screened at 40 to 50 feet BGS.
R01-GW-74-01	Metals Explosives SemiVOCs VOCs	G	A	-	Well GZ-2. Well screened at 20 to 30 feet BGS.
R01-GW-75-01	Metals Explosives SemiVOCs VOCs	G	A	-	Well SL-91. Well screened at 6 to 11 feet BGS.
R01-SA-76-01	SemiVOCs VOCs	G	A	36-42"	Confirmatory soil gas survey sample; 25 feet west of Building 1-03-1.
R01-SA-77-01	SemiVOCs VOCs	G	A	36-42"	Confirmatory soil gas survey sample; 25 feet east of Building 1-03-1.
R01-SA-78-01	SemiVOCs VOCs	G	A	36-42"	Confirmatory soil gas survey sample; 25 feet west of Building 1-03-2.
R01-SA-79-01	SemiVOCs VOCs	G	A	36-42"	Confirmatory soil gas survey sample; 25 feet east of Building 1-03-2.
R01-SA-80-01	SemiVOCs VOCs	G	A	36-42"	Confirmatory soil gas survey sample; 25 feet west of Building 1-03-3.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-3 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R01-SA-81-01	SemiVOCs VOCs	G	A	36-42"	Confirmatory soil gas survey sample; 25 feet east of Building 1-03-3.
R01-SA-82-01	SemiVOCs VOCs	G	A	36-42"	Confirmatory soil gas survey sample; 25 feet west of Building 1-03-4.
R01-SA-83-01	SemiVOCs VOCs	G	A	36-42"	Confirmatory soil gas survey sample; 25 feet east of Building 1-03-4.
R01-SA-84-01	SemiVOCs VOCs	G	A	36-42"	Confirmatory soil gas survey sample; 25 feet west of Building 1-03-5.
R01-SA-85-01	SemiVOCs VOCs	G	A	36-42"	Confirmatory soil gas survey sample; 25 feet east of Building 1-03-5.
R01-SA-86-01	SemiVOCs VOCs	G	A	36-42"	Confirmatory soil gas survey sample; 25 feet west of Building 1-03-6.
R01-SA-87-01	SemiVOCs VOCs	G	A	36-42"	Confirmatory soil gas survey sample; 25 feet east of Building 1-03-6.
R01-SA-88-01	SemiVOCs VOCs	G	A	36-42"	Confirmatory soil gas survey sample; 25 feet west of Building 1-03-7.
R01-SA-89-01	SemiVOCs VOCs	G	A	36-42"	Confirmatory soil gas survey sample; 25 feet east of Building 1-03-7.
R01-SA-90-01	SemiVOCs VOCs	G	A	36-42"	Confirmatory soil gas survey sample; 25 feet southwest of Building 1-152-13.
R01-SA-91-01	SemiVOCs VOCs	G	A	36-42"	Confirmatory soil gas survey sample; 25 feet northeast of Building 1-152-1.
R01-001M	Metals	G	S	0-6"	SI locations 01-SS-01-01 is the central node of the grid sampling.
R01-200M	Metals	G	S	0-6"	SI location 01-SD-03-01 is the central node of the grid sampling.
R01-200E	Explosives	G	S	0-6"	SI location 01-SD-03-01 is the central node of the grid sampling.
R01-300M	Metals	G	S	0-6"	SI location 01-SA-02-01 is the central node of the grid sampling.
R01-400M	Metals	G	S	0-6"	SI location 01-SA-05-01 is the central node of the grid sampling.
R01-400E	Explosives	G	S	0-6"	SI location 01-SA-05-01 is the central node of the grid sampling.
R01-500M	Metals	G	S	0-6"	SI location 01-SA-06-01 is the central node of the grid sampling.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-3 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R01-500E	Explosives	G	S	0-6"	SI location 01-SA-06-01 is the central node of the grid sampling.
R01-600M	Metals	G	S	0-12"	SI location 01-SA-04-01 is the central node of the grid sampling.
R01-600V	VOCs	G	S	0-12"	SI location 01-SA-04-01 is the central node of the grid sampling.
R01-600E	Explosives	G	S	0-12"	SI location 01-SA-04-01 is the central node of the grid sampling.
R01-700M	Metals	G	S	0-6"	25 feet north of the northwest corner of Building 1-53.
R01-700E	Explosives	G	S	0-6"	25 feet north of the northwest corner of Building 1-53.
R01-800M	Metals	G	S	0-6"	25 feet east of the northeast corner of Building 1-53 near the end of the rail line.
R01-800E	Explosives	G	S	0-6"	25 feet east of the northeast corner of Building 1-53 near the end of the rail line.
R01-900M	Metals	G	S	0-6"	25 feet south of the south wall of Building 1-53.
R01-900E	Explosives	G	S	0-6"	25 feet south of the south wall of Building 1-53.
R01-1000M	Metals	G	S	0-6"	25 feet west and 50 feet north of the southwest corner of the Assembly and Shipping area (1-12).
R01-1000E	Explosives	G	S	0-6"	25 feet west and 50 feet north of the southwest corner of the Assembly and Shipping area (1-12).
R01-1100M	Metals	G	S	0-6"	25 feet west of the northwest corner of Building 1-12.
R01-1100E	Explosives	G	S	0-6"	25 feet west of the northwest corner of Building 1-12.
R01-1200M	Metals	G	S	0-6"	25 feet east and 200 feet north of the east wall of Building 1-12.
R01-1200E	Explosives	G	S	0-6"	25 feet east and 200 feet north of the east wall of Building 1-12.
R01-1300M	Metals	G	S	0-6"	25 feet west of the southwest corner of the Fuse Magazine (1-17).
R01-1300E	Explosives	G	S	0-6"	25 feet west of the southwest corner of the Fuse Magazine (1-17).
R01-1400M	Metals	G	S	0-6"	25 feet west of the northwest corner of Building 1-17.
R01-1400E	Explosives	G	S	0-6"	25 feet west of the northwest corner of Building 1-17.
R01-1500M	Metals	G	S	0-6"	25 feet south of the southeast corner of Building 1-17.
R01-1500E	Explosives	G	S	0-6"	25 feet south of the southeast corner of Building 1-17.
R01-1600M	Metals	G	S	0-6"	25 feet south of the southwest corner of the Booster Service Magazine (1-16).
R01-1600E	Explosives	G	S	0-6"	25 feet south of the southwest corner of the Booster Service Magazine (1-16).

C = Composite   S = Screening Sample   G = Grab   A = Analytical Sample

Table 5-3 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R01-1700M	Metals	G	S	0-6"	25 feet north of the northwest corner of Building 1-16.
R01-1700E	Explosives	G	S	0-6"	25 feet north of the northwest corner of Building 1-16.
R01-1800M	Metals	G	S	0-6"	100 feet east of Building 1-99-4.
R01-1800E	Explosives	G	S	0-6"	100 feet east of Building 1-99-4.
R01-1900M	Metals	G	S	0-6"	25 feet east of the northeast corner of the Drilling and Boostering area (1-10).
R01-1900E	Explosives	G	S	0-6"	25 feet east of the northeast corner of the Drilling and Boostering area (1-10).
R01-2000M	Metals	G	S	0-6"	25 feet south of the northwest corner of Building 1-10.
R01-2000E	Explosives	G	S	0-6"	25 feet south of the northwest corner of Building 1-10.
R01-2100M	Metals	G	S	0-6"	25 feet south of the southwest corner of Building 1-10.
R01-2100E	Explosives	G	S	0-6"	25 feet south of the southwest corner of Building 1-10.
R01-2200M	Metals	G	S	0-6"	25 feet west of the northwest corner of the X-Ray Building (1-100).
R01-2200E	Explosives	G	S	0-6"	25 feet west of the northwest corner of the X-Ray Building (1-100).
R01-2300M	Metals	G	S	0-6"	25 feet west of the southwest corner of Building 1-100.
R01-2300E	Explosives	G	S	0-6"	25 feet west of the southwest corner of Building 1-100.
R01-2400M	Metals	G	S	0-6"	25 feet east and 50 feet south of the northeast corner of Melt Building 1-05-1.
R01-2400E	Explosives	G	S	0-6"	25 feet east and 50 feet south of the northeast corner of Melt Building 1-05-1.
R01-2500M	Metals	G	S	0-6"	25 feet east of the east wall of Building 1-40.
R01-2500E	Explosives	G	S	0-6"	25 feet east of the east wall of Building 1-40.
R01-2600M	Metals	G	S	0-6"	25 feet west of the southwest corner of Building 1-40.
R01-2600E	Explosives	G	S	0-6"	25 feet west of the southwest corner of Building 1-40.
R01-2700M	Metals	G	S	0-6"	25 feet south of the northwest corner of Melt Building 1-05-2.
R01-2700E	Explosives	G	S	0-6"	25 feet south of the northwest corner of Melt Building 1-05-2.
R01-2800M	Metals	G	S	0-6"	25 feet northwest of Pumphouse 1-99-5.
R01-2800E	Explosives	G	S	0-6"	25 feet west of Pumphouse 1-99-6.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-3 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R01-2900M	Metals	G	S	0-6"	25 feet north of the north wall of Building 1-02.
R01-2900E	Explosives	G	S	0-6"	25 feet north of the north wall of Building 1-02.
R01-3000M	Metals	G	S	0-6"	25 feet west of the northwest corner of Building 1-36.
R01-3000E	Explosives	G	S	0-6"	25 feet west of the northwest corner of Building 1-36.
R01-3100M	Metals	G	S	0-6"	25 feet east of the southeast corner of Building 1-36.
R01-3100E	Explosives	G	S	0-6"	25 feet east of the southeast corner of Building 1-36.
R01-3200M	Metals	G	S	0-6"	100 feet north of the southeast corner of Building 1-01 along the east wall.
R01-3200E	Explosives	G	S	0-6"	100 feet north of the southeast corner of Building 1-01 along the east wall.
R01-3300M	Metals	G	S	0-6"	100 feet south of the northeast corner of Building 1-01 along the east wall.
R01-3300E	Explosives	G	S	0-6"	100 feet south of the northeast corner of Building 1-01 along the east wall.
R01-3400M	Metals	G	S	0-6"	25 feet west of the northwest corner of Building 1-01.
R01-3400E	Explosives	G	S	0-6"	25 feet west of the northwest corner of Building 1-01.
R01-3500M	Metals	G	S	0-6"	25 feet east of the east wall of the Maintenance Shops (1-148).
R01-3500E	Explosives	G	S	0-6"	25 feet east of the east wall of the Maintenance Shops (1-148).
R01-3600M	Metals	G	S	0-6"	25 feet south of the south wall of the Maintenance Shops (1-148).
R01-3600M	Explosives	G	S	0-6"	25 feet south of the south wall of the Maintenance Shops (1-148).
R01-3700M	Metals	G	S	0-6"	50 feet north of the southwest corner of Building 1-148.
R01-3700M	Explosives	G	S	0-6"	50 feet north of the southwest corner of Building 1-148.
R01-3800M	Metals	G	S	0-6"	25 feet west of the northwest corner of Building 1-211.
R01-3800E	Explosives	G	S	0-6"	25 feet west of the northwest corner of Building 1-211.
R01-3900M	Metals	G	S	0-6"	25 feet east of the northeast corner of Building 1-211.
R01-3900E	Explosives	G	S	0-6"	25 feet east of the northeast corner of Building 1-211.
R01-4000M	Metals	G	S	0-6"	25 feet south of the southeast corner of Building 1-211.
R01-4000E	Explosives	G	S	0-6"	25 feet south of the southeast corner of Building 1-211.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-3 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R01-4100M	Metals	G	S	0-6"	25 feet west of the northwest corner of the Garage (1-129).
R01-4100E	Explosives	G	S	0-6"	25 feet west of the northwest corner of the Garage (1-129).
R01-4200M	Metals	G	S	0-6"	25 feet east of the northeast corner of Building 1-129.
R01-4200E	Explosives	G	S	0-6"	25 feet east of the northeast corner of Building 1-129.
R01-4300M	Metals	G	S	0-6"	25 feet south of the southeast corner of Building 1-129.
R01-4300E	Explosives	G	S	0-6"	25 feet south of the southeast corner of Building 1-129.
R01-4400M	Metals	G	S	0-6"	25 feet west of the northwest corner of the Building 1-124-2.
R01-4400E	Explosives	G	S	0-6"	25 feet west of the northwest corner of the Building 1-124-2.
R01-4500M	Metals	G	S	0-6"	25 feet east of the northeast corner of Building 1-124-2.
R01-4500E	Explosives	G	S	0-6"	25 feet east of the northeast corner of Building 1-124-2.
R01-4600M	Metals	G	S	0-6"	25 feet east of the southeast corner of Building 1-124-2.
R01-4600E	Explosives	G	S	0-6"	25 feet east of the southeast corner of Building 1-124-2.
R01-4700M	Metals	G	S	0-6"	25 feet east of the southeast corner of Building 1-06-2.
R01-4700E	Explosives	G	S	0-6"	25 feet east of the southeast corner of Building 1-06-2.
R01-4800M	Metals	G	S	0-6"	25 feet east of the northeast corner of Building 1-06-2.
R01-4800E	Explosives	G	S	0-6"	25 feet east of the northeast corner of Building 1-06-2.
R01-4900M	Metals	G	S	0-6"	25 feet east of the northeast corner of Building 1-60.
R01-4900E	Explosives	G	S	0-6"	25 feet east of the northeast corner of Building 1-60.
R01-5000M	Metals	G	S	0-6"	25 feet south of the southeast corner of Building 1-60.
R01-5000E	Explosives	G	S	0-6"	25 feet south of the southeast corner of Building 1-60.
R01-5100M	Metals	G	S	0-6"	25 feet east of the northeast corner of the TNT Service Magazine (1-08).
R01-5100E	Explosives	G	S	0-6"	25 feet east of the northeast corner of the TNT Service Magazine (1-08).
R01-5200M	Metals	G	S	0-6"	25 feet east of the southeast corner of Building 1-08.
R01-5200E	Explosives	G	S	0-6"	25 feet east of the southeast corner of Building 1-08.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-3 (Continued)

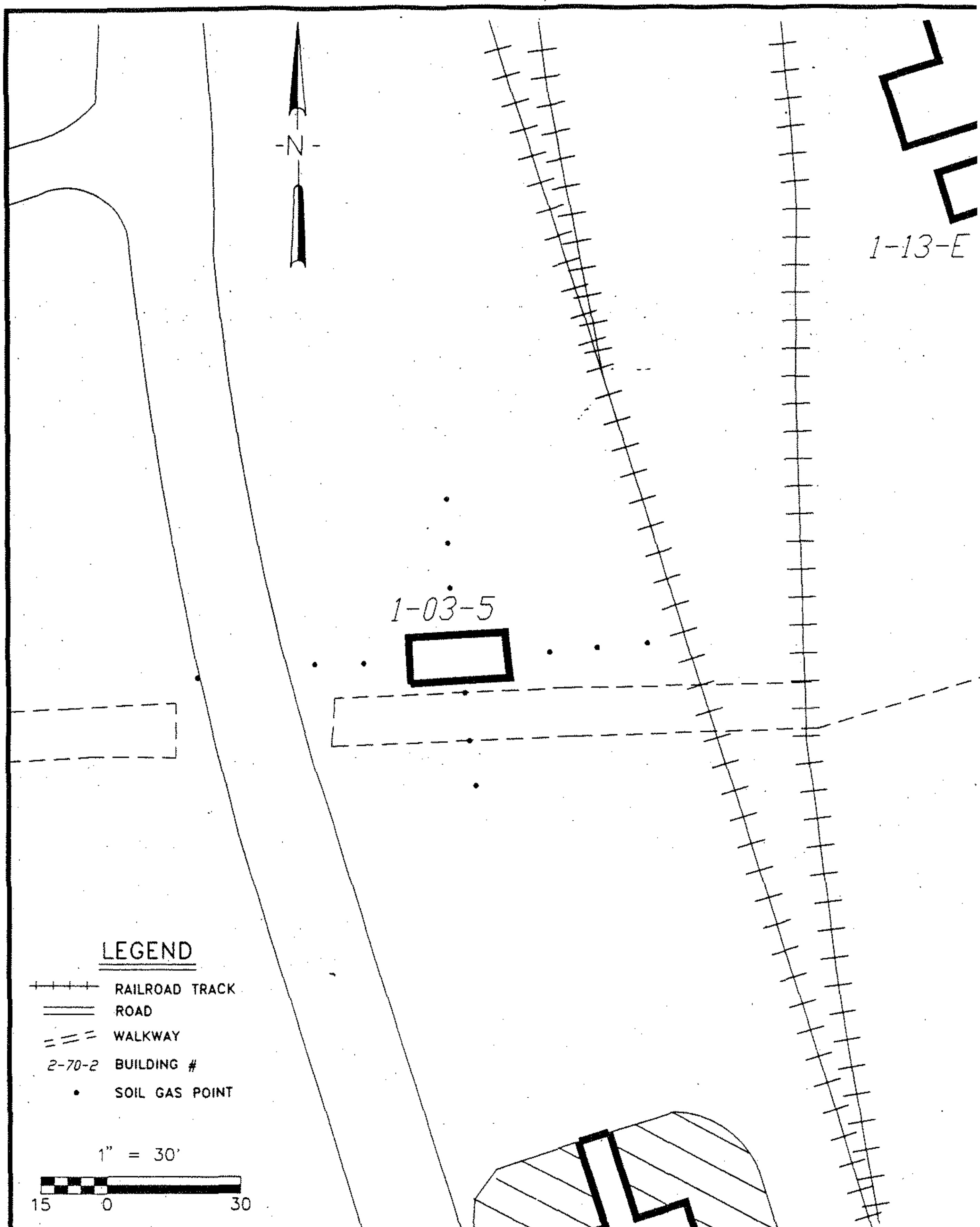
RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R01-5300M	Metals	G	S	0-6"	25 feet west of the northwest corner of the Primer Service Magazine (1-14).
R01-5300E	Explosives	G	S	0-6"	25 feet west of the northwest corner of the Primer Service Magazine (1-14).
R01-5400M	Metals	G	S	0-6"	25 feet east of the northeast corner of Building 1-14.
R01-5400E	Explosives	G	S	0-6"	25 feet east of the northeast corner of Building 1-14.
R01-GP-92-01	Metals Explosives	G	S	36-42"	West of the rail line near Building 1-15.
R01-PZ-92-01	Explosives	G	S	-	Corresponds to R01-GP-92-01.
R01-GP-93-01	Metals Explosives	G	S	36-42"	West of the fence near Building 1-18.
R01-PZ-93-01	Explosives	G	S	-	Corresponds to R01-GP-93-01.
R01-GP-94-01	Metals Explosives	G	S	36-42"	West of the fence near Building 196-7.
R01-PZ-94-01	Explosives	G	S	-	Corresponds to R01-GP-94-01.
R01-GP-95-01	Metals Explosives	G	S	36-42"	Northwest of Building 1-66-2.
R01-PZ-95-01	Explosives	G	S	-	Corresponds to R01-GP-95-01.
R01-GP-96-01	Metals Explosives	G	S	36-42"	North of Building 1-66-1.
R01-PZ-96-01	Explosives	G	S	-	Corresponds to R01-GP-96-01.
R01-GP-97-01	Metals Explosives	G	S	36-42"	West of the rail line near Building 1-06-1.
R01-PZ-97-01	Explosives	G	S	-	Corresponds to R01-GP-97-01.
R01-GP-98-01	Metals Explosives	G	S	36-42"	West of the rail line near Building 1-50.
R01-PZ-98-01	Explosives	G	S	-	Corresponds to R01-GP-98-01.
R01-GP-99-01	Metals Explosives	G	S	36-42"	West of the rail line near Building 1-06-2.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-3 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R01-PZ-99-01	Explosives	G	S	-	Corresponds to R01-GP-99-01.
R01-GP-100-01	Metals Explosives	G	S	36-42"	North of Building 1-06-2.
R01-PZ-100-01	Explosives	G	S	-	Corresponds to R01-GP-100-01.
R01-GP-101-01	Metals Explosives	G	S	36-42"	West of Building 1-211 near the fence.
R01-PZ-101-01	Explosives	G	S	-	Corresponds to R01-GP-101-01.

C = Composite S = Screening Sample G = Grab A = Analytical Sample



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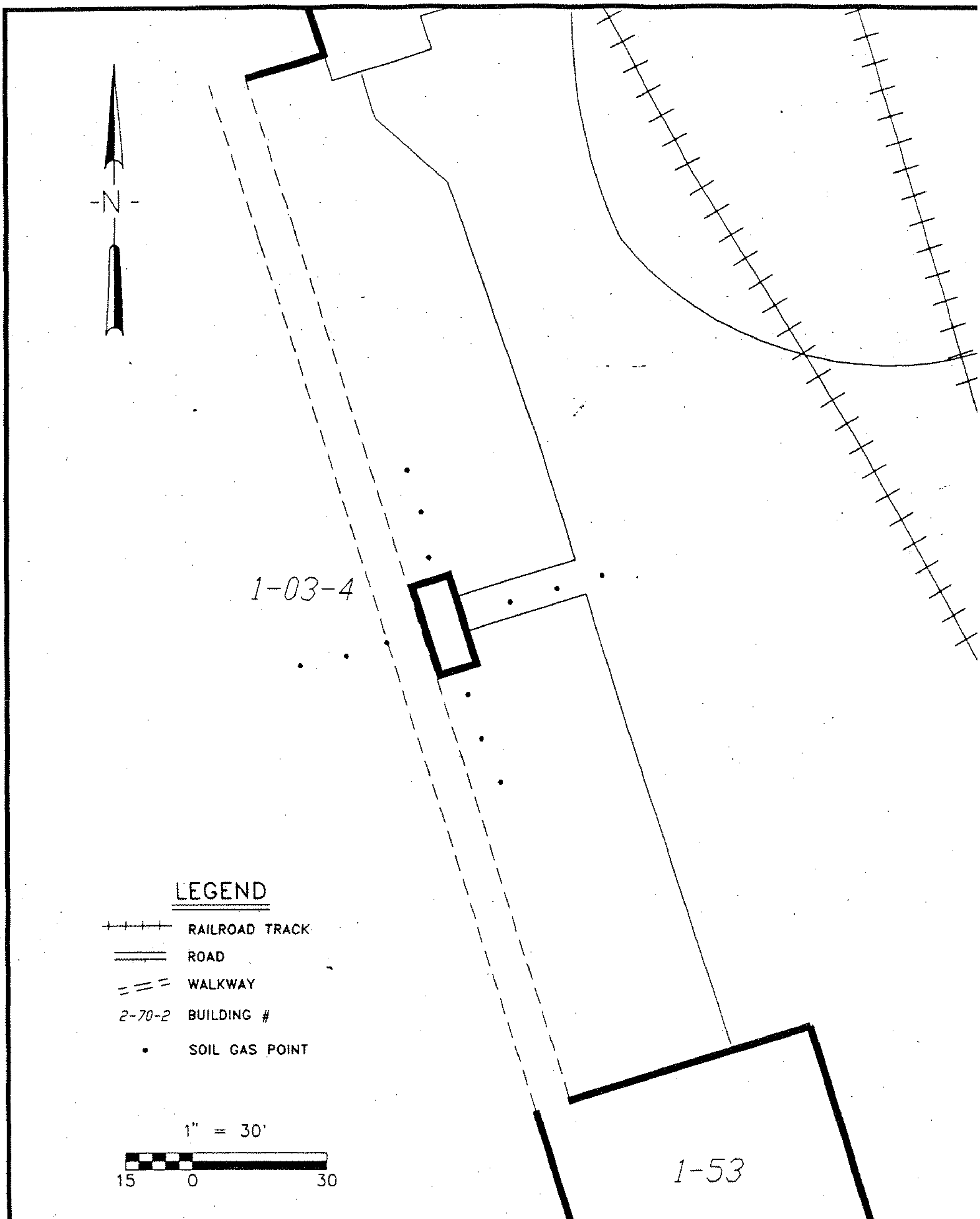
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA

SOIL GAS SURVEY
IAAP R1 BUILDING #1-03-5

Figure 5-1a

5/92

SGIAAP1A



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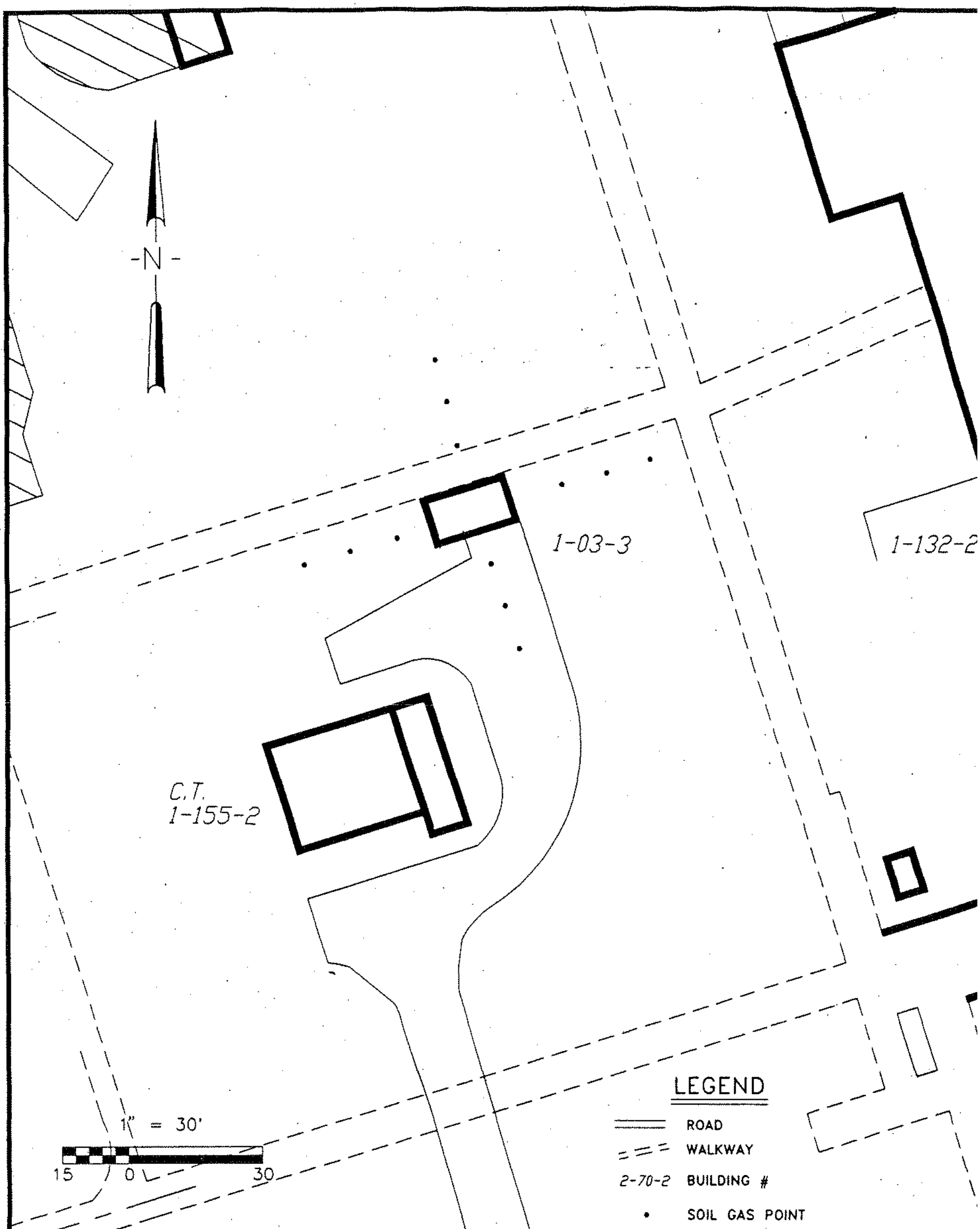
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA

SOIL GAS SURVEY
IAAP R1 BUILDING #1-03-4

Figure 5-1b

5/92

SGIBBP1B



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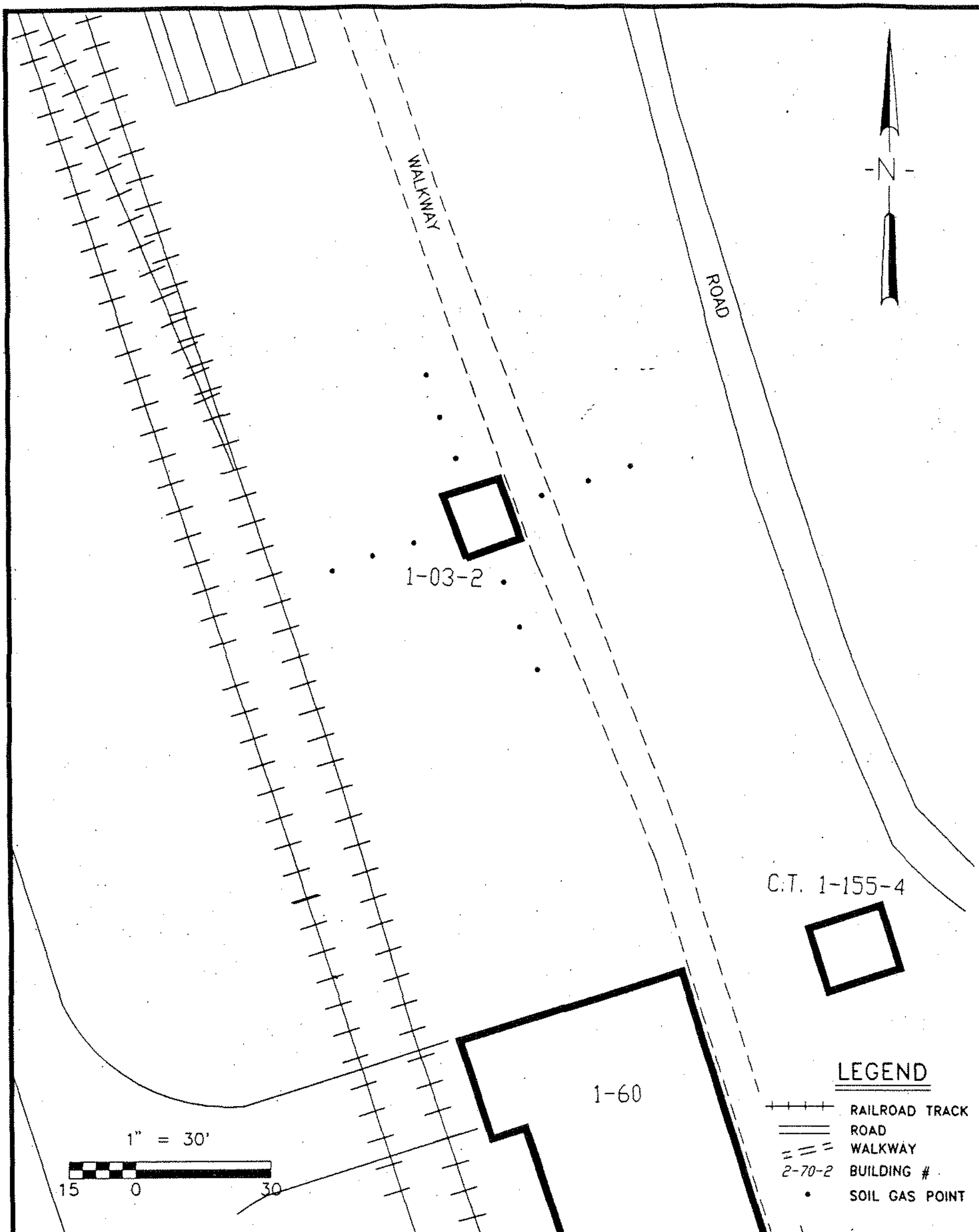
SOIL GAS SURVEY
IAAP R1 BUILDING #1-03-3

Figure
5-1c

5/92

SGIAAP1C



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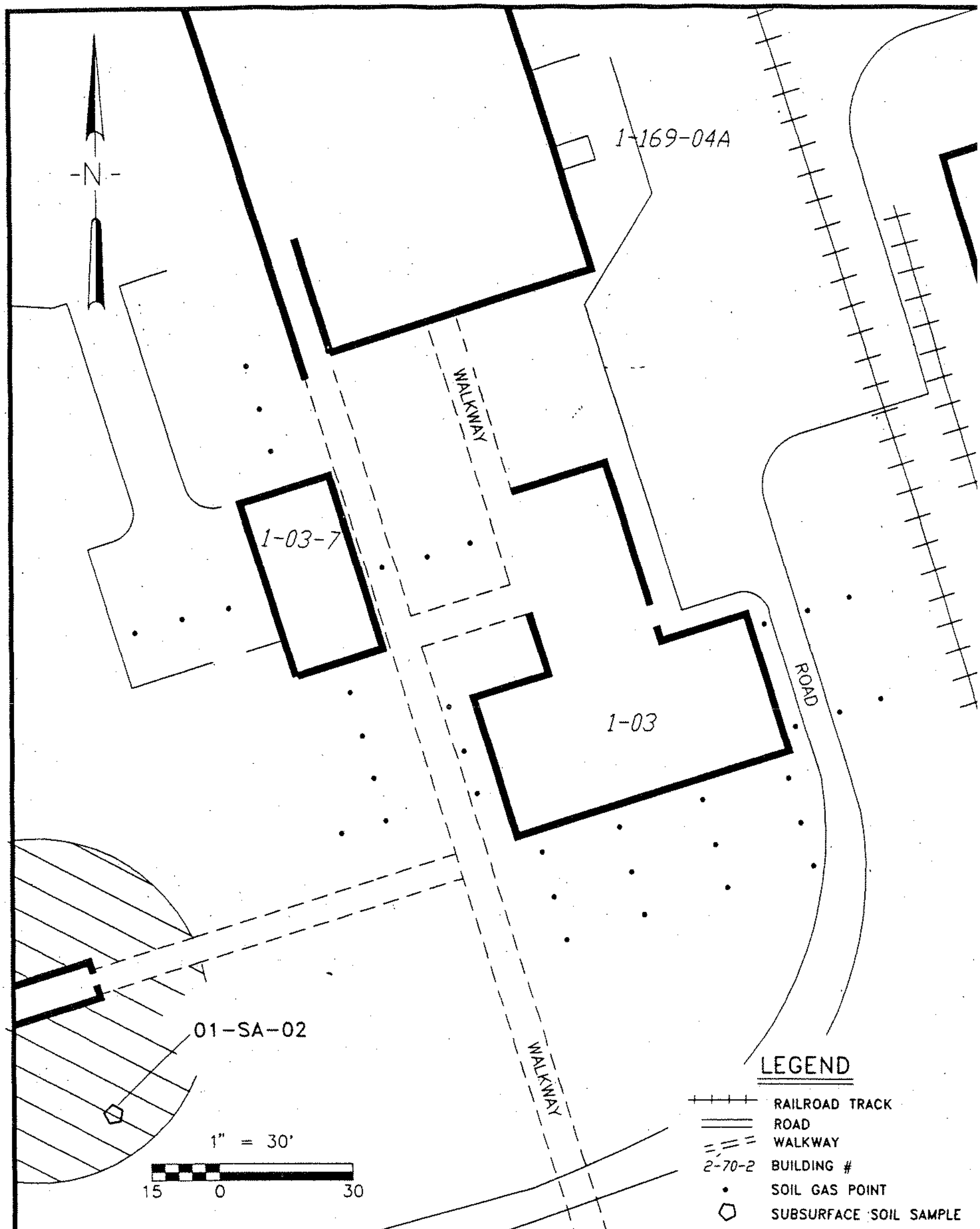
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA

SOIL GAS SURVEY
IAAP R1 BUILDING #1-03-2

Figure 5-1d

5/92

SGIAAP1D



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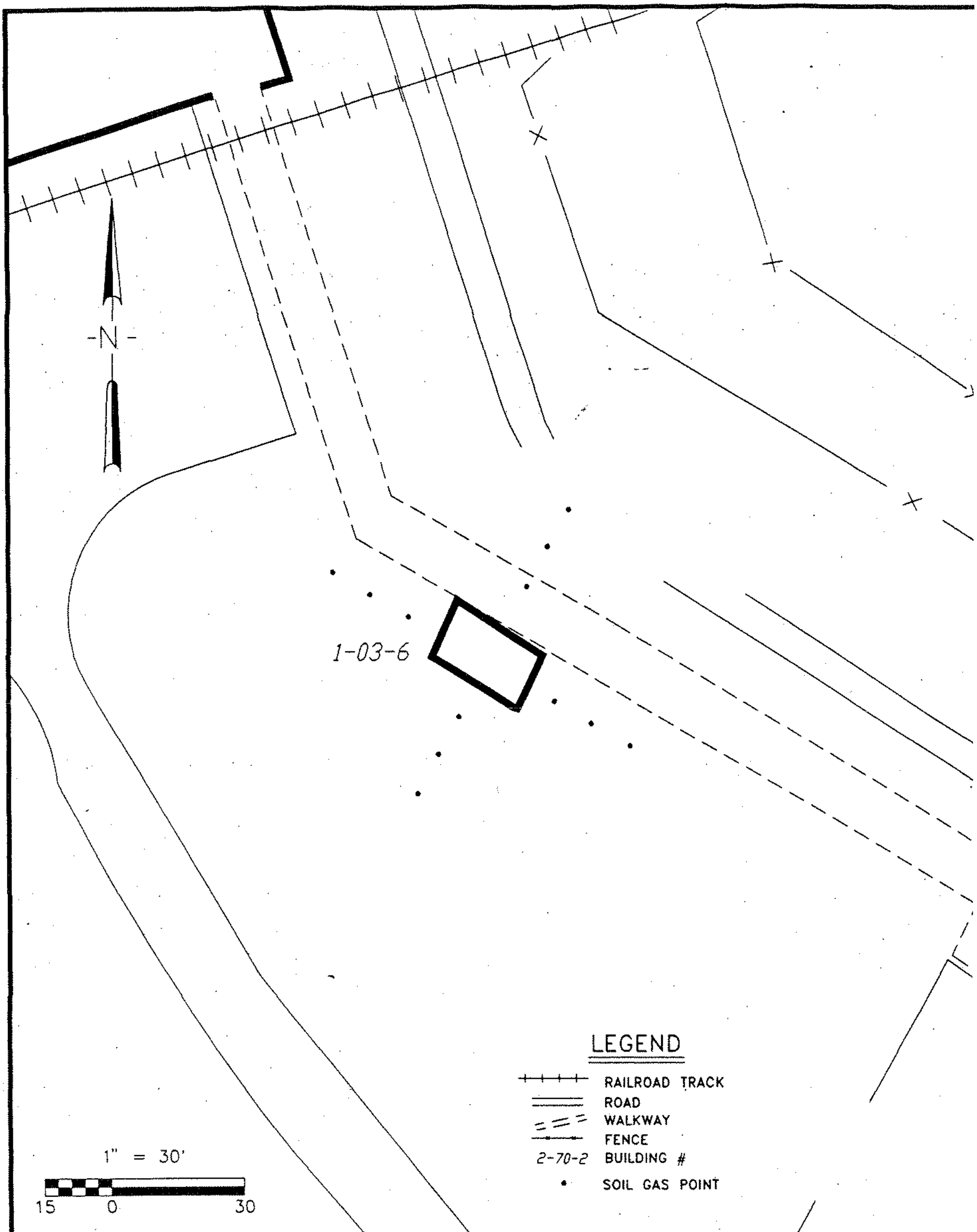
MIDDLETOWN, IOWA

SOIL GAS SURVEY
IAAP R1 BUILDING #1-03-7 & 1-03

Figure 5-1e

5/92

SGIAAP1E



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IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA

SOIL GAS SURVEY
IAAP R1 BUILDING #1-03-6

Figure 5-1f

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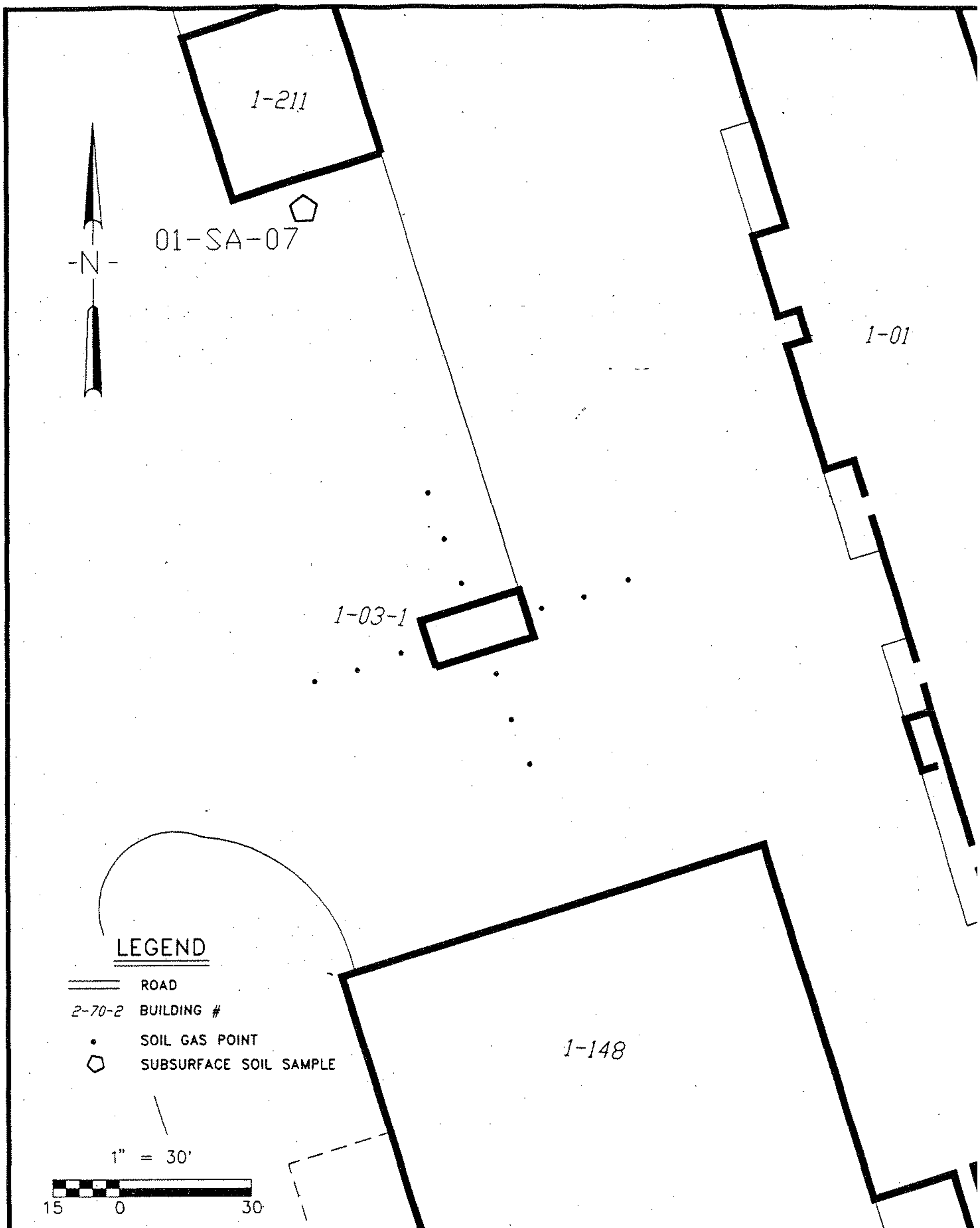
SGIAAP1F



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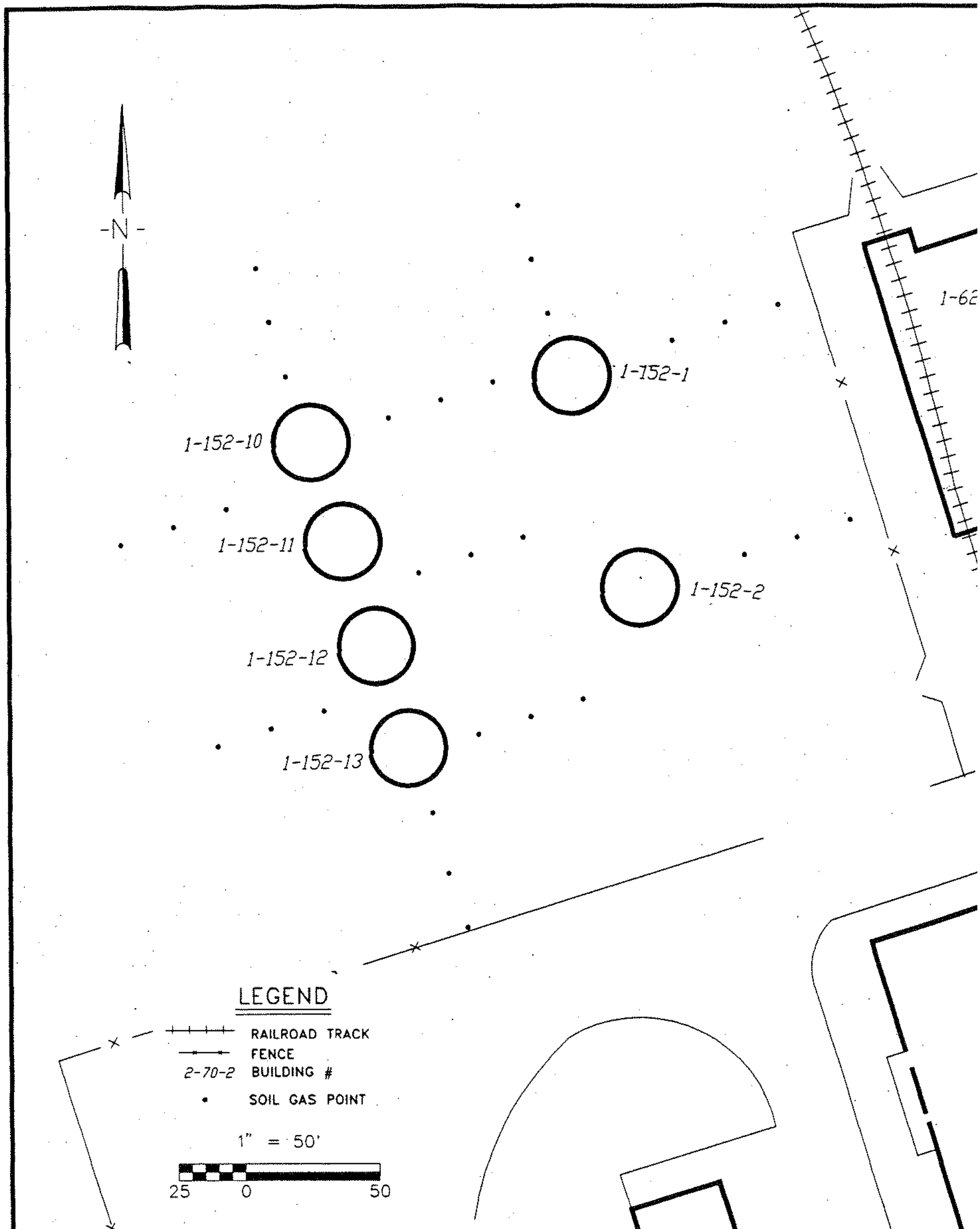
MIDDLETOWN, IOWA

SOIL GAS SURVEY
IAAP R1 BUILDING #1-03-1

Figure 5-1g

5/92

SGIAAP1G



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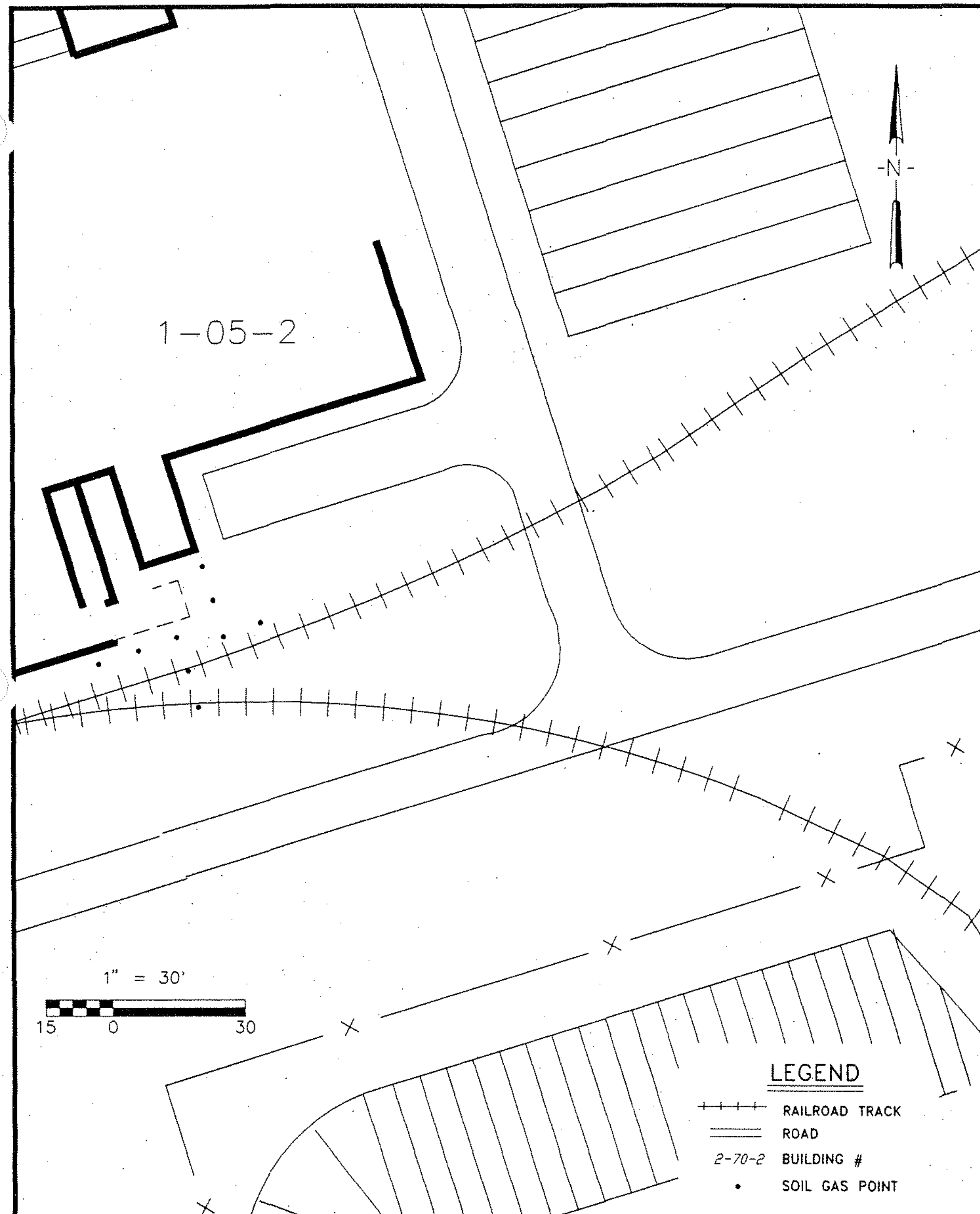
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA

SOIL GAS SURVEY
IAAP R1 OIL TANKS

Figure 5-1h

5/92

SGIAAP1H



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IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA

SOIL GAS SURVEY
IAAP R1 BUILDING #1-05-2

Figure 5-1i

5/92

SGIAAP1I

5.4 IAAP-R2 (LINE 2)

The SI sampling at IAAP-R2 (formerly IAAP-2 in the SI section 3.4) focused on the buildings where feedstocks and wastes were handled, and in loading and storage areas. Low levels of metals were reported in all the samples. The areas identified to contain the highest concentrations of metals include soil west of Filter House 2-70-2 (SI sample 02-SA-01), soil at the southeast corner of Filter House 2-70-1 (SI sample 02-SA-04-01), and an area adjacent to a support pillar northeast of Building 2-8-01 (SI sample 02-SS-05-01).

5.4.1 Data Requirements and Sampling Objectives

The primary concern associated with this site is the migration of contaminants sorbed to soil, and the possible groundwater infiltration of contaminants at the subject site. Soil samples will be collected from areas associated with the production and storage areas. Also, drainage pathways will be sampled for possible contamination associated with sediments. Surface water samples will be collected from drainage ways coincident to a precipitation event.

The contaminants of concern include metals and explosives. High detected levels of metals (mercury, zinc, lead) and explosives (HMX, RDX) during the SI suggest contamination from production activities, spills and overflows.

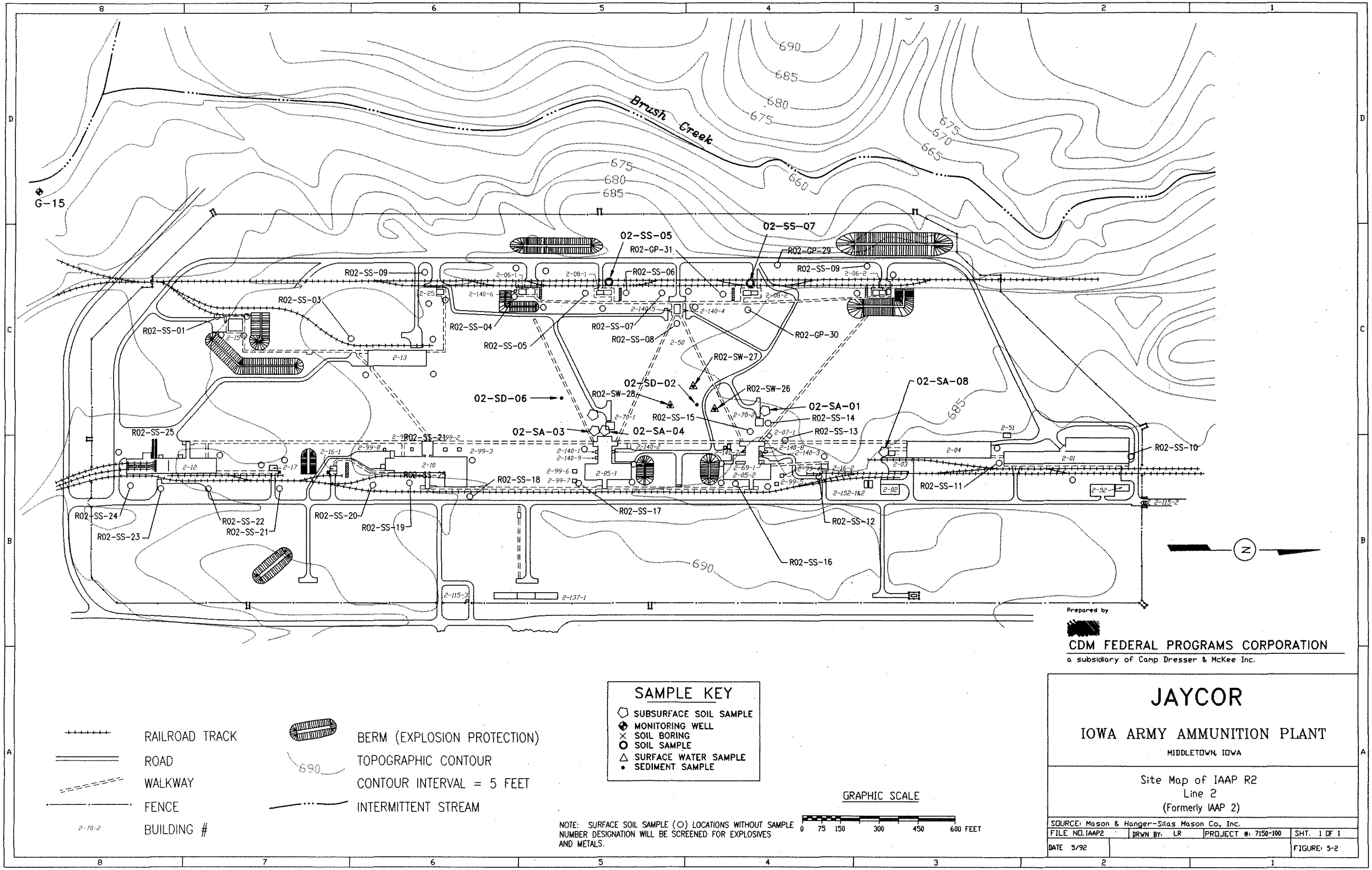
5.4.2 Proposed Sampling Scheme

Sampling for Phase I of the RI will focus on four potential areas of contamination: (1) production facilities identified by SI sampling at this line and evaluation of contamination at other production line areas; (2) screening for metals and explosives at SI sample locations; (3) limited investigations of the vertical extent of contamination in subsurface soils and the associated groundwater by Geoprobe; and (4) surface water and sediment samples along drainage pathways.

Table 5-4 summarizes the proposed samples at IAAP-R2 for the Phase I RI/FS. All proposed sample locations are depicted on Figure 5-2. All analytical samples will be evaluated for metals, explosives, semivolatile and volatile organic compounds. Twenty-eight surface soil samples will be collected for analytical analyses. Field screening will investigate soils for possible metals and explosives contamination. A minimum of 28 soil samples will be collected for field screening.

Surface water and co-located sediment samples will be collected in the drainage ditch near SI sample location 02-SA-02. The sediment and surface water samples will be analyzed for metals, explosives, semivolatile, and volatile organic compounds. Groundwater samples near SI sample location 02-SS-05 will be collected from three temporary piezometers installed with the Geoprobe. The groundwater will be field screened for explosives. Also, groundwater elevations will be measured relative to a local datum and the direction of groundwater flow determined.

Soil gas surveys will be conducted near the Solvent Storage Building (2-03) and the underground storage tanks (2-152-1 & 2). The soil gas surveys are illustrated in Figures 5-2a and 5-2b, respectively. Confirmatory soil samples will be collected for volatile and semivolatile analyses in the survey areas.



Brush Creek
G-15
690
685
680
675
670
665
660
02-SS-05
02-SS-07
R02-GP-31
R02-GP-29
R02-GP-30
R02-SS-01
R02-SS-03
R02-SS-04
R02-SS-05
R02-SS-06
R02-SS-07
R02-SS-08
R02-SS-09
R02-SS-10
R02-SS-11
R02-SS-12
R02-SS-13
R02-SS-14
R02-SS-15
R02-SS-16
R02-SS-17
R02-SS-18
R02-SS-19
R02-SS-20
R02-SS-21
R02-SS-22
R02-SS-23
R02-SS-24
R02-SS-25
R02-SW-26
R02-SW-27
R02-SW-28
02-SD-02
02-SD-06
02-SA-01
02-SA-03
02-SA-04
02-SA-08
2-01
2-02
2-03
2-04
2-05-1
2-05-2
2-10
2-12
2-13
2-15
2-17
2-25
2-50
2-51
2-52
2-115-2
2-115-3
2-137-1
2-152-1&2
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
RAILROAD TRACK
ROAD
WALKWAY
FENCE
BUILDING #
BERM (EXPLOSION PROTECTION)
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM
NOTE: SURFACE SOIL SAMPLE (O) LOCATIONS WITHOUT SAMPLE NUMBER DESIGNATION WILL BE SCREENED FOR EXPLOSIVES AND METALS.
GRAPHIC SCALE
0 75 150 300 450 600 FEET
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JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R2
Line 2
(Formerly IAAP 2)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP2
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-2

The area associated with the TNT Service Magazine (2-08-2) will be screened for explosives and metals in the soil (see Sections 4.2.3.1.1 and 4.2.3.1.2 for screening methodologies). The metals and explosive screening will focus on SI sample location 02-SS-05-01 as the central node of the grid sampling.

Table 5-4
Proposed Sample Summary
IAAP-R2 (LINE 2)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R02-SS-01-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the southwest corner of Smokeless Powder Service (2-15).
R02-001M	Metals	G	S	0-6"	SI location 02-SS-05-01 is the central node of the grid sampling.
R02-001E	Explosives	G	S	0-6"	SI location 02-SS-05-01 is the central node of the grid sampling.
R02-100M	Metals	G	S	0-6"	50 feet northwest of the northwest corner of Building 2-15.
R02-100E	Explosives	G	S	0-6"	50 feet northwest of the northwest corner of Building 2-15.
R02-200M	Metals	G	S	0-6"	25 feet east of the northeast corner of Building 2-15.
R02-200E	Explosives	G	S	0-6"	25 feet east of the northeast corner of Building 2-15.
R02-300M	Metals	G	S	0-6"	25 feet south of the southeast of Building 2-15.
R02-300E	Explosives	G	S	0-6"	25 feet south of the southeast of Building 2-15.
R02-SS-02-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the southwest corner of the Propellant Charge Building 2-13.
R02-400M	Metals	G	S	0-6"	25 feet west of the northwest corner of Building 2-13.
R02-400E	Explosives	G	S	0-6"	25 feet west of the northwest corner of Building 2-13.
R02-500M	Metals	G	S	0-6"	25 feet east of the northeast corner of Building 2-13.
R02-500E	Explosives	G	S	0-6"	25 feet east of the northeast corner of Building 2-13.
R02-600M	Metals	G	S	0-6"	25 feet south of the southeast corner of Building 2-13.
R02-600E	Explosives	G	S	0-6"	25 feet south of the southeast corner of Building 2-13.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-4 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R02-SS-03-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	50 feet west of the Tetryl Service Magazine (2-25).
R02-700M	Metals	G	S	0-6"	25 feet north of the northeast corner of Building 2-25.
R02-700E	Explosives	G	S	0-6"	25 feet north of the northeast corner of Building 2-25.
R02-800M	Metals	G	S	0-6"	50 feet east of the southeast corner of Building 2-25.
R02-800E	Explosives	G	S	0-6"	50 feet east of the southeast corner of Building 2-25.
R02-900M	Metals	G	S	0-6"	25 feet west of the southwest corner of Building 2-06-1.
R02-900E	Explosives	G	S	0-6"	25 feet west of the southwest corner of Building 2-06-1.
R02-1000M	Metals	G	S	0-6"	25 feet west of the northwest corner of Building 2-06-1.
R02-1000E	Explosives	G	S	0-6"	25 feet west of the northwest corner of Building 2-06-1.
R02-1100M	Metals	G	S	0-6"	50 feet north of the northeast corner of Building 2-06-1.
R02-1100E	Explosives	G	S	0-6"	50 feet north of the northeast corner of Building 2-06-1.
R02-SS-04-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the southeast corner of Bulding 2-06-1.
R02-SS-05-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet south of the southwest corner of the TNT Service Magazine (2-08-1).
R02-SS-06-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	50 feet north of the northwest corner of Building 2-08-1.
R02-1200M	Metals	G	S	0-6"	50 feet east of the southeast corner of Building 2-08-1.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-4 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R02-1200E	Explosives	G	S	0-6"	50 feet east of the southeast corner of Building 2-08-1.
R02-SS-07-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet south of the southwest corner of the TNT Screening area (2-50).
R02-1300M	Metals	G	S	0-6"	25 feet west of the northwest corner of Building 2-50.
R02-1300E	Explosives	G	S	0-6"	25 feet west of the northwest corner of Building 2-50.
R02-SS-08-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the east wall of Building 2-50.
R02-1400M	Metals	G	S	0-6"	50 feet north of Building 2-50.
R02-1400E	Explosives	G	S	0-6"	50 feet north of Building 2-50.
R02-SS-09-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet south of the southwest corner of Building 2-06-2.
R02-1500M	Metals	G	S	0-6"	25 feet west of the northwest corner of Building 2-06-2.
R02-1500E	Explosives	G	S	0-6"	25 feet west of the northwest corner of Building 2-06-2.
R02-1600M	Metals	G	S	0-6"	10 feet north of the northeast corner of Building 2-06-2.
R02-1600E	Explosives	G	S	0-6"	10 feet north of the northeast corner of Building 2-06-2.
R02-1700M	Metals	G	S	0-6"	50 feet south of the south wall of Building 2-06-2.
R02-1700E	Explosives	G	S	0-6"	50 feet south of the south wall of Building 2-06-2.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-4 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R02-SS-10-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the northeast corner of the Loading Line Storage (2-01).
R02-1800M	Metals	G	S	0-6"	25 feet east of the center of the east wall of Building 2-01.
R02-1800E	Explosives	G	S	0-6"	25 feet east of the center of the east wall of Building 2-01.
R02-1900M	Metals	G	S	0-6"	25 feet west of the southwest corner of Building 2-01.
R02-1900E	Explosives	G	S	0-6"	25 feet west of the southwest corner of Building 2-01.
R02-SS-11-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the southeast corner of Building 2-01.
R02-2000M	Metals	G	S	0-6"	25 feet west of the Booster Service Magazine (2-16).
R02-2000E	Explosives	G	S	0-6"	25 feet west of the Booster Service Magazine (2-16).
R02-SS-12-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the Booster Service Magazine (2-16).
R02-SS-13-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet north of the High Explosive Preparation area (2-07-1).
R02-SS-14-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet southwest of Building 2-07-1.
R02-SS-15-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet south of the southeast corner of Building 2-01-1.

C = Composite   S = Screening Sample   G = Grab   A = Analytical Sample

Table 5-4 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R02-2100M	Metals	G	S	0-6"	25 feet east of the northeast corner of Melt Building 2-05-2.
R02-2100E	Explosives	G	S	0-6"	25 feet east of the northeast corner of Melt Building 2-05-2.
R02-SS-16-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the center of the east wall of Melt Building 2-05-2.
R02-2200M	Metals	G	S	0-6"	25 feet south of the southeast corner of Melt Building 2-05-2.
R02-2200E	Explosives	G	S	0-6"	25 feet south of the southeast corner of Melt Building 2-05-2.
R02-2300M	Metals	G	S	0-6"	25 feet south of the southwest corner of Melt Building 2-05-2.
R02-2300E	Explosives	G	S	0-6"	25 feet south of the southwest corner of Melt Building 2-05-2.
R02-2400M	Metals	G	S	0-6"	25 feet west of the northwest corner of Melt Building 2-05-1.
R02-2400E	Explosives	G	S	0-6"	25 feet west of the northwest corner of Melt Building 2-05-1.
R02-2500M	Metals	G	S	0-6"	25 feet east of the notheast corner of Melt Building 2-05-1.
R02-2500E	Explosives	G	S	0-6"	25 feet east of the notheast corner of Melt Building 2-05-1.
R02-SS-17-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet south of the southeast corner of Melt Building 2-05-1.
R02-2600M	Metals	G	S	0-6"	25 feet west of the southwest corner of Melt Building 2-05-1.
R02-2600E	Explosives	G	S	0-6"	25 feet west of the southwest corner of Melt Building 2-05-1.
R02-2700M	Metals	G	S	0-6"	25 feet west of the northwest corner of the Drilling and Boostering area (2-10).
R02-2700E	Explosives	G	S	0-6"	25 feet west of the northwest corner of the Drilling and Boostering area (2-10).

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-4 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R02-SS-18-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the northeast corner of Building 2-10.
R02-SS-19-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the center of the east side of Building 2-10.
R02-SS-20-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet south of the southeast corner of Building 2-10.
R02-2800M	Metals	G	S	0-6"	25 feet west of the southwest corner of Building 2-10.
R02-2800E	Explosives	G	S	0-6"	25 feet west of the southwest corner of Building 2-10.
R02-SS-21-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet northeast of the Filter Service Magazine (2-17).
R02-2900M	Metals	G	S	0-6"	25 feet northwest of the Filter Service Magazine (2-17).
R02-2900E	Explosives	G	S	0-6"	25 feet northwest of the Filter Service Magazine (2-17).
R02-3000M	Metals	G	S	0-6"	25 feet south of the Filter Service Magazine (2-17).
R02-3000E	Explosives	G	S	0-6"	25 feet south of the Filter Service Magazine (2-17).
R02-3100M	Metals	G	S	0-6"	25 feet west of the northwest corner of the Assembly and Shipping area (2-12).
R02-3100E	Explosives	G	S	0-6"	25 feet west of the northwest corner of the Assembly and Shipping area (2-12).
R02-SS-22-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the northeast corner of Building 2-12.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-4 (Continued)

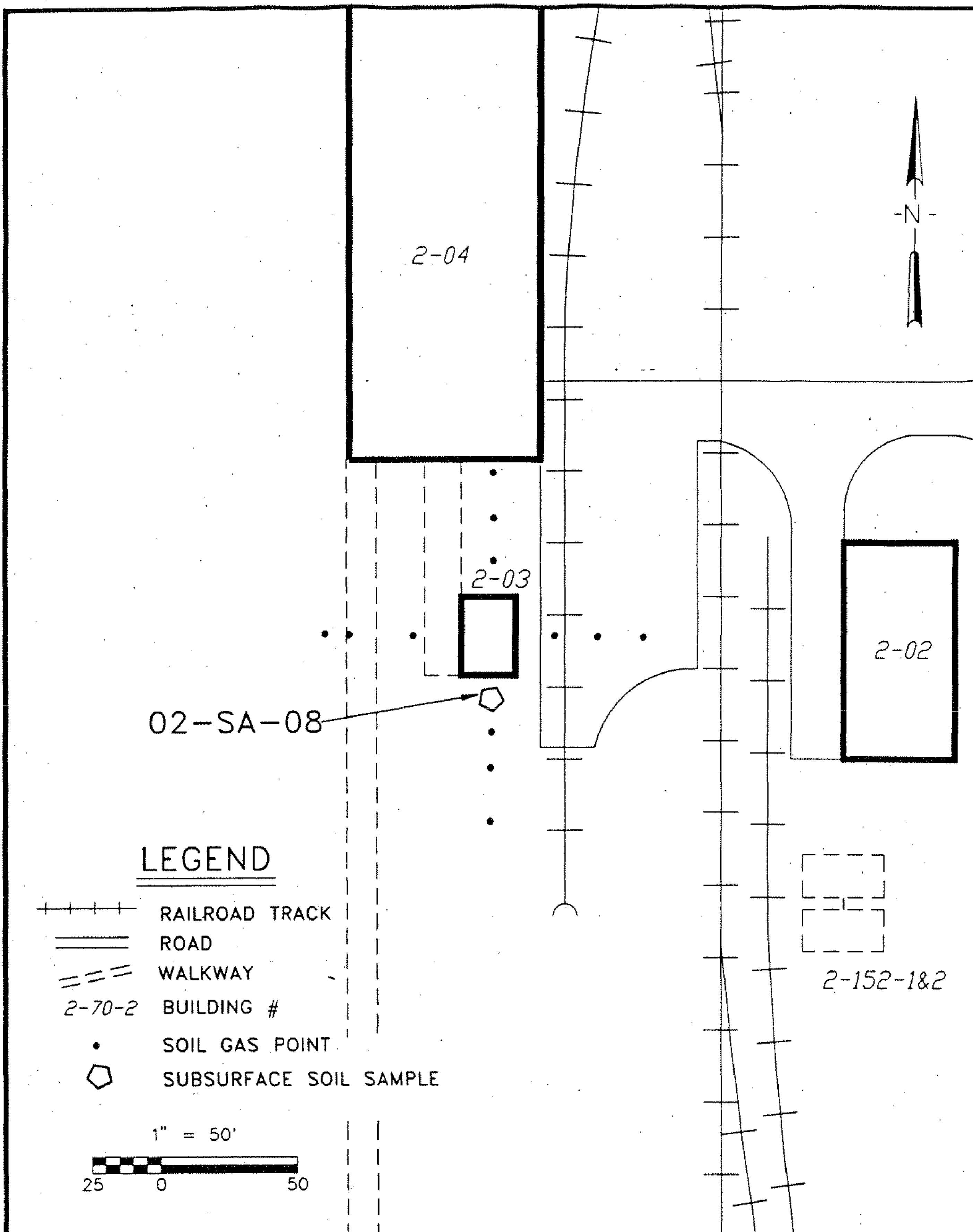
RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R02-SS-23-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the center of the east wall of Building 2-12.
R02-SS-24-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet south of the southeast corner of Building 2-12.
R02-SS-25-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the southwest corner of Building 2-12.
R02-SW-26-01	Metals Explosives SemiVOCs VOCs	G	A	-	North of SI sample 02-SD-02-01; adjacent to the north side of the road.
R02-SD-26-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	Corresponds to sample R02-SW-26-01.
R02-SW-27-01	Metals Explosives SemiVOCs VOCs	G	A	-	25 feet southwest of SI sample 02-SD-02-01.
R02-SD-27-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	Corresponds to sample R02-SW-27-01.
R02-SW-28-01	Metals Explosives SemiVOCs VOCs	G	A	-	25 feet south of SI sample 02-SD-02-01.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-4 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R02-SD-28-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	Corresponds to sample R02-SD-28-01.
R02-PZ-29-01	Explosives	G	S	-	100 feet west of SI sample 02-SS-05-01.
R02-PZ-30-01	Explosives	G	S	-	100 feet northeast of SI sample 02-SS-05-01.
R02-PZ-31-01	Explosives	G	S	-	100 feet south of SI sample 02-SS-05-01.

C = Composite S = Screening Sample G = Grab A = Analytical Sample



JAYCOR

Prepared by

CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.

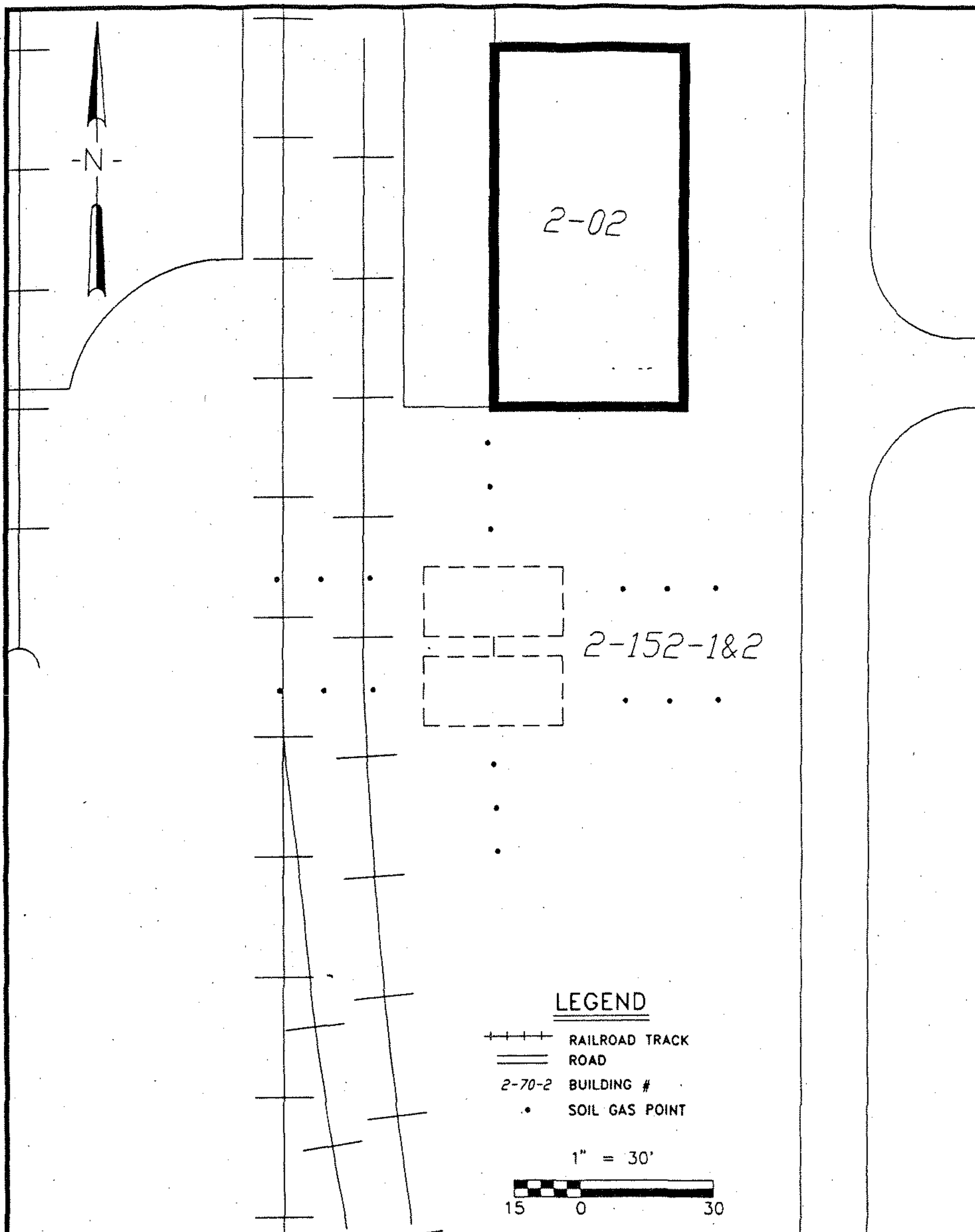
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA

SOIL GAS SURVEY
IAAP R2 BUILDING 2-03

Figure 5-2a

5/92

SGIAAP2A



JAYCOR Prepared by CDM FEDERAL PROGRAMS CORPORATION a subsidiary of Camp Dresser & McKee Inc.	IOWA ARMY AMMUNITION PLANT MIDDLETOWN, IOWA SOIL GAS SURVEY IAAP R2 BUILDING #2-152-1&2	Figure 5-2b 5/92 SGIAAP2B

5.5 IAAP-R3 (LINE 3)

IAAP-R3, designated as IAAP-3 during the SI (Section 3.5), consists of the Line 3 heavy artillery production line facility. IAAP-R3 is located in central IAAP, west of Brush Creek, southwest of Line 1 and north of the Pink Water Lagoon which is adjacent to Line 800 (Figure 5-3). The primary function of Line 3 is heavy artillery and projectile production from railcar-shipped explosives which are subsequently melted and packed into metal casings. Also, cleaning operations for ammunition casings were conducted using strong acid (sulfuric and chromic) bath tanks. Waste products associated with this line include explosives and metals from cleaning processes.

Soil, sediment, and surface water sampling completed during the 1991 SI evaluated buildings and areas where hazardous waste generation and potential site contamination were suspected. Soil samples collected in the northern section of the site detected high levels of metal contamination, probably resulting from metal cleaning operation spills and overflows. Elevated levels of explosives were recorded for a composite sample (03-SS-11-01) from the eastern rail line off-loading area near Buildings 3-06-2 (Ammonium Nitrate Service Magazine) and 3-08-2 (TNT Service Magazine). Explosives were also detected for SI sample 03-SA-09-01 from the wastewater sump near Melt Building 3-05-1. Pesticides and metals were reported in SI sample 03-SS-10-01 south of the X-Ray Bay. Also, surface water sampled from a stream which receives outfall effluent from Melt Building 3-70-2 contained metal and explosive contaminants (03-SW-07-01).

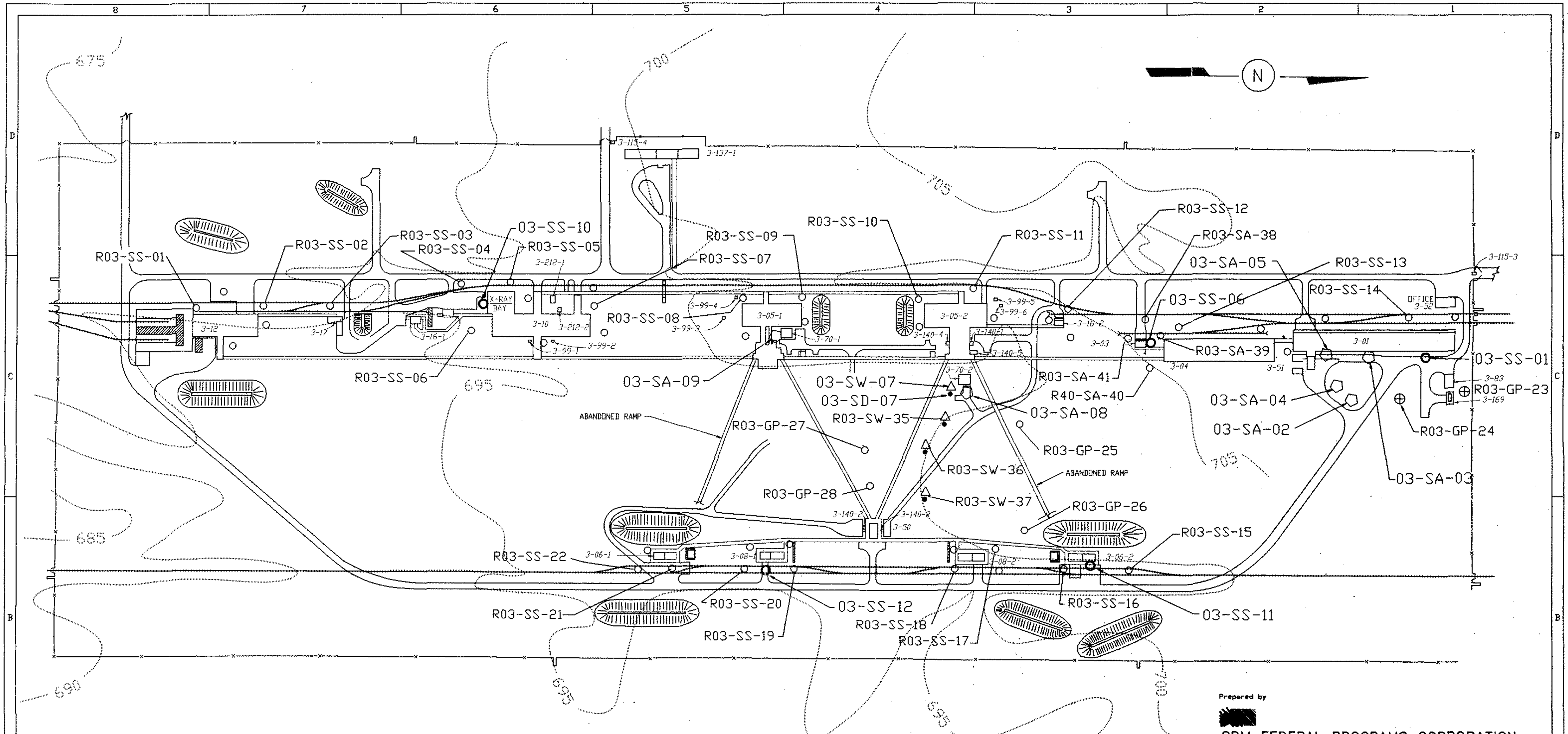
5.5.1 Data Requirements and Sampling Objectives

The emphasis of the Phase I RI sampling evaluation will assess the areal (horizontal) extent of metals and explosive contamination in soils and sediments within the SWMU. In conjunction with surface soil measurements, some aspects of the vertical extent of contamination will also be determined. During the Phase I RI, initial sampling of shallow groundwater (<5 ft) and associated soils will be completed using a Geoprobe and temporary piezometers.

The primary contaminants of concern at IAAP-R3 are metals (copper, zinc, mercury, and others) and explosives. Also, the presence of pesticides near the X-Ray Bay will require additional confirmatory sampling. Surface soil, sediment, and surface water samples will be collected to delineate both point and non-point sources of contamination.

5.5.2 Proposed Sampling Scheme

SI sampling of this site and the other production lines at IAAP identified several potential areas of contamination associated with production activities. Operations causing contamination at other production lines, which are also present within Line 3 include the following: the Assembly and Shipping facility (3-12); Fuse Service Magazines (3-17); Booster Service Magazines (3-16); Drilling and Boostering areas (3-10); Melt (3-05) and Filter (3-70) Buildings; and Loading Line Storage (3-01). Also, the Ammonium Nitrate Service Magazines (3-06); TNT Screening areas (3-50), and TNT Service Magazines (3-08) will be sampled for potential surface soil contamination. Surface soil samples will be located adjacent to the explosive production areas which parallel the railroad tracks. These samples are identified in Table 5-5.



NOTE: SURFACE SOIL SAMPLE (O) LOCATIONS WITHOUT SAMPLE NUMBER DESIGNATION WILL BE SCREENED FOR EXPLOSIVES AND METALS.

LEGEND

SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE

RAILROAD TRACK
ROAD
WALKWAY
FENCE
3-06-1 BUILDING #

BERM (EXPLOSION PROTECTION)
690 TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET

GRAPHIC SCALE

0 100 200 400 600 800 FEET

Prepared by

CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.

JAYCOR

IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

Site Map of IAAP R3
Line 3
(Formerly IAAP 3)

SOURCE: Mason & Hanger-Silas Mason Co., Inc.

FILE NO. IAAP3	DRWN BY: LR	PROJECT #: 7150-100	SHT. 1 OF 1
DATE 5/92			FIGURE: 5-3

For the north section of the site in the vicinity of Building 3-01 (Loading Line Storage), a grided sampling design with SI sample locations (03-SS-01; 03-SA-02; 03-SA-03; 03-SA-04) as central grid nodes will be used to ascertain the extent and degree of metals contamination. Subsurface soil sampling will be required because SI sampling identified high levels of metal contamination to depths of 4 feet. Also, two Geoprobe groundwater samples will be collected in this area. Four additional surface soil samples will be collected near Building 3-01 to confirm the SI results for explosives.

The central region of the site, near Buildings 3-70-1 and 3-70-2, will be grid sampled for metals and explosives. Sampling grid nodes will focus on SI samples 03-SD-07; 03-SA-08; and 03-SA-09. These samples contained compounds from releases probably as a result of spills and overflows in this area. Also, four surface water samples from below the outfall and downgradient will be collected. Four Geoprobe groundwater samples will be located parallel to the presumed direction of groundwater flow and downgradient from the SI sampling location 03-SA-08.

In the eastern section of the site, grided soil sampling for explosives and metals will center around SI sampling point 03-SS-11 between Buildings 3-06-2 and 3-08-2. Additional field screening and confirmatory soil sampling will be conducted in the area between Buildings 3-06-1 and 3-08-1 because of the similar operations in these two areas.

Confirmatory soil sampling will be completed in the area adjacent to the southern end of Building 3-10 (near the X-Ray Bay) to verify the magnitude and extent of pesticide and metals contamination. The SI sample 03-SS-10 contained metal and pesticide contaminants. Three confirmatory soil samples (0 to 6-inch depth) will be collected downgradient of the SI sample to verify the extent of pesticide and metals contamination.

A soil gas survey will be conducted surrounding Solvent Storage Building 3-03. Sampling locations are indicated in Figure 5-3A. Four confirmatory soil samples will be collected for volatile and semivolatile analysis in the survey area.

Table 5-5
Proposed Sample Summary
IAAP-R3 (LINE 3)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R03-SS-01-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the southwest corner of Building 3-12.
R03-500M	Metals	G	S	0-6"	50 feet west of the center of the west wall of Building 3-12.
R03-500E	Explosives	G	S	0-6"	50 feet west of the center of the west wall of Building 3-12.
R03-SS-02-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the northwest corner of Building 3-12.
R03-600M	Metals	G	S	0-6"	25 feet north of the center of the north wall of Building 3-12.
R03-600E	Explosives	G	S	0-6"	25 feet north of the center of the north wall of Building 3-12.
R03-700M	Metals	G	S	0-6"	25 feet east of the center of the east wall of Building 3-12.
R03-700E	Explosives	G	S	0-6"	25 feet east of the center of the east wall of Building 3-12.
R03-SS-03-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	10 feet west of the Fuse Service Magazine (Building 3-17).
R03-SS-04-01	Metals Explosives SemiVOCs VOCs Pest/PCBs	G	A	0-6"	50 feet southeast of the X-ray Bay on the south end of Building 3-10.
R03-SS-05-01	Metals Explosives SemiVOCs VOCs Pest/PCBs	G	A	0-6"	25 feet west of the X-Ray Bay.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-5 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R03-SS-06-01	Metals Explosives SemiVOCs VOCs Pest/PCBs	G	A	0-6"	25 feet east of the X-Ray Bay.
R03-800M	Metals	G	S	0-6"	25 feet north of the X-Ray Bay.
R03-800E	Explosives	G	S	0-6"	25 feet north of the X-Ray Bay.
R03-SS-07-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	50 feet northwest of the Drilling and Boostering facility (Building 3-10).
R03-900M	Metals	G	S	0-6"	25 feet north of the northwest corner of Building 3-10.
R03-900E	Explosives	G	S	0-6"	25 feet north of the northwest corner of Building 3-10.
R03-1000M	Metals	G	S	0-6"	25 feet north of the northeast corner of Building 3-10.
R03-1000E	Explosives	G	S	0-6"	25 feet north of the northeast corner of Building 3-10.
R03-1100M	Metals	G	S	0-6"	25 feet east of the center of the east wall of Building 3-10.
R03-1100E	Explosives	G	S	0-6"	25 feet east of the center of the east wall of Building 3-10.
R03-SS-08-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	10 feet west of the southwest corner of Melt Building 3-05-1.
R03-SS-09-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	10 feet west of the northwest corner of Melt Building 3-05-1.
R03-1200M	Metals	G	S	0-6"	10 feet east of the southeast corner of Melt Building 3-05-1.
R03-1200E	Explosives	G	S	0-6"	10 feet east of the southeast corner of Melt Building 3-05-1.
R03-1300M	Metals	G	S	0-6"	10 feet east of the northeast corner of Melt Building 3-05-1.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-5 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R03-1300E	Explosives	G	S	0-6"	10 feet east of the northeast corner of Melt Building 3-05-1.
R03-SS-10-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	10 feet west of the southwest corner of Melt Building 3-05-2.
R03-SS-11-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west and 10 feet south of the northwest corner of Melt Building 3-05-2.
R03-1400M	Metals	G	S	0-6"	10 feet north of the north wall of Melt Building 3-05-2.
R03-1400E	Explosives	G	S	0-6"	10 feet north of the north wall of Melt Building 3-05-2.
R03-1500M	Metals	G	S	0-6"	10 feet east of the southeast corner of Melt Building 3-05-2.
R03-1500E	Explosives	G	S	0-6"	10 feet east of the southeast corner of Melt Building 3-05-2.
R03-1600M	Metals	G	S	0-6"	25 feet south of the Booster Service Magazine (3-16-2).
R03-1600E	Explosives	G	S	0-6"	25 feet south of the Booster Service Magazine (3-16-2).
R03-SS-12-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet northwest of Building 3-16-2.
R03-1700M	Metals	G	S	0-6"	25 feet east of the northeast corner of Building 3-16-2.
R03-1700E	Explosives	G	S	0-6"	25 feet east of the northeast corner of Building 3-16-2.
R03-SS-13-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the southwest corner of the Receiving and Painting Building (3-04).
R03-1800M	Metals	G	S	0-6"	25 feet west of the northwest corner of Building 3-04.
R03-1800E	Explosives	G	S	0-6"	25 feet west of the northwest corner of Building 3-04.

C = Composite   S = Screening Sample   G = Grab   A = Analytical Sample

Table 5-5 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R03-SS-14-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet west of the southwest corner of the Loading Line Storage (3-01).
R03-1900M	Metals	G	S	0-6"	25 feet west of the center of the west wall of Building 3-01.
R03-1900E	Explosives	G	S	0-6"	25 feet west of the center of the west wall of Building 3-01.
R03-2000M	Metals	G	S	0-6"	25 feet west of the northwest corner of Building 3-01.
R03-2000E	Explosives	G	S	0-6"	25 feet west of the northwest corner of Building 3-01.
R03-2100M	Metals	G	S	0-6"	25 feet south of the southeast corner of Building 3-01.
R03-2100E	Explosives	G	S	0-6"	25 feet south of the southeast corner of Building 3-01.
R03-SS-15-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	100 feet north of Building 3-06-2.
R03-SS-16-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet south of the east corner of Building 3-06-2.
R03-2200M	Metals	G	S	0-6"	25 feet west of the northwest corner of the TNT Service Magazine (3-08-2).
R03-2200E	Explosives	G	S	0-6"	25 feet west of the northwest corner of the TNT Service Magazine (3-08-2).
R03-2300M	Metals	G	S	0-6"	25 feet west of the southeast corner of Building 3-08-2.
R03-2300E	Explosives	G	S	0-6"	25 feet west of the southeast corner of Building 3-08-2.
R03-SS-17-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the northeast corner of Building 3-08-2.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-5 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R03-SS-18-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the southeast corner of Building 3-08-2.
R03-2400M	Metals	G	S	0-6"	25 feet west of the northwest corner of the TNT Service Magazine (3-08-1).
R03-2400E	Explosives	G	S	0-6"	25 feet west of the northwest corner of the TNT Service Magazine (3-08-1).
R03-2500M	Metals	G	S	0-6"	25 feet west of the southeast corner of Building 3-08-1.
R03-2500E	Explosives	G	S	0-6"	25 feet west of the southeast corner of Building 3-08-1.
R03-SS-19-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the northeast corner of Building 3-08-1.
R03-SS-20-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the southeast corner of Building 3-08-1.
R03-SS-21-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the northeast corner of Building 3-06-1.
R03-2600M	Metals	G	S	0-6"	25 feet west of the southwest corner of Building 3-06-1.
R03-2600E	Explosives	G	S	0-6"	25 feet west of the southwest corner of Building 3-06-1.
R03-SS-22-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	50 feet east of the southeast corner of Building 3-06-1.
R03-001M	Metals	G	S	0-6"	SI location 03-SS-10-01 is the central node of the grid sampling.
R03-100M	Metals	G	S	0-6"	SI location 03-SA-09-01 is the central node of the grid sampling.
R03-100E	Explosives	G	S	0-6"	SI location 03-SA-09-01 is the central node of the grid sampling.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-5 (Continued)

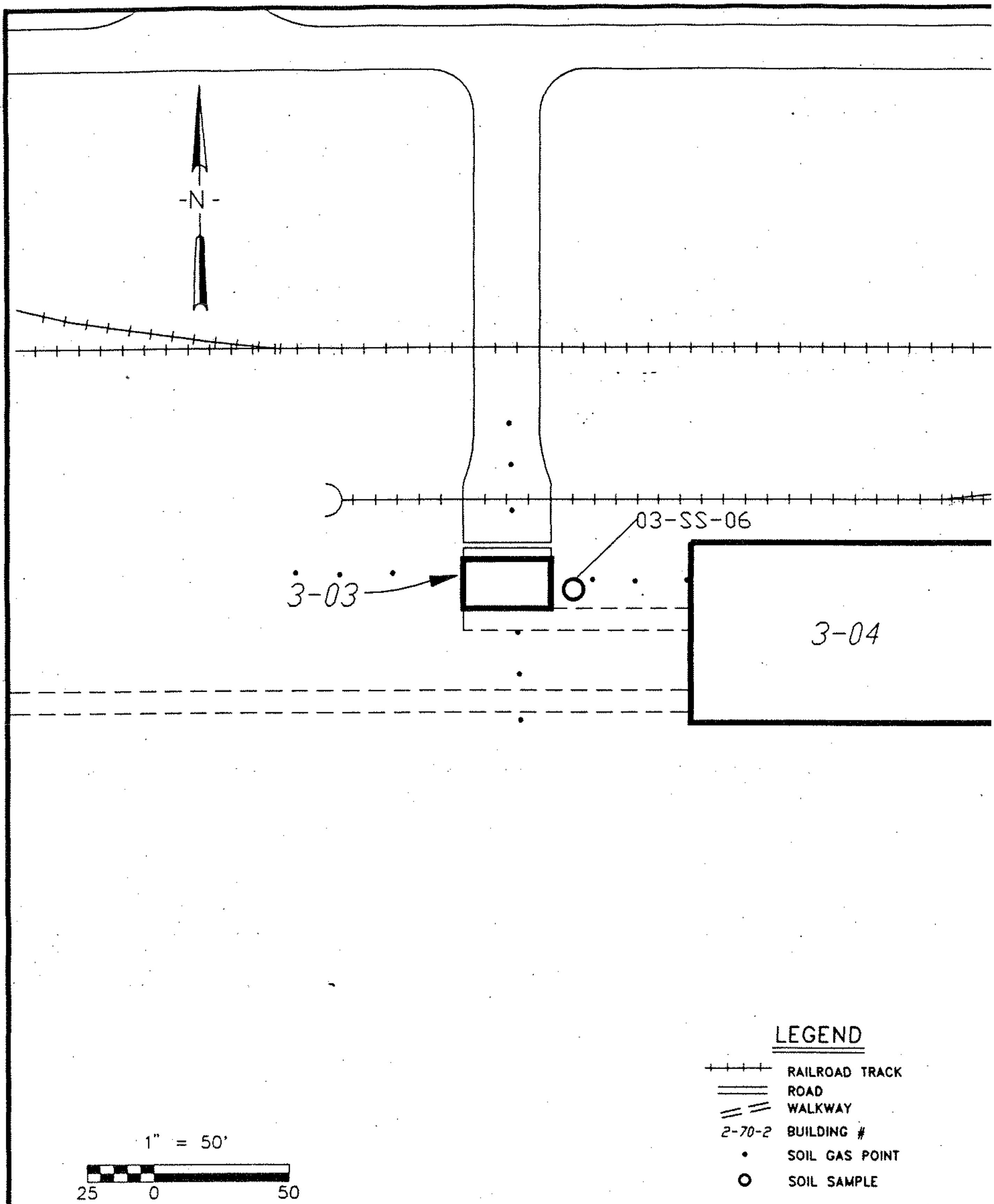
RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R03-200M	Metals	G	S	0-6"	SI location 03-SA-08-01 is the central node of the grid sampling.
R03-200E	Explosives	G	S	0-6"	SI location 03-SA-08-01 is the central node of the grid sampling.
R03-300M	Metals	G	S	0-6"	SI location 03-SA-03-01 is the central node of the grid sampling.
R03-400M	Metals	G	S	0-6"	SI location 03-SS-11-01 is the central node of the grid sampling.
R03-400E	Explosives	G	S	0-6"	SI location 03-SS-11-01 is the central node of the grid sampling.
R03-GP-23-01	Metals Explosives	G	S	36-42"	100 feet north of Building 3-169 near the fence.
R03-PZ-23-02	Explosives	G	S	-	Corresponds to R03-GP-23-01.
R03-GP-24-01	Metals Explosives	G	S	36-42"	150 feet south of Building 3-169.
R03-PZ-24-02	Explosives	G	S	-	Corresponds to R03-GP-24-01.
R03-GP-25-01	Metals Explosives	G	S	36-42"	150 feet northeast of Building 3-70-2.
R03-PZ-25-02	Explosives	G	S	-	Corresponds to R03-GP-25-01.
R03-GP-26-01	Metals Explosives	G	S	36-42"	300 feet northeast of Building 3-70-2.
R03-PZ-26-02	Explosives	G	S	-	Corresponds to R03-GP-26-01.
R03-GP-27-01	Metals Explosives	G	S	36-42"	200 feet east of Building 3-50.
R03-PZ-27-02	Explosives	G	S	-	Corresponds to R03-GP-27-01.
R03-GP-28-01	Metals Explosives	G	S	36-42"	100 feet east of Building 3-50.
R03-PZ-28-02	Explosives	G	S	-	Corresponds to R03-GP-28-01.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-5 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R03-SW-35-01	Metals Explosives SemiVOCs VOCs	G	A	-	100 feet downgradient of the outfall near 3-70-2.
R03-SD-35-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	Corresponds to sample R03-SW-35-01.
R03-SW-36-01	Metals Explosives SemiVOCs VOCs	G	A	-	200 feet downgradient of the outfall near 3-70-2.
R03-SD-36-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	Corresponds to sample R03-SW-36-01.
R03-SW-37-01	Metals Explosives SemiVOCs VOCs	G	A	-	300 feet downgradient of the outfall near 3-70-2.
R03-SD-37-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	Corresponds to sample R03-SW-37-01.
R03-SA-38-01	SemiVOCs VOCs	G	A	42-48"	Confirmatory sample for soil gas survey; 25 feet west of Building 3-03.
R03-SA-39-01	SemiVOCs VOCs	G	A	42-48"	Confirmatory sample for soil gas survey; 25 feet north of Building 3-03.
R03-SA-40-01	SemiVOCs VOCs	G	A	42-48"	Confirmatory sample for soil gas survey; 25 feet east of Building 3-03.
R03-SA-41-01	SemiVOCs VOCs	G	A	42-48"	Confirmatory sample for soil gas survey; 25 feet south of Building 3-03.

C = Composite S = Screening Sample G = Grab A = Analytical Sample



SGIAAP3.DWG

JAYCOR Prepared by CDM FEDERAL PROGRAMS CORPORATION a subsidiary of Camp Dresser & McKee Inc.	IOWA ARMY AMMUNITION PLANT MIDDLETOWN, IOWA SOIL GAS SURVEY IAAP R3 BLDG. 3-03	Figure 5-3a 5/92 SGIAAP3

5.6 IAAP-R4 (LINE 3A)

Phase I RI site R4 was IAAP-4 during the SI (Figure 5-4). During the SI, 11 surface samples, 2 sediment samples, and 1 surface water sample were collected for analysis of explosives, metals, pesticides/PCBs, volatiles, and semivolatiles. Of the 14 samples collected, 10 were found to have explosives and/or metals above the criteria. Eight SI samples contained explosives above CRL:

04-SD-01-01	04-SS-09-01
04-SS-04-01	04-SS-10-01
04-SS-07-01	04-SS-11-01
04-SS-08-01	04-SW-14-01

Seven SI samples (five of which also contained explosives) were found to have metals above the evaluation criteria, primarily lead, copper, and zinc. Samples exhibiting metals contamination were:

04-SD-01-01	04-SD-13-01
04-SS-03-01	04-SS-08-01
04-SS-04-01	04-SS-11-01
04-SS-07-01	

5.6.1 Data Requirements and Sampling Objectives

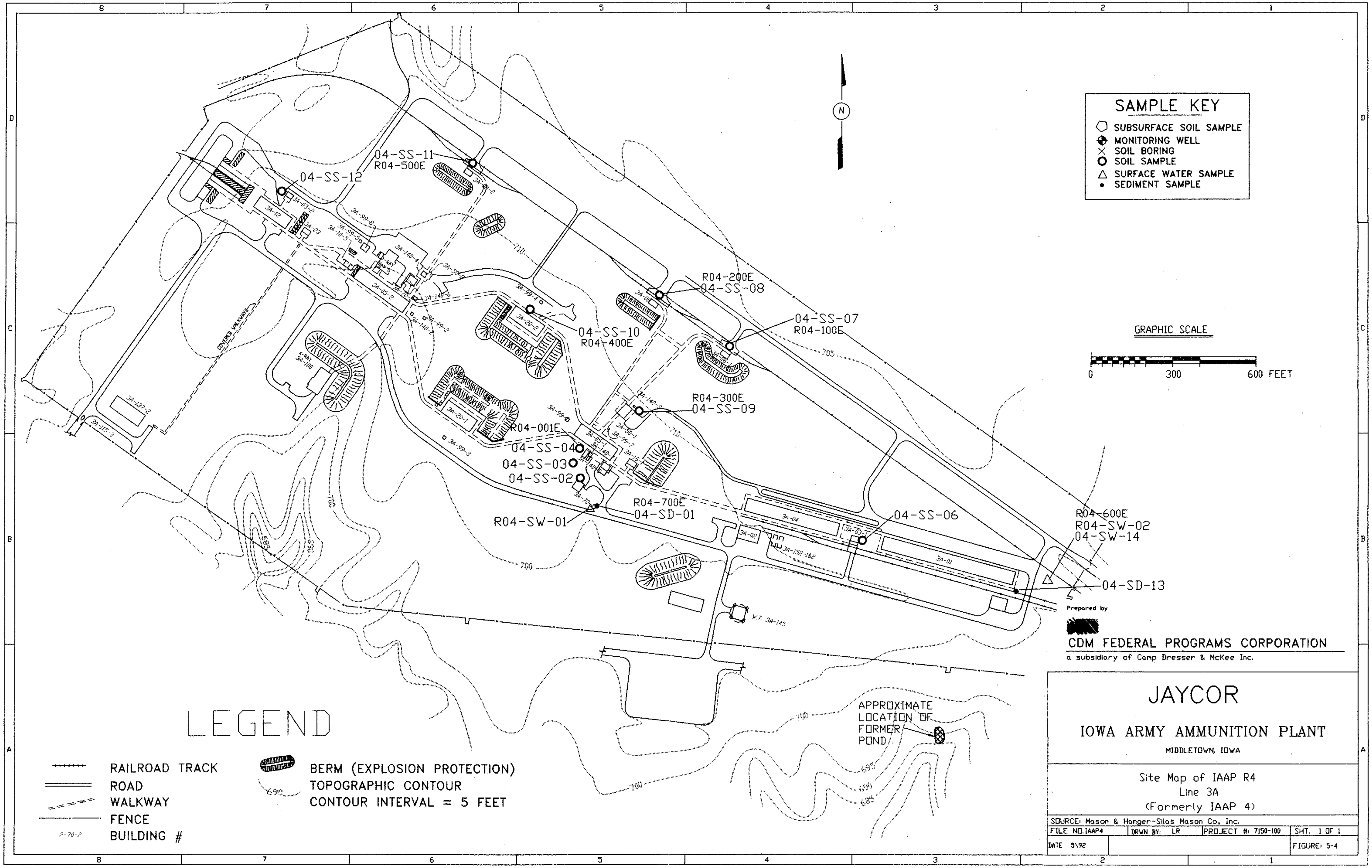
Phase I sampling will focus on assessing the extent of explosives and metals contamination by using field screening methodology and confirmation sampling. Additionally, surface water samples will be collected to confirm the presence of explosives and metals in the site area.

5.6.2 Proposed Sampling Scheme

Proposed Phase I RI samples are summarized in Table 5-6. Sample locations are illustrated on Figure 5-4. Explosive screening in soil will be conducted over eight areas of IAAP-R4; seven standard grid configurations and one biased screening approach will be utilized. The protocol for selecting explosive screening for sample locations is detailed in Section 4.2.3.1.1. The initial explosive screening samples to be collected are summarized in Table 5-6, which references the SI sample location that serves as the central node for grid sampling, or the point of origin of biased sampling.

Screening for metals in soil using X-ray fluorescence technology will be conducted over seven areas; five grid screening configurations, and two biased screening approaches. The protocol for selecting soil metals screening sample locations is detailed in Section 4.2.3.1.2.

Lead and zinc will be the target metals for screening. The initial metals screening samples to be collected are summarized in Table 5-6 which references the SI sample location that serves as the central node for grid sampling, or the point of origin of biased sampling.


SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0
300
600 FEET
04-SS-11
R04-500E
04-SS-12
R04-200E
04-SS-08
04-SS-07
R04-100E
04-SS-10
R04-400E
R04-300E
04-SS-09
R04-001E
04-SS-04
04-SS-03
04-SS-02
R04-700E
04-SD-01
R04-SW-01
04-SS-06
R04-600E
R04-SW-02
04-SW-14
04-SD-13
APPROXIMATE LOCATION OF FORMER POND
COVERED WALKWAYS
LEGEND
RAILROAD TRACK
ROAD
WALKWAY
FENCE
2-70-2
BUILDING #
BERM (EXPLOSION PROTECTION)
650
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R4
Line 3A
(Formerly IAAP 4)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP4
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5\92
FIGURE: 5-4

Screening samples R04-001E, R04-700E, R04-001M, R04-100M, and R04-500M are located adjacent to a melt building and a carbon-filter wastewater building. All grid screening will be done in 10-foot lateral increments over these areas and at 1-foot depth intervals in order to define the source and extent of contamination around these buildings. Samples R04-700E and R04-500M will use biased screening in a drainage ditch in order to determine the extent of contamination from past runoff that originates from the areas surrounding these buildings. R04-SW-01-01 will sample surface water in this ditch in order to determine whether contamination is migrating via runoff.

Samples R04-100E, R04-200E, R04-200M, R04-300M, R04-400M, and R04-500E are located at each of the onloading docks where ammunition was transferred to rail cars. Each of these areas will have a standard grid of 5-foot intervals done for both metals and explosives in order to better delineate the extent of contamination due to spillage, accidents, and etc. when ammunition was loaded onto rail cars for shipment or storage.

Samples R04-300E and R04-700E are sump areas where possible overflow occurred due to infiltration or runoff. Both of these areas will be screened for explosives using a standard grid of 5-foot intervals with particular attention to drainage pathways. This screening will help to better delineate the extent of contamination. In addition, a surface water sample (R04-SW-02-01) will be taken at R04-700E in order to confirm elevated levels of explosives in the water which is in the sump.

Sample R04-400E is outside the doors to an ammunition assembly building. A standard grid system screening for explosives will be used here in order to delineate the extent of explosive contamination adjacent to this assembly building. A 10-foot lateral by 1-foot depth will be used for surface and subsurface screening at this area.

Sample R04-600M is located at the mouth of a drain to the stormwater sewer system within this line. A biased screening method for metals will be employed at this location in order to delineate the extent of contamination along surface drainage pathways.

Soil gas surveys will be conducted at solvent storage buildings 3A-03-01 and 3A-03-02. Grid sampling will be conducted, with an initial grid interval of 5 from the building foundations, and then at 10-foot intervals. Figure 5-4a depicts the initial grid sample locations for the soil gas survey of Building 3A-03-01. Figure 5-4b depicts the initial grid sample locations for the soil gas survey of Building 3-A-03-02.

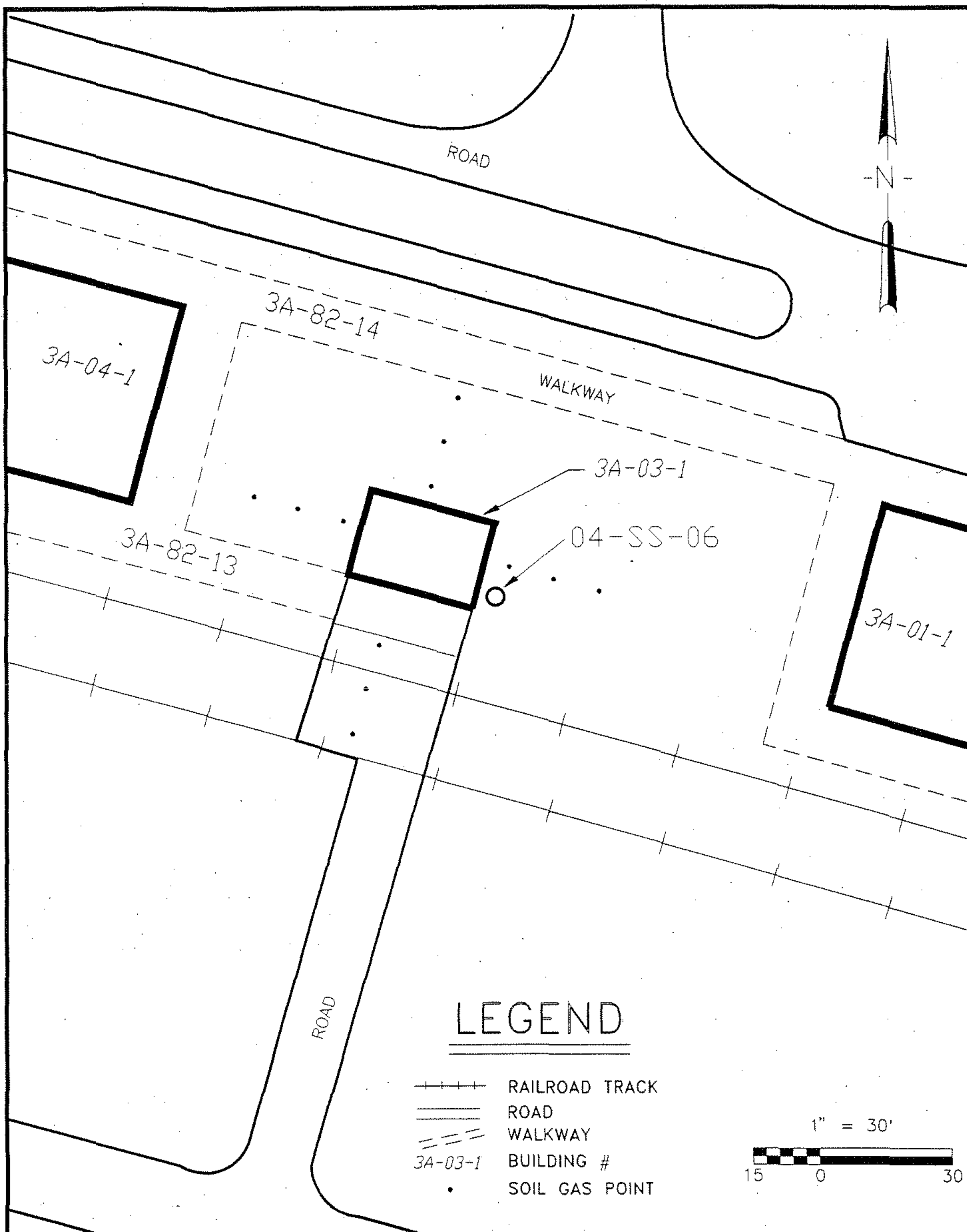
The grid will be expanded until 3 consecutive nondetects for VOCs are encountered in each direction the grid is advanced. Additional sampling, expanding or tightening the grids, will be done based on site conditions and the extent of contamination found in the initial soil gas samples.

Soil samples representing 5% of the total soil gas survey samples will be sent to the laboratory for confirmation analyses. Three at-depth soil samples for the Building 3A-03-01 area and two samples for the Building 3A-03-02 area have been included to characterize VOCs in soil. Additional confirmation samples will be added if the initial scope soil gas survey is expanded.

Table 5-6
Proposed Sample Summary
IAAP-R4 (LINE 3A)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R04-SW-01-01	Metals Explosives	G	A	-	Located approximately 50 feet south of the southern corner of Building 3A-70-1, near SI location 04-SD-01-01.
R04-SW-02-01	Metals Explosives	G	A	-	Confirmation sample of SI sample 04-SW-14-01 located within a sump.
R04-GP-03-01	VOCs	G	A	-	Confirmation sample at depth of soil gas sample R04-002.
R04-GP-04-01	VOCs	G	A	-	Confirmation sample at depth of soil gas sample R04-104.
R04-001E	Explosives	G	S	0-6"	Central node of grid sampling at SI location 04-SS-04-01.
R04-100E	Explosives	G	S	0-6"	Central node of grid sampling at SI location 04-SS-07-01.
R04-200E	Explosives	G	S	0-6"	Central node of grid sampling at SI location 04-SS-08-01.
R04-300E	Explosives	G	S	0-6"	Central node of grid sampling at SI location 04-SS-09-01.
R04-400E	Explosives	G	S	0-6"	Central node of grid sampling at SI location 04-SS-10-01.
R04-500E	Explosives	G	S	0-6"	Central node of grid sampling at SI location 04-SS-11-01.
R04-600E	Explosives	G	S	0-6"	Central node of grid sampling at SI location 04-SW-14-01.
R04-700E	Explosives	G	S	0-6"	Point of origin of biased sampling at SI location 04-SD-01-01.
R04-001M	Metals	G	S	0-6"	Central node of grid sampling at SI location 04-SS-03-01.
R04-100M	Metals	G	S	0-6"	Central node of grid sampling at SI location 04-SS-04-01.
R04-200M	Metals	G	S	0-6"	Central node of grid sampling at SI location 04-SS-07-01.
R04-300M	Metals	G	S	0-6"	Central node of grid sampling at SI location 04-SS-08-01.
R04-400M	Metals	G	S	0-6"	Central node of grid sampling at SI location 04-SS-11-01.
R04-500M	Metals	G	S	0-6"	Point of origin of biased sampling at SI location 04-SD-01-01.
R04-600M	Metals	G	S	0-6"	Point of origin of biased sampling at SI location 04-SD-13-01.

C = Composite S = Screening Sample G = Grab A = Analytical Sample M = Metals Screening E = Explosive Screening



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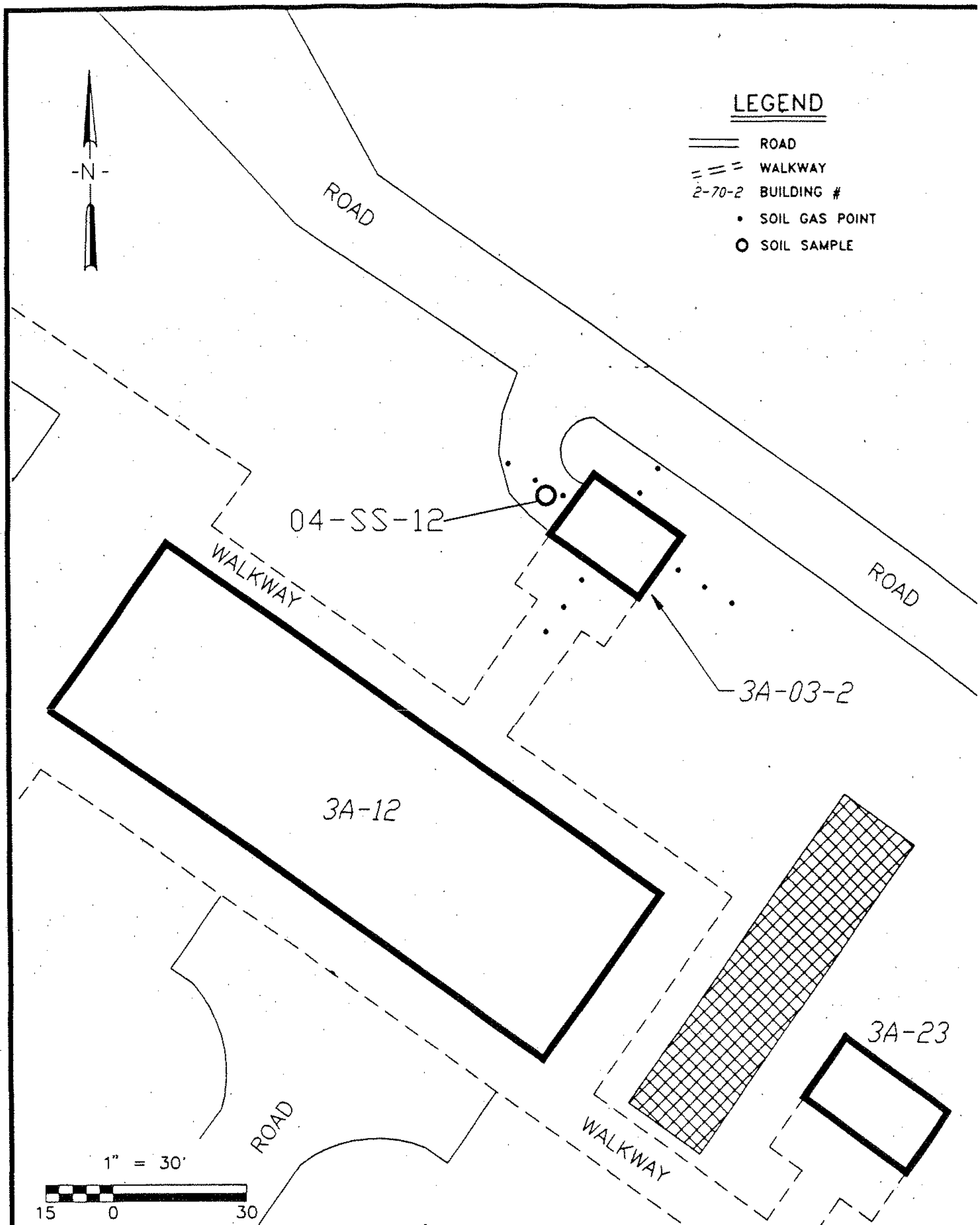
MIDDLETOWN, IOWA

SOIL GAS SURVEY
IAAP R4 BUILDING #3A-03-1

Figure 5-4a

5/92

SGIAAP4A



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SOIL GAS SURVEY
IAAP R4 BUILDING 3A-03-02

Figure 5-4b

5/92

SGIAAP4B

5.7 IAAP-R5 (LINES 4A & 4B)

RI site IAAP-R5 (formally designated in the SI as IAAP-5) consists of two fuse and detonator assembly lines. The SI investigation focused on soil contamination around the treatment sumps and other likely sources, as well as, sediment transport of contaminants via drainage ditches. Contamination, as assessed in the SI, consisted of metals, and in one sediment sample, explosives.

5.7.1 Data Requirements and Sampling Objectives

Data requirements will be met by Phase I RI activities which are designed to confirm and delineate the extent of metals and explosives through screening techniques and confirmation by chemical analysis. Screening locations will consist of those areas where contamination was detected, as well as, confirmatory screening where no contamination was found. Soil gas sampling will be used to establish the existence of any volatile compound contamination near the two solvent storage buildings.

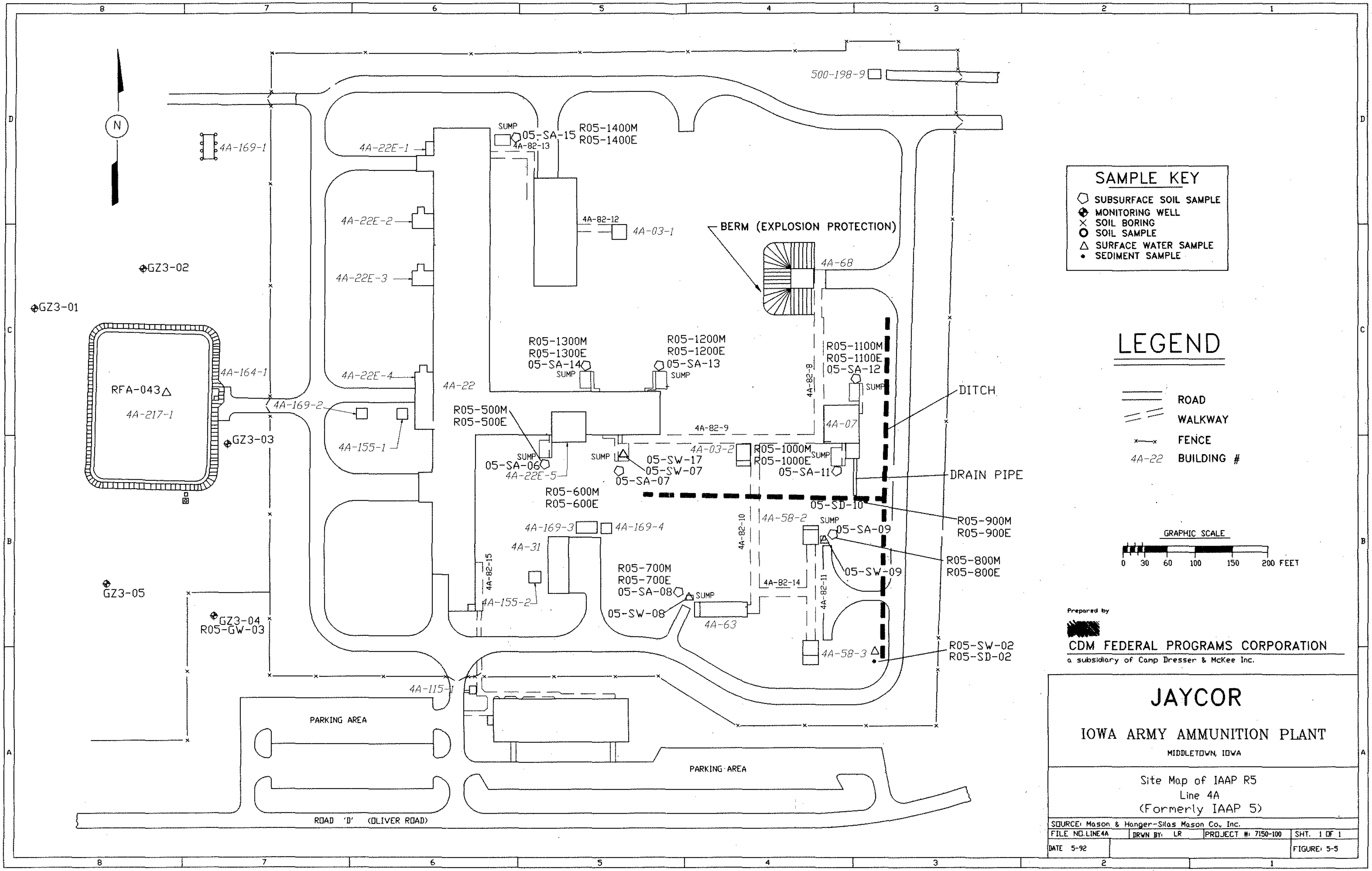
The sampling objectives at IAAP-R5 are to characterize the surface extent of metals and explosives contamination, and subsequently to characterize the vertical distribution of contaminants, utilizing the methods available in the Phase I RI. When the Phase I is unable to fully characterize the vertical extent of contamination, an initial task of the Phase II RI will be to complete vertical characterization using drill rigs to install wells and borings. Metals contamination will be investigated at all of the sampling locations collected in the SI. Explosives contamination was detected only at 05-SD-10-01, however, confirmatory screening will be performed.

Volatile contamination will be investigated with the use of soil gas sampling and analyses. A grid pattern as shown on Figure 5-5b and 5-5c, will be used to collect the active soil gas samples. Chemical confirmation sampling of the soil will be performed to verify the soil gas analytical results. If warranted, sampling of groundwater in order to delineate any contaminant plume will also be performed. Phase II activities, if required, will consist of the installation of monitoring wells for further characterization of any volatile contamination.

5.7.2 Proposed Sampling Scheme

Screening samples will be collected on a grid pattern as outlined in section 4.2.3.1. This standard grid pattern will be utilized around all of the sumps. When topographic or structural features are encountered (i.e. drainage ditches, buildings, surface grading which is not represented on maps), biased sampling will be introduced. The initial grid interval will be 10 feet, however, it will be adjusted (larger or smaller) as results dictate, as per the S.O.P. (Section 4.2.3.1). In addition, mandatory subsurface screening samples will be collected on all open sides of each sump at a depth of 5 feet, or just below the bottom of the sump. A minimum of three samples will be collected. Three non-detects (below criteria) will constitute verification of no subsurface leakage from the sump.

All SI locations at IAAP-R5 will be screened for metals. Explosives were detected at only one location, thus only confirmatory screening will be performed at each of the SI locations to verify the absence of explosives contamination. Three initial screening points will be placed around each SI location: Three results with no explosives detection will warrant elimination of the sub-site. Discovery of contamination will initiate an expansion of the screening to all SI locations.


N
4A-169-1
4A-22E-1
4A-22E-2
4A-22E-3
4A-22E-4
4A-22E-5
4A-22
SUMP
05-SA-15
4A-82-13
R05-1400M
R05-1400E
4A-82-12
4A-03-1
500-198-9
BERM (EXPLOSION PROTECTION)
4A-68
GZ3-02
GZ3-01
GZ3-03
GZ3-04
R05-GW-03
GZ3-05
RFA-043
4A-217-1
4A-164-1
4A-169-2
4A-155-1
R05-1300M
R05-1300E
05-SA-14
R05-1200M
R05-1200E
05-SA-13
R05-1100M
R05-1100E
05-SA-12
4A-82-8
4A-07
DITCH
R05-500M
R05-500E
05-SA-06
4A-82-9
4A-03-2
R05-1000M
R05-1000E
05-SA-11
05-SW-17
05-SW-07
05-SA-07
DRAIN PIPE
R05-600M
R05-600E
05-SD-10
R05-900M
R05-900E
4A-58-2
4A-82-10
05-SA-09
05-SW-09
R05-800M
R05-800E
4A-169-3
4A-169-4
4A-31
4A-82-15
4A-155-2
R05-700M
R05-700E
05-SA-08
05-SW-08
4A-82-14
4A-82-11
4A-63
4A-58-3
R05-SW-02
R05-SD-02
4A-115-1
PARKING AREA
PARKING AREA
ROAD 'D' (OLIVER ROAD)
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
LEGEND
ROAD
WALKWAY
FENCE
4A-22 BUILDING #
GRAPHIC SCALE
0 30 60 100 150 200 FEET
Prepared by
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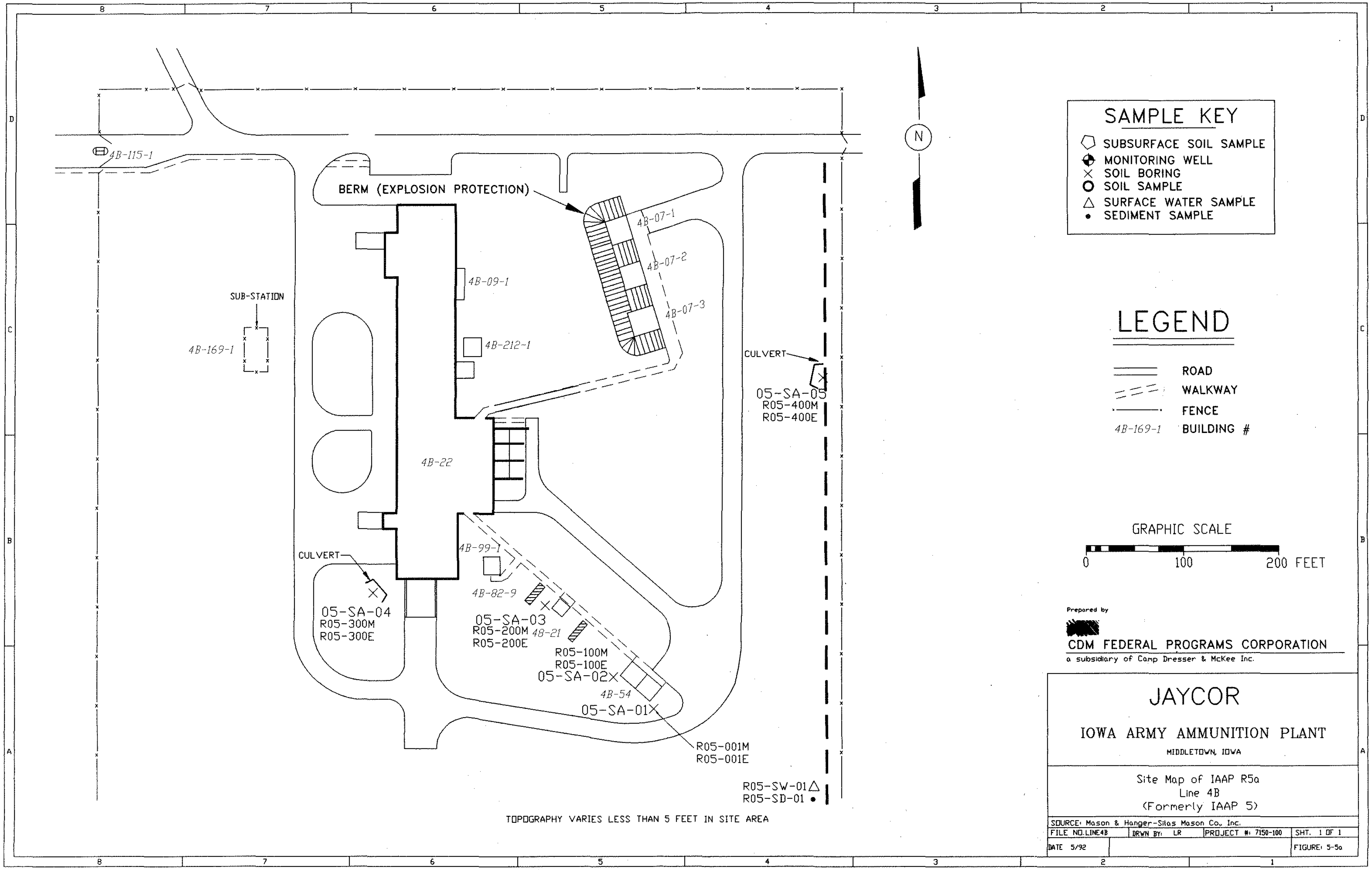
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R5
Line 4A
(Formerly IAAP 5)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO.LINE4A
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5-92
FIGURE: 5-5



SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
LEGEND
ROAD
WALKWAY
FENCE
4B-169-1 BUILDING #
GRAPHIC SCALE
0
100
200 FEET
N
BERM (EXPLOSION PROTECTION)
SUB-STATION
4B-115-1
4B-169-1
4B-09-1
4B-212-1
4B-07-1
4B-07-2
4B-07-3
4B-22
4B-99-1
4B-82-9
48-21
4B-54
CULVERT
CULVERT
05-SA-05
R05-400M
R05-400E
05-SA-04
R05-300M
R05-300E
05-SA-03
R05-200M
R05-200E
R05-100M
R05-100E
05-SA-02
05-SA-01
R05-001M
R05-001E
R05-SW-01
R05-SD-01
TOPOGRAPHY VARIES LESS THAN 5 FEET IN SITE AREA
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R5a
Line 4B
(Formerly IAAP 5)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. LINE4B
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-5a

Screening for metals and explosives within drainage ditches will be of a biased nature. Screening samples will be collected along the drainage ditch at 10 foot intervals (Figures 5-5 and 5-5a). After sampling along the length of the ditch, the screening will be expanded onto the banks of the ditch five feet to either side. Or if contamination is prevailant the interval will be expanded, as appropriate. Then, the subsurface material will be screened until complete surficial and vertical extent of metals and explosives contamination is determined.

Surface water/sediment samples are proposed at two intermitant drainage locations. These samples must be collected during or immediately following a rain event. The two samples are designed to characterize any water or suspended sediment contamination leaving Lines 4A or 4B. They will be analyzed for total metals, as well as, explosives.

The only wells in the immediate vicinity are the five GZ3 series wells installed around the Spray Evaporation Pond (which was never operated). It was stated in the RFA report that the five wells have shown no contamination, however, there were high levels of pH and very high levels of lead and manganese, especially in well GZ3-4 (RFA, 1987). The groundwater direction in the vicinity of the wells is to the southeast. During the Phase I RI, GZ3-04 will be resampled for metals and explosives. Well GZ3-04 is 28 feet deep, and is screened in the Loess/Till aquifer from 18-28 feet.

There are two solvent storage buildings at Line 4A: Buildings 4A-03-01 and 4A-03-02. Soil gas investigations will be conducted at both locations. The minimum sample points to be collected for each of these areas are depicted in Figures 5-5b (Building 4A-03-01) and 5-5c (Building 4A-03-02). Confirmatory soil samples will be collected for chemical analysis for volatiles and semivolatiles.

Table 5-7
Proposed Sample Summary
IAAP-R5 (Lines 4A & 4B)

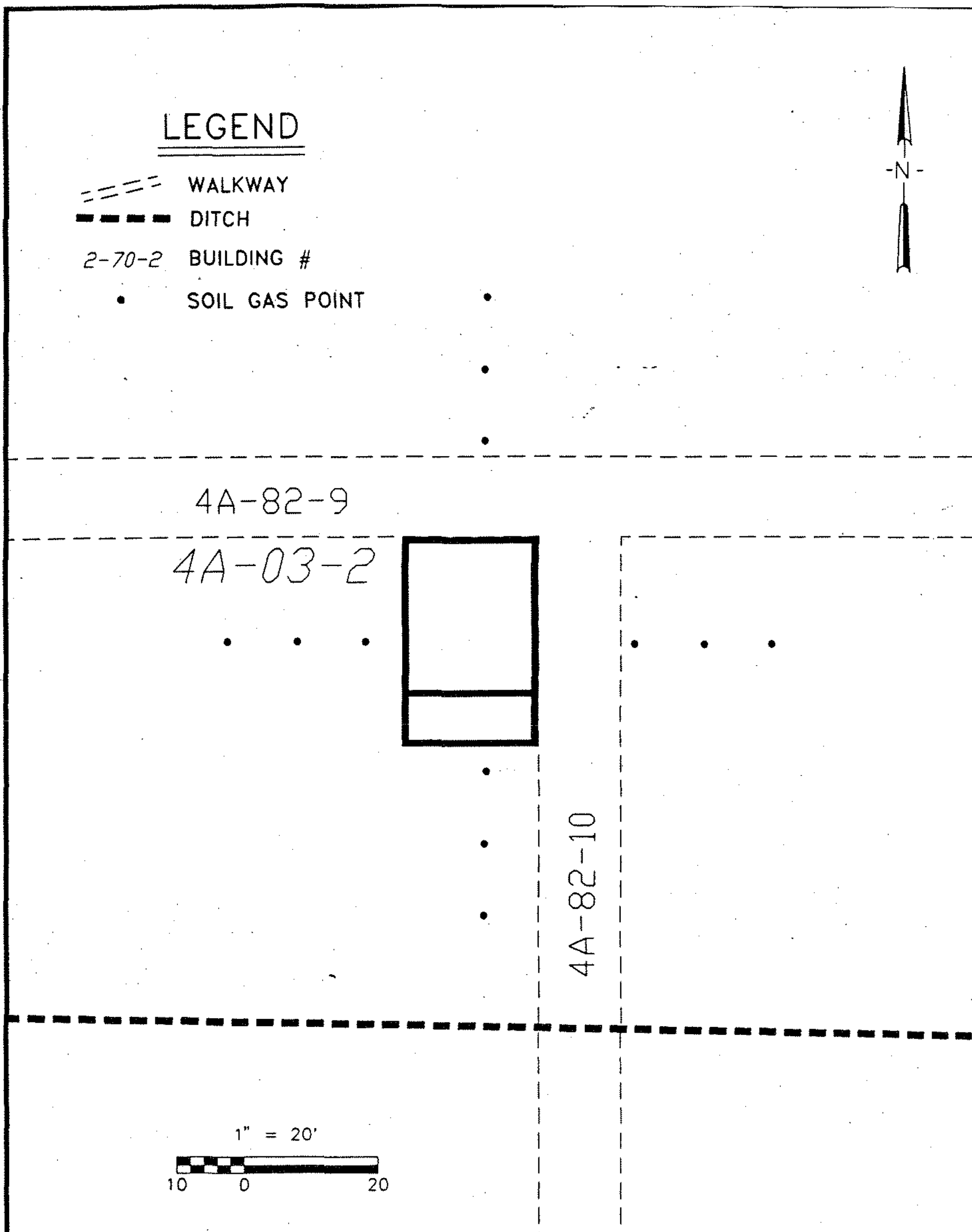
RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R05-SD-01-01	Explosives Metals	G	A	0-6"	In drainage ditch; 400 feet south of 05-SA-05
R05-SW-01-01	Explosives Metals	G	A	-	Corresponds to R05-SD-01-01
R05-SD-02-01	Explosives Metals	G	A	0-6"	In drainage ditch; 250 feet down gradient of 05-SD-10
R05-SW-02-01	Explosives Metals	G	A	-	Correponds to R05-SD-02-01
R05-GW-03-01	Explosives Metals	G	A	-	Well GZ3-04.
R05-SA-04-01	VOCs SemiVOCs	G	A	TBD	Confirmatory sample to be collected at a select soil gas point
R05-SA-05-01	VOCs SemiVOCs	G	A	TBD	Confirmatory sample to be collected at a select soil gas point
R05-001M	Metals	G	S	0-6"	SI location 05-SA-01 is the central node of the grid sampling
R05-001E	Explosives	G	S	0-6"	Corresponds to R05-001M
R05-100M	Metals	G	S	0-6"	SI location 05-SA-02 is the central node of the grid sampling
R05-100E	Explosives	G	S	0-6"	Corresponds to R05-100M
R05-200M	Metals	G	S	0-6"	SI location 05-SA-03 is the central node of the grid sampling
R05-200E	Explosives	G	S	0-6"	Corresponds to R05-200M
R05-300M	Metals	G	S	0-6"	SI location 05-SA-04 is the central node of the grid sampling
R05-300E	Explosives	G	S	0-6"	Corresponds to R05-300M

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-7 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R05-400M	Metals	G	S	0-6"	SI location 05-SA-05 is the central node of the grid sampling
R05-400E	Explosives	G	S	0-6"	Corresponds to R05-400M
R05-500M	Metals	G	S	0-6"	SI location 05-SA-06 is the central node of the grid sampling
R05-500E	Explosives	G	S	0-6"	Corresponds to R05-500M
R05-600M	Metals	G	S	0-6"	SI location 05-SA-07 is the central node of the grid sampling
R05-600E	Explosives	G	S	0-6"	Corresponds to R05-600M
R05-700M	Metals	G	S	0-6"	SI location 05-SA-08 is the central node of the grid sampling
R05-700E	Explosives	G	S	0-6"	Corresponds to R05-700M
R05-800M	Metals	G	S	0-6"	SI location 05-SA-09 is the central node of the grid sampling
R05-800E	Explosives	G	S	0-6"	Corresponds to R05-800M
R05-900M	Metals	G	S	0-6"	SI location 05-SA-10 is the central node of the grid sampling
R05-900E	Explosives	G	S	0-6"	Corresponds to R05-900M
R05-1000M	Metals	G	S	0-6"	SI location 05-SA-11 is the central node of the grid sampling
R05-1000E	Explosives	G	S	0-6"	Corresponds to R05-1000M
R05-1100M	Metals	G	S	0-6"	SI location 05-SA-12 is the central node of the grid sampling
R05-1100E	Explosives	G	S	0-6"	Corresponds to R05-1100M
R05-1200M	Metals	G	S	0-6"	SI location 05-SA-13 is the central node of the grid sampling
R05-1200E	Explosives	G	S	0-6"	Corresponds to R05-1200M
R05-1300M	Metals	G	S	0-6"	SI location 05-SA-14 is the central node of the grid sampling
R05-1300E	Explosives	G	S	0-6"	Corresponds to R05-1300M
R05-1400M	Metals	G	S	0-6"	SI location 05-SA-15 is the central node of the grid sampling
R05-1400E	Explosives	G	S	0-6"	Corresponds to R05-1400M

C = Composite S = Screening Sample G = Grab A = Analytical Sample



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IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA

SOIL GAS SURVEY
IAAP R5 BUILDING #4A-03-2

Figure 5-5c

5/92

SGIAAP5C

5.8 IAAP-R6 (LINES 5A AND 5B)

During the SI sampling effort for IAAP-R6, formerly SWMU IAAP-6, metals and explosives contamination of soil was identified. Phase I RI sampling will include soil screening to assess the areal and vertical extent of both metals and explosive contamination. This SI was focused on surface and subsurface soils near the buildings and treatment sumps. Concentrations of metals and explosives were highest in the samples obtained at the sump locations. Explosive concentrations were highest on the "A" side of this line and particularly high near Building 5A-140-2.

5.8.1 Data Requirements and Sampling Objectives

The primary objective is the characterization of contaminant source areas, these areas are production waste water sumps, and contaminant migration pathways, which are drainage ditches and natural surface water drainageways at the site. The Phase I RI is designed to characterize the areal and vertical extent of contamination by soil screening for metals and explosives in source areas and along contaminant migration pathways.

RI sampling of the areas around the sumps and man-made and natural drainageways will assess the extent of contamination, and whether surface migration of contaminants is occurring. The contaminants of concern are metals and explosives. Screening for these contaminants will be undertaken in locations shown to be contaminated during the SI sampling.

5.8.2 Proposed Sampling Scheme

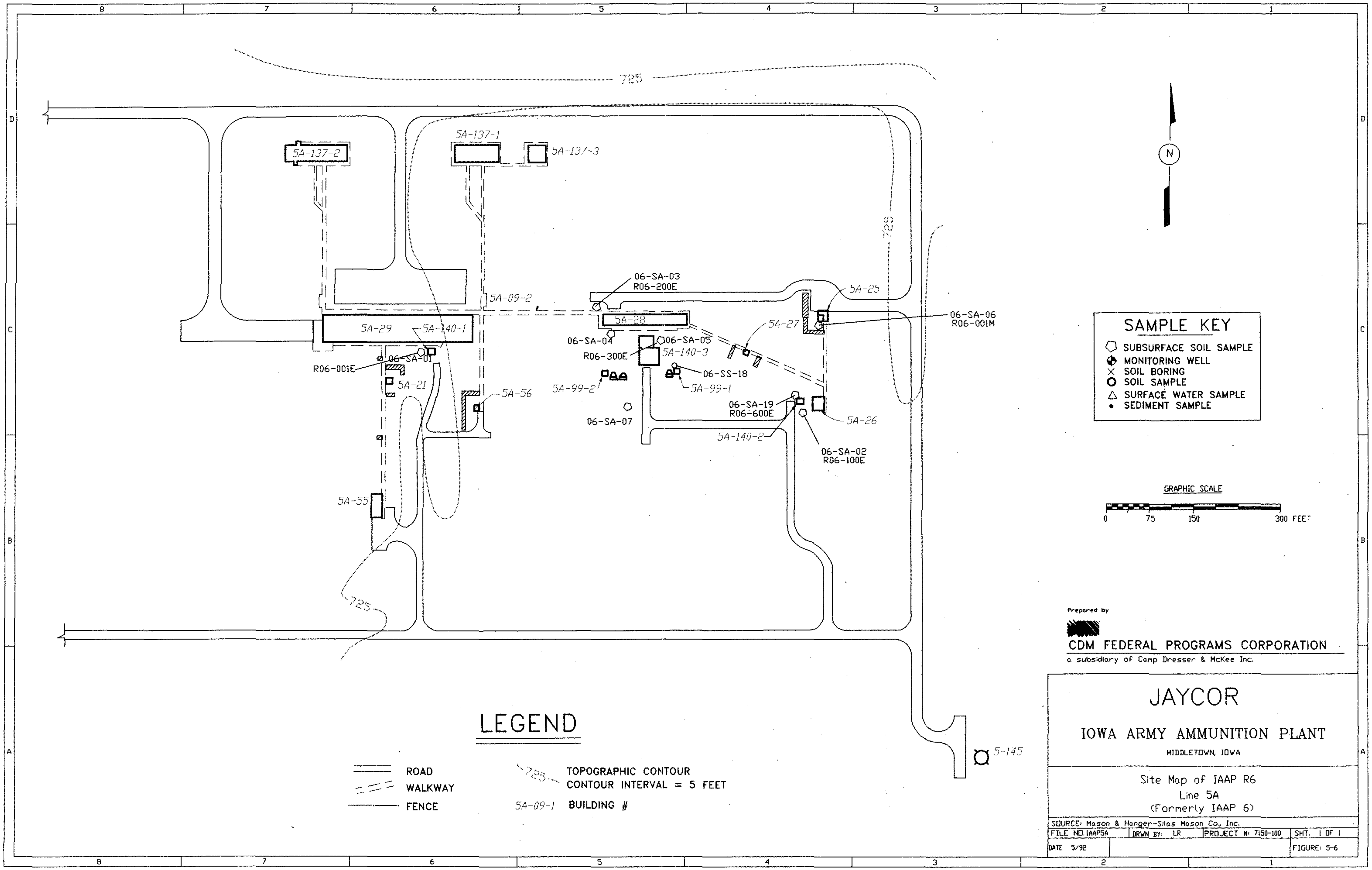
The sampling scheme proposed for this site is field screening for metals using x-ray fluorescence and field screening for explosives in soil.

The areas to be screened for metals, utilizing a grid sampling approach, will use SI sampling locations 06-SA-06 (Figure 5-6) and locations 06-SA-09, 06-SA-13, 06-SA-14, and 06-SA-15 as central grid nodes (Figure 5-6a). The grid sampling protocol for metals screening is presented in Section 4.2.3.1.2. Samples for confirmatory laboratory analyses will be collected at a frequency of 10 percent. Proposed screening samples are summarized in Table 5-8. Bias sampling may be used in addition to or instead of grid sampling to collect screening samples if warranted by field conditions. The sampling protocol for biased sampling is presented in Section 4.2.3.1.1.

Screening for explosives, using the grid sampling approach, will be performed at the seven SI sampling locations where explosives were detected. These sample locations, 06-SA-01, 06-SA-02, 06-SA-03, 06-SA-05, 06-SA-19 (Figure 5-6), 06-SA-09, and 06-SA-10 (Figure 5-6a) will be used as the central nodes of the grid sampling configuration.

Additionally, there is a solvent storage building at Line 5B, Building 5B-03-3. A soil gas survey will be conducted around this building to ensure there is no solvent contamination of soils (and potential contamination of groundwater). Building 5B-03-3 will be the central area for the sampling grid. Figure 5-6b identifies the initial soil gas survey grid locations.

With ideal site conditions the minimum number of samples to be analyzed will be three in each of the four principle directions (north, south, east, west) if possible, with the central node as the common point. This minimum number will be 12 if no direction is impeded. The project


725
5A-137-2
5A-137-1
5A-137-3
5A-09-2
06-SA-03
R06-200E
5A-25
06-SA-06
R06-001M
5A-29
5A-140-1
5A-28
5A-27
06-SA-04
06-SA-05
R06-300E
5A-140-3
06-SA-01
R06-001E
5A-21
5A-56
5A-99-2
06-SS-18
5A-99-1
06-SA-19
R06-600E
5A-26
06-SA-07
5A-140-2
06-SA-02
R06-100E
5A-55
5-145
N
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0 75 150 300 FEET
LEGEND
ROAD
WALKWAY
FENCE
725 TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
5A-09-1 BUILDING #
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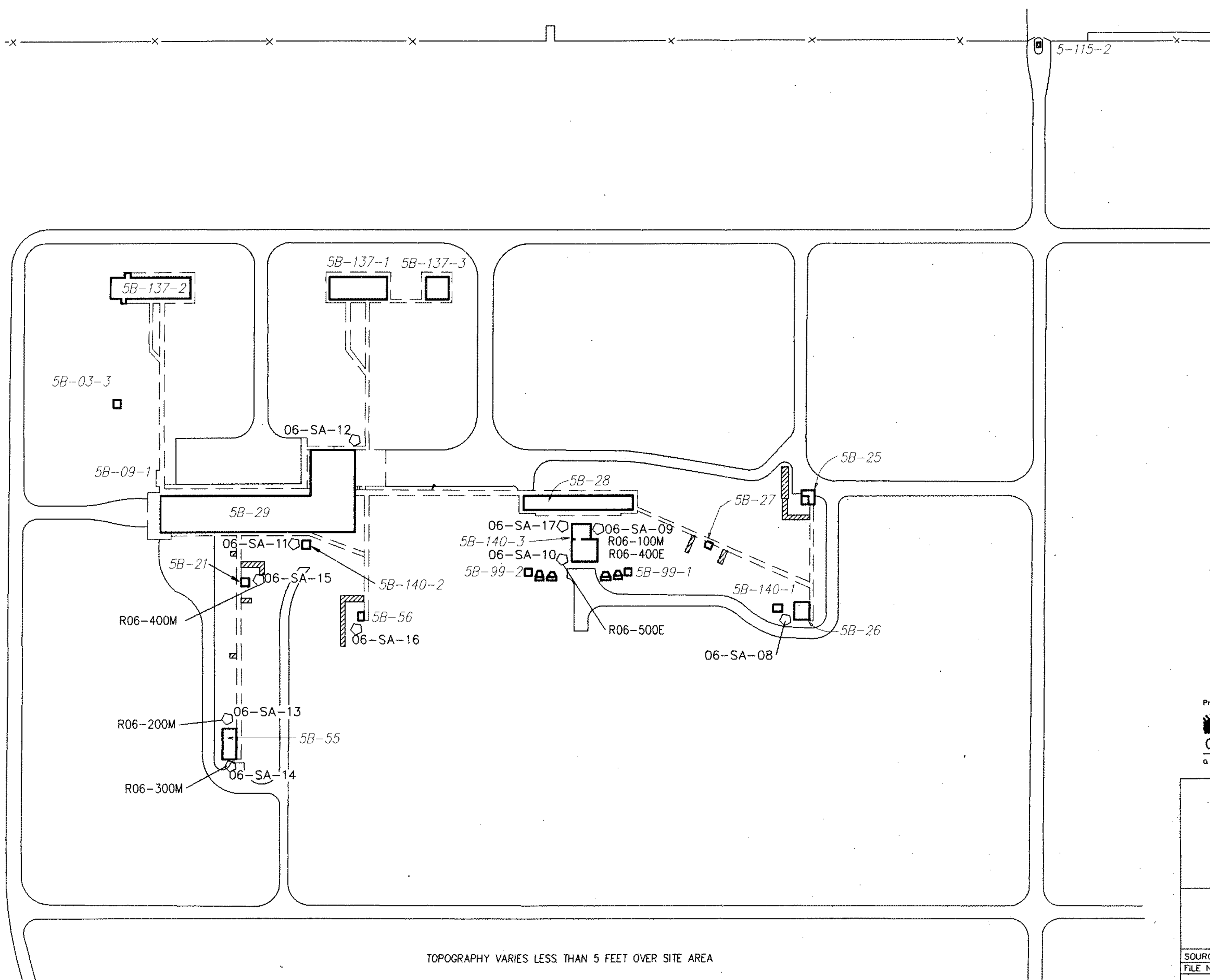
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R6
Line 5A
(Formerly IAAP 6)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP5A
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-6



SAMPLE KEY

- SUBSURFACE SOIL SAMPLE
- MONITORING WELL
- SOIL BORING
- SOIL SAMPLE
- SURFACE WATER SAMPLE
- SEDIMENT SAMPLE

LEGEND

5B-25	BUILDING #
	ROAD
	WALKWAY
—×—	FENCE

GRAPHIC SCALE

0 25 50 75 100 150 200 300 FEET

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IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

Site Map of IAAP R6
Line 5B
(Formerly IAAP 6)

SOURCE: Mason & Hanger-Silas Mason Co., Inc.

FILE NO. IAAP5B	DRWN BY: LR	PROJECT #: 7150-100	SHT. 1 OF 1
DATE 5/92			FIGURE: 5-6a

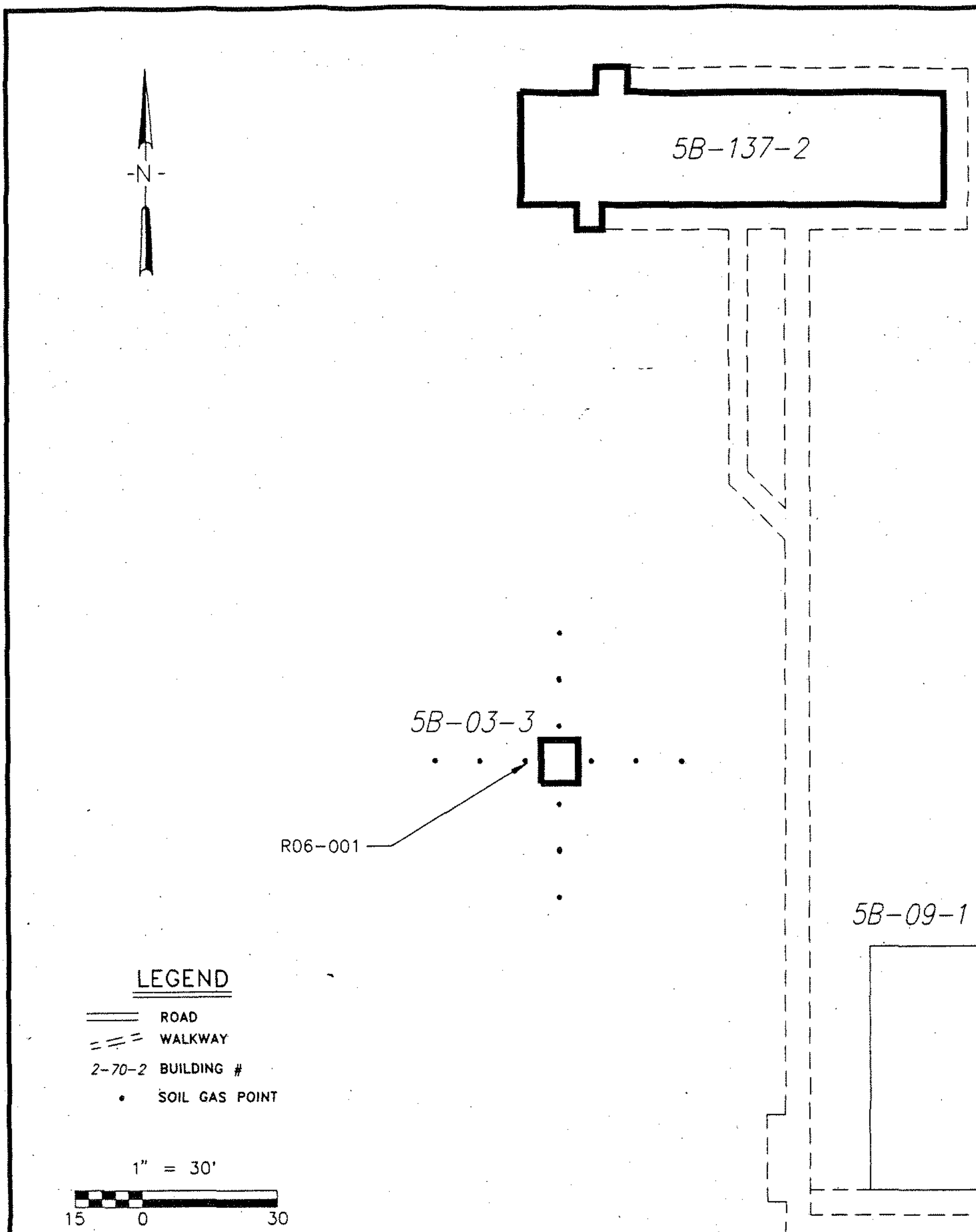
requirements are for three samples in each principle direction to show no VOC contamination before the area can be excluded from further soil gas analyses. Additional soil gas analyses using expanded or reduced grid spacing distances will be performed based on the degree of contamination found at the initial soil gas survey locations and site conditions.

The depth of soil gas sampling will be established using a Geoprobe to determine the depth to groundwater within the sampling area. Procedures for establishing initial soil gas sampling depths are presented in Section 4.2.3.1 of the QAPjP. Soil samples will be collected and analyzed at a rate of 5 percent to confirm the results of the soil gas analyses, these confirmation samples are included in Table 5-8.

Table 5-8
Proposed Sample Summary
IAAP-R6 (Lines 5A and 5B)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R06-001M	Metals	G	S	0-6"	Grid sample central node, 06-SA-06, for metals screening.
R06-100M	Metals	G	S	0-6"	Grid sample central node, 06-SA-09, for metals screening.
R06-200M	Metals	G	S	0-6"	Grid sample central node, 06-SA-13, for metals screening.
R06-300M	Metals	G	S	0-6"	Grid sample central node, 06-SA-14, for metals screening.
R06-400M	Metals	G	S	0-6"	Grid sample central node, 06-SA-15, for metals screening.
R06-001E	Explosives	G	S	0-6"	Grid sample central node, 06-SA-01, for metals screening.
R06-100E	Explosives	G	S	0-6"	Grid sample central node, 06-SA-02, for metals screening.
R06-200E	Explosives	G	S	0-6"	Grid sample central node, 06-SA-03, for metals screening.
R06-300E	Explosives	G	S	0-6"	Grid sample central node, 06-SA-05, for metals screening.
R06-400E	Explosives	G	S	0-6"	Grid sample central node, 06-SA-09, for metals screening.
R06-500E	Explosives	G	S	0-6"	Grid sample central node, 06-SA-10, for metals screening.
R06-600E	Explosives	G	S	0-6"	Grid sample central node, 06-SA-19, for metals screening.
R06-GP-01-01	VOCs	G	A	TBD	Confirmation sample at same depth of soil gas samples within grid area.

C = Composite   S = Screening Sample   G = Grab   A = Analytical Sample



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IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA

SOIL GAS SURVEY
IAAP R6 BUILDING #5B-03-3

Figure 5-6b

5/92

SGIAAP6B

5.9 IAAP-R7 (LINE 6)

IAAP-R7, formerly IAAP-7 in the SI, was a large detonator production line. Process water was discharged to gravel-lined leach beds, and allowed to run off into associated drainageways.

During the SI, metals contamination of soil was identified. Phase I RI sampling will include soil screening using XRF to assess the areal and vertical extent contamination at several areas within Line 7. Furthermore, because metals contamination is present in several sumps and drainageways, the potential for groundwater migration is being considered. Therefore, groundwater will be collected to determine whether metal contaminants have impacted groundwater in the immediate site vicinity or downgradient with respect to Line 6.

Explosives were not detected in SI soil samples above the CRLs.

As part of an on-going removal action and partial closure of Line 6, the U.S. Army Corps of Engineers (COE), Omaha District, removed seven gravel filter beds adjacent to Buildings 6-18-1, 6-25, 6-35, 6-68, 6-88, 6-89, and 6-91 in 1984, and completed the removal of lead-contaminated soils above 100 mg/kg from the major drainage ditches at Line 6 in 1990.

The COE is preparing a RCRA closure plan to address closure of portions of Line 6 including tanks, troughs, associated pipe removal, removal of potentially contaminated filter beds, and removal of potentially contaminated soil within the ditches that had provided drainage from the filter beds to the major drainage ditches. Areas that are to be addressed as part of the COE closure will not be sampled during this RI.

5.9.1 Data Requirements and Sampling Objectives

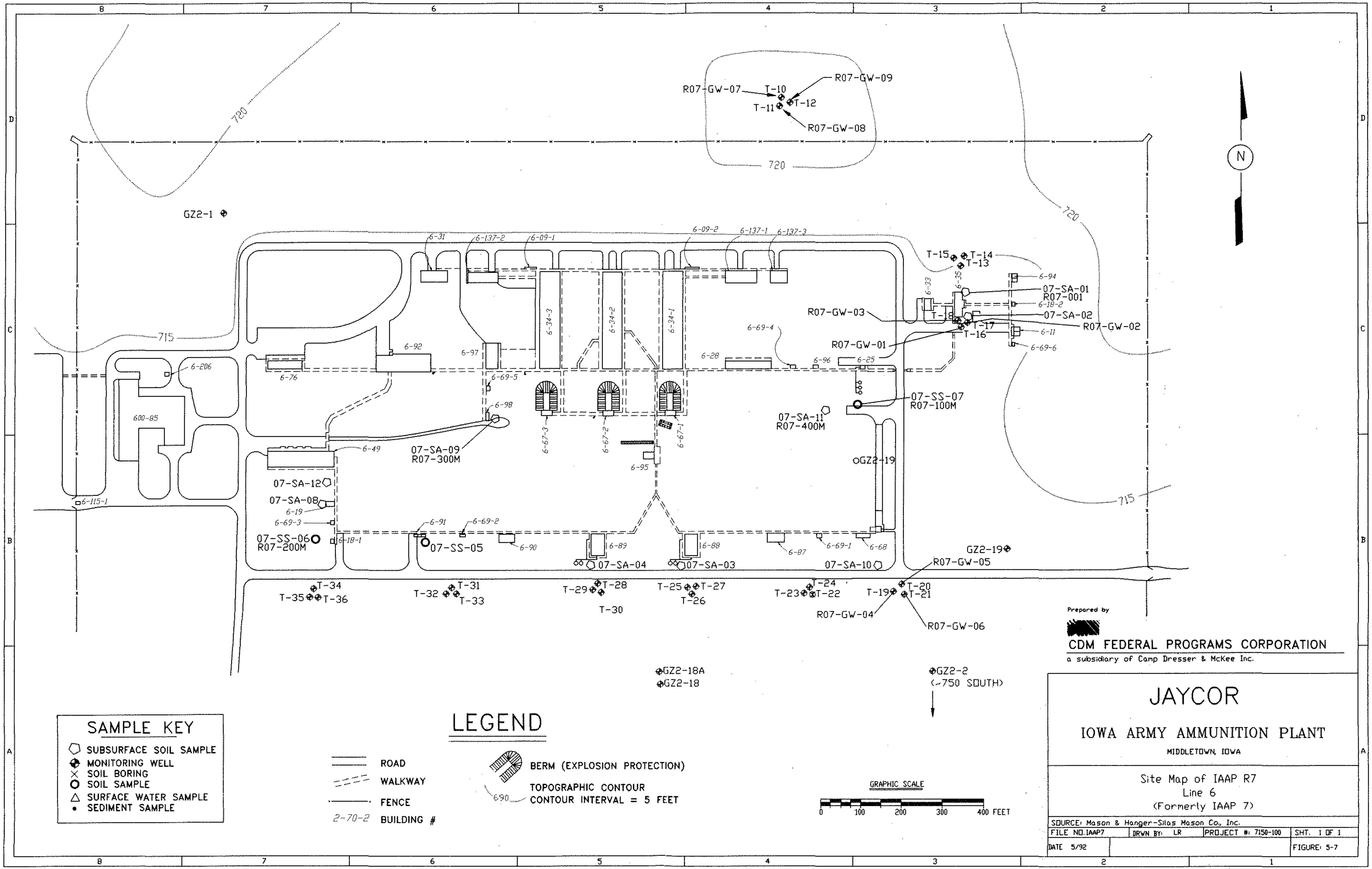
The primary objective is the characterization of the source areas; these areas are production waste water sumps and characterization of contaminant migration pathways, which are drainage ditches and natural surface water drainageways at the site. To this end, soil screening and soil sampling for metals are proposed for this site. Additionally, nine existing groundwater monitoring wells at the site are proposed to be sampled and analyzed for metals and explosives.

No explosives were detected in soil samples above the CRLs; therefore, no explosives analyses of soil samples will be performed.

5.9.2 Proposed Sampling Scheme

The sampling scheme proposed for this site includes field screening for lead, using X-ray fluorescence, in several areas of the site, and groundwater sampling of three sets of three clustered wells each.

Four areas will be screened for metals, utilizing a grid sampling approach; the central nodes are SI sample locations 07-SA-01, 07-SA-07, 07-SA-08, 07-SA-09, and 07-SA-11 (Figure 5-7). The grid sampling protocols for metals screening are presented in Section 4.2.3.1.2. Samples for confirmatory laboratory analyses will be collected at a frequency of 10 percent. Proposed screening samples are summarized in Table 5-9.



R07-GW-07
T-10
R07-GW-09
T-12
T-11
R07-GW-08
720
715
GZ2-1
N
T-15
T-14
T-13
6-94
07-SA-01
R07-001
07-SA-02
R07-GW-03
R07-GW-02
T-17
T-16
R07-GW-01
6-31
6-137-2
6-09-1
6-09-2
6-137-1
6-137-3
6-34-3
6-34-2
6-34-1
6-33
6-35
6-18-2
6-11
6-69-6
6-69-4
6-28
6-96
6-25
6-92
6-97
6-76
6-206
600-85
6-69-5
6-98
07-SA-09
R07-300M
6-49
6-67-3
6-67-2
6-67-1
6-95
07-SS-07
R07-100M
07-SA-11
R07-400M
GZ2-19
07-SA-12
07-SA-08
6-19
6-69-3
6-115-1
07-SS-06
R07-200M
6-18-1
6-91
6-69-2
07-SS-05
6-90
6-89
07-SA-04
6-88
07-SA-03
6-87
6-69-1
6-68
07-SA-10
GZ2-19
R07-GW-05
T-34
T-35
T-36
T-32
T-31
T-33
T-29
T-28
T-30
T-25
T-27
T-26
T-23
T-24
T-22
T-19
T-20
T-21
R07-GW-04
R07-GW-06
GZ2-18A
GZ2-18
GZ2-2
(~750 SOUTH)
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
LEGEND
ROAD
WALKWAY
FENCE
2-70-2 BUILDING #
BERM (EXPLOSION PROTECTION)
690
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
GRAPHIC SCALE
0 100 200 300 400 FEET
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IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R7
Line 6
(Formerly IAAP 7)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP7
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-7

Bias sampling may be used in addition to or instead of grid sampling to collect screening samples if warranted by field conditions. The sampling protocol for biased screening is provided in Section 4.2.3.1.1.

Although sample locations 07-SA-04 and 07-SA-05 (Figure 5-7) contained lead above the evaluation level established for the current investigation, it is believed that these samples represent relict contamination from the ditch remediation performed by the COE in 1990, and should not be considered under this RI. The clean-up level for the ditch remediation was 100 mg/kg; the concentrations of lead in these samples were 93 mg/kg and 47 mg/kg, respectively. Several other samples collected in the remediated ditches did not exhibit metals contamination. Furthermore, no discharges of any type of wastewater that could have contributed to contamination of the drainage ditches has occurred since the early 1970s. Therefore, no soil screening for lead or environmental sampling for metals is proposed at these locations.

Groundwater samples will be collected from three sets of three clustered wells each. Additionally, water level measurements are to be taken at all 32 monitoring wells located in and around the Line 6 production area to determine the site-specific groundwater flow gradient. Twenty-seven of these wells are in sets of three monitoring wells, each of the three being completed in one of the three major aquifers beneath the site. Approximate depths for the monitoring wells in each set are 20, 70, and 140 feet below ground surface. One well set sampled will be upgradient of Line 6 with respect to groundwater flow to assist in establishing background groundwater conditions. The remaining two well sets sampled will be downgradient of Line 6 with respect to groundwater flow to determine the impact of Line 6 operations on groundwater quality. Based on the hydrogeology at the site, samples collected from the two deepest wells (70 and 140 feet below the ground surface) can be used in part to characterize groundwater quality over the entire IAAP.

The monitoring wells proposed to be sampled as upgradient wells are: T-10, T-11, and T-12. The monitoring wells proposed to be sampled as downgradient wells are: T-16, T-17, T-18 and T-19, T-20, T-21. These well sets may be changed based on groundwater level measurements to ensure that samples collected are downgradient from Line 6. The approximate depths, below ground surface, for wells in these well clusters are 20, 70, and 120 feet, respectively. Sample numbers and analyses associated with the proposed groundwater samples are summarized in Table 5-9. No explosives have been detected in the Line 6 monitoring wells, nor have explosives been detected above CRLs in soils at this site. However, groundwater samples will be collected from the deeper monitoring wells and analyzed for explosives to characterize groundwater quality in the bedrock aquifer base-wide. Well locations are identified on Figure 5-7. Well construction details and available boring logs are presented in Appendix C.

The groundwater samples are being collected from wells at each of the three depths to attempt to determine the degree and extent of potential contamination associated with the site itself and overall base wide contamination. However, the most recent samples collected to date (mid to late 1987) have shown no groundwater contamination in any of the three major aquifers beneath Line 6.

Table 5-9
Proposed Sample Summary
IAAP-R7 (Line 6)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R07-GW-01-01	Metals	G	A	N/A	Monitoring well T-16. (Diameter: 4" Depth: 20 feet).
R07-GW-01-01	Explosives	G	S	N/A	Monitoring well T-16. (Diameter: 4" Depth: 20 feet).
R07-GW-02-01	Metals	G	A	N/A	Monitoring well T-17. (Diameter: 4" Depth: 70 feet).
R07-GW-02-01	Explosives	G	S	N/A	Monitoring well T-17. (Diameter: 4" Depth: 70 feet).
R07-GW-03-01	Metals	G	A	N/A	Monitoring well T-18. (Diameter: 2" Depth: 121 feet).
R07-GW-03-01	Explosives	G	S	N/A	Monitoring well T-18. (Diameter: 2" Depth: 121 feet).
R07-GW-04-01	Metals	G	A	N/A	Monitoring well T-19. (Diameter: 4" Depth: 20 feet).
R07-GW-04-01	Explosives	G	S	N/A	Monitoring well T-19. (Diameter: 4" Depth: 20 feet).
R07-GW-05-01	Metals	G	A	N/A	Monitoring well T-20. (Diameter: 4" Depth: 70 feet).
R07-GW-05-01	Explosives	G	S	N/A	Monitoring well T-20. (Diameter: 4" Depth: 70 feet).
R07-GW-06-01	Metals	G	A	N/A	Monitoring well T-21. (Diameter: 2" Depth: 121 feet).
R07-GW-06-01	Explosives	G	S	N/A	Monitoring well T-21. (Diameter: 2" Depth: 121 feet).
R07-GW-07-01	Metals	G	S	N/A	Monitoring well T-10. (Diameter: 4" Depth: 25 feet).
R07-GW-07-01	Explosives	G	S	N/A	Monitoring well T-10. (Diameter: 4" Depth: 25 feet).
R07-GW-08-01	Metals	G	S	N/A	Monitoring well T-11. (Diameter: 4" Depth: 70 feet).
R07-GW-08-01	Explosives	G	S	N/A	Monitoring well T-11. (Diameter: 4" Depth: 70 feet).
R07-GW-09-01	Metals	G	S	N/A	Monitoring well T-12. (Diameter: 2" Depth: 121 feet).
R07-GW-09-01	Explosives	G	S	N/A	Monitoring well T-12. (Diameter: 2" Depth: 121 feet).
R07-001M	Metals	G	S	0-6"	Grid sample central node for metals screening. Central node of sampling configuration is 07-SA-01. Subsurface samples will be collected if surface samples reveal contamination.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

the evaluation criteria of 2 μg/L for this compound. However, barium levels in adjacent soils were at background. Explosives analysis is being performed to confirm explosive contamination detected in the standing water in the sump. No explosives were detected in soils adjacent to the sump.

Sampling for PCBs will also be conducted in the area outside of the transformer sub-station fence. The transformer pad will be visually inspected to identify PCB leakage or stained areas and local surface drainage around the fence. Three discrete surface soil samples will be collected from a transect which crosses the downgradient drainage pathway and/or visibly stained areas. These samples are summarized in Table 5-10.

Four areas will be screened for metals utilizing a grid sampling approach; the central nodes are SI sample locations 08-SA-04, 08-SA-05, 08-SA-06, and 08-SA-07 (Figure 5-8). The indicator metal for XRF screening samples will be lead (and other mid-Z metals). The grid sampling protocol for metals screening is presented in Section 4.2.3.1. Samples for confirmatory laboratory analyses will be collected at a frequency of 10 percent. Proposed screening samples are summarized in Table 5-10.

Bias sampling may be used in addition to or instead of grid sampling to collect screening samples if warranted by field conditions. The sampling protocol for biased screening is provided in Section 4.2.3.1.1.

Soil gas surveys will be conducted around two areas where toluene was detected during the SI. The two samples that contained toluene will be the central nodes for soil gas sampling: 08-SA-04-01 and 08-SA-07-01.

Sample location 08-SA-04 is a sump from which a composite soil sample was collected. Figure 5-8a identifies initial soil gas survey locations. These soil gas survey locations are arrayed in a grid configuration with an initial grid interval of five feet, expanded to 10-foot intervals for subsequent points.

Sample location 08-SA-07 is a drainage ditch adjacent to Building 7-99-1. Figure 5-8b identifies initial soil gas survey locations. These soil gas survey locations are arrayed in a grid configuration with an initial grid interval of five feet, expanded to 10-foot intervals for subsequent points.

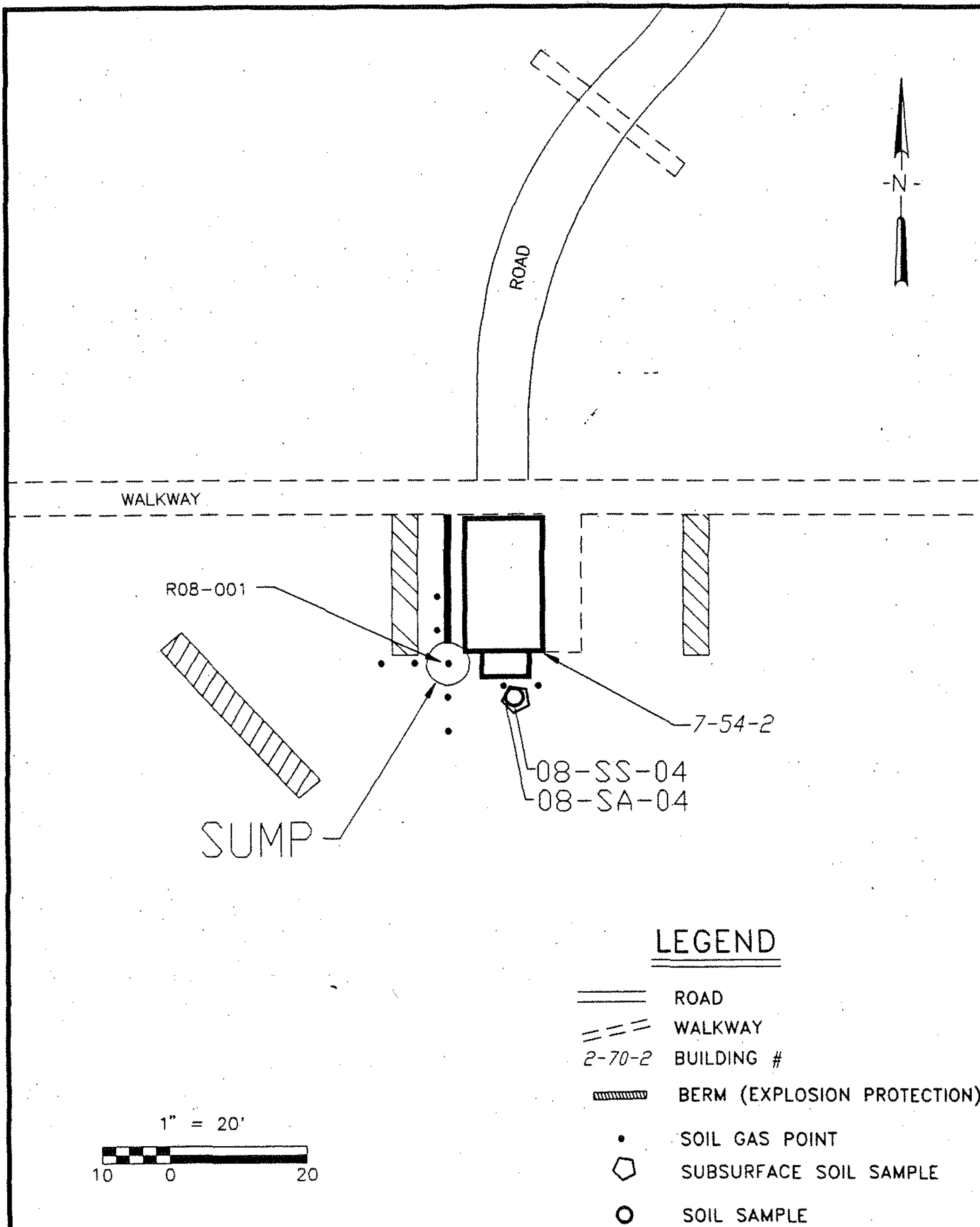
The minimum number of soil gas samples is three in each of four directions (north, south, east, and west) from the central node. The minimum number of soil gas points is nine, if no interferences are encountered and the central node is a common point. Three consecutive non-detects in each direction is required before the area can be excluded from further soil gas analyses. Soil gas grid intervals will be expanded or reduced based on the degree of contamination found at the initial soil gas survey locations, and on site conditions.

The depth of soil gas sampling will be established using a Geoprobe to determine the depth to groundwater within the sampling area. Procedures for establishing initial soil gas sampling depths are presented in Appendix G of the QAPjP. Soil samples will be collected at depth at a rate of 5 percent and submitted for VOC analysis to confirm the results of the soil gas analyses. Confirmation samples are included in Table 5-10.

Table 5-10
Proposed Sample Summary
IAAP-R8 (LINE 7)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R08-SW-01-01	Metals Explosives	G	A	N/A	Standing water, if present, in excavated sump at SI sampling location 08-SW-02.
R08-SS-02-01	PCBs	G	A	0-6"	Sample from along a transect which crosses the downgradient drainage pathway of the transformer sub-station.
R08-SS-03-01	PCBs	G	A	0-6"	"
R08-SS-04-01	PCBs	G	A	0-6"	"
R08-001M	Metals	G	S	0-6"	SI sample location 08-SA-04 is central node of grid sampling configuration.
R08-100M	Metals	G	S	0-6"	SI sample location 08-SA-05 is central node of grid sampling configuration.
R08-200M	Metals	G	S	0-6"	SI sample location 08-SA-06 is central node of grid sampling configuration.
R08-300M	Metals	G	S	0-6"	SI sample location 08-SA-07 is central node of grid sampling configuration.
R08-001E	Explosives	G	S	0-6"	SI sample location 08-SA-02 is central node of grid sampling configuration.
R08-GP-05-01	VOCs	G	A	TBD	Confirmation sample at same depth of soil gas samples within grid area.
R08-GP-06-01	VOCs	G	A	TBD	Confirmation sample at same depth of soil gas samples within grid area.

C = Composite S = Screening Sample G = Grab A = Analytical Sample TBD = To be Determined



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IOWA ARMY AMMUNITION PLANT
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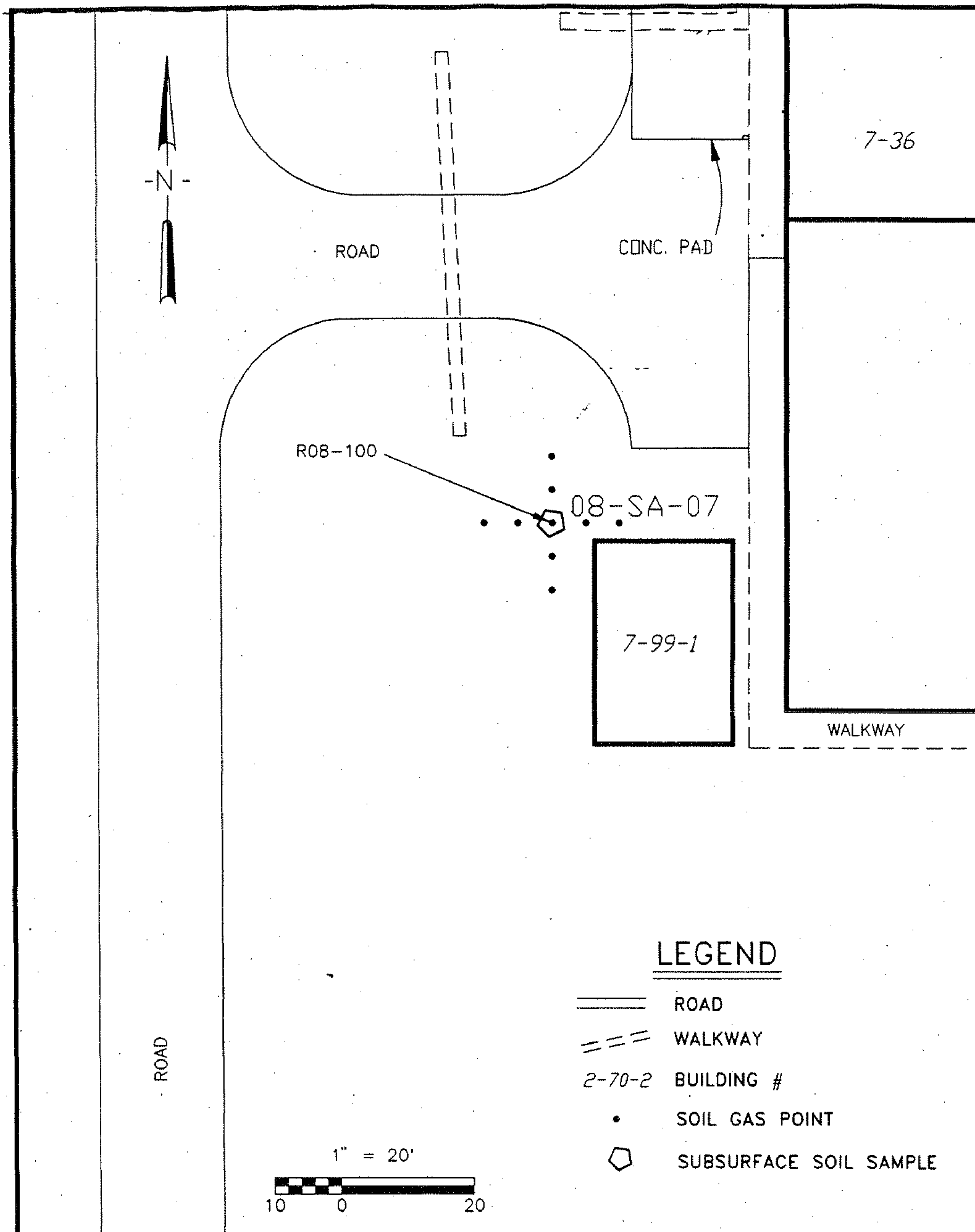
SOIL GAS SURVEY
IAAP R8 BUILDING #7-54-2

Figure 5-8a

5/92

SGIAAP8A



JAYCOR Prepared by CDM FEDERAL PROGRAMS CORPORATION a subsidiary of Camp Dresser & McKee Inc.	IOWA ARMY AMMUNITION PLANT MIDDLETOWN, IOWA SOIL GAS SURVEY IAAP R8 BUILDING #7-99-1	Figure 5-8b 5/92 SGIAAP8B

Table 5-9 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R07-100M	Metals	G	S	0-6"	Grid sample central node for metals screening. Central node of sampling configuration is 07-SA-07. Subsurface samples will be collected if surface samples reveal contamination.
R07-200M	Metals	G	S	0-6"	Grid sample central node for metals screening. Central node of sampling configuration is 07-SA-08. Subsurface samples will be collected if surface samples reveal contamination.
R07-300M	Metals	G	S	0-6"	Grid sample central node for metals screening. Central node of sampling configuration is 07-SA-09. Subsurface samples will be collected if surface samples reveal contamination.
R07-400M	Metals	G	S	0-6"	Grid sample central node for metals screening. Central node of sampling configuration is 07-SA-11. Subsurface samples will be collected if surface samples reveal contamination.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

5.10 IAAP-R8 (LINE 7)

Line 7, IAAP-8 in the SI, was a fuse and blank LAP facility. It has been inactive since 1970. During its years of operation, washdown from the floors of the buildings was piped to gravel-lined sumps (leach beds) and allowed to leach into the ground or flow to site drainageways. SI sampling focused on these sumps and drainages.

During the SI, toluene was detected in two surface soil samples, 08-SA-04 and 08-SA-07. Phase I RI sampling will include soil gas sampling to assess the areal extent of volatiles in soil gas above the vadose zone. PCB 1260 was detected in soil sample 08-SS-13, near the power transformer pad. Phase I RI will include sampling around the downgradient surface water flow path to define the extent of PCB contamination.

Metals were also detected in soils above the evaluation criteria during the SI. Phase I RI sampling will include soil screening at several locations using XRF to assess the areal extent of metals contamination.

The surface water sample, 08-SW-02, collected from standing water in the sump, contained tetryl at 8.8 µg/L and barium at 103 µg/L. To assess this contamination, the sump water will be resampled and analyzed for metals and explosives. The composite soil sample, 08-SA-02, collected from the sump, indicated no contamination above the evaluation criteria.

5.10.1 Data Requirements and Sampling Objectives

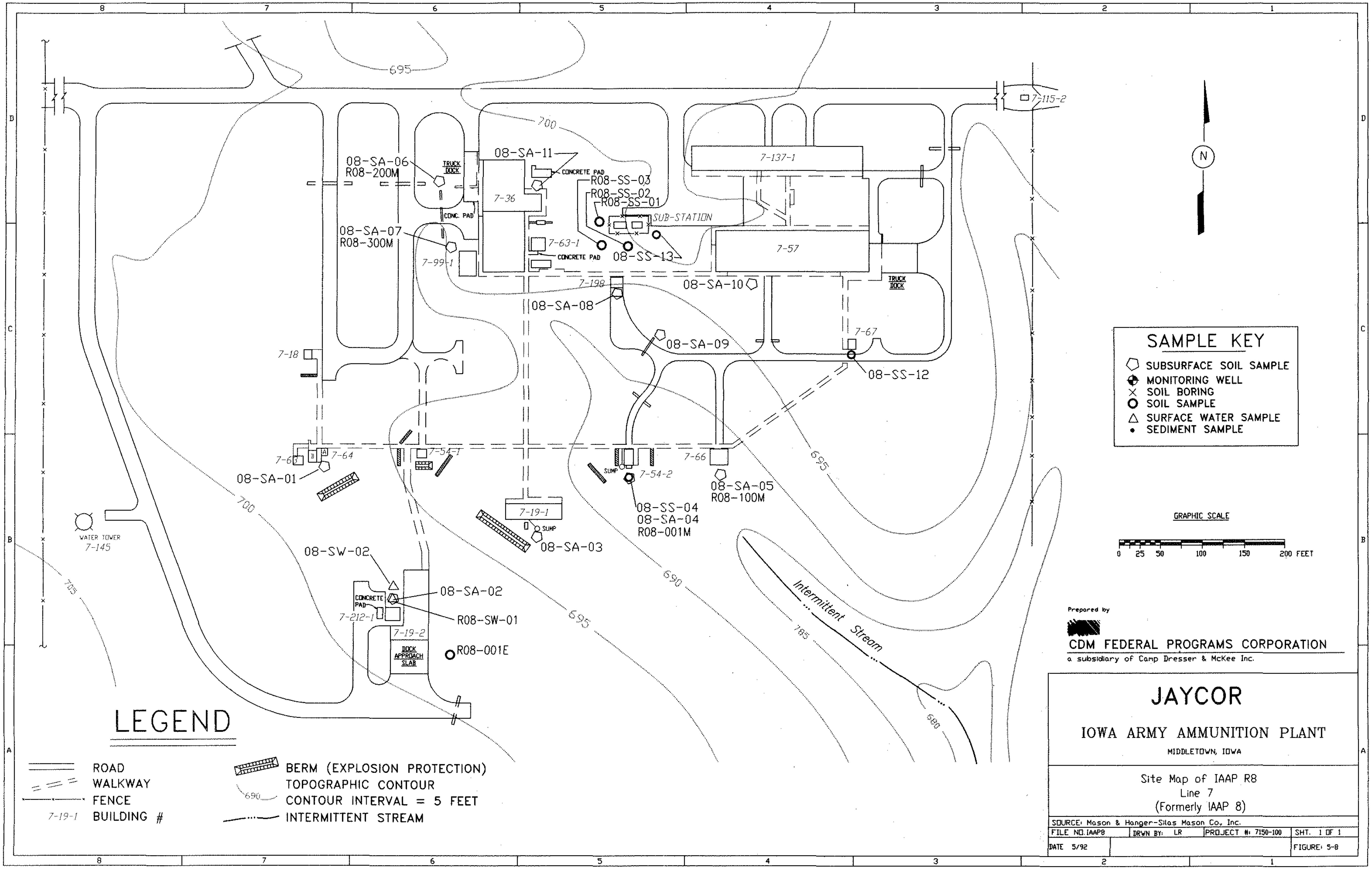
The primary objective is the characterization of the source areas; these areas are the production waste water sumps and contaminant migration pathways, which are the surface water drainageways at the site. Phase I RI sampling is designed to provide data that will be used to characterize the extent of explosives contamination in sump water, sump sediments and adjacent soils, and characterize metals contamination and PCB contamination in soils at the site. Sampling will also be performed in the sump from which sample 08-SW-02 was collected to more accurately assess concentrations of barium in the sump water.

5.10.2 Proposed Sampling Scheme

The proposed sampling scheme for this site includes field screening for explosives in soil around the sump area adjacent to building 7-212-1 (SI sample 08-SA-02) (Figure 5-8). The protocol for collecting field screening soil samples is presented in Section 4.2.3.1. Proposed samples are summarized in Table 5-10.

Grid sampling for explosives will be performed around the sump adjacent to Building 7-212-1. However, as deemed necessary due to changing field conditions or additional information becoming available, bias sampling may be used in addition to or instead of grid sampling to collect screening or laboratory analysis samples. These decisions will be made in the field. The central node of grid sampling is 08-SA-02.

A surface water sample will be collected from the excavated sump. This sample will be analyzed for metals and explosives. Metals analysis is being performed to more accurately assess concentrations of barium in the standing water in the sump. Surface water sample 08-SW-02, collected from the sump during the SI, contained barium at 103 µg/L, level that exceeded


08-SA-06
R08-200M
TRUCK DOCK
CONC. PAD
08-SA-07
R08-300M
7-99-1
08-SA-11
CONCRETE PAD
7-36
7-63-1
CONCRETE PAD
R08-SS-03
R08-SS-02
R08-SS-01
SUB-STATION
08-SS-13
7-137-1
7-57
TRUCK DOCK
7-198
08-SA-10
08-SA-08
08-SA-09
7-67
08-SS-12
7-18
7-65
7-64
08-SA-01
7-54-1
SUMP
7-54-2
7-66
08-SA-05
R08-100M
08-SS-04
08-SA-04
R08-001M
7-19-1
SUMP
08-SA-03
WATER TOWER
7-145
08-SW-02
CONCRETE PAD
08-SA-02
R08-SW-01
7-212-1
7-19-2
DOCK APPROACH SLAB
R08-001E
7-115-2
695
700
705
690
685
680
Intermittent Stream
N
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0 25 50 100 150 200 FEET
LEGEND
ROAD
WALKWAY
FENCE
7-19-1 BUILDING #
BERM (EXPLOSION PROTECTION)
TOPOGRAPHIC CONTOUR
690 CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
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JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R8
Line 7
(Formerly IAAP 8)
SOURCE: Mason & Hanger-Silas Mason Co. Inc.
FILE NO. IAAP8
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-8

the evaluation criteria of 2 μg/L for this compound. However, barium levels in adjacent soils were at background. Explosives analysis is being performed to confirm explosive contamination detected in the standing water in the sump. No explosives were detected in soils adjacent to the sump.

Sampling for PCBs will also be conducted in the area outside of the transformer sub-station fence. The transformer pad will be visually inspected to identify PCB leakage or stained areas and local surface drainage around the fence. Three discrete surface soil samples will be collected from a transect which crosses the downgradient drainage pathway and/or visibly stained areas. These samples are summarized in Table 5-10.

Four areas will be screened for metals utilizing a grid sampling approach; the central nodes are SI sample locations 08-SA-04, 08-SA-05, 08-SA-06, and 08-SA-07 (Figure 5-8). The indicator metal for XRF screening samples will be lead (and other mid-Z metals). The grid sampling protocol for metals screening is presented in Section 4.2.3.1. Samples for confirmatory laboratory analyses will be collected at a frequency of 10 percent. Proposed screening samples are summarized in Table 5-10.

Bias sampling may be used in addition to or instead of grid sampling to collect screening samples if warranted by field conditions. The sampling protocol for biased screening is provided in Section 4.2.3.1.1.

Soil gas surveys will be conducted around two areas where toluene was detected during the SI. The two samples that contained toluene will be the central nodes for soil gas sampling: 08-SA-04-01 and 08-SA-07-01.

Sample location 08-SA-04 is a sump from which a composite soil sample was collected. Figure 5-8a identifies initial soil gas survey locations. These soil gas survey locations are arrayed in a grid configuration with an initial grid interval of five feet, expanded to 10-foot intervals for subsequent points.

Sample location 08-SA-07 is a drainage ditch adjacent to Building 7-99-1. Figure 5-8b identifies initial soil gas survey locations. These soil gas survey locations are arrayed in a grid configuration with an initial grid interval of five feet, expanded to 10-foot intervals for subsequent points.

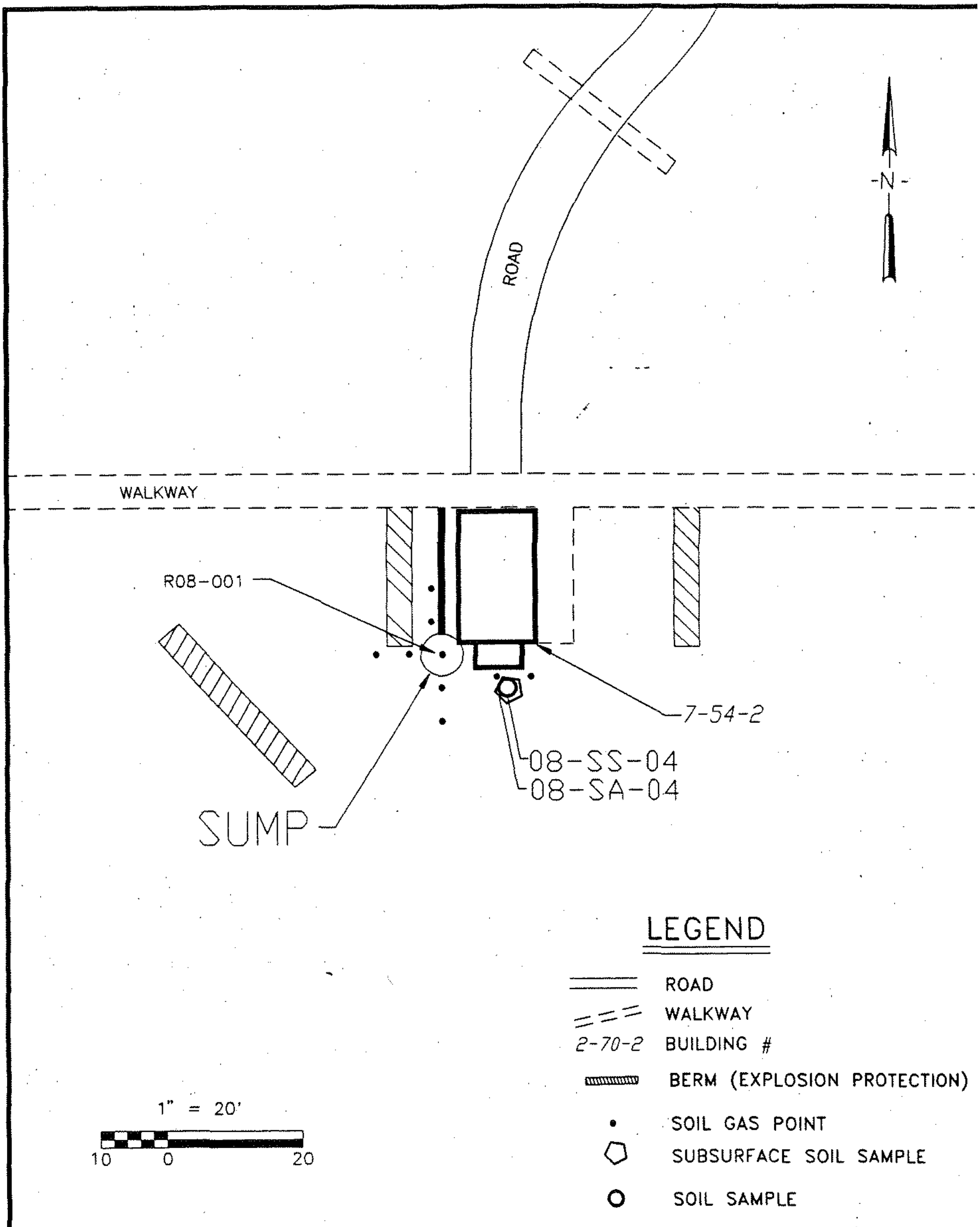
The minimum number of soil gas samples is three in each of four directions (north, south, east, and west) from the central node. The minimum number of soil gas points is nine, if no interferences are encountered and the central node is a common point. Three consecutive non-detects in each direction is required before the area can be excluded from further soil gas analyses. Soil gas grid intervals will be expanded or reduced based on the degree of contamination found at the initial soil gas survey locations, and on site conditions.

The depth of soil gas sampling will be established using a Geoprobe to determine the depth to groundwater within the sampling area. Procedures for establishing initial soil gas sampling depths are presented in Appendix G of the QAPjP. Soil samples will be collected at depth at a rate of 5 percent and submitted for VOC analysis to confirm the results of the soil gas analyses. Confirmation samples are included in Table 5-10.

Table 5-10
Proposed Sample Summary
IAAP-R8 (LINE 7)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R08-SW-01-01	Metals Explosives	G	A	N/A	Standing water, if present, in excavated sump at SI sampling location 08-SW-02.
R08-SS-02-01	PCBs	G	A	0-6"	Sample from along a transect which crosses the downgradient drainage pathway of the transformer sub-station.
R08-SS-03-01	PCBs	G	A	0-6"	"
R08-SS-04-01	PCBs	G	A	0-6"	"
R08-001M	Metals	G	S	0-6"	SI sample location 08-SA-04 is central node of grid sampling configuration.
R08-100M	Metals	G	S	0-6"	SI sample location 08-SA-05 is central node of grid sampling configuration.
R08-200M	Metals	G	S	0-6"	SI sample location 08-SA-06 is central node of grid sampling configuration.
R08-300M	Metals	G	S	0-6"	SI sample location 08-SA-07 is central node of grid sampling configuration.
R08-001E	Explosives	G	S	0-6"	SI sample location 08-SA-02 is central node of grid sampling configuration.
R08-GP-05-01	VOCs	G	A	TBD	Confirmation sample at same depth of soil gas samples within grid area.
R08-GP-06-01	VOCs	G	A	TBD	Confirmation sample at same depth of soil gas samples within grid area.

C = Composite S = Screening Sample G = Grab A = Analytical Sample TBD = To be Determined



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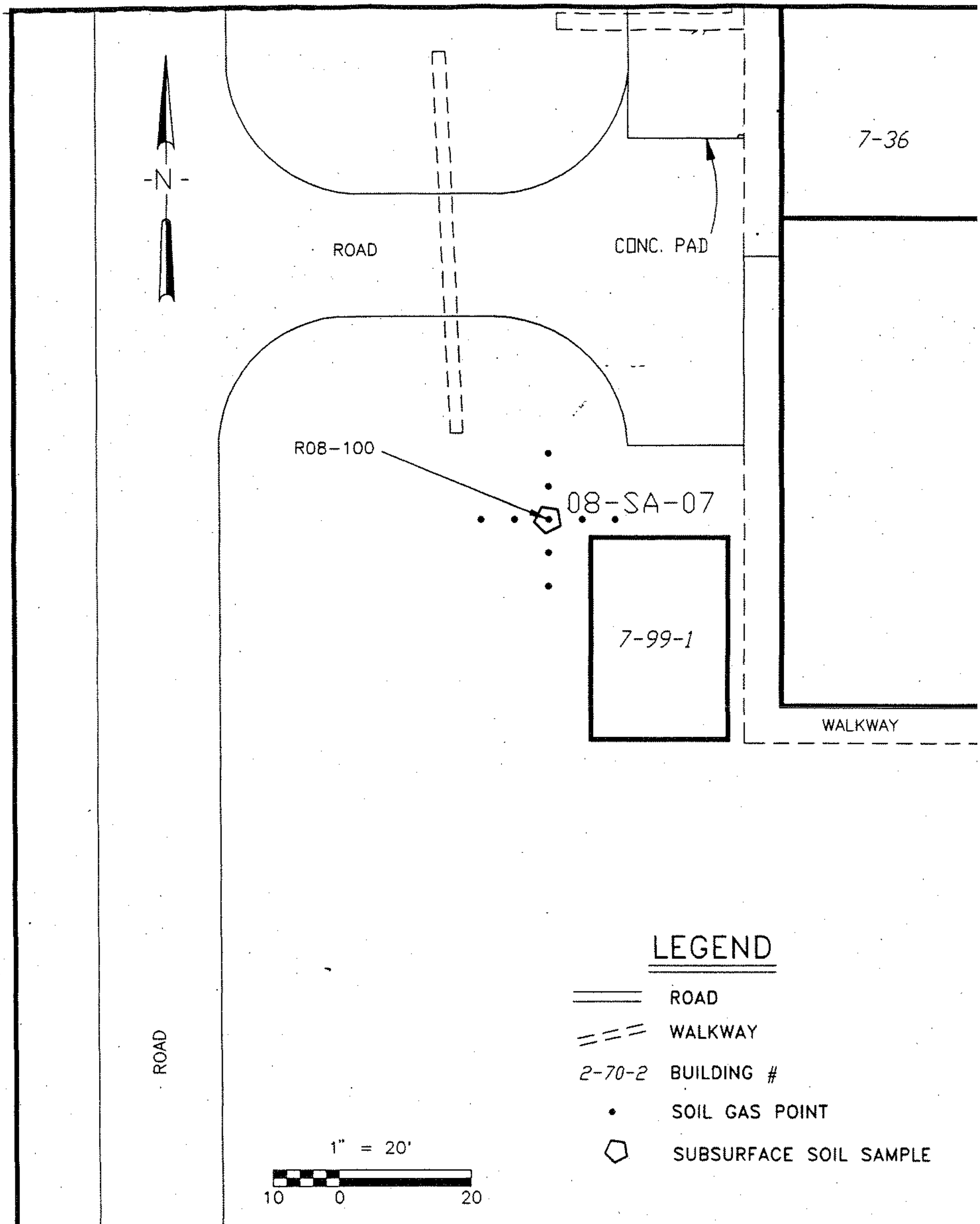
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA

SOIL GAS SURVEY
IAAP R8 BUILDING #7-54-2

Figure 5-8a

5/92

SGIAAP8A



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IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA

SOIL GAS SURVEY
IAAP R8 BUILDING #7-99-1

Figure 5-8b

5/92

SGIAAP8B

5.11 IAAP-R9 (LINE 8)

IAAP-R9, referred to as IAAP-9 in the SI (Section 3.11), is Line 8, located in the central part of the IAAP, encompassing an area measuring 1200 by 2500 feet. Plate 1 depicts the location of IAAP-R9 within the facility (D-5); Figure 5-9 is a site map.

During the 1991 SI, soil, sediment, and surface water samples were collected in areas where contamination was considered to exist. Contamination due to semivolatiles was found in an area which previously contained above-ground storage tanks; metals were found in soils by the creek and near buildings; the surface water contained explosives and elevated levels of metals; and the sediments contained metals.

5.11.1 Data Requirements and Sampling Objectives

Data requirements for R9 include the need to verify contamination found during the SI, delineate areas of contamination, and to explore additional areas not sampled during the SI. Areas found to be contaminated during the SI will be resampled to verify contamination during the RI. The areal extent of contamination for metals and explosives in soils will initially be screened, and screening data confirmed. Surface water/sediment metals and explosives concentrations will be analyzed by a THAMA-certified laboratory. All semivolatiles in the soils at the above-ground storage tank area and metals in the surface water will be laboratory analyzed as well.

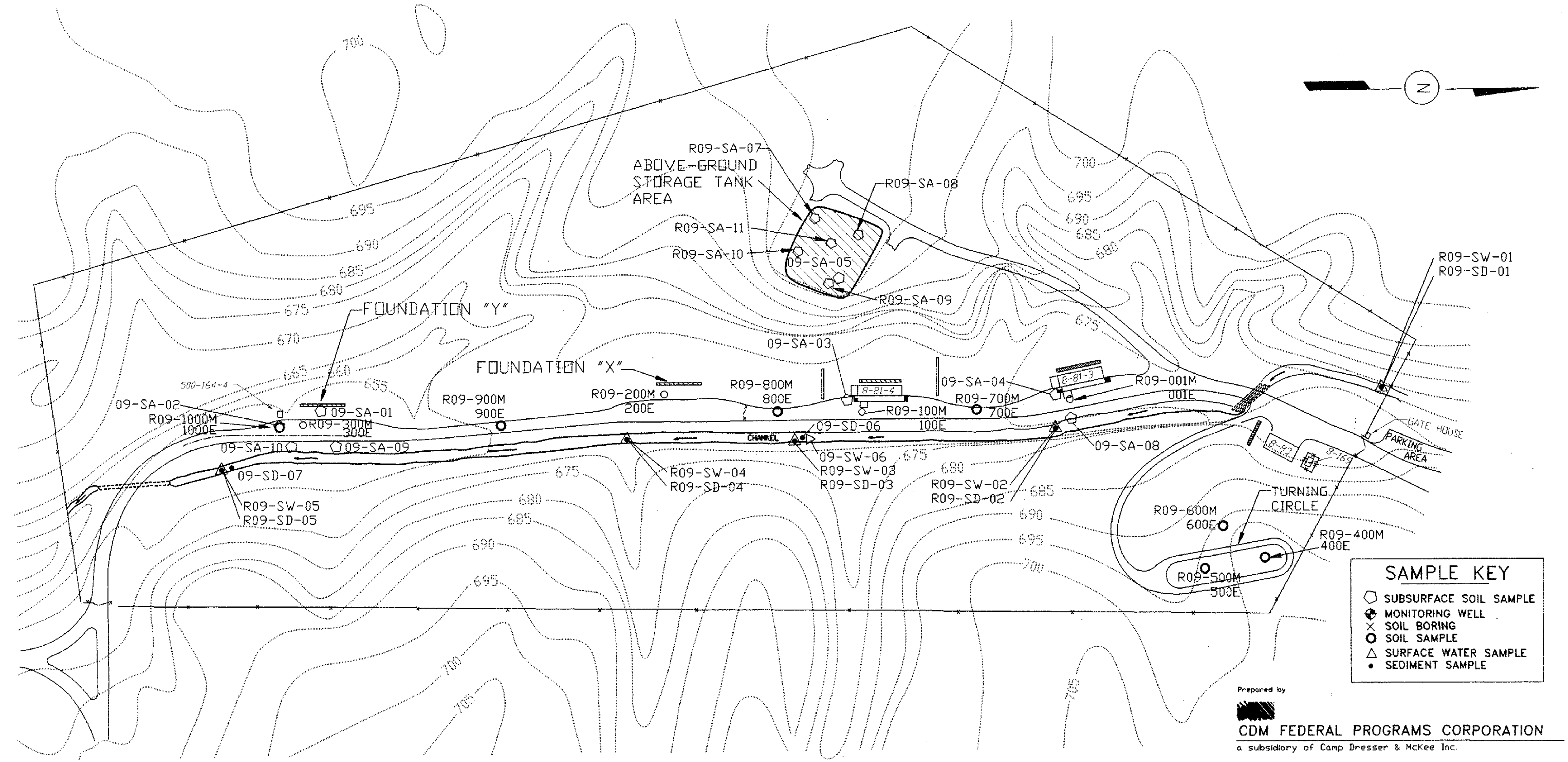
Surface Water/Sediment

The sampling objective of the surface water is to confirm explosives contamination found during the SI (09-SW-06), and identify possible sources of explosives contamination, including the on-site buildings and contaminant migration from upstream of the site. Surface water will be analyzed for metals and explosives. Surface water at the downstream edge of the site will be analyzed as part of the site-wide surface water/sediment sampling.

The sampling objective for the sediments along the creek will be to confirm metals contamination found during the SI (09-SD-06, 09-SD-07), and to identify the possible sources of contamination including on-site soils, drainage pipes and migration from upstream of the site. Because explosives contamination exists in the surface water, the sediments will also be analyzed for explosives. Sediment at the downstream edge of the site will be analyzed as part of the site-wide surface water/sediment sampling.

Above-Ground Storage Tank

The sampling objective at the above-ground storage tank area will be to confirm semivolatiles contamination in the surface soils found during the SI (09-SA-05), and delineate the area contaminated. Because the SI sample collected was actually a composite of four aliquots, and because the sample was homogenized before bottling (possibly allowing for organics to volatilize and be released), the source of the contamination and the amount of contamination needs to be more clearly evaluated. During the RI, no sampling compositing will occur at this location.



LEGEND

- ROAD
- FENCE
- 2-78-2 BUILDING #
- 690 TOPOGRAPHIC CONTOUR
  CONTOUR INTERVAL = 5 FEET

GRAPHIC SCALE

0 150 300 600 FEET

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IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

Site Map of IAAP R9
Line 8
(Formerly IAAP 9)

SOURCE: Mason & Hanger-Silas Mason Co., Inc.			
FILE NO. IAAP2	DRWN BY: LR	PROJECT #: 7150-100	SHT. 1 OF 1
DATE 5/92			FIGURE: 5-9

Buildings
Throughout R9 the primary contaminants of concern (with the exception of the tank area) are explosives and metals, found near the buildings, and downgradient of these buildings in the creek. Because contamination is believed to emanate from the buildings and migrate following the surface topography or subsurface drainage pipes to the creek, the primary sampling objective related to these four buildings is selection of enough data points to thoroughly evaluate the possible areas associated with contamination and contaminant migration. Soils around all buildings will be screened for metals and explosives contamination using a biased sampling protocol, to characterize all sides of the building.

Other
Because contamination was found in the creek water and sediments, and around the buildings, the site will be screened for metals and explosives contamination in areas not sampled during the SI.

5.11.2 Proposed Sampling Scheme

The proposed sampling scheme for IAAP-R9 is described below. As discussed above, the site has four areas which will be analyzed separately: surface water and sediment; soils around the buildings; the above-ground storage tank area; and other additional areas. Samples discussed below are described in Table 5-11, with their sample number, analyses requested, and locations. Sample locations are shown in Figure 5-9. If the soil samples show elevated levels of metals or explosives, a grided sampling method (Section 4.2.3.1) will be continued.

Surface Water/Sediment
To evaluate whether or not metals and explosives are migrating to or from the site, five surface water/sediment samples will be collected for metals and explosives analysis: one surface water sample will be collected at the upstream edge of the site; and one in front of each of the four major buildings, including the two razed buildings.

Above-Ground Storage Tank
To evaluate the above-ground storage tank area, 10 soil samples will be collected from five locations. Together the five locations represent the four corners of the area and the center. Surface soils will be collected at 0-6 inches, and subsurface soils will be collected at 18-24 inches, with no compositing or mixing. All samples will be sent to a laboratory for analysis of semivolatiles.

Buildings
Because metals contamination was found in soils around site buildings, and explosives were found in the surface water, areas around all four buildings will be sampled and screened for metals and explosives contamination. Storm drains will be sampled at their outlets at the creek bed.

Other
Because metals and explosives contamination was found in the creek water and sediments, and around the buildings, the site will be screened for metals and explosives contamination in areas not sampled during the SI. Areas include those in between the buildings and east of the entrance, at the driveway circle. All of these samples will be analyzed for metals and explosives.

Table 5-11
Proposed Sample Summary
IAAP-R9 (LINE 8)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R09-SW-01-01	Metals Explosives	G	A	0	Creek at northern edge of site.
R09-SD-01-01	Metals Explosives	G	A	0	Corresponds to R09-SW-01-01.
R09-SW-02-01	Metals Explosives	G	A	0	Creek 50′ south of Building 8-81-3.
R09-SD-02-01	Metals Explosives	G	A	0	Corresponds to R09-SW-02-01.
R09-SW-03-01	Metals Explosives	G	A	0	Creek, 50′ south of Building 8-81-4.
R09-SD-03-01	Metals Explosives	G	A	0	Corresponds to R09-SW-03-01.
R09-SW-04-01	Metals Explosives	G	A	0	Creek, 50′ south of foundation "x".
R09-SD-04-01	Metals Explosives	G	A	0	Corresponds to R09-SW-04-01.
R09-SW-05-01	Metals Explosives	G	A	0	Creek, 50′ south of foundation "y".
R09-SD-05-01	Metals Explosives	G	A	0	Corresponds to R09-SW-05-01.
R09-SA-07-01	SemiVOCs	G	A	0-6"	Southwest corner of tank area.
R09-SA-07-02	SemiVOCs	G	A	18-24"	Corresponds to R09-SA-07-01.
R09-SA-08-01	SemiVOCs	G	A	0-6"	Northwest corner of tank area.
R09-SA-08-02	SemiVOCs	G	A	18-24"	Corresponds to R09-SA-08-01.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-11 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R09-SA-09-01	SemiVOCs	G	A	0-6"	Northeast corner of tank area.
R09-SA-09-02	SemiVOCs	G	A	18-24"	Corresponds to R09-SA-09-01.
R09-SA-10-01	SemiVOCs	G	A	0-6"	Southeast corner of tank area.
R09-SA-10-02	SemiVOCs	G	A	18-24"	Corresponds to R09-SA-10-01.
R09-SA-11-01	SemiVOCs	G	A	0-6"	Center of tank area.
R09-SA-11-02	SemiVOCs	G	A	18-24"	Corresponds to R09-SA-11-01.
R09-001M	Metals	G	S	0-6"	15′ west of the southwest corner of Building 8-81-3.
R09-001E	Explosives	G	S	0-6"	Corresponds to R09-001M.
R09-100M	Metals	G	S	0-6"	15′ west of the southwest corner of Building 8-81-4.
R09-100E	Explosives	G	S	0-6"	Corresponds to R09-100M.
R09-200M	Metals	G	S	0-6"	15′ west of the southwest corner of foundation "x".
R09-200E	Explosives	G	S	0-6"	Corresponds to R09-200M.
R09-300M	Metals	G	S	0-6"	15′ west of the southwest corner of foundation "y".
R09-300E	Explosives	G	S	0-6"	Corresponds to R09-300M.
R09-400M	Metals	G	S	0-6"	In the turning circle east of the roadway, 80′ north of the center.
R09-400E	Explosives	G	S	0-6"	Corresponds to R09-400M.
R09-500M	Metals	G	S	0-6"	In the turning circle east of the roadway, 80′ south of the center.
R09-500E	Explosives	G	S	0-6"	Corresponds to R09-500M.
R09-600M	Metals	G	S	0-6"	Outside the turning circle east of the roadway, 80′ west of the center.
R09-600E	Explosives	G	S	0-6"	Corresponds to R09-600M.
R09-700M	Metals	G	S	0-6"	Midway between Buildings 8-81-3 and 8-81-4, 20′ west of the road.
R09-700E	Explosives	G	S	0-6"	Corresponds to R09-700M.
R09-800M	Metals	G	S	0-6"	Midway between Building 8-81-34 and foundation "x", 20′ west of the road.
R09-800E	Explosives	G	S	0-6"	Corresponds to R09-800M.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-11 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R09-900M	Metals	G	S	0-6"	Midway between foundations "x" and "y", 20' west of the road.
R09-900E	Explosives	G	S	0-6"	Corresponds to R09-900M.
R09-1000M	Metals	G	S	0-6"	20' east of Building 500-164-4.
R09-1000E	Explosives	G	S	0-6"	Corresponds to R09-1000M.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

5.12 IAAP-R10 (LINE 9)

SI sampling for R10, formerly IAAP-10 in the SI, focused on the buildings where hazardous wastes were known to be generated or used as well as associated treatment sumps and drainage pathways. The areas identified to contain the highest concentrations of metals included four of the five sump pit sample locations. The two surface water samples obtained from the standing water at the bottom of excavated sump pits contained elevated levels of metals and explosives.

5.12.1 Data Requirements and Sampling Objectives

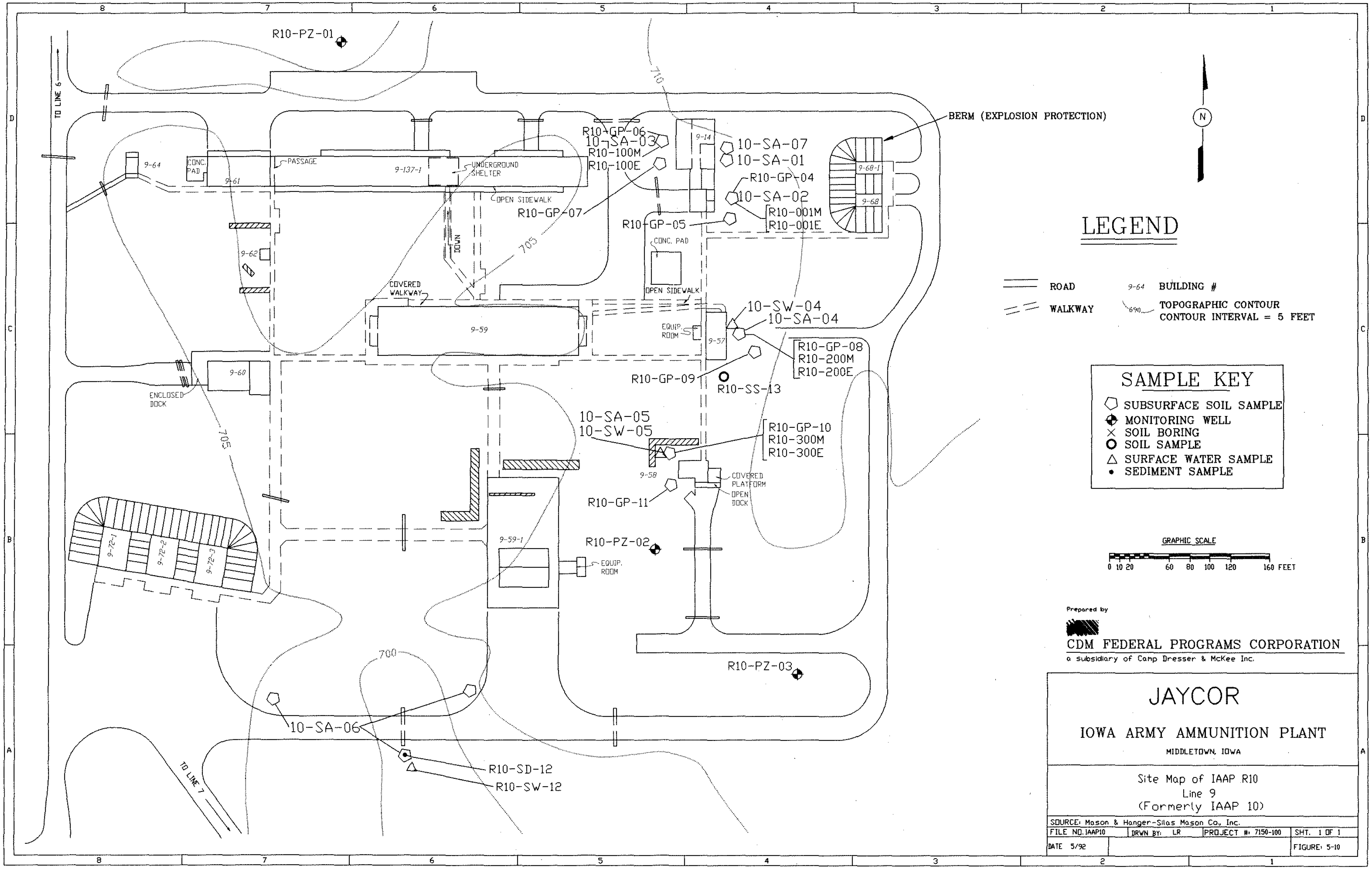
The main concerns include the possible surface migration of metals and explosives contaminants, as well as possible groundwater infiltration. Sampling of the areas around and downgradient of the contaminated sump pits will assess the extent of metals and explosives contamination and whether surface migration of contaminants is occurring. In addition, a Geoprobe will be used to obtain at least two at depth soil samples from each of the four contaminated sumps identified during the SI. These at-depth samples combined with metals and explosives screening will delineate the possible contamination due to the sumps. A sediment and surface water sample will be obtained from a drainage ditch where two storm water drainages from the site converge and are discharged to determine if surface migration of contaminants is occurring. Piezometer wells will be installed on the site to obtain point source groundwater samples. Soil gas surveys will be performed around two buildings (Loading Building 9-59 and Equipment Room/Primer Mixer Prep Building 9-57), where solvent storage and handling occurred.

5.12.2 Proposed Sampling Scheme

During the SI site visit, the sumps were being excavated, leaving open pits. The soil and water samples with the highest concentrations of contamination were obtained from four of these excavated pits. Screening samples at surface and at depth will be obtained around these sumps to delineate the extent of metals and explosives contamination of soils. Groundwater samples will be obtained from piezometer wells to evaluate the possible metals and explosives contamination caused by past activities and the sumps at the site. Soil gas surveys will be used in the vicinity of Building 9-59 (Loading Building) and Building 9-57 (Equipment Room/Primer Mixer Prep Building) because of the storage and handling of solvents at these buildings.

Four areas will be screened for explosives in soil (see Section 4.2.3.1.1 for methodology). The explosives screening will use SI locations 10-SA-02-01, 10-SA-03-01, 10-SA-04-01, and 10-SA-05-01 as the initial points of biased sampling along drainage pathways originating at the contaminated sumps.

Table 5-12 summarizes the samples proposed during Phase I of the RI/FS. All proposed sample locations along with SI sample locations are depicted on Figure 5-10.



R10-PZ-01
TO LINE 6
710
BERM (EXPLOSION PROTECTION)
N
R10-GP-06
10-SA-03
R10-100M
R10-100E
9-14
10-SA-07
10-SA-01
R10-GP-04
10-SA-02
R10-001M
R10-001E
9-64
CONC. PAD
9-61
PASSAGE
9-137-1
UNDERGROUND SHELTER
OPEN SIDEWALK
R10-GP-07
R10-GP-05
9-68-1
9-68
LEGEND
9-62
DOWN
705
CONC. PAD
OPEN SIDEWALK
COVERED WALKWAY
9-59
EQUIP. ROOM
9-57
10-SW-04
10-SA-04
R10-GP-08
R10-200M
R10-200E
ROAD
WALKWAY
BUILDING #
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
9-60
ENCLOSED DOCK
R10-GP-09
R10-SS-13
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
10-SA-05
10-SW-05
R10-GP-10
R10-300M
R10-300E
9-58
COVERED PLATFORM
OPEN DOCK
R10-GP-11
9-72-1
9-72-2
9-72-3
9-59-1
R10-PZ-02
EQUIP. ROOM
GRAPHIC SCALE
0 10 20 60 80 100 120 160 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
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700
R10-PZ-03
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
10-SA-06
TO LINE 7
R10-SD-12
R10-SW-12
Site Map of IAAP R10
Line 9
(Formerly IAAP 10)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP10
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-10

Table 5-12
Proposed Sample Summary
IAAP-R10 (Line 9)

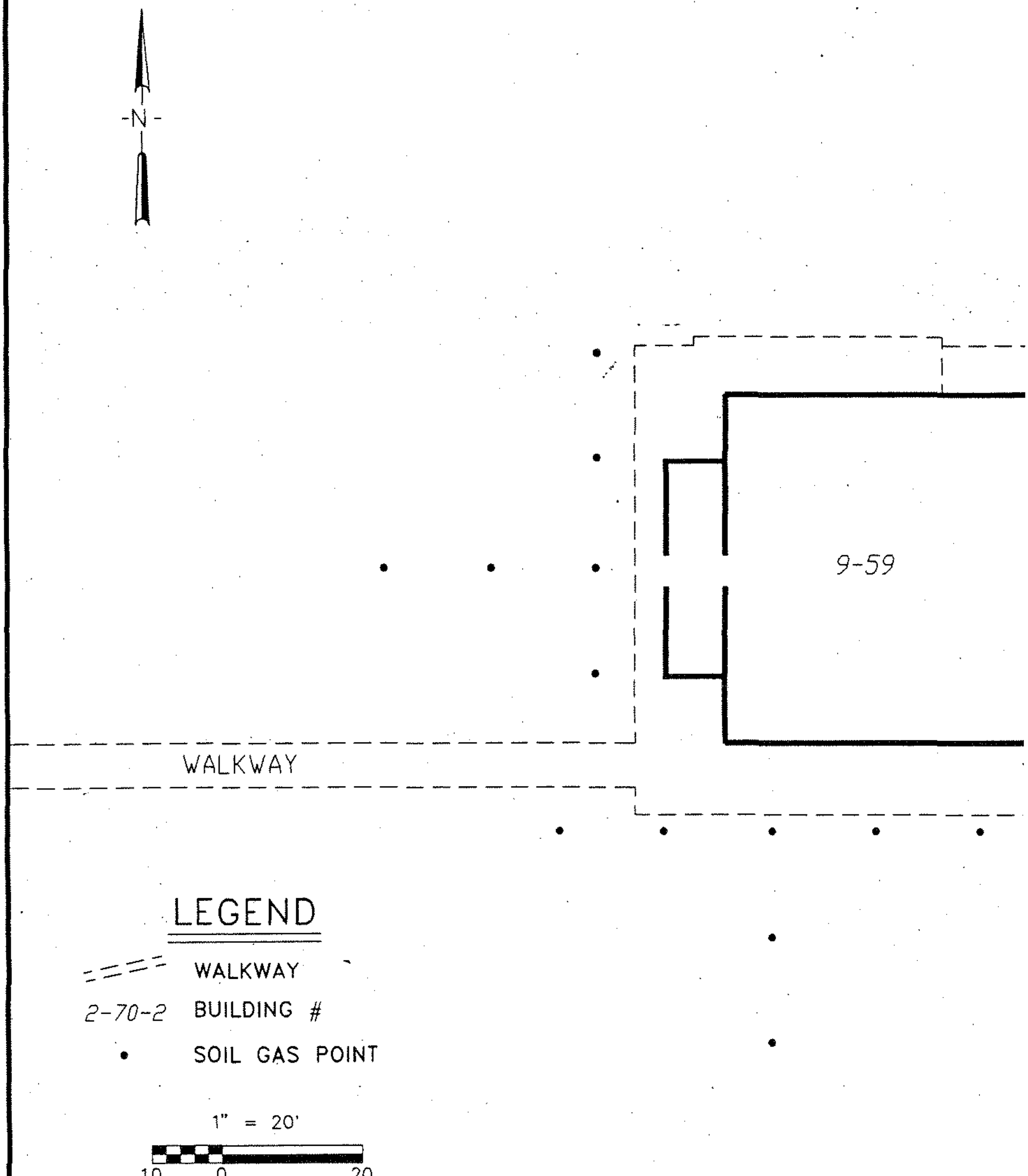
RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R10-PZ-01-01	Metals Explosives	G	A	20′	150 feet northwest of Building 9-137-1.
R10-PZ-02-01	Metals Explosives	G	A	20′	75 feet southwest of Building 9-58.
R10-PZ-03-01	Metals Explosives	G	A	20′	150 feet southeast of Building 9-58.
R10-GP-04-01	Metals Explosives	G	A	10′	Location of excavated sump southeast of Building 9-14.
R10-GP-05-01	Metals Explosives	G	A	10′	Five feet south/southeast of R10-GP-04-01.
R10-GP-06-01	Metals Explosives	G	A	10′	Location of excavated sump west of Building 9-14.
R10-GP-07-01	Metals Explosives	G	A	10′	Five feet south of R10-GP-06-01.
R10-GP-08-01	Metals Explosives	G	A	10′	Location of excavated sump east of Building 9-57.
R10-GP-09-01	Metals Explosives	G	A	10′	Five feet south/southeast of R10-GP-08-01.
R10-GP-10-01	Metals Explosives	G	A	10′	Location of excavated sump northwest of Building 9-58.
R10-GP-11-01	Metals Explosives	G	A	10′	Five feet south of R10-GP-10-01.
R10-SD-12-01	Metals Explosives	G	A	0-6"	Composite sample from 2 storm water drainages and at the culvert outfall past their convergence, approximately 150 feet southwest of Building 9-59-1.
R10SW-12-01	Metals Explosives	G	A	N/A	Taken at culvert outfall, if water is available for sampling.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-12 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R10-001M	Metals	G	S		SI location 10-SA-02 is point of origin of biased sampling.
R10-001E	Explosives	G	S		Same as R10-100M.
R10-100M	Metals	G	S		SI location 10-SA-03 point of origin of biased sampling.
R10-100E	Explosives	G	S		Same as R10-100M.
R10-200M	Metals	G	S		SI location 10-SA-04 point of origin of biased sampling.
R10-200E	Explosives	G	S		Same as R10-200M.
R10-300M	Metals	G	S		SI location 10-SA-05 point of origin of biased sampling.
R10-300E	Explosives	G	S		Same as R10-300M.
R10-SA-13-01	VOCs	G	A	N/A	Soil gas confirmatory sample located south of Building 9-57.
R10-SA-14-01	VOCs	G	A	N/A	Soil gas confirmatory sample located west of Building 9-59.

C = Composite S = Screening Sample G = Grab A = Analytical Sample



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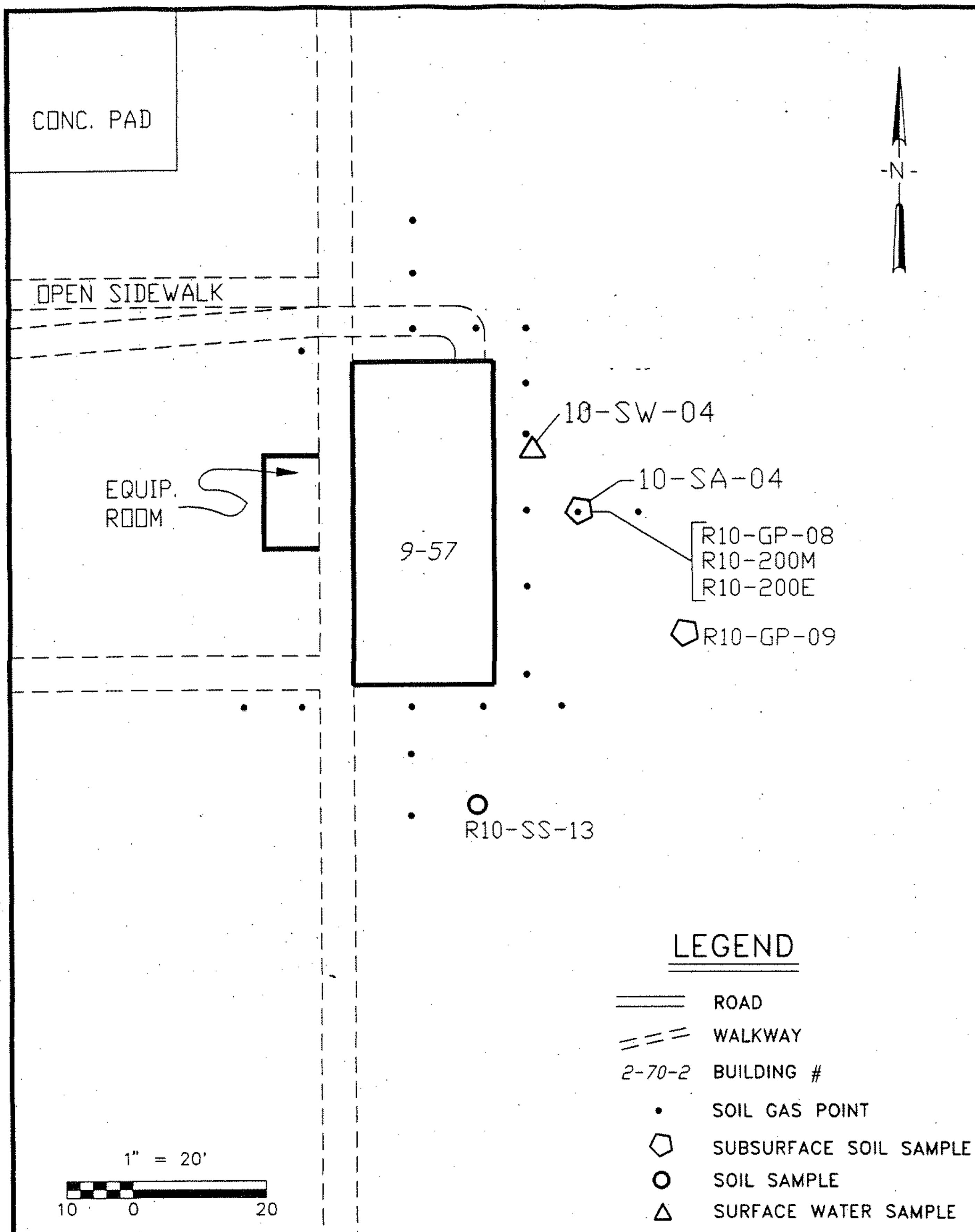
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA

SOIL GAS SURVEY
IAAP R10 BUILDING #9-59

Figure 5-10a

5/92

SGIAP10A



JAYCOR Prepared by CDM FEDERAL PROGRAMS CORPORATION a subsidiary of Camp Dresser & McKee Inc.	IOWA ARMY AMMUNITION PLANT MIDDLETOWN, IOWA SOIL GAS SURVEY IAAP R10 BUILDING #9-57	Figure 5-10b 5/92 SGIAP10B

5.13 IAAP-R11 (LINE 800)

IAAP-R11, referred to as IAAP-11 in the SI (Section 3.13), is Line 800, located within the Brush Creek watershed, approximately 2,000 feet west of Brush Creek, southeast of Yard O, northwest of Yard E, and west of the Sewage Disposal Plant (Plate 1; C-4). IAAP-R11 has 18 buildings and covers an area roughly 450 by 1700 feet (Figure 5-11).

During the 1991 SI, 12 soil samples were collected from the site soils and drainage ditches. Contamination was found throughout the site, in discrete areas. Most of the contamination is related to metals; however, explosives, volatile organics, and pesticide/PCBs where also confirmed.

5.13.1 Data Requirements and Sampling Objectives

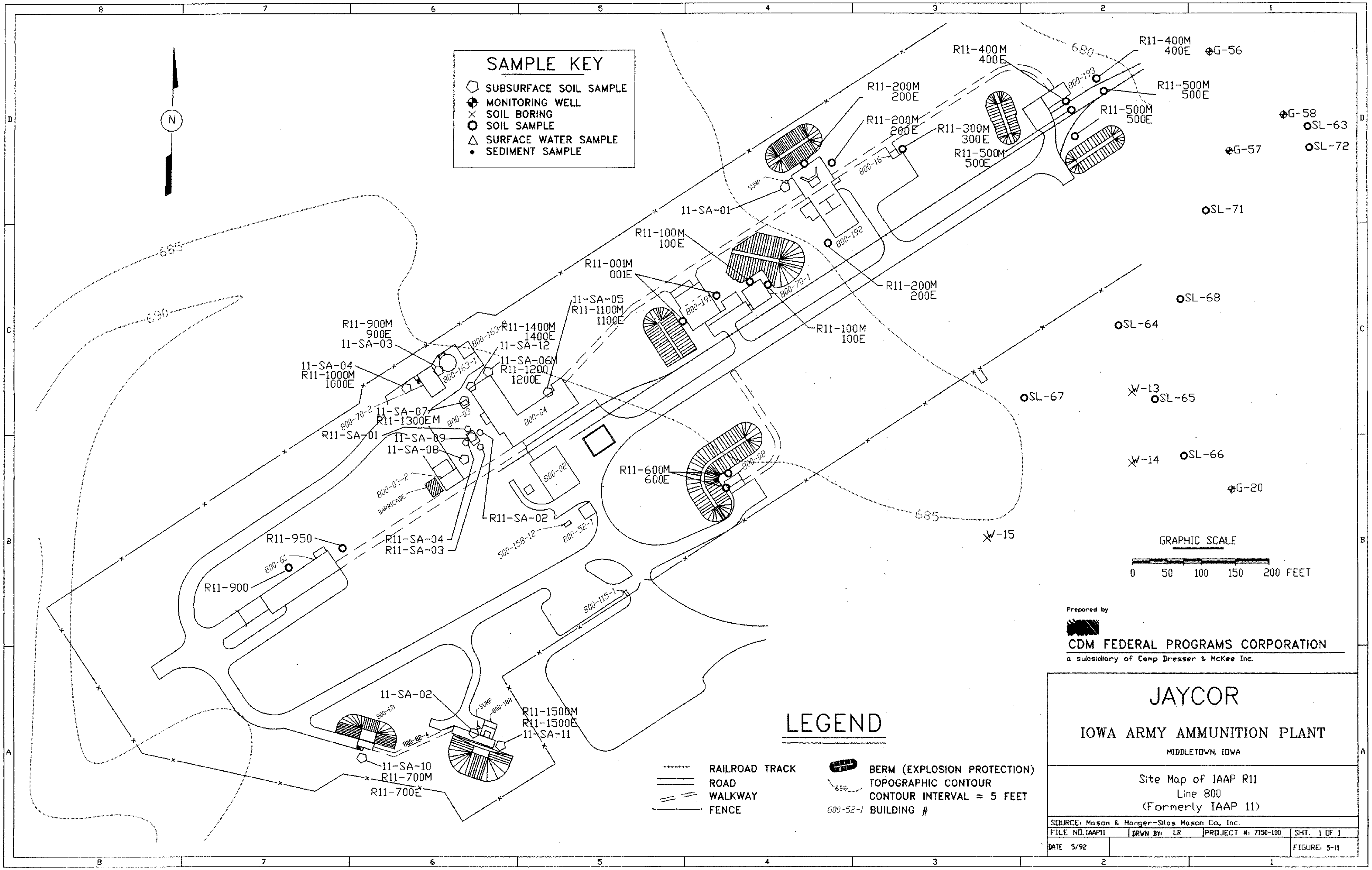
Data requirements for R11 include the need to verify contamination found during the SI, delineate areas of contamination, and to explore additional areas not sampled during the SI. Areas found to be contaminated during the SI will be resampled to verify contamination during the RI. The areal extent of contamination for metals and explosives in soils will be determined using screening, then confirmed with laboratory analysis. A soil gas survey will be conducted to gather preliminary VOC data; results will be confirmed with soil samples submitted for laboratory analysis. Pesticide/PCB and semivolatile analyses will be conducted at one location.

The sampling objective for the transformer area (11-SA-09) is to intially determine the areal and vertical extent of pesticide/PCB-related contamination. Phase I sampling will be limited to surface and subsurface sampling which does not require a drill rig. If borings are required, they will be completed during Phase II of the RI.

The sampling objective for the area around 11-SA-11 will be to confirm the presence of the semivolatile and explosive contamination and to determine the areal and vertical extent of contamination. Because the semivolatile result was only one parameter, it is expected that semivolatile contamination may not be present, or may be very limited. Explosives contamination was two moderate results and may be more substantial.

The sampling objective of the soil gas survey is to characterize the area on the north-central portion of the facility that contains two solvent storage buildings (800-03 and 800-03-2) and an SI sample (11-SA-08) with a low detected concentration of 1,1,1-TCE (0.83 mg/kg). Because these facilities are in proximity to each other, the soil gas survey will initally screen the entire area encompassing these sites.

The sampling objective for the remainder of the site is to confirm metals contamination and initially screen the areal extent of contamination, using XRF. SI sample locations which contained elevated levels of metals, and additional sample locations, will serve as nodes to begin gridded sampling. Seven other areas not sampled during the SI will initially be screened for metals and explosives contamination during the RI. The seven areas represent possible areas of contamination due to the nature of their activities, and the fact that similar buildings caused contamination at other sites.



SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
N
685
690
680
R11-400M 400E
G-56
R11-500M 500E
G-58
SL-63
SL-72
G-57
R11-200M 200E
R11-300M 300E
R11-500M 500E
11-SA-01
SUMP
SL-71
R11-100M 100E
R11-001M 001E
R11-200M 200E
SL-68
SL-64
11-SA-05
R11-1100M 1100E
R11-100M 100E
R11-900M 900E
11-SA-03
R11-1400M 1400E
11-SA-12
11-SA-06M
R11-1200 1200E
11-SA-04
R11-1000M 1000E
11-SA-07
R11-1300EM
R11-SA-01
11-SA-09
11-SA-08
SL-67
W-13
SL-65
W-14
SL-66
G-20
R11-600M 600E
BARRICADE
R11-SA-02
R11-950
R11-SA-04
R11-SA-03
W-15
R11-900
GRAPHIC SCALE
0 50 100 150 200 FEET
11-SA-02
R11-1500M
R11-1500E
11-SA-11
11-SA-10
R11-700M
R11-700E
LEGEND
RAILROAD TRACK
ROAD
WALKWAY
FENCE
BERM (EXPLOSION PROTECTION)
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
800-52-1 BUILDING #
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R11
Line 800
(Formerly IAAP 11)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP11
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-11

5.13.2 Proposed Sampling Scheme

The proposed sampling scheme for R11 is described below. Samples discussed below are described in Table 5-13, with their sample number, analyses requested, and locations. Sample locations are shown on Figure 5-11; soil gas locations are shown on Figure 5-11a.

Sample 11-SA-09-01 was collected in the transformer storage area. The RI sampling scheme is to collect soil samples at the surface and subsurface at the edge of the fenced area, to verify whether contaminants have migrated outside the fenced area. Eight samples will initially be collected for laboratory analysis of pesticides and PCBs; at the middle of each side of the four sides of the pad, a surface sample (0 to 6 inches) and a subsurface sample (18 to 24 inches) will be collected. As stated in Section 5.13.1, if the Phase I sampling effort indicates contamination at depth, then further subsurface soil and groundwater sampling will be planned for Phase II.

Samples 11-SA-08-01 was collected in a drainage ditch drains north toward Building 800-03, that which is a solvent storage building. Because these two facilities are within 100 feet of each other and represent the same type of contamination, the soil gas survey will encompass both areas.

The area around SI sample 11-SA-11-01 will be characterized using field screening for explosives, as described in Section 4.2.3.1, with the resolution reduced to 5 feet between nodes. The first sample will be collected from the sample location as 11-SA-11 to verify the presence or absence of explosives and/or semivolatile contamination. Subsequent sampling will depend on this initial confirmation.

SI soil samples 11-SA-03, -04, -05, -06, -07, -10, and -12 all showed low levels of metals contamination, and will therefore be screened using methodology described in Section 4.2.3.1.

R11-800 through 1550 are additional sample locations selected from throughout the facility to screen for other possible locations of metals and explosives contamination.

Table 5-13
Proposed Sample Summary
IAAP-R11 (LINE 800)

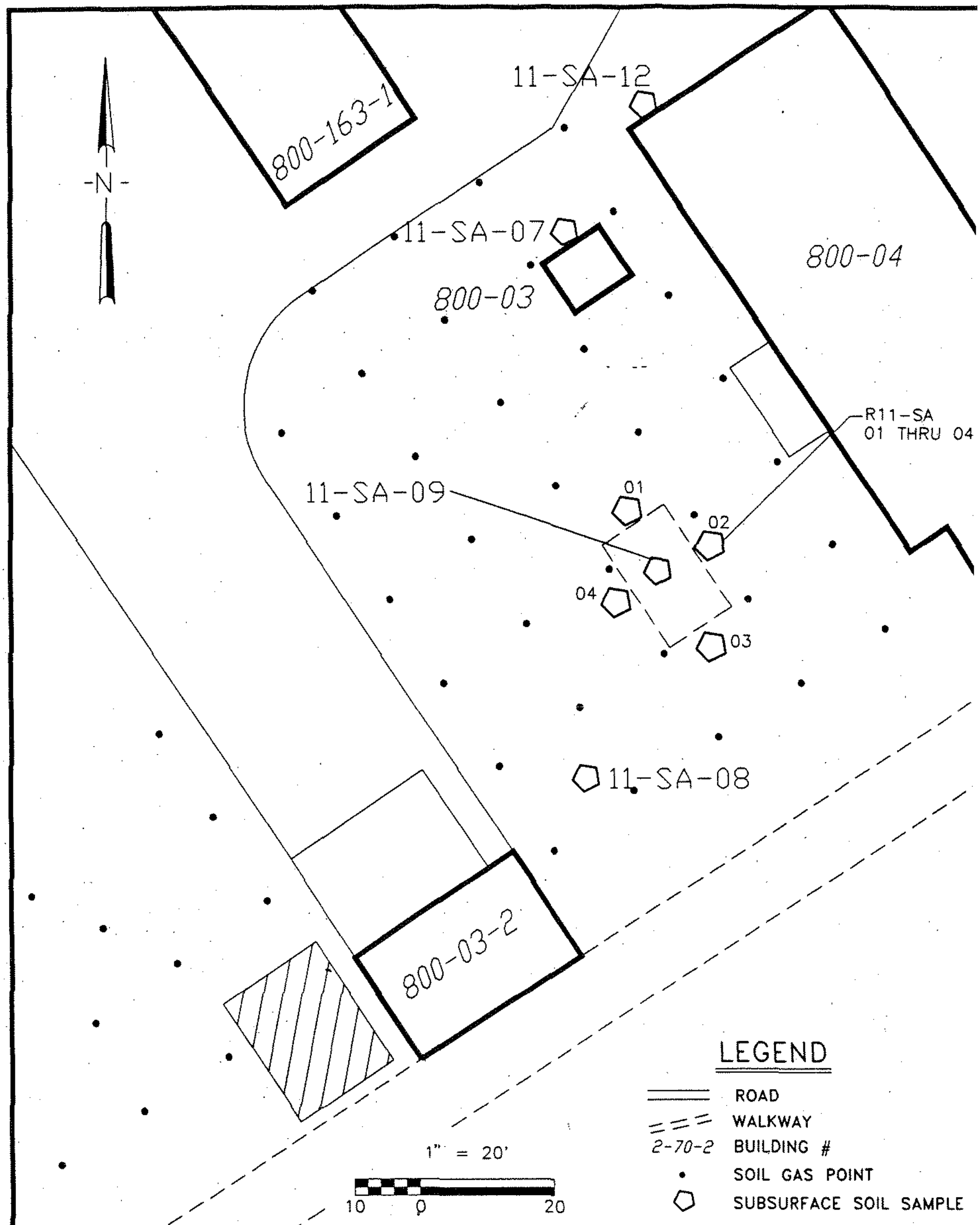
RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R11-SA-01-01	Pesticides/PCBs	G	A	0-6"	1′ north of center of north edge of pad 800-169-2.
R11-SA-01-02	Pesticides/PCBs	G	A	18-24"	Corresponds to R11-SA-01.
R11-SA-02-01	Pesticides/PCBs	G	A	0-6"	1′ east of center of east edge of pad 800-169-2.
R11-SA-02-02	Pesticides/PCBs	G	A	18-24"	Corresponds to R11-SA-02.
R11-SA-03-01	Pesticides/PCBs	G	A	0-6"	1′ south of center of south edge of pad 800-169-2.
R11-SA-03-02	Pesticides/PCBs	G	A	18-24"	Corresponds to R11-SA-03.
R11-SA-04-01	Pesticides/PCBs	G	A	0-6"	1′ west of center of west edge of pad 800-169-2.
R11-SA-04-02	Pesticides/PCBs	G	A	18-24"	Corresponds to R11-SA-04.
R11-SA-05-01	SemiVOCs	G	A	0-6"	Immediately off sidewalk, east of 800-188.
R11-SA-06-01	VOCs	G	A	TBD	Confirmatory sample from soil gas survey at 800-03 and 800-03-2.
R11-SA-07-01	VOCs	G	A	TBD	Confirmatory sample from soil gas survey at 800-03 and 800-03-2.
R11-SA-08-01	VOCs	G	A	TBD	Confirmatory sample from soil gas survey at 800-03 and 800-03-2.
R11-SA-09-01	VOCs	G	A	TBD	Confirmatory sample from soil gas survey at 800-03 and 800-03-2.
R11-SA-10-01	VOCs	G	A	TBD	Confirmatory sample from soil gas survey at 800-03 and 800-03-2.
R11-001M	Metals	G	S	0-6"	5 feet west of center of west wall of Building 800-191; biased sampling.
R11-001E	Explosives	G	S	0-6"	Corresponds to R11-001M.
R11-100M	Metals	G	S	0-6"	5 feet east of center of east wall of Building 800-70-1; biased sampling.
R11-100E	Explosives	G	S	0-6"	Corresponds to R11-100M.
R11-200M	Metals	G	S	0-6"	5 feet north of center of north wall of Building 800-192; biased sampling.
R11-200E	Explosives	G	S	0-6"	Corresponds to R11-200M.
R11-300M	Metals	G	S	0-6"	5 feet east of northeast corner of Building 800-16; biased sampling.
R11-300E	Explosives	G	S	0-6"	Corresponds to R11-300M.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-13 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R11-400M	Metals	G	S	0-6"	5 feet south of center of south wall of Building 800-193; biased sampling.
R11-400E	Explosives	G	S	0-6"	Corresponds to R11-400M.
R11-500M	Metals	G	S	0-6"	South of southeast corner of Building 800-193; biased sampling.
R11-500E	Explosives	G	S	0-6"	Corresponds to R11-500M.
R11-600M	Metals	G	S	0-6"	5 feet north of center of north wall of Building 800-08; biased sampling.
R11-600E	Explosives	G	S	0-6"	Corresponds to R11-600M.
R11-700M	Metals	G	S	0-6"	SI location 11-SA-10 is the central node of grid sampling.
R11-700E	Explosives	G	S	0-6"	Corresponds to R11-SA-05.
R11-800M	Metals	G	S	0-6"	20 feet north of center of north wall of Building 800-61; biased sampling.
R11-800E	Explosives	G	S	0-6"	20 feet east of northeast corner of Building 800-61; biased sampling.
R11-900M	Metals	G	S	0-6"	SI location 11-SA-03 is the central node of grid sampling.
R11-1000M	Metals	G	S	0-6"	SI location 11-SA-04 is the central node of grid sampling.
R11-1100M	Metals	G	S	0-6"	SI location 11-SA-05 is the central node of grid sampling.
R11-1200M	Metals	G	S	0-6"	SI location 11-SA-06 is the central node of grid sampling.
R11-1300M	Metals	G	S	0-6"	SI location 11-SA-07 is the central node of grid sampling.
R11-1400M	Metals	G	S	0-6"	SI location 11-SA-12 is the central node of grid sampling.

C = Composite S = Screening Sample G = Grab A = Analytical Sample



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IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA

SOIL GAS SURVEY

IAAP R11 BUILDING #800-03 & 800-03-2

Figure 5-11a

5/92

SGIAAP11a

5.14 IAAP-R12 (EDA EAST BURN PADS)

IAAP-R12, referred to as IAAP-12 in the SI (Section 3.14), is the Explosive Disposal Area's east burn pads, located in the northeast corner of IAAP, approximately one mile from the installation boundary (Plate 1; E-2). IAAP-R12 consists of eight raised earthen burning pads enclosed in a fenced area approximately 12 acres (Figure 5-12).

During the 1991 SI, two soil samples and four groundwater samples were collected from the site. All showed contamination of either explosives, metals, volatiles, and/or semivolatiles.

5.14.1 Data Requirements and Sampling Objectives

Data requirements for R12 include the need to verify contamination found during the SI, delineate areas of contamination, and to explore additional areas not sampled during the SI.

The sampling objective for the burn pads is to verify the aeral and vertical extent of contamination within each pad. Because the activities within each pad were similar, all are expected to be contaminated to some extent. Metals and explosives will be analyzed as screening samples, and semivolatiles will be analyzed using an off-site laboratory.

The sampling objective for the groundwater is to resample all five wells on the site, and to extract some other groundwater samples from more distant locations using a piezometers installed by a Geoprobe. Groundwater will be laboratory analyzed for metals, explosives, volatiles and semivolatiles.

Soils outside the burn pads, and the surface water west of the site will also be sampled to determine the extent of contaminant migration from the pads.

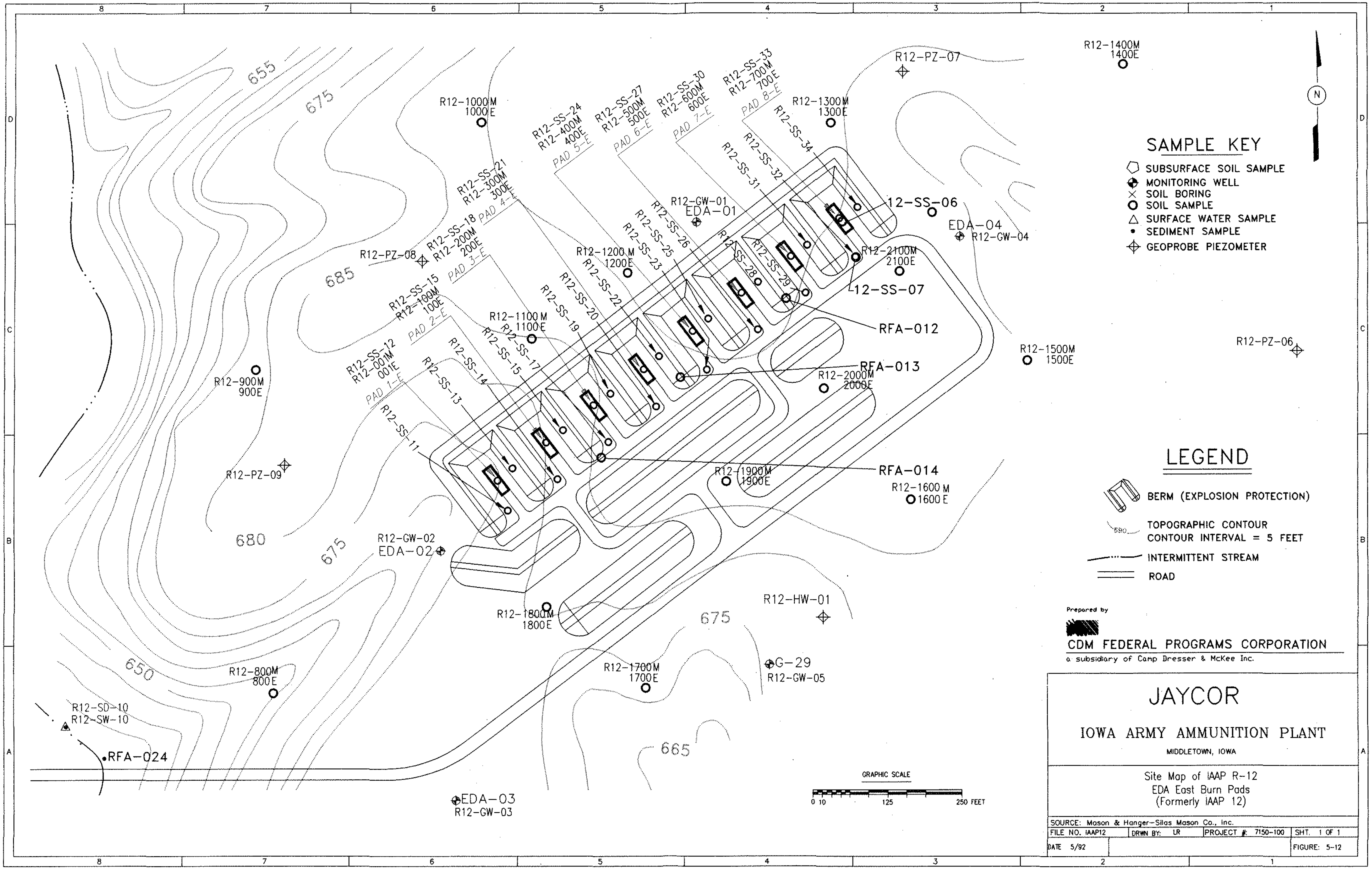
5.14.2 Proposed Sampling Scheme

The proposed sampling scheme for R12 is described below. Samples discussed below are described in Table 5-14, with their sample number, analyses requested, and locations. Sample locations are shown in Figure 5-12.

Groundwater samples will be collected from the five wells on the site, and the additional four Geoprobe piezometer locations. Contamination during the RI included metals and explosives in all four EDA wells, and VOCs in EDA-02. Semivolatiles were found in the pad area, but not in the water. Therefore, all nine groundwater samples will be analyzed for metals, explosives, volatiles and semivolatiles.

RI-12 contains eight parallel cells for burning explosives. Activities in each cell were similar, and therefore the level of contamination is presumed to be similar. The objective is to sample the pad, the ground around the pad, and the berms surrounding the pad for metals and explosives using a biased screening protocol. Because semivolatiles were found during the SI, but cannot be screened, three samples will be collected from each pad, to characterize the burn area, the run-off area, and the berm wall.

Thirteen additional areas surrounding the burn pad area will be screened for metals and explosives. Additional data points will be selected based on these results, using a biased screening protocol.


SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GEOPROBE PIEZOMETER
LEGEND
BERM (EXPLOSION PROTECTION)
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM
ROAD
N
R12-PZ-07
R12-1400M 1400E
R12-1000M 1000E
R12-1300M 1300E
R12-SS-24 R12-400M 400E PAD 5-E
R12-SS-27 R12-500M 500E PAD 6-E
R12-SS-30 R12-600M 600E PAD 7-E
R12-SS-33 R12-700M 700E PAD 8-E
R12-SS-21 R12-300M 300E PAD 4-E
R12-SS-18 R12-200M 200E PAD 3-E
R12-SS-15 R12-100M 100E PAD 2-E
R12-SS-12 R12-001M 001E PAD 1-E
R12-GW-01 EDA-01
12-SS-06
12-SS-07
EDA-04 R12-GW-04
R12-2100M 2100E
R12-1200M 1200E
R12-1100M 1100E
R12-PZ-08
RFA-012
RFA-013
RFA-014
R12-2000M 2000E
R12-1500M 1500E
R12-PZ-06
R12-900M 900E
R12-PZ-09
R12-1900M 1900E
R12-1600M 1600E
R12-GW-02 EDA-02
R12-1800M 1800E
R12-HW-01
R12-1700M 1700E
G-29 R12-GW-05
R12-800M 800E
R12-SD-10
R12-SW-10
RFA-024
EDA-03 R12-GW-03
655
675
685
680
650
665
GRAPHIC SCALE
0 10 125 250 FEET
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JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R-12
EDA East Burn Pads
(Formerly IAAP 12)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP12
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-12

Table 5-14
Proposed Sample Summary
IAAP-R12 (EDA EAST BURN PADS)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R12-GW-01-01	Metals Explosives VOCs SemiVOCs	G	A	-	EDA-01, depth of well is 26'.
R12-GW-02-01	Metals Explosives VOCs SemiVOCs	G	A	-	EDA-02, depth of well is 27'.
R12-GW-03-01	Metals Explosives VOCs SemiVOCs	G	A	-	EDA-03, depth of well is 37'.
R12-GW-04-01	Metals Explosives VOCs SemiVOCs	G	A	-	EDA-04, depth of well is 18'.
R12-GW-05-01	Metals Explosives VOCs SemiVOCs	G	A	-	G-29, depth of well is 18'.
R12-PZ-06-01	Metals Explosives VOCs SemiVOCs	G	A	-	500' east of EDA road.
R12-PZ-07-01	Metals Explosives VOCs SemiVOCs	G	A	-	150' northeast of EDA perimeter berm corner.
R12-PZ-08-01	Metals Explosives VOCs SemiVOCs	G	A	-	250' northwest of PAD 2-E.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-14 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R12-PZ-09-01	Metals Explosives VOCs SemiVOCs	G	A	-	250' west of EDA perimeter berm corner.
R12-SW-10-01	Metals Explosives	G	A	-	In creek west at EDA, at road crossing.
R12-SD-10-01	Metals Explosives	G	A	0-6"	Corresponds to R12-SW-10-01.
R12-SS-11-01	SemiVOCs	G	A	0-6"	Pad 1-E, drainage area southwest of burn area.
R12-SS-12-01	SemiVOCs	G	A	0-6"	Pad 1-E, center of burn area.
R12-SS-13-01	SemiVOCs	G	A	0-6"	Pad 1-E, center of west-facing berm.
R12-SS-14-01	SemiVOCs	G	A	0-6"	Pad 2-E, drainage area southwest of burn area.
R12-SS-15-01	SemiVOCs	G	A	0-6"	Pad 2-E, center of burn area.
R12-SS-16-01	SemiVOCs	G	A	0-6"	Pad 2-E, center of west-facing berm.
R12-SS-17-01	SemiVOCs	G	A	0-6"	Pad 3-E, drainage area southwest of burn area.
R12-SS-18-01	SemiVOCs	G	A	0-6"	Pad 3-E, center of burn area.
R12-SS-19-01	SemiVOCs	G	A	0-6"	Pad 3-E, center of west-facing berm.
R12-SS-20-01	SemiVOCs	G	A	0-6"	Pad 4-E, drainage area southwest of burn area.
R12-SS-21-01	SemiVOCs	G	A	0-6"	Pad 4-E, center of burn area.
R12-SS-22-01	SemiVOCs	G	A	0-6"	Pad 4-E, center of west-facing berm.
R12-SS-23-01	SemiVOCs	G	A	0-6"	Pad 5-E, drainage area southwest of burn area.
R12-SS-24-01	SemiVOCs	G	A	0-6"	Pad 5-E, center of burn area.
R12-SS-25-01	SemiVOCs	G	A	0-6"	Pad 5-E, center of west-facing berm.
R12-SS-26-01	SemiVOCs	G	A	0-6"	Pad 6-E, drainage area southwest of burn area.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-14 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R12-SS-27-01	SemiVOCs	G	A	0-6"	Pad 6-E, center of burn area.
R12-SS-28-01	SemiVOCs	G	A	0-6"	Pad 6-E, center of west-facing berm.
R12-SS-29-01	SemiVOCs	G	A	0-6"	Pad 7-E, drainage area southwest of burn area.
R12-SS-30-01	SemiVOCs	G	A	0-6"	Pad 7-E, center of burn area.
R12-SS-31-01	SemiVOCs	G	A	0-6"	Pad 7-E, center of west-facing berm.
R12-SS-32-01	SemiVOCs	G	A	0-6"	Pad 8-E, drainage area southwest of burn area.
R12-SS-33-01	SemiVOCs	G	A	0-6"	Pad 8-E, center of burn area.
R12-SS-34-01	SemiVOCs	G	A	0-6"	Pad 8-E, center of west-facing berm.
R12-001M	Metals	G	S	0-6"	Pad 1-E, center of burn area.
R12-001E	Explosives	G	S	0-6"	Corresponds to R12-001M.
R12-100M	Metals	G	S	0-6"	Pad 2-E, center of burn area.
R12-100E	Explosives	G	S	0-6"	Corresponds to R12-100M.
R12-200M	Metals	G	S	0-6"	Pad 3-E, center of burn area.
R12-200E	Explosives	G	S	0-6"	Corresponds to R12-200M.
R12-300M	Metals	G	S	0-6"	Pad 4-E, center of burn area.
R12-300E	Explosives	G	S	0-6"	Corresponds to R12-300M.
R12-400M	Metals	G	S	0-6"	Pad 5-E, center of burn area.
R12-400E	Explosives	G	S	0-6"	Corresponds to R12-400M.
R12-500M	Metals	G	S	0-6"	Pad 6-E, center of burn area.
R12-500E	Explosives	G	S	0-6"	Corresponds to R12-500M.
R12-600M	Metals	G	S	0-6"	Pad 7-E, center of burn area.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-14 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R12-600E	Explosives	G	S	0-6"	Corresponds to R12-600M.
R12-700M	Metals	G	S	0-6"	Pad 8-E, center of burn area.
R12-700E	Explosives	G	S	0-6"	Corresponds to R12-700M.
R12-800M	Metals	G	S	0-6"	500 feet southwest of Pad 1-E.
R12-800E	Explosives	G	S	0-6"	Corresponds to R12-800M.
R12-900M	Metals	G	S	0-6"	400 feet northwest of Pad 1-E.
R12-900E	Explosives	G	S	0-6"	Corresponds to R12-900M.
R12-1000M	Metals	G	S	0-6"	400 feet northwest of Pad 4-E.
R12-1000E	Explosives	G	S	0-6"	Corresponds to R12-1000M.
R12-1100M	Metals	G	S	0-6"	20 feet northwest of Pad 3-E.
R12-1100E	Explosives	G	S	0-6"	Corresponds to R12-1100M.
R12-1200M	Metals	G	S	0-6"	50 feet north of Pad 5-E.
R12-1200E	Explosives	G	S	0-6"	Corresponds to R12-1200M.
R12-1300M	Metals	G	S	0-6"	20 feet north of northern corner of berm.
R12-1300E	Explosives	G	S	0-6"	Corresponds to R12-1300M.
R12-1400M	Metals	G	S	0-6"	400 feet northeast of well EDA-04.
R12-1400E	Explosives	G	S	0-6"	Corresponds to R12-1400M.
R12-1500M	Metals	G	S	0-6"	50 feet southeast of corner of road.
R12-1500E	Explosives	G	S	0-6"	Corresponds to R12-1500M.
R12-1600M	Metals	G	S	0-6"	140 feet south of road, southeast of Pad 6-E.
R12-1600E	Explosives	G	S	0-6"	Corresponds to R12-1600M.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-14 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Type	Depth	Location
R12-1700M	Metals	G	S	0-6"	100 feet south of road, southeast of Pad 1-E.
R12-1700E	Explosives	G	S	0-6"	Corresponds to R12-1700M.
R12-1800M	Metals	G	S	0-6"	140 feet southeast of Pad 1-E.
R12-1800E	Explosives	G	S	0-6"	Corresponds to R12-1800M.
R12-1900M	Metals	G	S	0-6"	130 feet southeast of Pad 4-E.
R12-1900E	Explosives	G	S	0-6"	Corresponds to R12-1900M.
R12-2000M	Metals	G	S	0-6"	130 feet southeast of Pad 5-E.
R12-2000E	Explosives	G	S	0-6"	Corresponds to R12-2000M.
R12-2100M	Metals	G	S	0-6"	40' southeast of Pad 8-E.
R12-2100E	Explosives	G	S	0-6"	Corresponds to R12-2100M.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

5.15 IAAP-R13 (PESTICIDE PIT)

IAAP-R13, referred to as IAAP-17 in the SI (Section 3.15), is the Pesticide Pit. The single composite subsurface soil sample collected adjacent to the bottom of the Pesticide Pit during the SI was intended to confirm past sampling efforts which detected pesticide and herbicide contamination. Results from the SI sampling found one low level detection of DDT along with six metals detected above evaluation criteria. The historical evidence of contamination warrants inclusion in the Phase I RI. The investigation will focus on confirming and delineating the existence of soil and groundwater contamination.

5.15.1 Data Requirements and Sampling Objectives

The data needs for the Pesticide Pit include: Establishing background contaminant concentrations related to the adjacent farm field; verification of the groundwater flow direction in the immediate area of the pesticide pit; analysis of groundwater surrounding and downgradient of the pit; and confirmation of soil contamination surrounding the pit. The sampling objectives will be to: obtain five relative groundwater table measurements (one at the pit, three surrounding the pit, and one background) to determine the direction of groundwater flow; collect five groundwater samples from these piezometers to be field analyzed on a Gas Chromatograph for volatiles and semi-volatiles (potential carrier solvents and breakdown products), and finally, to collect soil samples for background, surface and sub-surface strata to characterize the extent of pesticide, herbicide, PCB, metals, volatile and semi-volatile contamination.

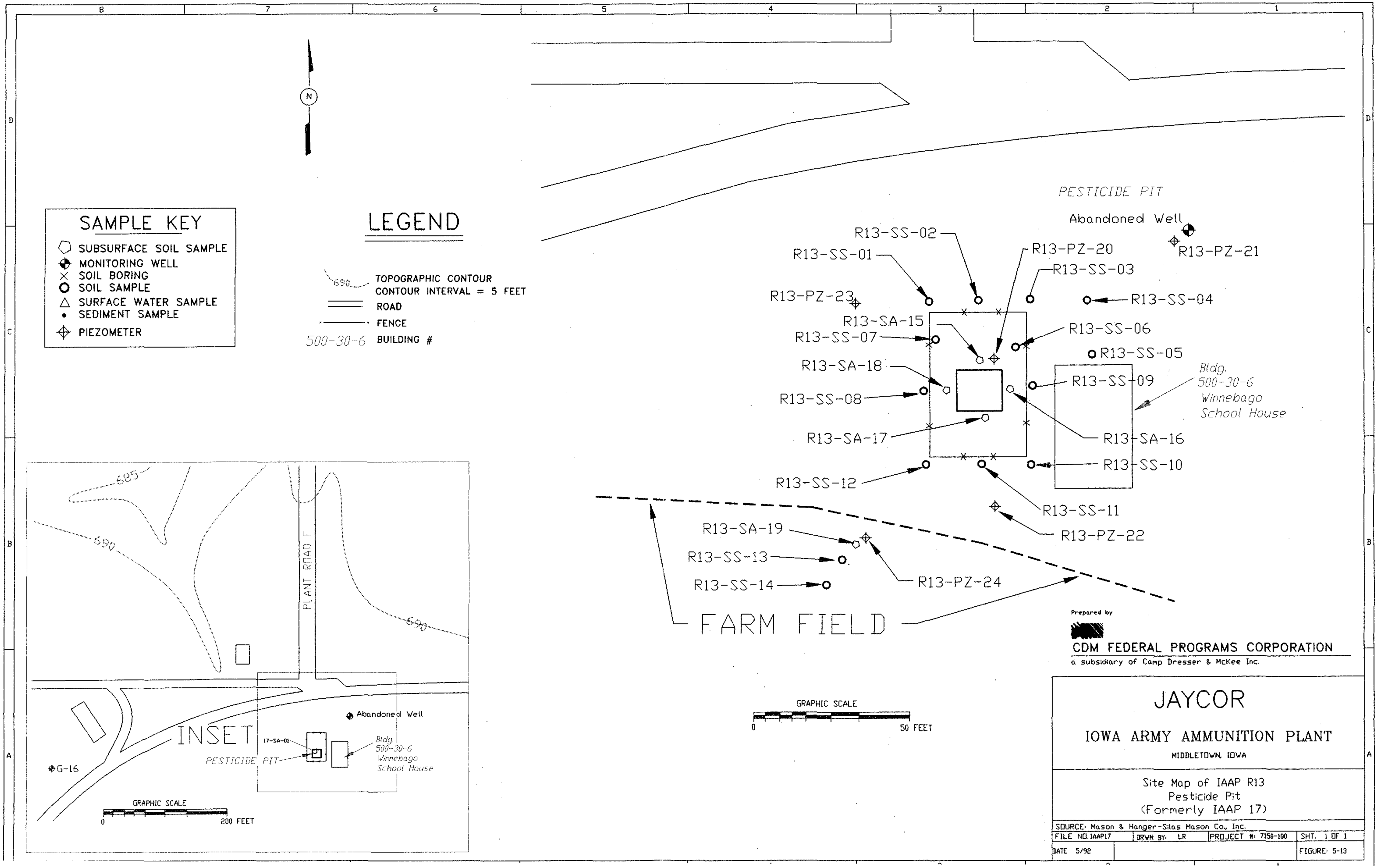
5.15.2 Proposed Sampling Scheme

The three sampling objectives discussed above will be met by three activities during the Phase I RI. The samples to be collected and their locations are depicted in Table 5-15.

The first activity is to determine the groundwater flow direction. The water table is believed to have large seasonal fluctuations, and has been observed as close as two feet from the surface. Groundwater flow direction will be determined by collecting water level measurements from 5 temporary piezometers, to be installed by a Geoprobe: Three piezometers will be installed in a triangular pattern centered on the pit one piezometer next to the pit and one in the farm field southwest of the pit. The distance of each point from the pit is depicted in Figure 5-13. If possible, the abandoned well at the adjacent historical schoolhouse will be used for one of the proposed points.

Groundwater samples from these five piezometers will then be field analyzed for volatiles and semi-volatiles. Based on the chemical analysis, additional piezometers may be installed dependent on interpretation of the initial results. Laboratory confirmation of the results will be attained from the piezometers if sufficient water quantity is available, otherwise complete parameter confirmation samples will be collected from monitoring wells to be installed in Phase II of the RI. Groundwater will be analyzed for pesticides, herbicides, PCBs, metals, volatiles and semi-volatiles.

Surface and subsurface soil samples will be collected surrounding the pesticide pit and at the farm field background location (Figure 5-13). These samples will be sent to a laboratory for analysis of pesticides, herbicides, PCBs, volatiles and semi-volatiles. Metals screening will also be performed at all of the soil sampling locations. Subsurface soil samples will be collected from locations immediately surrounding the pit and will be vertically located beneath any fill material, within native soils. Samples will also be collected from one foot above the water table.



SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
PIEZOMETER
LEGEND
690
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
ROAD
FENCE
500-30-6
BUILDING #
N
PESTICIDE PIT
Abandoned Well
R13-SS-01
R13-SS-02
R13-PZ-20
R13-SS-03
R13-PZ-21
R13-PZ-23
R13-SS-04
R13-SA-15
R13-SS-07
R13-SS-06
R13-SS-05
R13-SA-18
R13-SS-09
Bldg.
500-30-6
Winnebago
School House
R13-SS-08
R13-SA-17
R13-SA-16
R13-SS-12
R13-SS-10
R13-SS-11
R13-PZ-22
R13-SA-19
R13-SS-13
R13-PZ-24
R13-SS-14
FARM FIELD
GRAPHIC SCALE
0
50 FEET
685
690
690
PLANT ROAD F
INSET
Abandoned Well
17-SA-01
PESTICIDE PIT
Bldg.
500-30-6
Winnebago
School House
G-16
GRAPHIC SCALE
0
200 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R13
Pesticide Pit
(Formerly IAAP 17)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP17
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-13

Table 5-15
Proposed Sample Summary
IAAP-R13 (Pesticide Pit)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R13-SS-01-01	Pest/Herb PCBs VOC SemiVOC	G	A	0-6"	Outside protective fence; at NW corner.
R13-SS-02-01	Pest/Herb PCBs VOC SemiVOC	G	A	0-6"	Outside protective fence; center of northern edge.
R13-SS-03-01	Pest/Herb PCBs VOC SemiVOC	G	A	0-6"	Outside protective fence; at NE corner.
R13-SS-04-01	Pest/Herb PCBs VOC SemiVOC	G	A	0-6"	Twelve feet north of the front door of the school house
R13-SS-05-01	Pest/Herb PCBs VOC SemiVOC	G	A	0-6"	Two feet north of the front door of the school house
R13-SS-06-01	Pest/Herb PCBs VOC SemiVOC	G	A	0-6"	Within the protective fence; along the east run; directly west of R13-SS-05
R13-SS-07-01	Pest/Herb PCBs VOC SemiVOC	G	A	0-6"	Within the protective fence; along the west run; directly west of R13-SS-06

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-15 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R13-SS-08-01	Pest/Herb PCBs VOC SemiVOC	G	A	0-6"	Outside of the protective fence; along the west run; directly west of the center of the pit.
R13-SS-09-01	Pest/Herb PCBs VOC SemiVOC	G	A	0-6"	Outside of the protective fence; along the east run; directly east of the center of the pit.
R13-SS-010-01	Pest/Herb PCBs VOC SemiVOC	G	A	0-6"	Outside the protective fence; in the southeast corner.
R13-SS-11-01	Pest/Herb PCBs VOC SemiVOC	G	A	0-6"	Outside the protective fence; along the south run; directly south of the center of the pit.
R13-SS-12-01	Pest/Herb PCBs VOC SemiVOC	G	A	0-6"	Outside the protective fence; in the southwest corner.
R13-SS-13-01	Pest/Herb PCBs VOC SemiVOC	G	A	0-6"	Background Sample in farm field; 20 feet S.W. of piezometer PZ-05.
R13-SS-14-01	Pest/Herbs PCBs VOC SemiVOC	G	A	0-6"	Background sample in farm field; 50 feet S.W. of piezometer PZ-05.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-15 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R13-SA-15-01	Pest/Herb PCBs VOC SemiVOC	G	A	0-6"	Five feet north of the center of the pit.
R13-SA-15-02	Pest/Herb PCBs VOC SemiVOC	G	A	60-66"	Five feet north of the center of the pit.
R13-SA-15-03	Pest/Herb PCBs VOC SemiVOC	G	A	at water table	Five feet north of the center of the pit.
R13-SA-16-01	Pest/Herb PCBs VOC SemiVOC	G	A	0-6"	Five feet east of the center of the pit.
R13-SA-16-02	Pest/Herb PCBs VOC SemiVOC	G	A	60-66"	Five feet east of the center of the pit.
R13-SA-16-03	Pest/Herb PCBs VOC SemiVOC	G	A	at water table	Five feet east of the center of the pit.
R13-SA-17-01	Pest/Herb PCBs VOC SemiVOC	G	A	0-6"	Five feet south of the center of the pit.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-15 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R13-SA-17-02	Pest/Herb PCBs VOC SemiVOC	G	A	60-66"	Five feet south of the center of the pit.
R13-SA-17-03	Pest/Herb PCBs VOC SemiVOC	G	A	at water table	Five feet south of the center of the pit.
R13-SA-18-01	Pest/Herb PCBs VOC SemiVOC	G	A	0-6"	Five feet west of the center of the pit.
R13-SA-18-02	Pest/Herb PCBs VOC SemiVOC	G	A	60-66"	Five feet west of the center of the pit.
R13-SA-18-03	Pest/Herb PCBs VOC SemiVOC	G	A	at water table	Five feet west of the center of the pit.
R13-SA-19-01	Pest/Herb PCBs VOC SemiVOC	G	A	0-6"	Background sample in farm field southwest of pit; adjacent to piezometer PZ-05
R13-SA-19-02	Pest/Herb PCBs VOC SemiVOC	G	A	60-66"	Background sample in farm field southwest of pit; adjacent to piezometer PZ-05

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-15 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R13-PZ-20-01	Pest/Herb PCBs VOC SemiVOC Metals	G	A	-	Groundwater sample collected from temporary piezometer PZ-01.
R13-PZ-21-01	Pest/Herb PCBs VOC SemiVOC Metals	G	A	-	Groundwater sample collected from temporary piezometer PZ-02.
R13-PZ-22-01	Pest/Herb PCBs VOC SemiVOC Metals	G	A	-	Groundwater sample collected from temporary piezometer PZ-03.
R13-PZ-23-01	Pest/Herb PCBs VOC SemiVOC Metals	G	A	-	Groundwater sample collected from temporary piezometer PZ-04.
R13-PZ-24-01	Pest/Herb PCBs VOC SemiVOC Metals	G	A	-	Groundwater sample collected from temporary piezometer PZ-05 in farm field; 50 feet S.W. of edge.
R13-001M	Metals	G	S	0-6" 60-66" at water table	Pesticide Pit is central focus; samples to be collected at all locations where samples for laboratory analysis are taken.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

5.16 IAAP-R14 (INERT DISPOSAL AREA)

Site IAAP-R14 was IAAP-20 in the SI. The SI sampling for R14 focused on determining whether soil contamination was present due to past activities; and determining if surface water runoff was transporting contaminants off site from the former Blue Sludge Lagoon, Storage Yard, Burning Field, and Inert Landfill. Metals were reported in all SI samples. The areas identified to contain the highest concentrations of metals were the drainage ditches south and west of the Burning Field and Inert Landfill. The ditches appear to receive leachate from the landfill and surface runoff from the Burning Field. Explosives were identified in the sample taken from the north side of the Burning Field, and in the surface water sample taken from the ditch below the Inert Landfill. Volatiles and semivolatiles were reported in surface water samples taken from the drainage ditches downgradient of the site.

5.16.1 Data Requirements and Sampling Objectives

The primary concern associated with IAAP-R14 is the characterization of the two source areas, and the migration of metals, explosives, volatiles, and semivolatiles via groundwater and drainage pathways. The contaminant sources are the Burning Field and Inert Landfill; these two areas were found to contain the greatest concentrations of contaminants during the SI.

The Phase I RI/FS sampling is designed to characterize the areal and vertical extent of source contamination; determine the extent of migration of contaminants in groundwater drainage pathways; and determine whether runoff or leachate from R14 is impacting the Long Creek tributary. Soil samples will be collected from drainage pathways. If possible, surface water samples will be collected from drainageways during a precipitation event.

Upgradient and downgradient surface water/sediment samples will be obtained from the Long Creek tributary. Samples will be collected from drainage pathways during a precipitation event. Because wastes were buried, R14 also poses a potential for groundwater contamination. Therefore, downgradient monitoring wells in the area will be sampled in an effort to determine whether R14 is impacting groundwater in the site vicinity. Trace explosive contamination was identified on the north side of the Burning Fields during the SI. Explosive screening will be performed in this area to delineate the extent of contamination.

5.16.2 Proposed Sampling Scheme

Samples proposed for IAAP-R14 in the Phase I RI/FS are summarized in Table 5-16. All proposed sample locations, along with SI sample locations, are depicted on Figure 5-14. The monitoring well construction details and boring logs for the subject wells are included in Appendix C. All samples will be analyzed for metals, explosives, semivolatiles, and volatiles, except for areas where screening methodology is being utilized.

One area will be screened for explosives in soils (see Section 4.2.3.1.1 for methodology). The explosives screening will use SI location 20-SA-09-01 as the central node of grid sampling of the area of concern.

Two areas will be screened for metals in soils (see Section 4.2.3.1.2 for methodology). The metals screening will use SI locations 20-SA-08 and 20-SA-07 as the central nodes of grid sampling of the areas of concern.

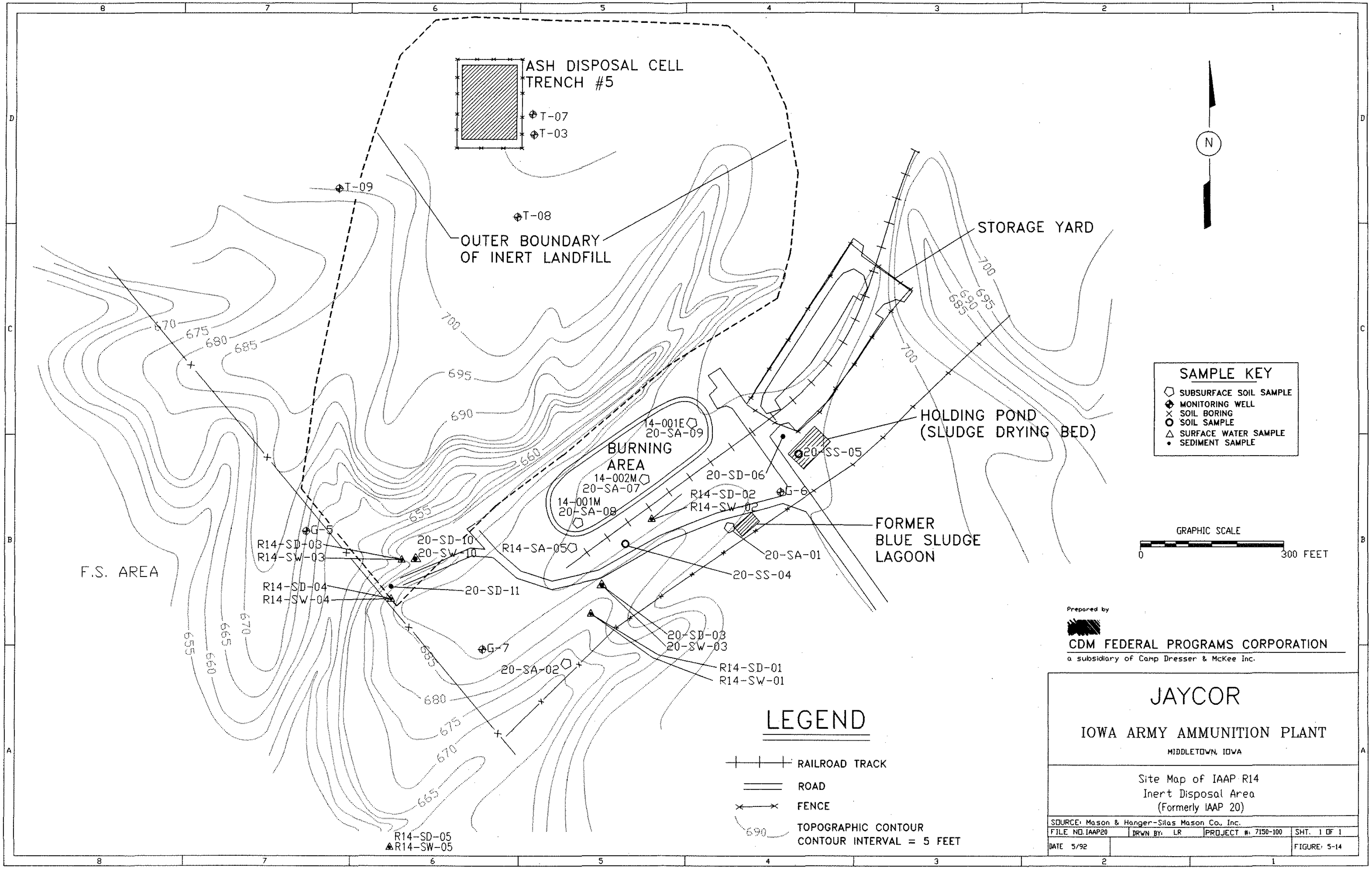

ASH DISPOSAL CELL
TRENCH #5
T-07
T-03
T-09
T-08
OUTER BOUNDARY
OF INERT LANDFILL
STORAGE YARD
N
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
HOLDING POND
(SLUDGE DRYING BED)
20-SS-05
14-001E
20-SA-09
BURNING
AREA
14-002M
20-SA-07
14-001M
20-SA-08
20-SD-06
R14-SD-02
R14-SW-02
G-6
FORMER
BLUE SLUDGE
LAGOON
20-SA-01
20-SS-04
GRAPHIC SCALE
0
300 FEET
G-5
R14-SD-03
R14-SW-03
20-SD-10
20-SW-10
R14-SA-05
F.S. AREA
R14-SD-04
R14-SW-04
20-SD-11
20-SD-03
20-SW-03
R14-SD-01
R14-SW-01
G-7
20-SA-02
R14-SD-05
R14-SW-05
670
675
680
685
695
690
700
660
655
665
LEGEND
RAILROAD TRACK
ROAD
FENCE
690
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R14
Inert Disposal Area
(Formerly IAAP 20)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP20
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-14

Table 5-16
Proposed Sample Summary
IAAP-R14 (INERT DISPOSAL AREA)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R14-SD-01-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	200 feet east of Well G7 and 50 feet south of road in drainage ditch.
R14-SW-01-01	Metals Explosives SemiVOCs VOCs	G	A	-	Corresponds to R14-SD-01-01.
R14-SD-02-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	200 feet northeast of SI sample 20-SS-04 in the drainage ditch.
R14-SW-02-01	Metals Explosives SemiVOCs VOCs	G	A	-	Corresponds to R14-SD-02-01.
R14-SD-03-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	Approximately 300 feet east of Well G5 within erosion ditch.
R14-SW-03-01	Metals Explosives SemiVOCs VOCs	G	A	-	Corresponds to R14-SD-03-01 if water is available. An attempt will be made to sample this location during a precipitation event.
R14-SD-04-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	100 feet downgradient of location R14-SD-03.
R14-SW-04-01	Metals Explosives SemiVOCs VOCs	G	A	-	Corresponds to R14-SD-04-01.

C = Composite   S = Screening Sample   G = Grab   A = Analytical Sample

Table 5-16 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R14-SD-05-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	In drainage ditch downgradient of the site prior to reaching the Long Creek tributary.
R14-SW-05-01	Metals Explosives SemiVOCs VOCs	G	A	-	Corresponds to R14-SD-05-01.
R14-SD-06-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	Long Creek tributary located west of the site, upgradient from site adjacent to railroad bridge.
R14-SW-06-01	Metals Explosives SemiVOCs VOCs	G	A	-	Corresponds to sample R14-SW-06-01.
R14-SD-07-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	Long Creek tributary located west of the site downgradient of the subject site.
R14-SW-07-01	Metals Explosives SemiVOCs VOCs	G	A	-	Corresponds to sample R14-SD-07-01.
R14-GW-08-01	Metals Explosives SemiVOCs VOCs	G	A	-	Well G4. Depth of well = 26.0 feet.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-16 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R14-GW-09-01	Metals Explosives SemiVOCs VOCs	G	A	-	Well G5. Depth of well = 50.0 feet.
R14-GW-10-01	Metals Explosives SemiVOCs VOCs	G	A	-	Well G6. Depth of well = 28.0 feet.
R14-GW-11-01	Metals Explosives SemiVOCs VOCs	G	A	-	Well G7. Depth of well = 42.0 feet.
R14-001M	Metals	G	S	0-6"	SI location 20-SA-08-01 is the central node of grid sampling.
R14-100M	Metals	G	S	0-6"	SI location 20-SA-07-01 is the central node of grid sampling.
R14-001E	Explosives	G	S	0-6"	SI location 20-SA-09-01 is the central node of grid sampling.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

5.17 IAAP-R15 (DEMOLITION AREA AND DEACTIVATION FURNACE)

5.17.1 Data Requirements and Sampling Objectives

IAAP-R15 consists of SI sites IAAP-21 (Demolition Area) and IAAP-23 (Deactivation Furnace). SI sampling focused on surface and near-surface soils, associated surface water drainage pathways, and on groundwater in the immediate site vicinity. SI data indicate three contaminant source areas at IAAP-R15: metals were detected in surface soils beneath the exit of the Deactivation Furnace; metals and explosives were detected in soils collected from three suspected demolition pits; and metals and explosives were detected in groundwater samples collected from existing monitoring wells in the site vicinity; one located downgradient from the site with respect to groundwater flow (DA02), and one located upgradient (G-9). Wells DA-01, G-1, and G-11 were not sampled during the August 1991 SI.

5.17.2 Proposed Sampling Scheme

The primary concerns associated with IAAP-R15 are metals and explosives contamination of soil, and the possible migration of soil contaminants via surface water and groundwater vectors. During the Phase I RI, the areal and vertical extent of soil metals and explosives contamination will be characterized through field screening methods supplemented with confirmatory laboratory analyses.

Soil samples will be collected at depth from beneath the exit of the Deactivation Furnace to characterize the source area of metals contamination.

During the SI, wells DA-01, G10, and G-11 could not be sampled; drought conditions were encountered and the well casings were heaved. During Phase I, an initial well survey will be conducted of all wells in the IAAP-R15 network to determine the integrity of the wells. All 5 monitoring wells will be sampled, if possible, to determine whether IAAP-R15 is a source of groundwater contamination in the area.

If the wells cannot be sampled, the Geoprobe will be used to emplace piezometers to obtain a point source groundwater from the area that exhibited the most significant surface.

All proposed samples are summarized in Table 5-17 and sample locations are depicted on Figure 5-15. The construction details for the subject monitoring wells are provided in Appendix C, as well as the available boring logs.

SI location 21-SS-07-01 will be screened for metals and explosives in soils (see Section 4.2.3.1.1 for methodology). Biased sampling will be done both on the surface and at depth to better delineate the extent of contamination in this bermed area. A minimum of 3 auger samples will be taken.

SI location 21-SS-06-01 will be screened for metals in soils (see Section 4.2.3.1.1 for methodology). A standard grid system of 10-foot intervals will be used at the surface and a 1-foot interval at depth to delineate the extent of metals contamination in the demolition pit area.

SI location 23-SA-02-01 will be screened for metals in soils (see Section 4.2.3.1.1 for methodology). A standard grid systems of 5-foot interval will be used at the surface and a 1-foot interval at depth to evaluate the extent of contamination from beneath the exit of the Deactivation Furnace. A minimum of 3 auger samples will be taken.

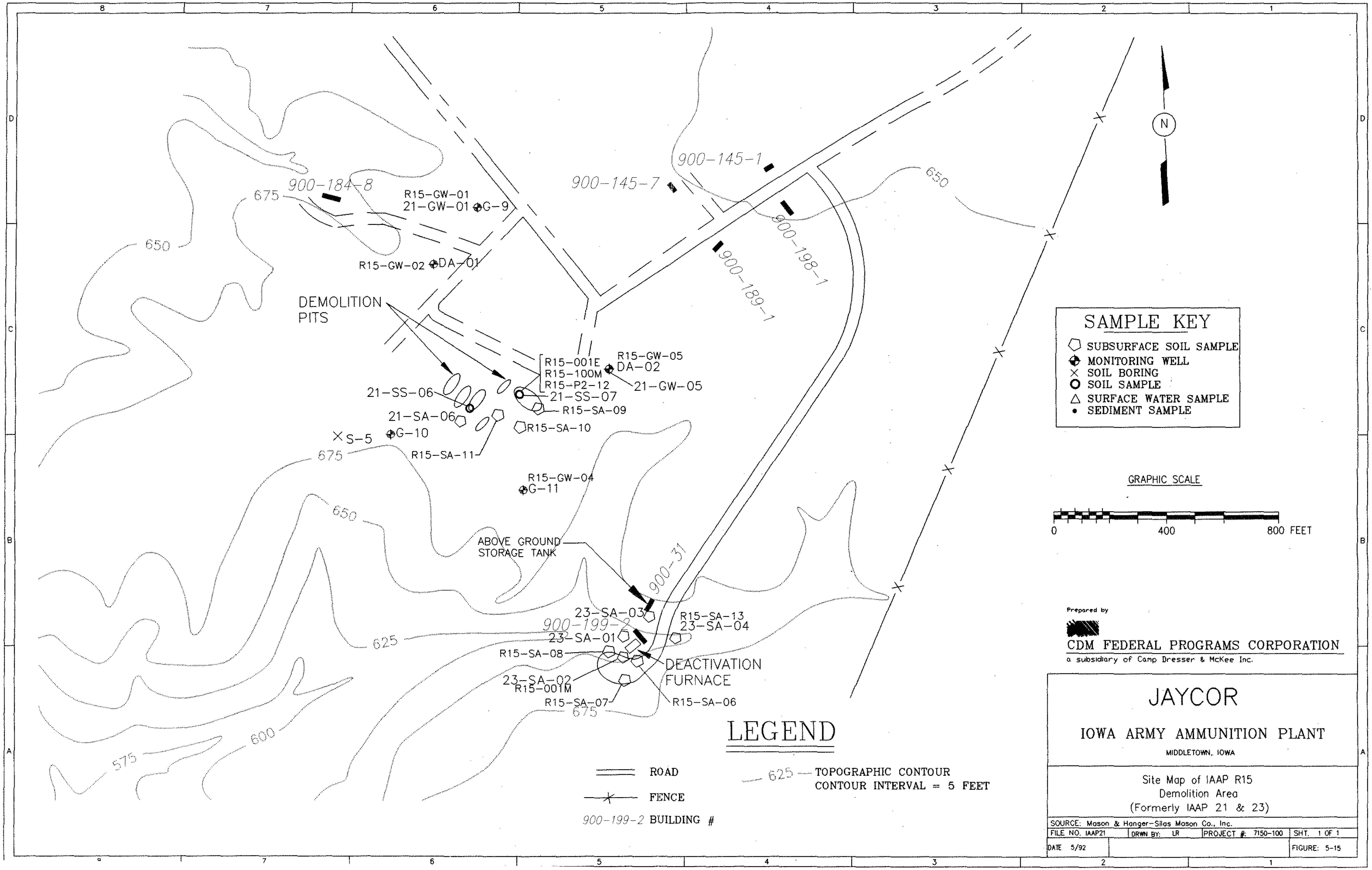

900-184-8
R15-GW-01
21-GW-01
G-9
R15-GW-02
DA-01
900-145-7
900-145-1
900-198-1
900-189-1
650
675
DEMOLITION PITS
R15-001E
R15-100M
R15-P2-12
R15-GW-05
DA-02
21-GW-05
21-SS-06
21-SS-07
R15-SA-09
21-SA-06
R15-SA-10
S-5
G-10
R15-SA-11
R15-GW-04
G-11
ABOVE GROUND STORAGE TANK
900-31
23-SA-03
R15-SA-13
23-SA-04
900-199-2
23-SA-01
R15-SA-08
DEACTIVATION FURNACE
23-SA-02
R15-001M
R15-SA-07
R15-SA-06
625
600
575
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
N
GRAPHIC SCALE
0
400
800 FEET
LEGEND
ROAD
FENCE
900-199-2 BUILDING #
625 TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R15
Demolition Area
(Formerly IAAP 21 & 23)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP21
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-15

Table 5-17
Proposed Sample Summary
IAAP-R15 (Demolition Area and Deactivation Furnace)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R15-GW-01-01	Metals Explosives SemiVOCs	G	A	-	Well G-9, located near the northern border of the site, approximately 900 feet west of the entrance to the site.
R15-GW-02-01	Metals Explosives SemiVOCs	G	A	-	Well DA-01, located approximately 100 feet south of Well G-9.
R15-GW-03-01	Metals Explosives SemiVOCs	G	A	-	Well G-10, located along the southwestern boundary of the site, approximately 1300 feet southwest of the entrance to the site.
R15-GW-04-01	Metals Explosives SemiVOCs	G	A	-	Well G-11, located along the southeastern boundary of the site, approximately 1000 feet southwest of the entrance to the site.
R15-GW-05-01	Metals Explosives SemiVOCs	G	A	-	Well DA-02, located along the northeastern boundary of the site, approximately 800 feet southwest of the entrance to the site.
R15-SA-06-01	Metals	G	A	-	10 feet east of SI sample location 23-SA-02-01.
R15-SA-07-01	Metals	G	A	0-12"	10 feet southwest of SI sample location 23-SA-02-01.
R15-SA-08-01	Metals	G	A	0-12"	10 feet west of SI sample location 23-SA-02-01.
R15-SA-09-01	Metals	G	A	0-12"	20 feet east of SI sample location 21-SS-07-01.
R15-SA-10-01	Metals	G	A	0-12"	20 feet southeast of SI sample location 21-SS-07-01.
R15-SA-11-01	Metals	G	A	0-12"	20 feet south of SI sample location 21-SS-07-01.
R15-PZ-12-01	Metals Explosives SemiVOCs	G	A	-	Geoprobe sample 3 feet south of location 21-SS-07-01, if required.
R15-SA-13-01	Explosives	G	A	0-12"	Confirmation sample of SI sample location 23-SS-04-01.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-17 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R15-001M	Metals	G	S	-	SI location 23-SA-02-01 is central node of grid sampling.
R15-100M	Metals	G	S	-	SI location 21-SS-07-01 is central node of grid sampling.
R15-001E	Explosives	G	S	-	SI location 21-SS-07-01 is central node of grid sampling.
R15-200M	Metals	G	S	-	SI location 21-SS-06-01 is central node of grid sampling.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

5.18 IAAP-R16 (CONTAMINATED WASTE PROCESSOR)

IAAP-R16, formerly IAAP-24 in the SI, was a contaminated waste processor (CWP) used to flash or burn materials that had come in contact with explosives. The CWP is enclosed within Building BG-199-2.

SI sampling indicated levels of copper, lead, and zinc in two of three samples above evaluation criteria. Metals detected above evaluation criteria were copper, lead, and zinc at sample Locations 24-SS-01, and 24-SA-02. The surface water sample, from a sump which collects surface water runoff from the parking area of this SWMU, contained the explosives HMX, RDX, and 2,4,6-TNT, and the metals barium, cadmium, and lead above the evaluation criteria.

5.18.1 Data Requirements and Sampling Objectives

The primary objective is the characterization of source areas, and characterization of migration pathways which are surface water drainageways at the site. Phase I RI sampling is designed to provide data that will determine the degree and extent of metals and explosives contamination at the site. To this end, soil and surface water will be sampled and analyzed for metals and explosives. Furthermore, because metals and explosives are present in surface water, the potential for groundwater contamination must be considered. Therefore, groundwater will be collected to determine whether explosives or metals contamination is impacting groundwater in the immediate site vicinity.

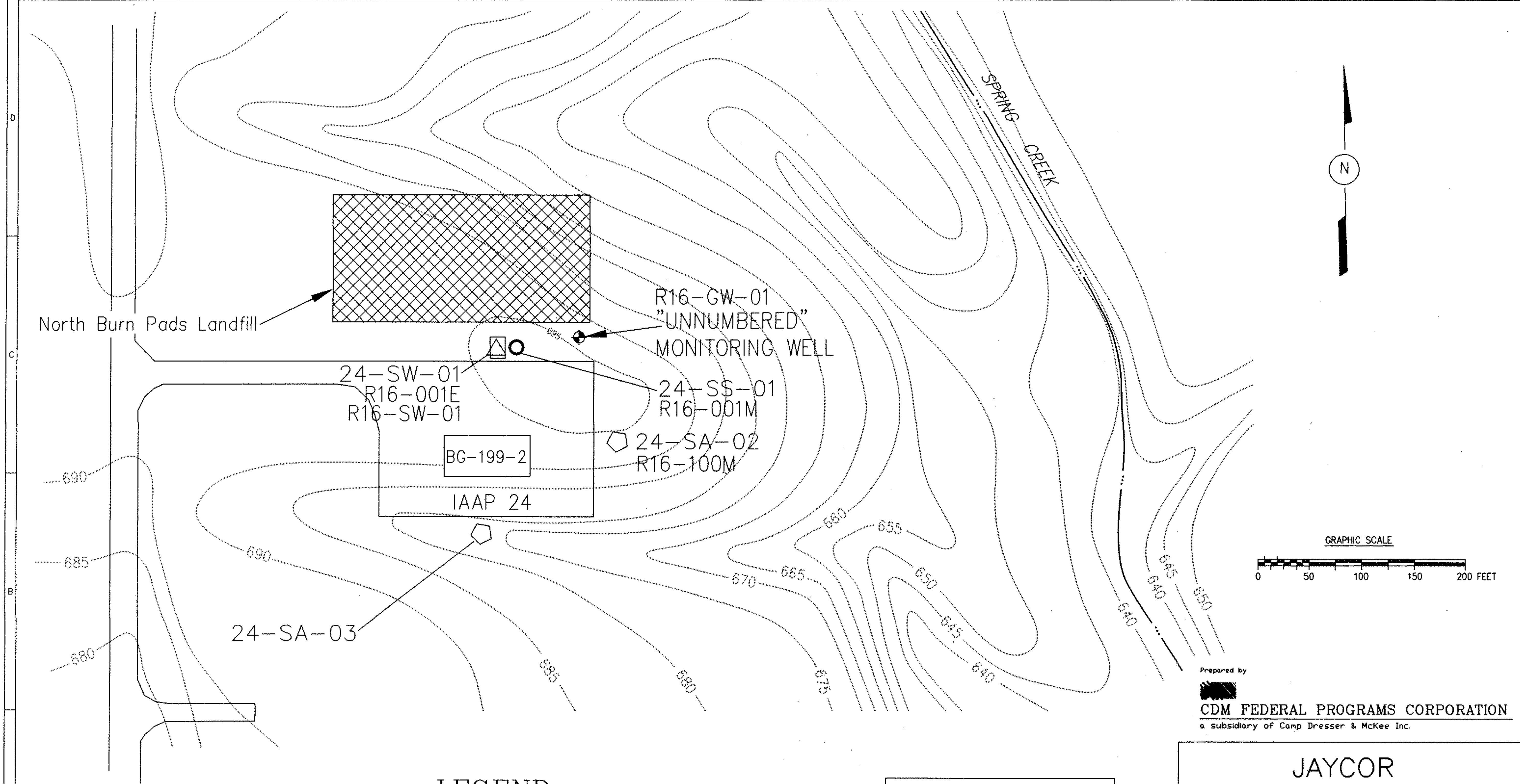
5.18.3 Proposed Sampling Scheme

The sampling scheme proposed for this site includes field screening for metals in soils using X-ray fluorescence, with lead as the indicator compound. The investigation will also sample the sump water and the monitoring well adjacent to the site. Water samples will be screened on-site for explosives and analyzed off-site for metals.

The areas to be screened for metals will be soils along the east edge and just north of the parking area of this site (between this SWMU and the North Burn Pads Landfill). The areas to be screened for metals will utilize grid sampling and will use as the central nodes sample locations 24-SS-01 and 24-SA-02. These locations are identified on Figure 5-16. Proposed screening samples are summarized in Table 5-18.

Sump water will be sampled and analyzed for explosives and metals. Explosive analyses will be performed on-site at the IAAP facility laboratories to assess explosive contamination detected in the standing water in the sump. Metals analyses of the surface water will be performed off-site to more accurately assess metals detected in the SI samples.

To further investigate sump contamination and the possibility of contaminant migration due to overflow of contaminated water from the sump, soils adjacent to the sump will be screened for explosives. Protocols presented in Section 4.2.3.1 of this Work Plan, describing field screening for explosives, will be modified to accommodate site-specific conditions. A 5-foot grid spacing will be used instead of a 10-foot grid spacing. Additionally, the first round of samples will be collected adjacent to the sump near sample location 24-SW-01. Bias sampling may also be used in addition to or instead of grid sampling, if warranted by field conditions.



LEGEND

ROAD
TOPOGRAPHIC CONTOUR
690 CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM

SAMPLE KEY

SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE

Prepared by

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JAYCOR

IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA

Site Map of IAAP R16
Contaminated Waste Processor
(Formerly IAAP 24)

SOURCE: Mason & Hanger-Silas Mason Co., Inc.

FILE NO. IAAP24	DRWN BY: LR	PROJECT #: 7150-100	SHT. 1 OF 1
DATE 5/92			FIGURE: 5-16

Due to the potential of groundwater contamination the unnumbered monitoring well, which is adjacent to the north east corner of the parking area between the North Burn Pads and the Contaminated Waste Processor, will be sampled and analyzed for metals and explosives. This monitoring well was installed in November 1991 subsequent to the removal of a fuel oil storage tank which was located west of the well. The monitoring well has been sampled and analyzed for BTEX; no contamination has been detected.

Table 5-18
Proposed Sample Summary
IAAP-R16 (Contaminated Waste Processor)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R16-001M	Metals	G	S	0-6"	Grid sample central node, 24-SS-01, for metals screening. Subsurface samples will be collected if surface samples reveal contamination.
R16-100M	Metals	G	S	0-6"	Grid sample central node,24-SS-02, for metals screening. Subsurface samples will be collected if surface samples reveal contamination.
R16-SW-01-01	Metals Explosives	G	A S	N/A	Standing water in runoff collection sump at SI sample location 24-SW-01.
R16-GW-01-01	Metals Explosives	G	A S	N/A	Unnumbered monitoring well off the northeast corner of the CWP parking area.
R16-001E	Explosives	G	S	0-6"	Grid sample central node for explosives screening. The sump will be the central node for this grid configuration.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

5.19 IAAP-R17 (EXPLOSIVE WASTE INCINERATOR)

The SI sampling at IAAP-R17 (formerly IAAP-25 in the SI; Section 3.27) examined surface soils and ditch sediments. Sampling was conducted to evaluate possible contamination outside of the building and check for possible historical off-site migration of contaminants within the drainage ditch. Low levels of metals were reported in the three soil samples collected for the SI. The volatile organic compound 1,1,2,2-tetrachloroethane was detected in a drainage ditch sample (25-SS-02) east of the Explosive Waste Incinerator.

5.19.1 Data Requirements and Sampling Objectives

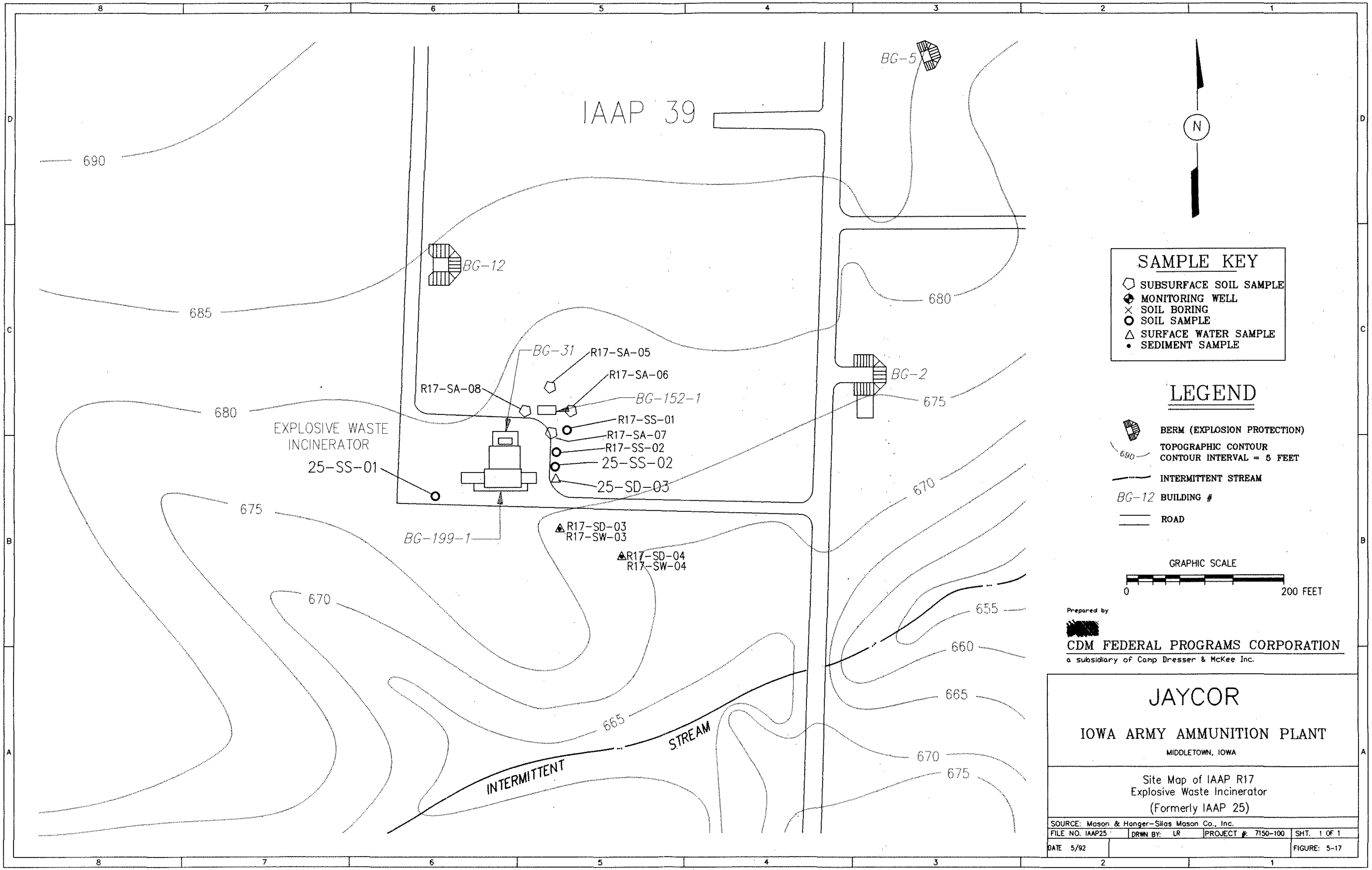
The primary concern associated with this site is the migration of contaminants sorbed to soil, and the possible groundwater infiltration of contaminants at the subject site. Soil gas and confirmatory samples will be collected from areas associated with the oil tank area. Also, the drainage pathways will be sampled for possible contamination associated with sediments. Surface water samples will be collected from drainage ways coincident to a precipitation event.

5.19.2 Proposed Sampling Scheme

Table 5-19 summarizes the proposed samples at IAAP-R17 for the Phase I RI/FS. All proposed sample locations are depicted on Figure 5-17. All samples will be analyzed for metals, explosives, semivolatile and volatile organic compounds.

Surface water and co-located sediment samples will be collected in the drainage ditch downgradient from SI sample location 25-SD-03. The sediment and surface water samples will be analyzed for metals, explosives, semivolatile and volatile organic compounds.

The soil gas survey will be conducted near the Oil Tank (BG-152-1). The soil gas survey is illustrated in Figure 5-17a. Four confirmatory soil samples will be collected for semivolatile and volatile analysis in the survey area.


IAAP 39
BG-5
BG-12
BG-2
BG-31
BG-152-1
BG-199-1
R17-SA-05
R17-SA-06
R17-SA-08
R17-SS-01
R17-SA-07
R17-SS-02
25-SS-02
25-SD-03
25-SS-01
EXPLOSIVE WASTE INCINERATOR
R17-SD-03
R17-SW-03
R17-SD-04
R17-SW-04
INTERMITTENT STREAM
690
685
680
675
670
665
660
655
N
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
LEGEND
BERM (EXPLOSION PROTECTION)
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM
BG-12 BUILDING #
ROAD
GRAPHIC SCALE
0
200 FEET
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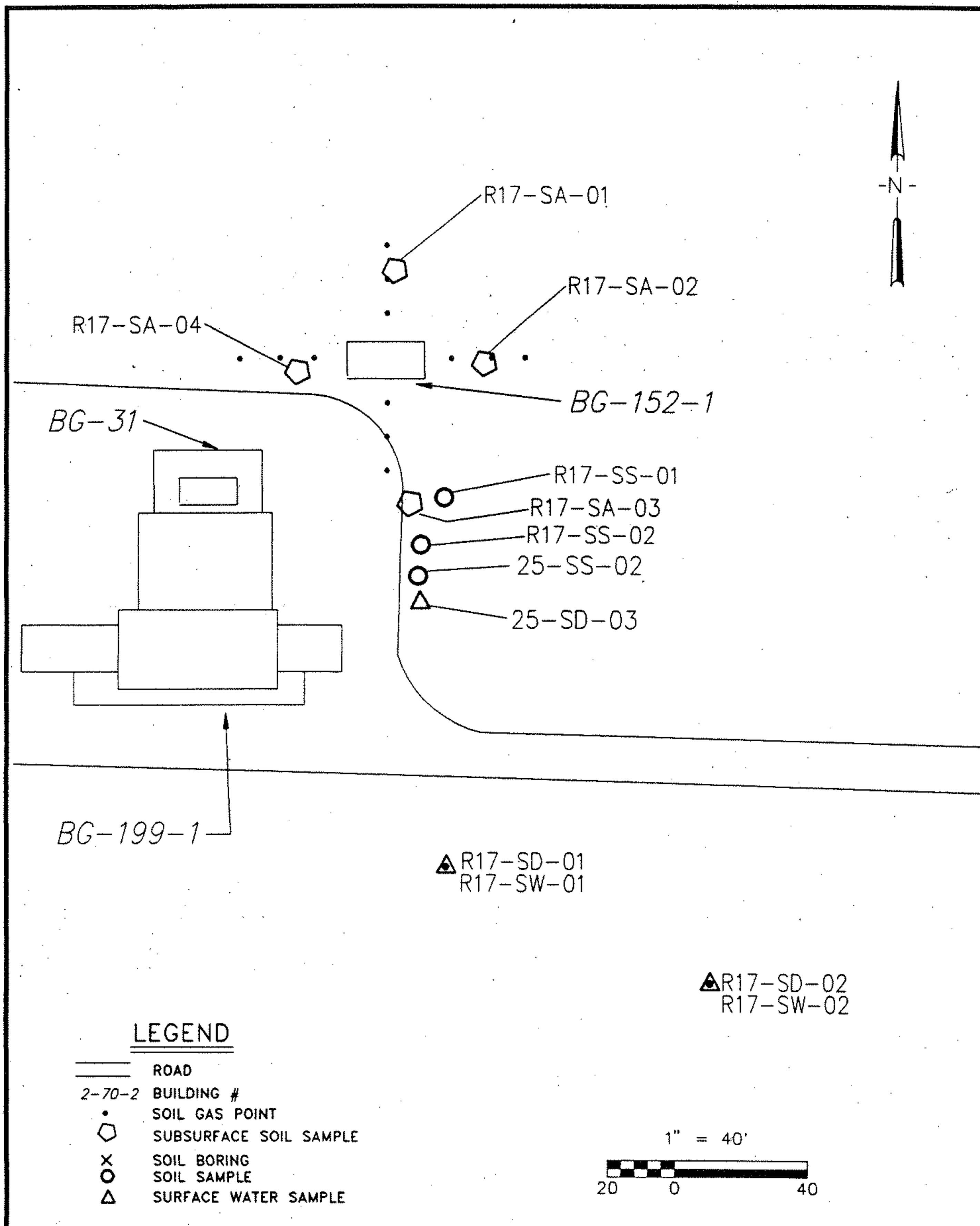
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R17
Explosive Waste Incinerator
(Formerly IAAP 25)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP25
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-17

Table 5-19
Proposed Sample Summary
IAAP-R17 (EXPLOSIVE WASTE INCINERATOR)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R17-SS-01-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet northeast of the EWI and 10 feet south of Oil Tank BG-152.
R17-SS-02-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	25 feet east of the EWI.
R17-SW-03-01	Metals Explosives SemiVOCs VOCs	G	A	-	50 feet downgradient of SI sample 25-SD-03 in the drainage ditch.
R17-SD-03-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	Corresponds to sample R17-SW-03-01.
R17-SW-04-01	Metals Explosives SemiVOCs VOCs	G	A	-	100 feet downgradient of SI sample 25-SD-03 in the drainage ditch.
R17-SD-04-01	Metals Explosives SemiVOCs VOCs	G	A	0-6"	Corresponds to sample R17-SW-04-01.
R17-SA-05-01	SemiVOCs VOCs	G	A	42-48"	Confirmatory sample for soil gas survey; 25 feet north of the Oil Tank.
R17-SA-06-01	SemiVOCs VOCs	G	A	42-48"	Confirmatory sample for soil gas survey; 25 feet east of the Oil Tank.
R17-SA-07-01	SemiVOCs VOCs	G	A	42-48"	Confirmatory sample for soil gas survey; 25 feet south of the Oil Tank.
R17-SA-08-01	SemiVOCs VOCs	G	A	42-48"	Confirmatory sample for soil gas survey; 25 feet west of the Oil Tank.

C = Composite S = Screening Sample G = Grab A = Analytical Sample



JAYCOR Prepared by CDM FEDERAL PROGRAMS CORPORATION a subsidiary of Camp Dresser & McKee Inc.	IOWA ARMY AMMUNITION PLANT MIDDLETOWN, IOWA SOIL GAS SURVEY IAAP R17 EXPLOSIVE WASTE INCINERATOR	Figure 5-17a 5/92 SGIAP25A

5.20 IAAP-R18 (SEWAGE TREATMENT PLANT/SLUDGE DRYING BEDS)

The SI sampling at IAAP-R18 (formerly IAAP-26) focused on the wastewater and sludge resulting from the sewage treatment process at the facility. A sample of the sludge taken from a sludge drying bed contained elevated levels of mercury and silver. A surface water sample obtained from the Chlorine Contact Building prior to being discharged into Brush Creek contained four explosives. Explosives contaminants are reaching the sewer treatment plant from some source on site, possibly the laundry (IAAP-29), or from groundwater infiltration of the old sewer mains, which is a documented problem at IAAP.

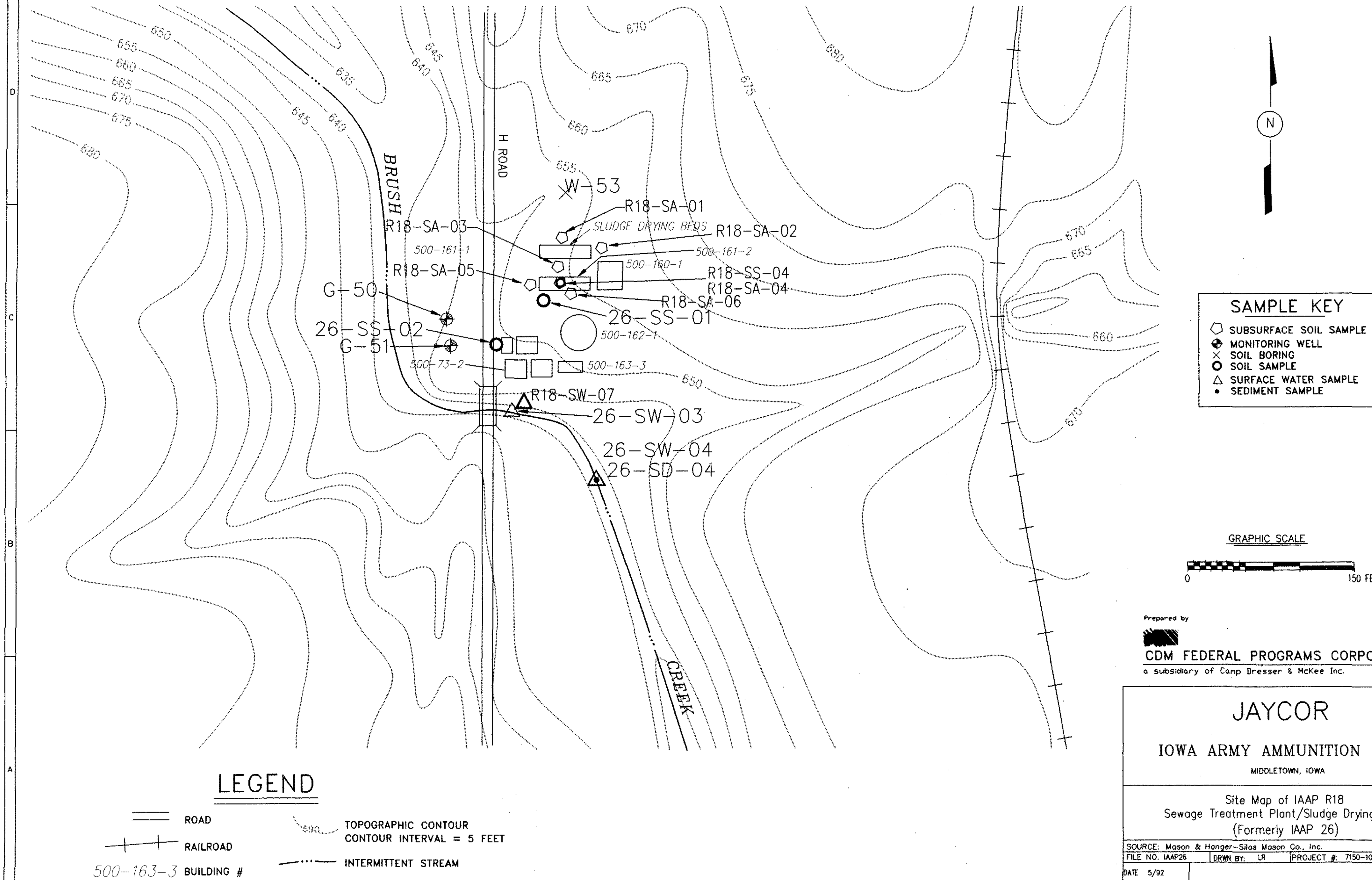
5.20.1 Data Requirements and Sampling Objectives

Surface and subsurface soil sampling will be conducted during the Phase I RI to evaluate metals and explosives contamination around the sludge drying beds at the subject site. The sludge drying beds are lined with 2 feet of sand; therefore a primary concern is the permeable soils at the site and the permeability of the two-foot sand liner which may allow any contaminants present in the sludge to migrate vertically. A surface water sample will also be obtained from the Chlorine Contact Building to verify the release of explosives into Brush Creek via direct discharge. The NPDES permit for outfall 013, which discharges STP effluent, does not include explosives, because plant policy prohibits the discharge of production waste to the sanitary sewage system. The setting basin at the laundry (IAAP-19) will be sampled as a potential source of the explosives contamination reaching the sewage treatment plant. The water and soil samples will be analyzed for metals and explosives.

The active X-ray facilities at Lines 1 and 2 are potential sources of the silver and mercury contamination found in the Sludge Drying Beds at IAAP-R18 and will be investigated as such. Silver collectors are in place at each X-ray facility discharge to pretreat wastewater before discharge to the sanitary sewage system. If these collectors are operating correctly, no silver is discharged. The silver content of the STP effluent at the outfall 013 is monitored weekly, though no permit limits have been set.

5.20.2 Proposed Sampling Scheme

The following samples are proposed during Phase I of the RI/FS. The samples will be analyzed for metals and explosives. The proposed sample locations are depicted along with SI sample locations on Figure 5-18 and are summarized in Table 5-20.



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IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

Site Map of IAAP R18
Sewage Treatment Plant/Sludge Drying Beds
(Formerly IAAP 26)

SOURCE: Mason & Hanger-Silas Mason Co., Inc.

FILE NO. IAAP26	DRWN BY: LR	PROJECT #: 7150-100	SHT. 1 OF 1
DATE 5/92			FIGURE: 5-18

Table 5-20
Proposed Sample Summary
IAAP-R18 (Sewage Treatment Plant/Sludge Drying Beds)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R18-SA-01-01	Metals Explosives	G	A	48"	Three feet north of the north sludge bed (500-161-1).
R18-SA-02-01	Metals Explosives	G	A	48"	Three feet east of the north sludge bed (500-161-1).
R18-SA-03-01	Metals Explosives	G	A	48"	Between the two sludge beds.
R18-SS-04-01	Metals Explosives	G	A	0-6"	Sample in the middle of the south sludge bed (500-161-2).
R18-SA-04-02	Metals Explosives	G	A	48"	Same location as R18-SS-04-01.
R18-SA-05-01	Metals Explosives	G	A	48"	Three feet west of the south sludge bed (500-161-2).
R18-SA-06-01	Metals Explosives	G	A	48"	Three feet south of the south sludge bed (500-161-2).
R18-SW-07-01	Metals Explosives	G	A	NA	Obtained from the Chlorine Contact Building (500-73-2) prior to discharge.
R18-SW-08-01	Metals Explosives	G	A	NA	Obtained from Laundry (IAAP-19) settling basin.
R18-SW-09-01	Metals	G	A	NA	Obtained from discharge of Carbon Filter Building 1-70-2 at Line 1.
R18-SW-10-01	Metals	G	A	NA	Obtained from discharge of Carbon Filter Building 2-70-2 at Line 2.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

5.21 IAAP-R19 (FLY ASH LANDFILL)

The SI sampling for IAAP-R19 (formerly IAAP-27) focused on characterizing groundwater and soil in the site area to determine whether leachate and runoff from the active landfill was impacting those media. Metals at levels above the SI data evaluation criteria were found in groundwater and soil samples. No explosives were detected in soil samples collected in association with the SI. Low levels of explosives were identified in groundwater samples obtained from three wells located west and southwest of the landfill, both of which are downgradient from the site with respect to groundwater flow.

5.21.1 Data Requirements and Sampling Objectives

The primary concern associated with IAAP-R19 is the migration of contaminants due to leachate produced by the active Fly Ash Landfill. Elevated levels of metals were not found in groundwater samples, which would be expected if leachate infiltration of groundwater was occurring. Low levels of explosives were identified in three downgradient wells. No explosives were detected in soil samples collected from the landfill; therefore, the landfill is not believed to be the source. However, the occurrence of explosives in groundwater in the site vicinity necessitates further groundwater sampling to verify SI results and determine the extent of groundwater contamination at the site. Upgradient wells will be sampled to determine whether a source exists north of the Fly Ash Landfill that may be contributing to explosives contamination of groundwater. In addition, groundwater samples obtained from downgradient locations will be analyzed for metals and nitrates/sulfates.

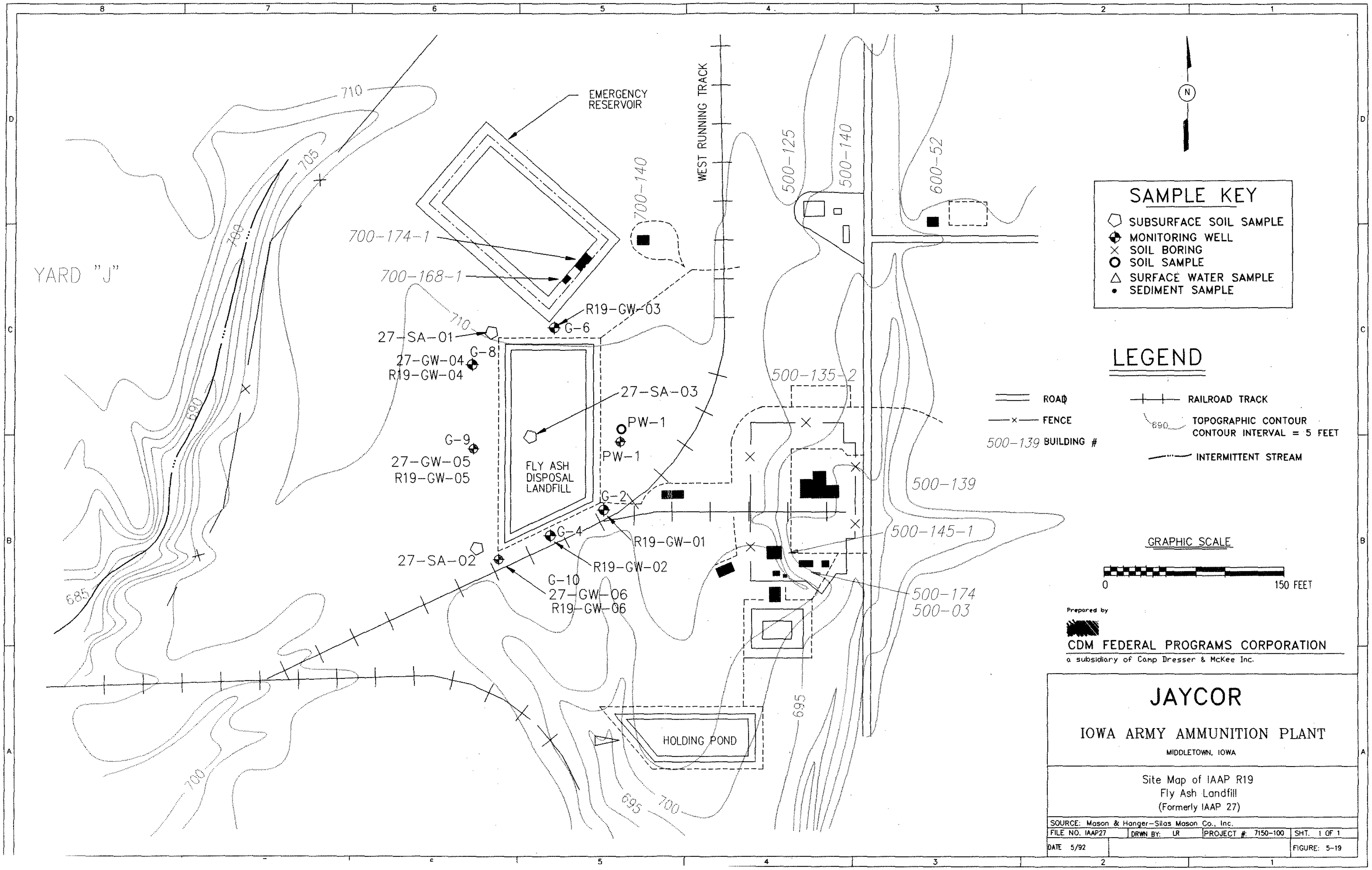
5.21.3 Proposed Sampling Scheme

The following samples are proposed during Phase I of the RI/FS. All proposed sample locations are summarized in Table 5-21 and are depicted, along with SI sample locations, on Figure 3-20. The monitoring well construction details are provided in Appendix C along with boring logs for the subject wells.

Table 5-21
Proposed Sample Summary
IAAP-R19 (Fly Ash Landfill)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R19-GW-01	Explosives Metals	G	GW	N/A	Well DM-2. Well depth = 38.0 feet.
R19-GW-02	Explosives Metals	G	GW	N/A	Well DM-4. Well depth = 17.0 feet.
R19-GW-03	Explosives Metals	G	GW	N/A	Well DM-6. Well depth = 58.0 feet (upgradient well).
R19-GW-04	Explosives Metals Nitrates/Sulfates	G	GW	N/A	Well DM-8. Well depth = 15.0 feet.

C = Composite S = Screening Sample G = Grab A = Analytical Sample



EMERGENCY RESERVOIR
WEST RUNNING TRACK
YARD "J"
710
705
700
690
685
695
700-174-1
700-168-1
700-140
500-125
500-140
600-52
R19-GW-03
G-6
27-SA-01
G-8
27-GW-04
R19-GW-04
27-SA-03
PW-1
PW-1
G-9
27-GW-05
R19-GW-05
FLY ASH DISPOSAL LANDFILL
G-2
G-4
R19-GW-01
R19-GW-02
27-SA-02
G-10
27-GW-06
R19-GW-06
500-135-2
500-139
500-145-1
500-174
500-03
HOLDING POND
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
LEGEND
ROAD
RAILROAD TRACK
FENCE
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
500-139 BUILDING #
INTERMITTENT STREAM
GRAPHIC SCALE
0
150 FEET
N
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IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R19
Fly Ash Landfill
(Formerly IAAP 27)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP27
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-19

Table 5-21 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R19-GW-05	Explosives Metals Nitrates/Sulfates	G	GW	N/A	Well DM-9. Well depth = 17.0 feet.
R19-GW-06	Explosives Metals Nitrates/Sulfates	G	GW	N/A	Well DM-10. Well depth = 17.0 feet.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

5.22 IAAP-R20 (CONSTRUCTION DEBRIS LANDFILL)

IAAP-R20 was formerly IAAP-28 in the SI. SI sampling focused on characterizing site soils in an effort to determine whether contamination was present as a result of past disposal practices. Three surface soil composite samples were collected from the landfill and from downgradient locations. Low levels of pesticides and PCBs were detected at all three locations and explosives were detected at two locations.

5.22.1 Data Requirements and Sampling Objectives

SI samples were collected from surface soils over the landfill. However, material disposed at the site was dumped into existing natural ravines. Therefore, the depth of SI samples is not sufficient to determine whether contamination is present in subsurface soils. Because wastes were deposited at depth, the potential for groundwater contamination must be considered. Phase I RI samples will be collected from both surface and subsurface soils; and from area surface water and groundwater to determine whether off-site migration is occurring via these matrices.

Surface and subsurface soil samples will be taken from 7 locations over the landfill to locate any pesticides/PCBs sources, and delineate the extent of contamination. Subsurface soil samples will be collected at 4 of these 7 locations to assess the extent of subsurface pesticides/PCB contamination.

Two samples will be taken at the toe of the landfill to determine whether leachate is emanating from the landfill to downgradient soils. One sample will be taken off the southeast corner of the landfill; the other off the southwest corner of the landfill. The locations are downgradient of the landfill with respect to surface topography.

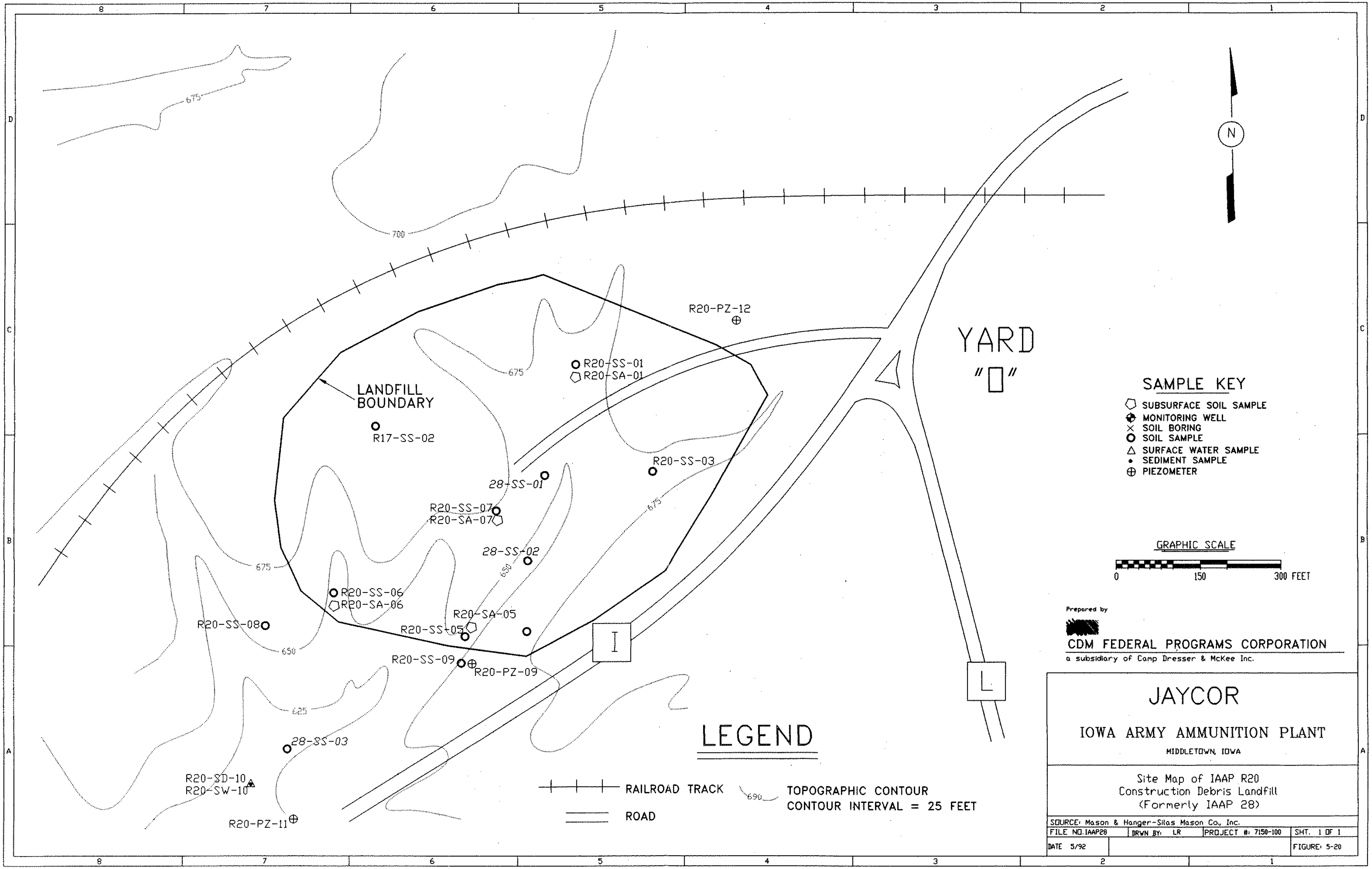
Surface water/sediment samples will be taken approximately 400 feet southwest of the landfill in a intermittent stream, a location downgradient of IAAP-R20 with respect to surface topography and surface water flow. These samples will determine if contaminants are migrating off-site from leachate or runoff originating from the landfill.

Three groundwater samples will be taken in the area of the site. These samples will be obtained from piezometers installed with a Geoprobe. One sample will be taken approximately 25 feet upgradient of the site with respect to groundwater flow to provide background data. Two groundwater samples will be collected downgradient of the site (the first 50 feet south of the site and the other approximately 600 feet southwest of the site). These samples will be taken to evaluate whether off-site migration of contaminants is occurring via groundwater.

Explosive screening of soils will be conducted to assess the extent of contamination at SI locations 28-SS-01-01 and 28-SS-02-01, at the surface and at depth. An initial composite grid scheme of 25-foot intervals will be used; the grid interval will be reduced if explosive contamination is found.

5.22.2 Proposed Sampling Scheme

Table 5-22 summarizes samples proposed during Phase I of the RI/FS. All sample locations are depicted on Figure 5-20.



YARD
"O"
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
PIEZOMETER
GRAPHIC SCALE
0
150
300 FEET
N
LANDFILL BOUNDARY
R20-PZ-12
R20-SS-01
R20-SA-01
R17-SS-02
R20-SS-03
28-SS-01
R20-SS-07
R20-SA-07
28-SS-02
R20-SS-06
R20-SA-06
R20-SA-05
R20-SS-08
R20-SS-05
R20-SS-09
R20-PZ-09
28-SS-03
R20-SD-10
R20-SW-10
R20-PZ-11
675
700
650
625
I
L
LEGEND
RAILROAD TRACK
ROAD
690
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 25 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
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JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R20
Construction Debris Landfill
(Formerly IAAP 28)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP28
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-20

Table 5-22
Proposed Sample Summary
IAAP-R20 (CONSTRUCTION DEBRIS LANDFILL)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R20-SS-01-01	PCBs/Pesticides	G	A	0-6"	Located approximately 150 feet north of SI location 28-SS-01-01.
R20-SA-01-01	PCBs/Pesticides	G	A	12-18"	Sample location is same as R20-SS-01-01.
R20-SS-02-01	PCBs/Pesticides	G	A	0-6"	Located approximately 225 feet west of Sn . 28-SS-01-01.
R20-SS-03-01	PCBs/Pesticides	G	A	0-6"	Located approximately 125 feet east of SI location 28-SS-01-01.
R20-GP-03-01	PCBs/Pesticides	G	A	6′	Sample location is same as R20-SS-03-01. Geoprobe will be used.
R20-SS-04-01	PCBs/Pesticides	G	A	0-6"	Located approximately 100 feet southeast of SI location 28-SS-02-01.
R20-SS-05-01	PCBs/Pesticides	G	A	0-6"	Located approximately 100 feet south-southwest of SI location as 28-SS-02-01.
R20-SA-05-01	PCBs/Pesticides	G	A	12-18"	Sample location same as R20-SS-05-01.
R20-GP-05-02	PCBs/Pesticides	G	A	6′	Sample location same as R20-SS-05-01. Geoprobe will be used.
R20-SS-06-01	PCBs/Pesticides	G	A	0-6"	Located approximately 250 feet southwest of SI sample 28-SS-02-01.
R20-GP-06-01	PCBs/Pesticides	G	A	6′	Sample location same as R20-SS-06-01. Geoprobe will be used.
R20-SS-07-01	PCBs/Pesticides	G	A	0-6"	Located approximately 100 feet southwest of SI sample 28-SS-01-01.
R20-GP-07-01	PCBs/Pesticides	G	A	6′	Sample location same as R20-SS-07-01. Geoprobe will be used.
R20-SS-08-01	PCBs/Pesticides Explosives	G	A	0-6"	Sample location is at the toe of the landfill in the southwest corner.
R20-SS-09-01	PCBs/Pesticides Explosives	G	A	0-6"	Located approximately 50 feet south of sample R20-SS-05-01 at the toe of the landfill.
R20-PZ-09-01	PCBs/Pesticides Explosives Metals VOCs SemiVOCs	G	A	-	Sample location same as R20-SS-09-01. Geoprobe will be used.
R20-SD-10-01	PCBs/Pesticides Explosives	G	A	0-6"	Sample approximately located 125 feet downstream of SI sample 28-SS-03-01.
R20-SW-10-01	PCBs/Pesticides Explosives VOCs SemiVOCs	G	A	-	Corresponds to R20-SD-10-01.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-22 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R20-PZ-11-01	PCBs/Pesticides Explosives Metals VOCs SemiVOCs	G	A	-	Approximately 100 feet southeast of location R20-SD-10-01, just west of Road I. Geoprobe will be used.
R20-PZ-12-02	PCBs/Pesticides Explosives Metals VOCs SemiVOCs	G	A	-	Sample location is north of landfill roadway, 25 feet north of entrance gate. Geoprobe will be used.
R20-001E	Explosives	G	S	-	SI location 28-SS-01-01 is central node of grid sampling configuration.
R20-100E	Explosives	G	S	-	SI location 28-SS-02-01 is central node of grid sampling configuration.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

5.23 IAAP-R21 (LINE 3A SEWAGE TREATMENT PLANT/SLUDGE DRYING BEDS)

The SI sampling at IAAP-R21 (formerly IAAP-29) focused on the wastewater and sludge resulting from the sewage treatment process at the facility. A sample of the sludge taken from the sludge drying beds contained elevated levels of the metals mercury and silver, and trace levels of explosives. A surface water sample obtained from the Chlorine Contact Building prior to discharge into Brush Creek contained three explosives. Explosives contaminants are reaching the sewage treatment plant from some source on site, possibly from groundwater infiltration of the old sewer mains, which is a documented problem at IAAP.

5.23.1 Data Requirements and Sampling Objectives

Surface and subsurface soil sampling will be conducted during the Phase I RI to evaluate the metals and explosives contamination around the sludge drying beds at the subject site. The sludge drying beds are lined with 2 feet of sand; therefore a primary concern is the permeability of the sand liner which may allow any contaminants present in the sludge to migrate vertically. The subsurface soils in the area, however, consist of a thick layer of clay, which would impede the vertical migration of contaminants to some extent. A surface water sample will be obtained from the Chlorine Contact Building to verify the release of explosives into Brush Creek via direct discharge. The water and soil samples will be analyzed for metals and explosives. The X-ray facility filter at Line 3A will be sampled as a potential source of the metals contamination found in the sludge drying beds during the SI.

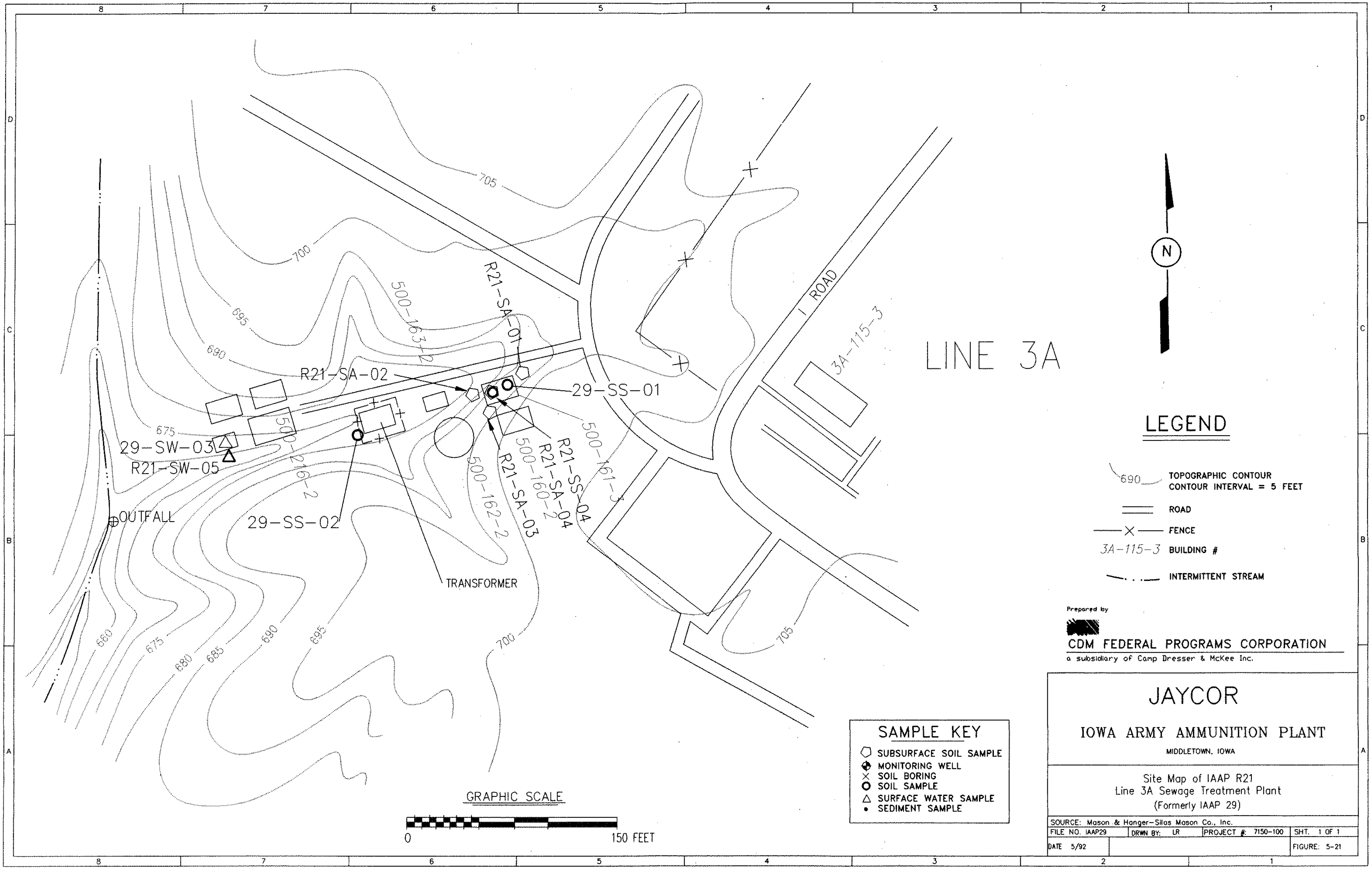
5.23.2 Proposed Sampling Scheme

The following samples are proposed during Phase I of the RI/FS. The samples will be analyzed for metals and explosives. The proposed sampling locations are depicted along with SI sample locations on Figure 5-21 and are summarized in Table 5-23.

Table 5-23
Proposed Sample Summary
IAAP-R21 (Line 3A Sewage Treatment Plant/Sludge Drying Beds)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R21-SA-01-01	Metals Explosives	G	A	4'	Three feet northeast of sludge drying bed 500-161-3.
R21-SA-02-01	Metals Explosives	G	A	4'	Three feet west of sludge drying bed 500-161-3.
R21-SA-03-01	Metals Explosives	G	A	4'	Three feet south of sludge drying bed.
R21-SS-04-01	Metals Explosives	G	A	0-6"	In sludge drying bed.
R21-SA-04-01	Metals Explosives	G	A	4'	Same location as R21-SS-04-01.
R21-SW-05-01	Metals Explosives	G	A	N/A	Obtained from the Chlorine Contact Building prior to discharge.
R21-SW-06-01	Metals	G	A	N/A	Obtained from the discharge of Carbon Filter Building 3-70-2 at Line 3A.

C = Composite S = Screening Sample G = Grab A = Analytical Sample



LINE 3A
I ROAD
3A-115-3
705
700
695
690
685
680
675
660
R21-SA-01
R21-SA-02
R21-SA-03
R21-SA-04
R21-SS-04
29-SS-01
29-SS-02
29-SW-03
R21-SW-05
OUTFALL
TRANSFORMER
500-163-2
500-216-2
500-160-2
500-162-2
500-161-3
N
LEGEND
690 TOPOGRAPHIC CONTOUR CONTOUR INTERVAL = 5 FEET
ROAD
FENCE
3A-115-3 BUILDING #
INTERMITTENT STREAM
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0
150 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R21
Line 3A Sewage Treatment Plant
(Formerly IAAP 29)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP29
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-21

5.24 IAAP-R22 (FIRING SITE AREA)

IAAP-R22 is Firing Site area, previously designated in the SI as IAAP-30 (Section 3.20). R-22 contains three testing areas, each containing one or more test firing pads (Figure 5-18). All of the 11 pads at the Firing Site were sampled during the SI, either at or immediately downgradient of the pads. Extensive metals contamination of soils was found to exist to all three of the test firing areas. Only two of the 11 firing pads were found to have explosives contamination. Surface water/sediment samples from Long Creek, which bisects the Firing Site, detected only barium and low levels of one explosive compound in water.

Because the Firing Site is still in use, the Phase I RI will attempt to characterize the extent of metals and explosives contamination at the three most severely contaminated firing pads, extrapolating these results to the other eight pads. The design of this investigation is intended to characterize the selected source areas, and to focus on the migration pathways of contaminants. The initial intent of the investigation is to characterize any contaminant movement, so that it can be either abated, or a decision to cease activities can be made, at which point, full characterization would be necessary.

Radionuclide contamination in the soils and water will be verified at select locations within the three study areas.

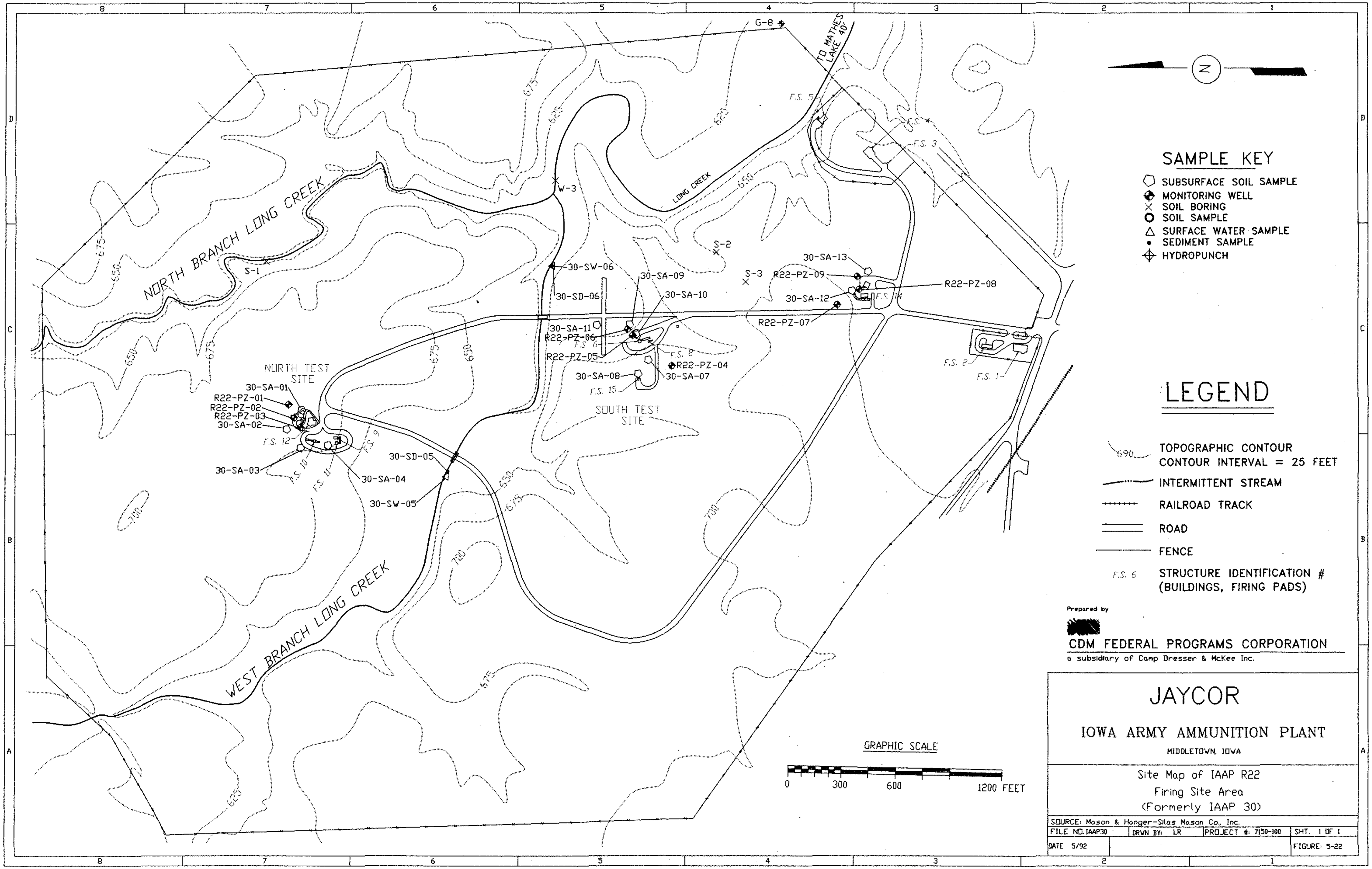
5.24.1 Data Requirements and Sampling Objectives

The data needs for the Firing Site consist of delineating the horizonal and vertical extent of explosives and metals contamination in soils, at the three most contaminated sites. This limited characterization is designed to represent a worst case scenario of the extent of contamination in soil surrounding the Firing Site pads. RI activities will also define the migration pathways (surface water and groundwater) and the degree to which these pathways may have moved contamination from the source areas. The objectives of sampling are to field screen the surface soils for metals and explosives and upon definition of areal extent, define the vertical migration of the contaminants of concern in soil.

In addition to defining these source areas, sampling of groundwater and surface water/sediment shall take place. Related tasks will include establishing water table gradients, background water quality, and site specific water quality both at, and downgradient of the sites, and in the creek.

5.24.2 Proposed Sampling Scheme

Field screening for the metals and explosives of concern will be accomplished at firing pads FS-6, FS-12 and FS-14, where contamination was the most significant. This screening will follow the procedures outlined in section 4.2.3.1 utilizing a standard grid pattern, except where topographic features dictate biased sampling. The objective of sampling is to delineate the horizontal and vertical extent of metals contamination in soil. The degree to which vertical extent can be determined in the Phase I may be limited dependent on auger, or Geoprobe, refusal depths. Phase II will finish the characterization using a drill rig, as needed. All, but two of the SI soil samples showed some signs of metals contamination; the two uncontaminated samples were 30-SA-08-01 and 30-SA-11-01.



SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
HYDROPUNCH
LEGEND
690 TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 25 FEET
INTERMITTENT STREAM
RAILROAD TRACK
ROAD
FENCE
F.S. 6 STRUCTURE IDENTIFICATION #
(BUILDINGS, FIRING PADS)
N
G-8
TO MATHES LAKE 40'
NORTH BRANCH LONG CREEK
WEST BRANCH LONG CREEK
LONG CREEK
NORTH TEST SITE
SOUTH TEST SITE
W-3
S-1
S-2
S-3
30-SW-06
30-SD-06
30-SW-05
30-SD-05
30-SA-01
30-SA-02
30-SA-03
30-SA-04
30-SA-07
30-SA-08
30-SA-09
30-SA-10
30-SA-11
30-SA-12
30-SA-13
R22-PZ-01
R22-PZ-02
R22-PZ-03
R22-PZ-04
R22-PZ-05
R22-PZ-06
R22-PZ-07
R22-PZ-08
R22-PZ-09
F.S. 1
F.S. 2
F.S. 3
F.S. 4
F.S. 5
F.S. 6
F.S. 8
F.S. 9
F.S. 10
F.S. 11
F.S. 12
F.S. 14
F.S. 15
625
650
675
700
GRAPHIC SCALE
0 300 600 1200 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
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JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R22
Firing Site Area
(Formerly IAAP 30)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP30
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-22

Discrete soil grab samples will be collected for radionuclide analysis as indicated in Figure 5-22.

Groundwater contamination will be evaluated by installing three piezometers around each site with the Geoprobe unit. Background piezometers will be placed upgradient of all of the firing pads sampled. Subsequently, groundwater samples shall be collected both, next to, (on the downgradient side), and downgradient of each firing pad. A minimum of three groundwater samples per site will be collected as illustrated in Figure 5-22. All groundwater samples will be analyzed for metals and explosives, additional samples will be collected based on the initial results.

A sample will also be collected from the existing downgradient monitoring well (G-8) as part of the basewide sampling (Section 5.2.2). This sample will be analyzed for metals, explosives, volatiles, and semivolatiles (Table 5-2). This well is 16 feet deep and is screened from 5-15 feet.

Finally, the surface water/sediment migration pathway will be investigated through collection of two background samples for the overall site and two downgradient samples (all collected as part of the facility wide sampling effort; Section 4.1.5.2) as indicated on Plate 3. These samples will be analyzed for explosives, metals, volatiles, and semivolatiles.

The RI samples are summarized in Table 5-24 and their locations are depicted on Figure 5-22.

Table 5-24
Proposed Sample Summary
IAAP-R22 (Firing Site)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R22-PZ-01-01	Explosives Metals Radionuclides	G	A	-	FS-12; upgradient of pad; approximately 50 feet east.
R22-PZ-02-01	Explosives Metals Radionuclides	G	A	-	FS-12; adjacent to pad; approx. 10 feet west.
R22-PZ-03-01	Explosives Metals Radionuclides	G	A	-	FS-12; adjacent to pad; appox. 30 feet S.S.W.
R22-PZ-04-01	Explosives Metals Radionuclides	G	A	-	FS-6; upgradient; approx. 300 feet S.S.W.
R22-PZ-05-01	Explosives Metals Radionuclides	G	A	-	FS-6; adjacent; approx. 10 feet N.E.
R22-PZ-06-01	Explosives Metals Raionuclides	G	A	-	FS-6; downgradient; approx. 30 feet N.N.E.
R22-PZ-07-01	Explosives Metals Radionuclides	G	A	-	FS-14; upgradient; approx. 150 feet N.N.W.
R22-PZ-08-01	Explosives Metals Radionuclides	G	A	-	FS-14; adjacent; approx. 10 feet S.E.
R22-PZ-09-01	Explosives Metals Radionuclides	G	A	-	FS-14; downgradient; approx. 30 feet east.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-24 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R22-SS-01-01	Radionuclides	G	A	0-6"	SI location 30-SA-01 is the central node of grid sampling;
R22-SS-02-01	Radionuclides	G	A	0-6"	SI location 30-SA-10 is the central node of grid sampling; samples will be collected at the Metals and explosives screening locations on a 20% basis.
R22-SS-03-01	Radionuclides	G	A	0-6"	SI location 30-SA-12-01 is the central node of grid sampling; samples will be collected at the Metals and explosives screening locations on a 20% basis.
R22-001M	Metals	G	S	0-6"	SI location 30-SA-01 is the central node of grid sampling
R22-001E	Explosives	G	S	0-6"	SI location 30-SA-01 is the central node of grid sampling
R22-100M	Metals	G	S	0-6"	SI location 30-SA-10 is the central node of grid sampling
R22-100E	Explosives	G	S	0-6"	SI location 30-SA-10 is the central node of grid sampling
R22-200M	Metals	G	S	0-6"	SI location 30-SA-12-01 is the central node of grid sampling
R22-200E	Explosives	G	S	0-6"	SI location 30-SA-12-01 is the central node of grid sampling

C = Composite S = Screening Sample G = Grab A = Analytical Sample

5.25 IAAP-R23 (AMMUNITION BOX CHIPPER DISPOSAL PIT)

IAAP-R23, was IAAP-31 in the SI. IAAP-R23 is a 120- by 40- by 8-foot deep pit where shredded ammunition boxes potentially contaminated with PCP were buried over a 3-month period sometime between 1972 and 1975. SI samples consisted of composite soil samples collected from within the pit area at the depth of hand auger refusal; 3 feet. Analysis for explosives and semivolatiles indicated that no significant semivolatile or explosives contamination was present at the site over the depth interval sampled.

5.25.1 Data Requirements and Sampling Objectives

During the SI, the boundaries of the pit were approximated from historical information. SI samples were collected from depths of 3 feet. Because the pit was approximately 8 feet deep, the SI samples were not sufficient to characterize whether migration of contaminants from the pit has occurred. Furthermore, because wastes were buried and the water table beneath the IAAP is shallow (<10 feet in many areas) the pit must be considered a potential source for groundwater contamination.

An initial effort will be made to more accurately define the boundaries of the pit. Mr. Jack Polson, former IAAP Chief Scientist, will accompany the field team on a reconnaissance and stake the pit boundaries. After the pit location has been delineated, four subsurface soil samples, one from each side of the pit, will be collected from depths of 9 feet, which is 1 foot below the bottom of the pit. Samples collected at this depth will determine whether any contamination present in the pit is migrating vertically.

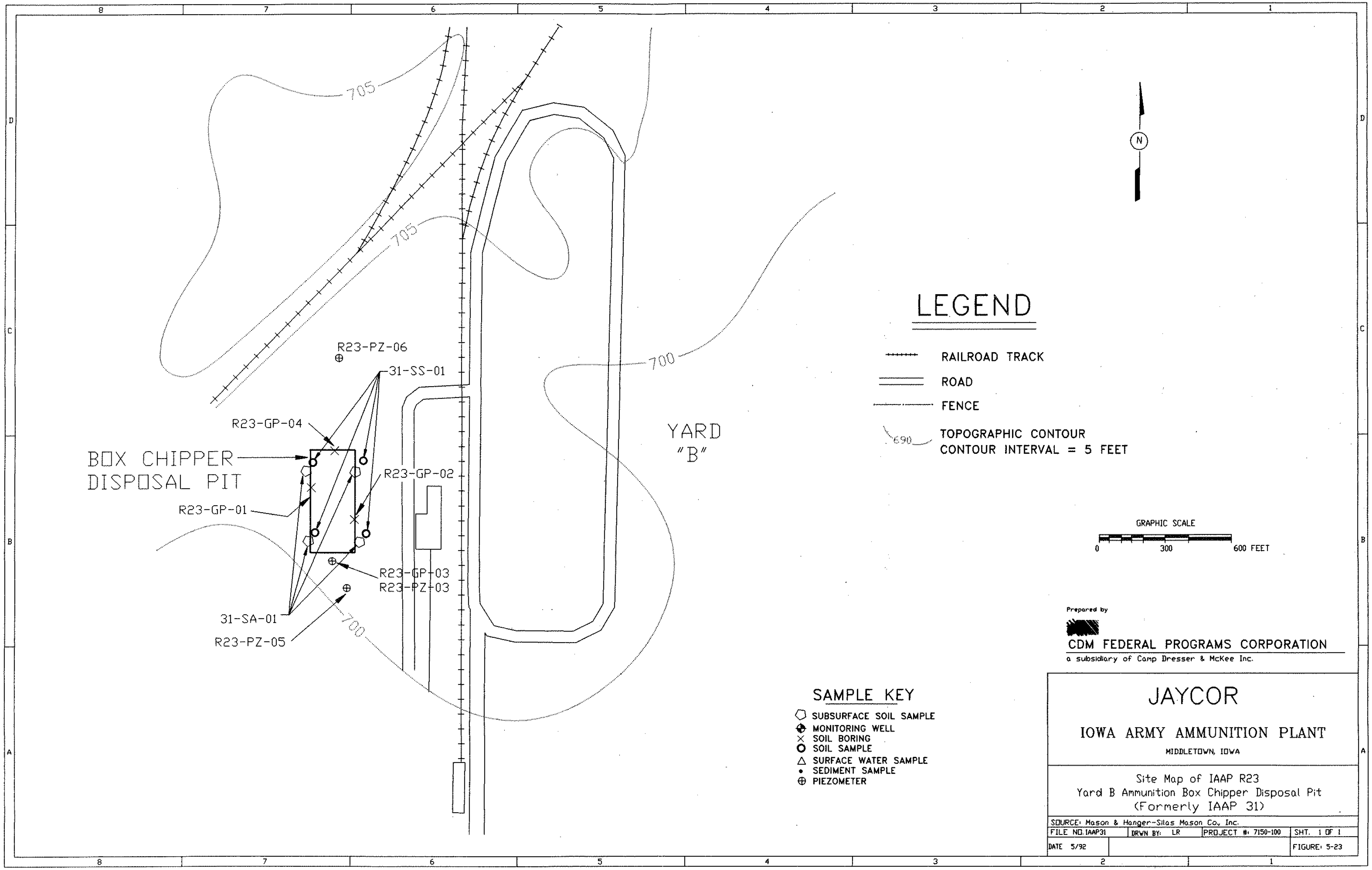
Groundwater samples will be collected to determine whether contamination emanating from the pit is impacting this matrix in the immediate site vicinity. Groundwater samples will be obtained from piezometers emplaced with a Geoprobe unit. Groundwater samples will be collected from one location upgradient form the pit with respect to groundwater flow to characterize ambient groundwater quality in the area and provide background data for assessing on-site data. Two groundwater samples will be collected from locations downgradient from the pit with respect to groundwater flow. The downgradient samples will determine whether the pit is a groundwater contaminant source.

5.25.2 Proposed Sampling Scheme

The Phase I RI/FS samples are summarized in Table 5-25; sample locations are depicted on Figure 5-23.

Subsurface soil samples R23-GP-01, R23-GP-02, R23-68-03, and R23-GP-04 will be taken at depths of 9 feet along the four sides of the pit.

Two groundwater samples will be taken downgradient of the Disposal Pit along the southern boundary of this site. An upgradient sample also will be collected. These samples will be analyzed for explosives and semivolatiles and will be used to evaluate groundwater beneath the site and the possibility of any off-site migration of contamination through the groundwater media.



8
7
6
5
4
3
2
1
D
C
B
A
705
705
700
700
R23-PZ-06
31-SS-01
R23-GP-04
BOX CHIPPER
DISPOSAL PIT
R23-GP-02
R23-GP-01
R23-GP-03
R23-PZ-03
31-SA-01
R23-PZ-05
YARD
"B"
N
LEGEND
RAILROAD TRACK
ROAD
FENCE
690
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
GRAPHIC SCALE
0
300
600 FEET
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
PIEZOMETER
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R23
Yard B Ammunition Box Chipper Disposal Pit
(Formerly IAAP 31)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP31
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-23

Table 5-25
Proposed Sample Summary
IAAP-R23 (AMMUNITION BOX CHIPPER DISPOSAL PIT)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R23-GP-01-01	Explosives SemiVOCs	G	A	9'	Located approximately 150 feet west of the dirt road near the site and approximately 60 feet south of the northwest corner of the Disposal Pit.
R23-GP-02-01	Explosives SemiVOCs	G	A	9'	Located along the eastern boundary of the Disposal Pit approximately 75 feet southeast of sample R23-GP-01-01.
R23-GP-03-01	Explosives SemiVOCs	G	A	9'	Located along the southern boundary, this sample location is approximately 140 feet south of sample R23-GP-01-01.
R23-PZ-03-01	Explosives	G	A	-	Groundwater sample taken with a Geoprobe at the same location as R23-GP-03-01.
R23-GP-04-01	Explosives SemiVOCs	G	A	9'	Located approximately 130 feet west of the dirt road near the site along the northern boundary of the disposal pit.
R23-PZ-05-01	Explosives SemiVOCs	G	A	-	Groundwater sample taken with Geoprobe approximately 75 feet southeast of RI Sample R23-PZ-03-01.
R23-PZ-06-01	Explosives SemiVOCs	G	A	-	Groundwater sample taken 300 feet north of the site boundary. This sample will be upgradient of the site and will be used as a background sample for groundwater coming onto the site.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

5.26 IAAP-R24 (BURN CAGES, BURN CAGE ASH LANDFILL, WEST BURN PADS, & WEST BURN PAD LANDFILL)

IAAP R24 is composed of four contiguous sites (IAAP-32, 33, 34, and 35) which are situated near the center of the Explosive Disposal Area (EDA) (Figure 5-19). The four units total approximately 5 acres, and are bordered by a drainage ditch to the north, Spring Creek to the east, and gravel roadways to the south and west. The units were grouped for the SI on the basis of their proximity to each other and because the units in question all were associated with the burning and disposal of explosives-contaminated materials and residues.

During the August 1991 SI, soil and sediment samples were collected from the sites and the associated drainage ditch. Significant metals and explosives contamination was detected in subsurface soil samples obtained from both landfills (IAAP-33 and IAAP-35), while elevated metals were found on the surface and in the drainage pathway of the burn pads (IAAP-34). Explosives and metals at levels above evaluation criteria also were reported in midstream drainage ditch sediments. No surface water was present in the ditch at the time of the SI.

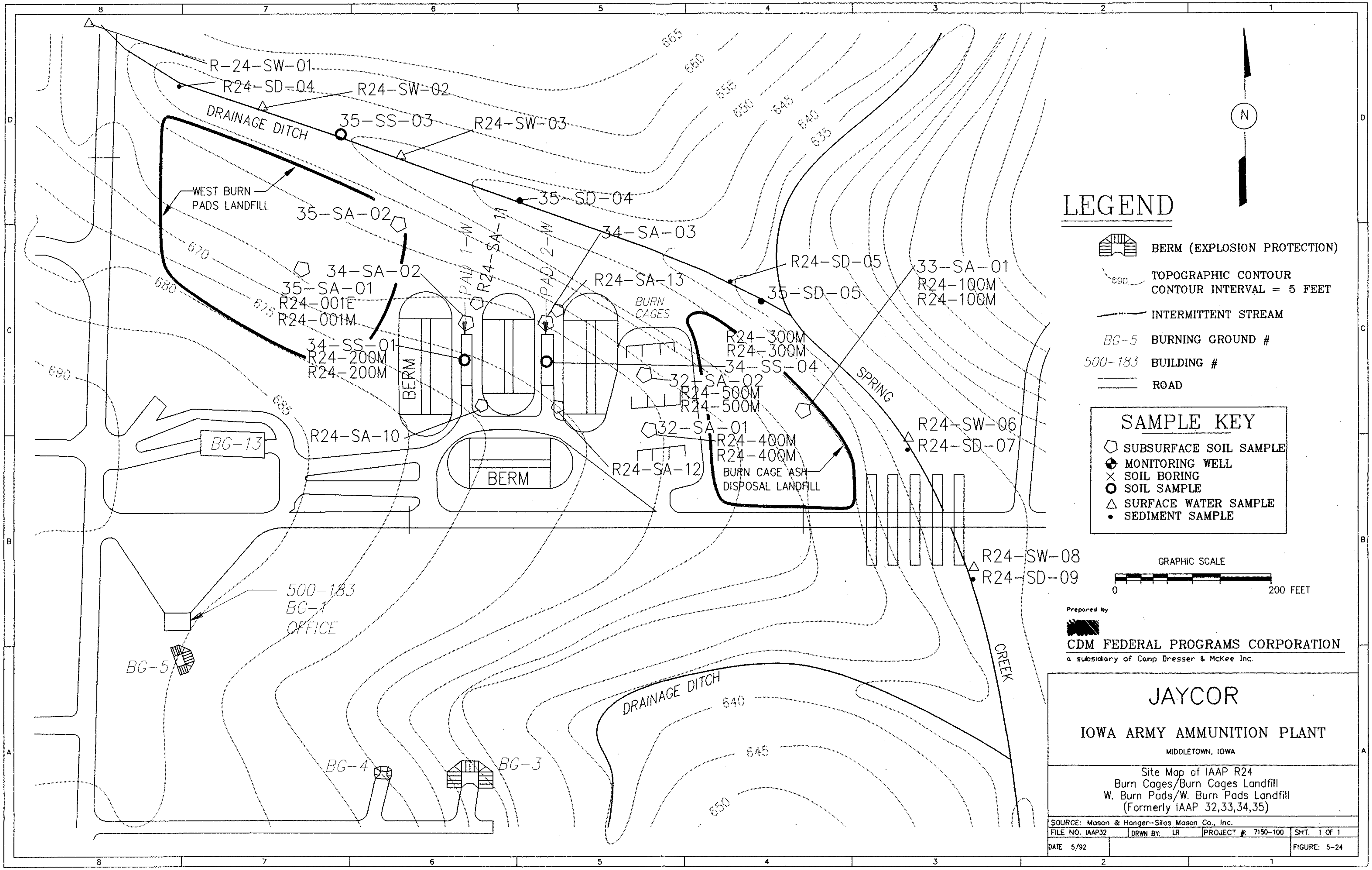
5.26.1 Data Requirements and Sampling Objectives

The focus of the Phase I RI evaluation in this area will be to define a contaminant perimeter horizontally, while attempting to define migration vertically. Additionally, overland contaminant transport via the drainage ditch will be further investigated, through the scheduled acquisition of surface water samples and additional sediment samples. Confirmatory screening will also occur at the Burn Cages (IAAP-32) to substantiate data collected during the SI.

Throughout IAAP-R24, the primary contaminants of concern are explosives and metals. Field screening techniques will be employed most frequently, centering on SI points associated with documented contamination. Surface water sampling will occur in the drainage ditch to assess contaminant mobility in this media. Additional sediment samples will be obtained to better isolate the extent of contamination exposed in the SI sampling. Further surface soil screening will be conducted in the Burn Cage area, in an attempt to locate point source contamination as a result of past incineration in the cages.

5.26.2 Proposed Sampling Scheme

In the West Burn Pads Landfill and the Burn Cage Ash Disposal Landfill, Phase I sampling will center on SI samples 35-SA-01-02 and 33-SA-01-02, respectively. Both were subsurface soil grab samples, obtained from 8 to 14 inches below the vegetated cover layer in the case of the IAAP-35 sample, and from 12 to 18 inches at IAAP-33. Using these samples as a central nodes, field screening for explosives and metals as discussed in Section 4.2.3.1 will be undertaken, with the exception that the grid size will be 30 feet within the landfill rather than 10 feet. The 30 foot grid will be sufficient to confirm the existence of contamination within the landfill. At the boundary of the landfill, the grid will be reduced to 10-foot intervals in order to define the migration of contamination away from the landfill. If consistently high contaminant levels are encountered at a given area, then the composite grid sampling scheme will be instituted. All samples for screening will be collected at the node sample location both at an appropriate depth below the soil cover and at refusal below the base of the landfill, with only a periodic surface screen to verify that the landfill soil cover is not breached or contaminated. The rationale for these changes is that a large area must be characterized and the fact that, based on SI evidence, the horizon of greatest contamination appears to be below the surface to an unknown depth.


R-24-SW-01
R24-SD-04
R24-SW-02
DRAINAGE DITCH
35-SS-03
R24-SW-03
WEST BURN PADS LANDFILL
35-SD-04
35-SA-02
34-SA-03
34-SA-02
35-SA-01
R24-001E
R24-001M
PAD 1-W
R24-SA-11
PAD 2-W
R24-SA-13
BURN CAGES
R24-SD-05
35-SD-05
33-SA-01
R24-100M
R24-100M
34-SS-01
R24-200M
R24-200M
R24-300M
R24-300M
34-SS-04
32-SA-02
R24-500M
R24-500M
BERM
SPRING
R24-SA-10
32-SA-01
R24-400M
R24-400M
R24-SW-06
R24-SD-07
BG-13
BERM
R24-SA-12
BURN CAGE ASH DISPOSAL LANDFILL
R24-SW-08
R24-SD-09
500-183
BG-1
OFFICE
BG-5
CREEK
DRAINAGE DITCH
BG-4
BG-3
665
660
655
650
645
640
635
670
675
680
685
690
640
645
650
LEGEND
BERM (EXPLOSION PROTECTION)
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
INTERMITTENT STREAM
BG-5 BURNING GROUND #
500-183 BUILDING #
ROAD
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0
200 FEET
N
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R24
Burn Cages/Burn Cages Landfill
W. Burn Pads/W. Burn Pads Landfill
(Formerly IAAP 32,33,34,35)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP32
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-24

Upstream, midstream, and downstream surface water samples will be obtained from the drainage ditch forming the northern border of IAAP-R19 (Figure 5-19). If the ditch has no running water, then samples will be collected during or immediately following a rain event. Additionally, two sediment samples will be collected from between the clean and contaminated SI samples. These samples will be analyzed for explosives and metals. Nearby monitoring well G-30 will be sampled as part of the basewide sampling effort (Section 5.2.2) and analyzed for metals, explosives, volatiles, and semivolatiles (Table 5-2).

Characterizing the West Burn Pads will be accomplished using field screening for metals and explosives, as described in Section 4.2.3.1. Samples 34-SS-01-01 and 32-SA-02-01 will be used as the central nodes for the evaluation. The low level semivolatile detections will be further characterized by collecting four more samples, both next to the pads and downgradient (Figure 5-24).

The Burn Cages SWMU will be characterized using field screening for metals and explosives and described in Section 4.2.3.1. Samples 32-SA-01-01 and 32-SA-02-01 will be used as central nodes for the evaluation.

Table 5-26 summarizes the samples proposed during Phase I of the RI/FS. All sample locations are depicted on Figure 5-24.

Table 5-26
Proposed Sample Summary for IAAP-R24
(Burn Cages, Burn Cage Ash Landfill, W. Burn Pad, and W. Burn Pads Landfill)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R24-SW-01-01	Metals Explosives	G	A	-	40' west of north-south road in the ditch.
R24-SW-02-01	Metals Explosives	G	A	-	180' east of road in ditch downstream from R24-SW-01-01.
R24-SW-03-01	Metals Explosives	G	A	-	170' downstream in ditch from R24-SW-02-01.
R24-SD-04-01	Metals Explosives	G	A	0-6"	Sediment sample in ditch 50' east of the road.
R24-SD-05-01	Metals Explosives	G	A	0-6"	Sediment sample in ditch 75' west of confluence of drainage ditch and Spring Creek.
R24-SW-06-01	Metals Explosives	G	A	-	200' downstream (south) of confluence of drainage ditch and Spring Creek.
R24-SD-06-01	Metals Explosives	G	A	0-6"	Corresponds to R24-SW-06-01.
R24-SW-07-01	Metals Explosives	G	A	-	200' downstream of sample location R24-SW-06-01.
R24-SD-07-01	Metals Explosives	G	A	0-6"	Corresponds to R24-SW-07-01.
R24-SA-08-01	VOCs SemiVOCs	A	A	0-18"	Composite of 3 aliquots: 0-6"; 6-12"; and 12-18". Three feet from southeast corner of Pad 1-W.
R24-SA-09-01	VOCs SemiVOCs	A	A	0-18"	Composite of 3 aliquots: 0-6"; 6-12"; and 12-18". Ten feet north (downgradient) of Pad 1-W.
R24-SA-10-01	VOCs SemiVOCs	A	A	0-18"	Composite of 3 aliquots: 0-6"; 6-12"; and 12-18". Three feet from southeast corner of Pad 2-W.
R24-SA-11-01	VOCs SemiVOCs	A	A	0-18"	Composite of 3 aliquots: 0-6"; 6-12"; and 12-18". Ten feet north (downgradient) of Pad 2-W.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

Table 5-26 (Continued)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R24-001M	Metals	G	S	-	SI location 35-SA-01 is central node of grid sampling configuration.
R24-001E	Explosives	G	S	-	SI location 35-SA-01 is central node of grid sampling configuration.
R24-100M	Metals	G	S	-	SI location 33-SA-01 is central node of grid sampling configuration.
R24-100E	Explosives	G	S	-	SI location 33-SA-01 is central node of grid sampling configuration.
R24-200M	Metals	G	S	-	SI location 34-SS-01 is central node of grid sampling configuration.
R24-200E	Explosives	G	S	-	SI location 34-SS-01 is central node of grid sampling configuration.
R24-300M	Metals	G	S	-	SI location 34-SS-04 is central node of grid sampling configuration.
R24-300E	Explosives	G	S	-	SI location 34-SA-04 is central node of grid sampling configuration.
R24-400M	Metals	G	S	-	SI location 32-SA-01 is central node of grid sampling configuration.
R24-400E	Explosives	G	S	-	SI location 32-SA-01 is central node of grid sampling configuration.
R24-500M	Metals	G	S	-	SI location 32-SA-02 is central node of grid sampling configuration.
R24-500E	Explosives	G	S	-	SI location 32-SA-02 is central node of grid sampling configuration.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

5.27 IAAP-R25 (NORTH BURN PADS)

IAAP-R25, formerly IAAP-36 in the SI, consists of two burn pads just northeast of the EDA.

Based on the SI sampling results there appears to be contamination which requires further investigation at the North Burn Pads. Sample location, 36-SA-02, did contain significant levels of several metals (lead, barium, copper, chromium, cadmium, nickel, and zinc) and therefore, warrants additional sampling during the Phase I RI. Due to the levels of metals detected at sample location 36-SA-02, additional samples will be collected over a wider area to determine if these detections were an isolated instance or are indicative of more pervasive contamination. Slightly elevated levels of copper and zinc were detected at sample location 36-SA-01. Slightly elevated levels of lead, chromium, copper, nickel, and zinc were also detected at sample location 36-SD-03.

No SI samples from the North Burn Pads contained explosives above the CRLs.

5.27.1 Data Requirements and Sampling Objectives

The primary objective is the characterization of the source areas, two burn pads, 1-N and 2-N, and characterization of the migration pathways which are the natural and man-made surface water drainage features around the burn pads.

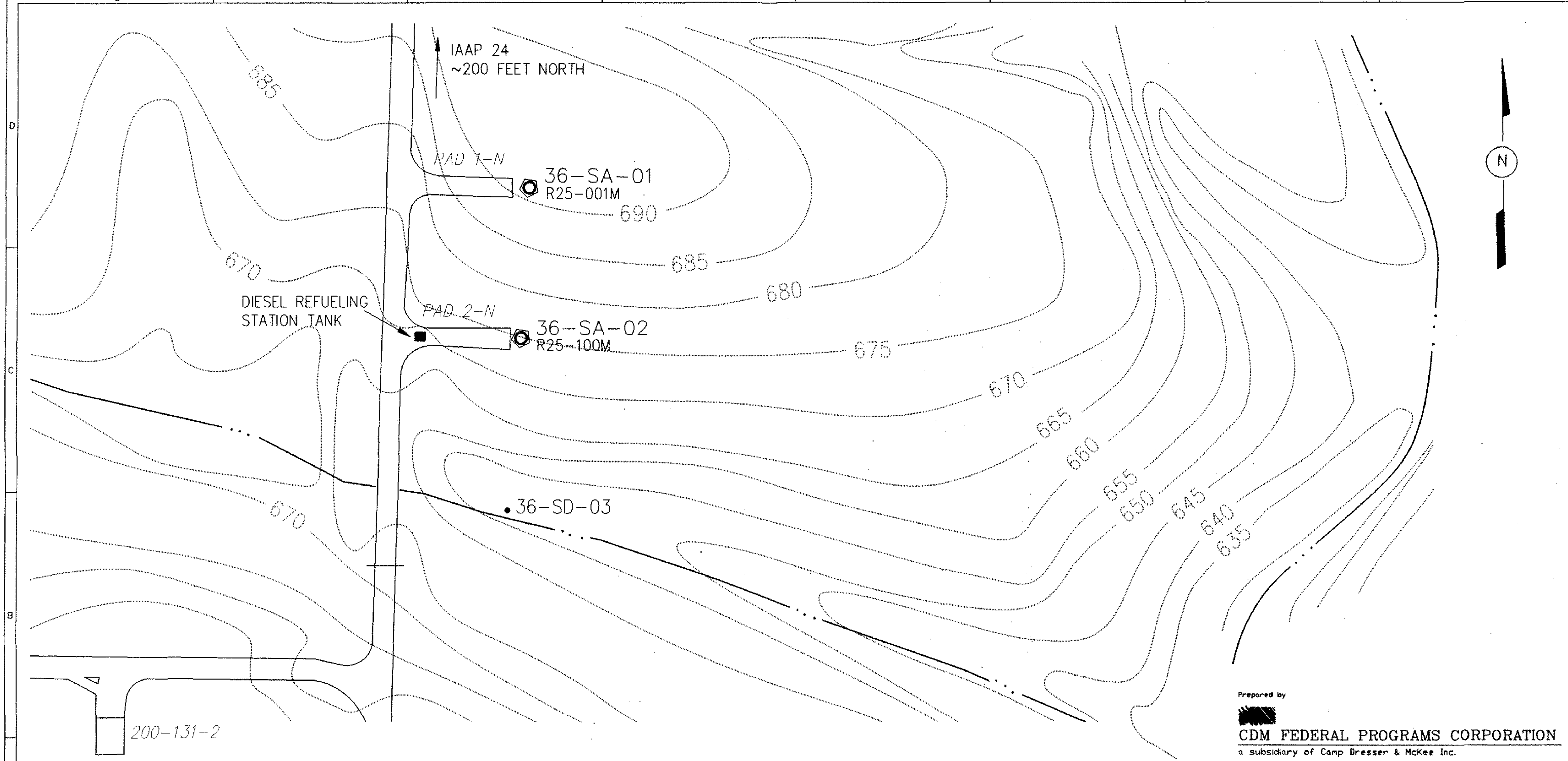
Phase I RI sampling is designed to characterize the areal and vertical extent of metals contamination in soils at the site. Screening samples will be collected for metals analyses from both North Burn Pads, Pads 1-N and 2-N. Grid sampling will be performed at both burn pads.

5.27.2 Proposed Sampling Scheme

The sampling scheme proposed for this site includes field screening for metals using XRF, using lead (and other mid-Z metals) as the indicator compound. The area to be screened for lead will utilize grid sampling, with SI sample location 36-SA-01 as the central node for Burn Pad 1-N and sample location 36-SA-02 as the central node for Burn Pad 2-N. The field screening protocol for collecting soil samples is presented in Section 4.2.3.1.2. of this Work Plan.

Screening samples will be collected at approximately one-foot depths. If contamination is detected at a one-foot depth, then additional samples will be collected at 2½ to 3-foot depth intervals. If contamination is detected at this depth, then additional samples will be collected at approximately a 5-foot depth. Initial central node locations are identified on Figure 5-25, and summarized in Table 5-27.

As deemed necessary in the field, due to changing field conditions or additional information becoming available, bias sampling may be used in addition to or instead of grid sampling to collect screening samples. Confirmatory samples, in accordance with the QAPjP, will be submitted for laboratory analysis at a frequency of 10 percent.



LEGEND

ROAD

PAD 1-N BURN PAD #

690 TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET

INTERMITTENT STREAM

SAMPLE KEY

- SUBSURFACE SOIL SAMPLE
- MONITORING WELL
- SOIL BORING
- SOIL SAMPLE
- SURFACE WATER SAMPLE
- SEDIMENT SAMPLE

GRAPHIC SCALE

0 100 200 FEET

Prepared by

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JAYCOR

IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

Site Map of IAAP R25
North Burn Pads
(Formerly IAAP 36)

SOURCE: Mason & Hanger-Silas Mason Co., Inc.			
FILE NO. IAAP36	DRWN BY: LR	PROJECT #: 7150-100	SHT. 1 OF 1
DATE 5/92			FIGURE: 5-25

Table 5-27
Proposed Sample Summary
IAAP-R25 (NORTH BURN PADS)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R25-001M	Metals	G	S	1′	Grid samples collected on and around North Burn Pad 1-N. Central node of sampling configuration is 36-SA-01. Samples will also be collected at depth if necessary.
R25-100M	Metals	G	S	1′	Grid samples collected on and around North Burn Pad 2-N. Central node of sampling configuration is 36-SA-02. Samples will also be collected at depth if necessary.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

5.28 IAAP-R26 (BUILDING 600-86 SEPTIC SYSTEM)

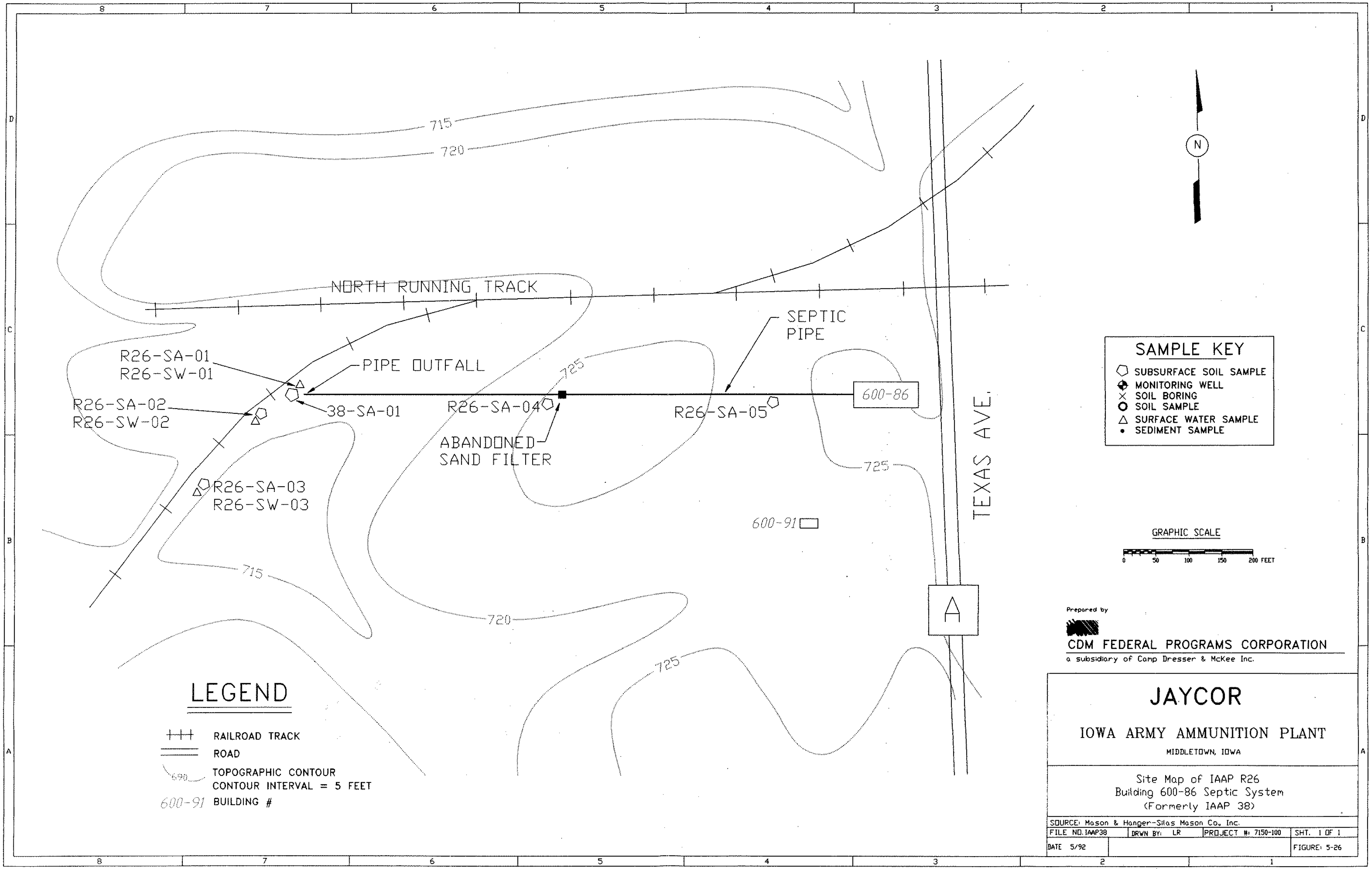
SI sampling at IAAP-R25 (IAAP-38 during the SI), focused on characterizing the soil below the septic drain outfall, which received effluent from Building 600-86, a former chemical laboratory. The SI sample obtained at the outfall location contained metals above the established evaluation levels. The site is now used for the storage of solvents, so volatiles and semivolatile compounds are a concern. The sample site is localized; other than possible downgradient migration, no contaminant dispersal is expected.

5.28.1 Data Requirements and Sampling Objectives

Soil sampling will be conducted during the Phase I RI to confirm the presence of the reported metals compounds at the outfall location and in downgradient areas. Additionally, two locations will be sampled at depth along the 825-foot length of pipe between the building and outfall. These samples are proposed to determine whether the septic line has deteriorated during its years of use, allowing effluent to leak from the pipe before reaching the outfall. The pipe will be located using terrain conductivity or some other available technology used to locate utilities. The depths of the samples will be determined after the depth of the pipe is known; the sample will be taken 1 foot below the depth of the pipe. Surface water will be obtained from locations downgradient of the outfall, if available. The downgradient samples will help assess whether contamination is migrating from the outfall location via surface water.

5.28.2 Proposed Sampling Scheme

The following samples are proposed during Phase I of the RI/FS. All samples will be analyzed for the parameters of concern at IAAP-R25: metals, volatiles, and semivolatiles. The sample locations are depicted on Figure 5-26 and summarized in Table 5-28.



715
720
725
NORTH RUNNING TRACK
SEPTIC
PIPE
R26-SA-01
R26-SW-01
PIPE OUTFALL
R26-SA-02
R26-SW-02
38-SA-01
R26-SA-04
R26-SA-05
600-86
ABANDONED
SAND FILTER
R26-SA-03
R26-SW-03
600-91
TEXAS AVE.
A
N
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0 50 100 150 200 FEET
LEGEND
RAILROAD TRACK
ROAD
690
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
600-91 BUILDING #
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
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JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R26
Building 600-86 Septic System
(Formerly IAAP 38)
SOURCE: Mason & Hanger-Silas Mason Co. Inc.
FILE NO. IAAP38
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-26

Table 5-28
Proposed Sample Summary
IAAP-R26 (Building 600-86 Septic System)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R26-SA-01	Metals VOCs SemiVOCs	C	A	0-18"	The outfall of the septic system pipe.
R26-SW-01	Metals VOCs SemiVOCs	G	A	N/A	Corresponds to R25-SA-01, if water available.
R26-SA-02	Metals VOCs SemiVOCs	C	A	18"	10 feet downgradient (south to southwest) of sample R25-SA-01.
R26-SW-02	Metals VOCs SemiVOCs	G	A	N/A	Corresponds to R25-SA-02, if water is available.
R26-SA-03	Metals VOCs SemiVOCs	G	A	0-6"	25 feet downgradient (south to southwest) of sample R25-SA-02.
R26-SW-03	Metals VOCs SemiVOCs	G	A	N/A	Corresponds to sample R25-SA-03, if water is available.
R26-SA-04	Metals VOCs SemiVOCs	C	A	TBD	The abandoned sand filter located approximately half way between the building and the outfall and 1 foot below the depth of the pipe.
R26-SA-05	Metals VOCs SemiVOCs	C	A	TBD	200 feet east of Building 600-86, along the septic pipe and 1 foot below the depth of the pipe.

C = Composite S = Screening Sample G = Grab A = Analytical Sample TBD = To be determined

5.29 IAAP-R27 (FIRE TRAINING PIT)

IAAP-R27, referred to as IAAP-39 in the SI (Section 3.41), is the Fire Training Pit. The site is a bermed depression in which various materials were set ablaze for the purpose of fire fighting instruction (Figure 5-29). During the 1991 SI, soils within and surrounding the pit and outside the Smoke Training Vault (Building 200-30), a concrete structure situated approximately 75 feet northwest of the pit), were sampled for volatiles, semivolatiles, metals, and explosives. The results yielded a slightly elevated level of copper in one soil sample outside the vault, and significant organic and inorganic contamination in soil samples obtained from the pit. A semivolatile compound was detected above its CRL in a subsurface soil sample taken from outside the pit.

5.29.1 Data Requirements and Sampling Objectives

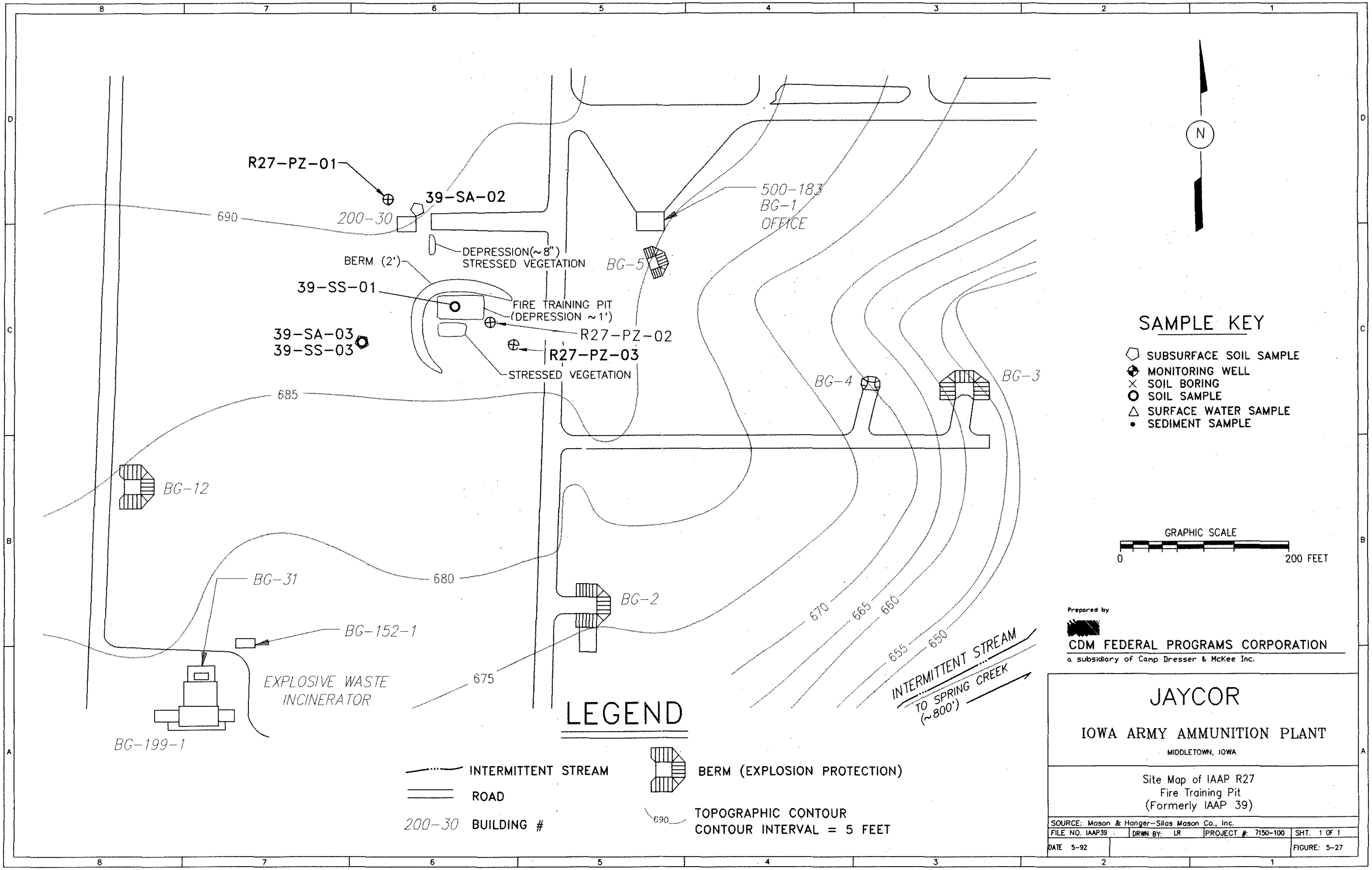
The focus of the Phase I RI evaluation in this area will be to define the horizontal and vertical extent of volatiles, semi-volatiles and metals contamination in surface and subsurface soils, centering on the pit and Building 200-30. Chemical and hydrogeological groundwater information will be gathered to aid in assessing groundwater contamination and mobility beneath the site. Overland surface water/sediment transport will be characterized for metals.

As volatiles, semi-volatiles and metals are the primary contaminants of concern, field screening techniques will be utilized to delineate the extent of contamination surrounding the pit. A Geoprobe will be utilized to obtain soil gas samples, as well as, for installing piezometers to obtain water level measurements and groundwater samples; metals screening will be used to characterize surface and subsurface contamination.

5.29.2 Proposed Sampling Scheme

Characterizing the Fire Training Pit will be accomplished using a combination of field screening techniques. Metals screening will be carried out through the procedure described in Section 4.2.3.1. Surface and near surface samples will be collected by hand auger for metals screening. Deeper samples, if warranted, will be collected by use of a power auger, or Geoprobe. Determining the extent of volatiles contamination will be accomplished by soil gas investigation, utilizing the Geoprobe and field gas chromatography (Figure 5-22a). Due to the high VOC detection during the SI sampling, the initial soil gas grid size at the pit will be set at 20 feet, rather than the standard 10-foot interval which will be used at the Smoke Training Vault. Confirmatory soil samples will be collected for select soil gas points and shipped to a laboratory for volatile and semivolatile analysis.

The unconfined groundwater aquifer will be investigated using the Geoprobe. Three temporary piezometers will be installed around the pit to determine the groundwater direction. Additionally, samples for volatiles, semivolatiles, and metals analysis will be collected from the piezometers. The environmental samples to be collected are outlined in Table 5-29. The location of the piezometers are depicted in Figure 5-27.



R27-PZ-01
39-SA-02
200-30
690
DEPRESSION(~8")
STRESSED VEGETATION
BERM (2')
39-SS-01
FIRE TRAINING PIT
(DEPRESSION ~1')
R27-PZ-02
39-SA-03
39-SS-03
R27-PZ-03
STRESSED VEGETATION
500-183
BG-1
OFFICE
BG-5
BG-4
BG-3
685
BG-12
680
BG-31
BG-2
BG-152-1
675
EXPLOSIVE WASTE INCINERATOR
BG-199-1
670
665
660
655
650
INTERMITTENT STREAM
TO SPRING CREEK
(~800')
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
GRAPHIC SCALE
0
200 FEET
N
LEGEND
INTERMITTENT STREAM
ROAD
200-30 BUILDING #
BERM (EXPLOSION PROTECTION)
690
TOPOGRAPHIC CONTOUR
CONTOUR INTERVAL = 5 FEET
Prepared by
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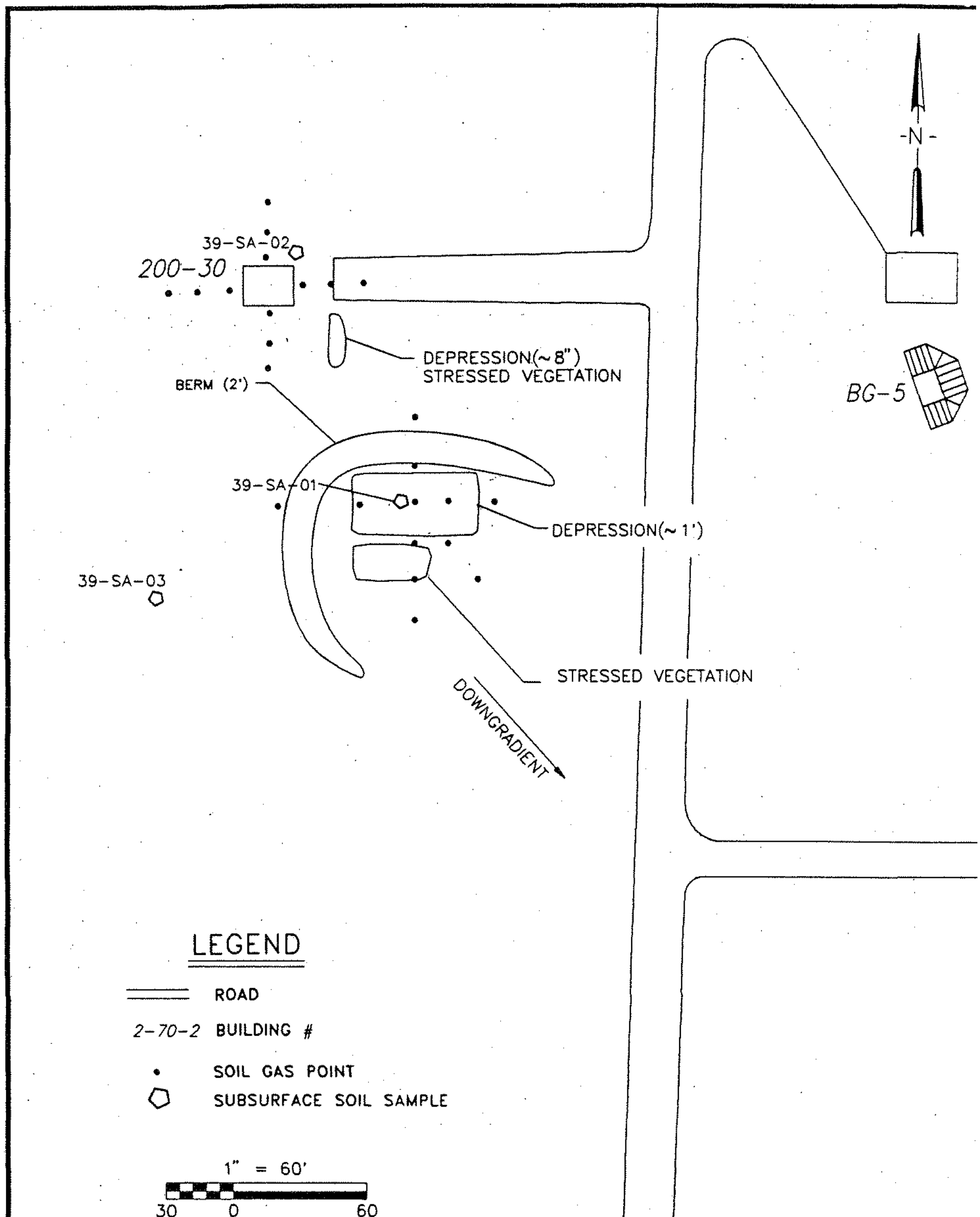
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R27
Fire Training Pit
(Formerly IAAP 39)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP39
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5-92
FIGURE: 5-27

Table 5-29
Proposed Sample Summary
IAAP-R27 (Fire Training Pit)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R27-PZ-01	VOCs SemiVOCs Metals	G	A	-	Groundwater sample from Piezometer PZ-01.
R27-PZ-02	VOCs SemiVOCs Metals	G	A	-	Groundwater sample from Piezometer PZ-02.
R27-PZ-03	VOCs SemiVOCs Metals	G	A	-	Groundwater sample from Piezometer PZ-03.
R27-SA-01-01	VOCs SemiVOCs	G	A	TBD	Confirmatory sample to be collected at a select soil gas point.
R27-SA-02-01	VOCs SemiVOCs	G	A	TBD	Confirmatory sample to be collected at a select soil gas point.
R27-SA-03-01	VOCs SemiVOCs	G	A	TBD	Confirmatory sample to be collected at a select soil gas point.
R27-001M	Metals	G	S	0-6"	SI location 39-SA-01 is the central node of the grid sampling.
R27-100M	Metals	G	S	0-6"	Building 200-30 is the central node of the grid sampling.

C = Composite S = Screening Sample G = Grab A = Analytical Sample



JAYCOR Prepared by CDM FEDERAL PROGRAMS CORPORATION a subsidiary of Camp Dresser & McKee Inc.	IOWA ARMY AMMUNITION PLANT MIDDLETOWN, IOWA SOIL GAS SURVEY IAAP R27 BUILDING #200-30	Figure 5-27a 5/92 SGIAP39A

5.30 IAAP-R28 (ROUNDHOUSE TRANSFORMER STORAGE AREA) (Formerly IAAP-40)

The SI sampling at IAAP-R28, formerly IAAP-40, focused on the current transformer storage area, and on the western edge of the area where transformers have been stored in the past. Three of the soil samples obtained from this area during the SI sampling contained low levels of PCBs. The presence of PCBs in soil at this location may indicate that PCB-contaminated dielectric fluid has leaked or spilled from transformers stored in the yard. A soil sample collected from a surface water runoff pathway showed no PCB contamination.

5.30.1 Data Requirements and Sampling Objectives

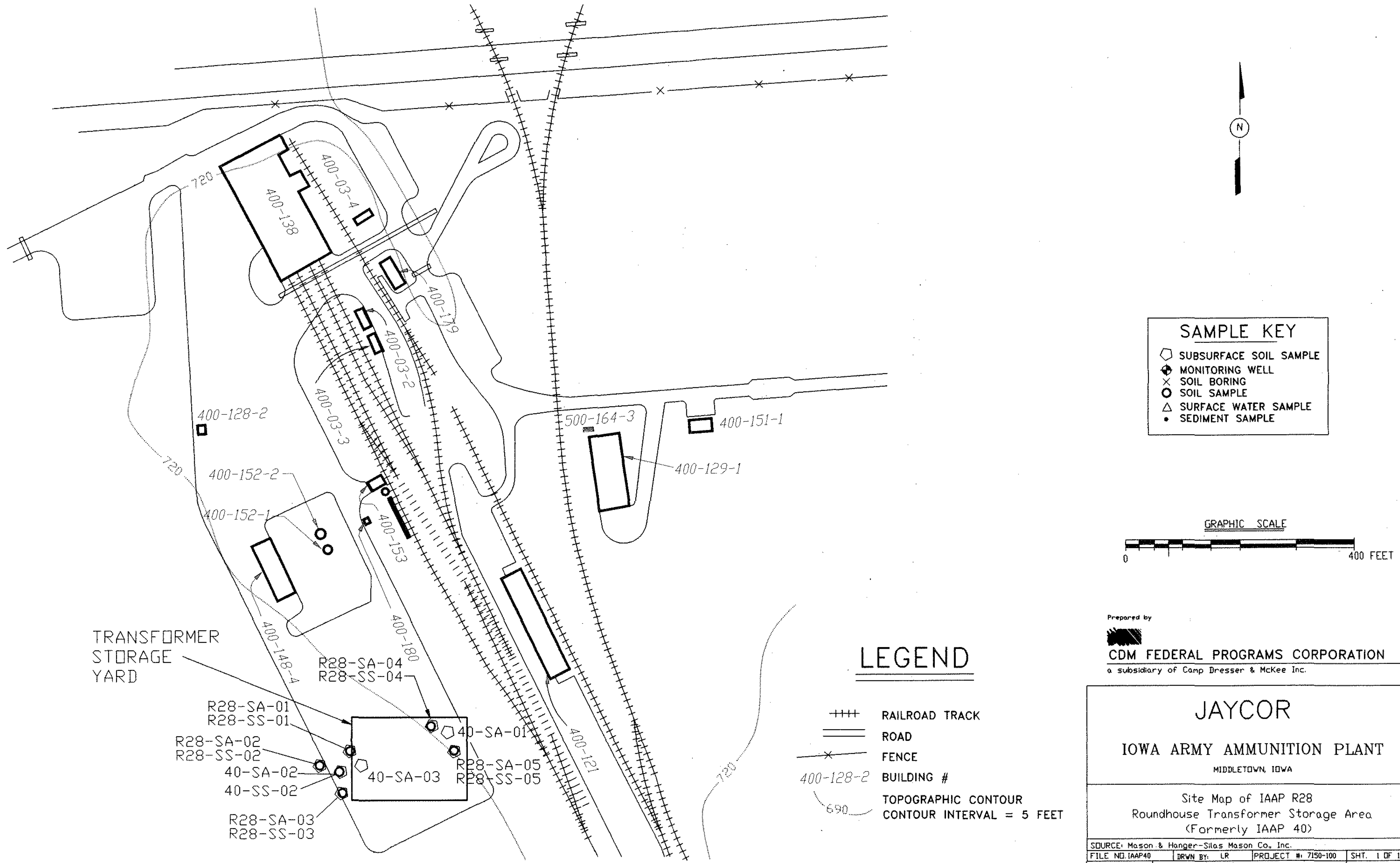
Limited soil sampling will be conducted during the Phase I RI to confirm the presence of PCBs in soil in the area where transformers are stored and handled. Because PCBs are generally stable in soils, the most likely transport mechanism is particulate migration via surface runoff into the adjacent field. No PCBs were detected in drainageways during the SI.

All natural drainage pathways will be defined. The transformer storage yard is flat so no sheet flow is expected; however, topographic contours indicate that possible drainage pathways may exist toward the south/southeast. Sediment samples will be obtained from the drainage pathways to assess the possible surface migration of contaminants from the subject site. A corresponding surface water sample will be obtained from these locations, if available.

Because of the hard surface of the storage area, affinity of PCBs for organic matter in soil, and the lack of evidence of pervasive contamination of the site, groundwater sampling is not proposed during this phase of the study. If Phase I RI sampling indicates widespread contamination at the site, a groundwater study will be included in the Phase II study.

5.30.2 Proposed Sampling Scheme

Surface and subsurface soil samples will be collected for PCBs analysis. The proposed RI sample locations are summarized in Table 5-30, and are depicted along with SI sample locations on Figure 5-30.



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IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

Site Map of IAAP R28
Roundhouse Transformer Storage Area
(Formerly IAAP 40)

SOURCE: Mason & Hanger-Silas Mason Co., Inc.			
FILE NO. IAAP40	DRWN BY: LR	PROJECT #: 7150-100	SHT. 1 OF 1
DATE 5/92			FIGURE: 5-28

Table 5-30
Proposed Sample Summary
IAAP-R28 (ROUNDHOUSE TRANSFORMER STORAGE AREA)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R28-SS-01-01	Pesticides/ PCBs	G	A	0-6"	Sample site is 25 feet north of SI sample 40-SA-02-01.
R28-SA-01-02	Pesticides/ PCBs	G	A	12-18"	Sample corresponds to R28-SS-01-01.
R28-SS-02-01	Pesticides/ PCBs	G	A	0-6"	Sample near the center of the storage yard.
R28-SA-02-02	Pesticides/ PCBs	G	A	12-18"	Corresponds to R28-SS-02-01.
R28-SS-03-01	Pesticides/ PCBs	G	A	0-6"	Sample site is 25 feet south of SI sample 40-SA-02-01.
R28-SA-03-02	Pesticides/ PCBs	G	A	12-18"	Corresponds to R28-SS-03-01.
R28-SS-04-01	Pesticides/ PCBs	G	A	0-6"	Sample site is 25 feet west of SI sample 40-SA-01-01.
R28-SA-04-02	Pesticides/ PCBs	G	A	12-18"	Corresponds to R28-SS-04-01.
R28-SS-05-01	Pesticides/ PCBs	G	A	0-6"	Sample site is 25 feet south of SI sample 40-SA-01-01.
R28-SA-05-02	Pesticides/ PCBs	G	A	12-18"	Corresponds to R28-SS-05-01.
R28-SD-06-01	Pesticides/ PCBs	G	A	0-6"	Sample location is 50 feet downgradient from the southeastern corner of the site, in a drainage ditch.
R28-SW-06-01	Pesticides/ PCBs	G	A	-	Corresponds to sample R28-SD-06-01, if water is available.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

5.31 IAAP-R29 (LINE 3A POND)

The SI sampling for IAAP-41 concentrated on soil contamination at depth in the area of the relict pond. Samples were analyzed for metals, explosives, and nitrates/sulfates. Low levels of metals were found in soil samples, but none was above the associated evaluation criteria. No explosives were detected.

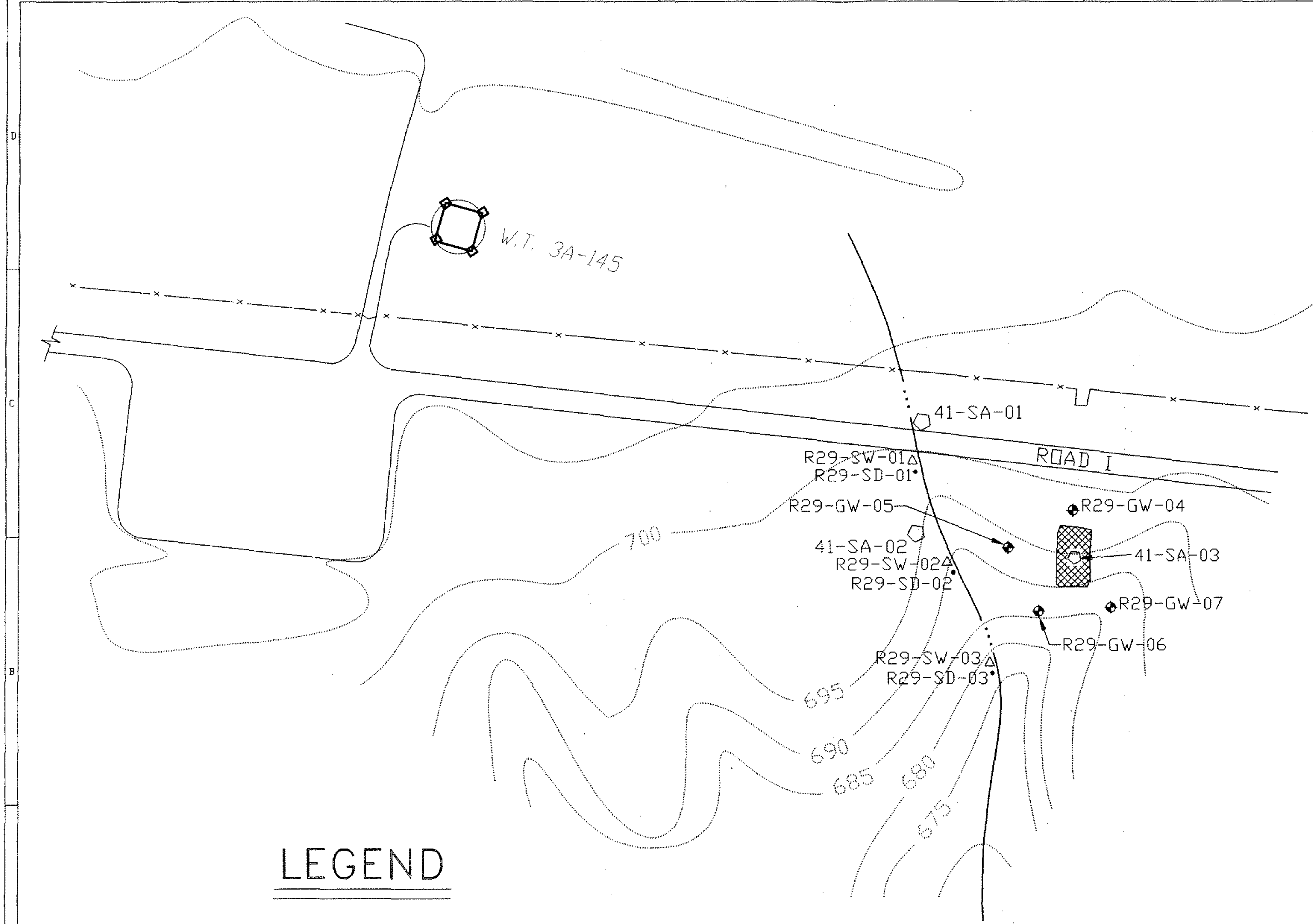
5.31.1 Data Requirements and Sampling Objectives

Information obtained from an interview with Mr. Jack Polson, formerly the Chief Scientist at IAAP, indicates that solvents, degreasers, and acids from a metal cleaning operation were dumped into the Pond. This metal cleaning operation was part of a discrete system entirely enclosed within a building at Line 3A. No wastes from other parts of Line 3A were disposed in the Pond, nor were explosives or pesticides disposed there.

The main concern for the RI is the possibility of migration of metals, volatiles, and semivolatiles from the Pond via groundwater and surface water drainage pathways. The contaminants of concern are consistent with the constituents that would be present from a metal cleaning bath. The sampling effort will attempt to evaluate the existence and extent of groundwater and surface water migration of contaminants along drainage pathways. Upgradient and downgradient groundwater samples will be taken to evaluate subsurface migration of contaminants. Surface water and sediment samples will be taken (upstream and downstream) from the intermittent stream immediately after a rainfall, if possible, when surface water is likely to be present.

5.31.2 Proposed Sampling Scheme

The following samples are proposed during Phase I of the RI/FS. All proposed sample locations (along with SI sample locations) are depicted on Figure 5-29. The proposed sample locations and analyses are on Table 5-31.



SAMPLE KEY

- SUBSURFACE SOIL SAMPLE
- MONITORING WELL
- SOIL BORING
- SOIL SAMPLE
- SURFACE WATER SAMPLE
- SEDIMENT SAMPLE

GRAPHIC SCALE

0 150 300 FEET

LEGEND

	ROAD	690	TOPOGRAPHIC CONTOUR CONTOUR INTERVAL = 5 FEET
	FENCE		INTERMITTENT STREAM
W.T. 3A-145	BUILDING #		APPROXIMATE FORMER POND AREA

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IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

Site Map of IAAP R29
Line 3A Pond
(Formerly IAAP R41)

SOURCE: Mason & Hanger-Silas Mason Co., Inc.

FILE NO. IAAP41	DRWN BY: LR	PROJECT #: 7150-100	SHT. 1 OF 1
DATE 5/92			FIGURE: 5-29

Table 5-31
Proposed Sample Summary
IAAP-R29 (LINE 3A POND)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R29-SW-01-01	Metals VOCs SemiVOCs	G	A	-	Upstream end of intermittent stream as it exits the culvert on south side of Road I.
R29-SD-01-01	Metals VOCs SemiVOCs	G	A	0-6"	Corresponds to R29-SW-01-01.
R29-SW-02-01	Metals VOCs SemiVOCs	G	A	-	Approximately 120 feet downstream from R29-SW-01-01 and due west of Pond location.
R29-SD-02-01	Metals VOCs SemiVOCs	G	A	0-6"	Corresponds to R29-SW-02-01.
R29-SW-03-01	Metals VOCs SemiVOCs	G	A	-	Approximately 150 feet downstream from R29-SW-02-01.
R29-SD-03-01	Metals VOCs SemiVOCs	G	A	0-6"	Corresponds to R29-SW-03-01.
R29-GW-04-01	Metals VOCs SemiVOCs	G	A	-	Geoprobe sample approximately 60 feet south of Road I at Pond location.
R29-GW-05-01	Metals VOCs SemiVOCs	G	A	-	Geoprobe sample west of Pond location approximately halfway between Pond area and intermittent stream bed.
R29-GW-06-01	Metals VOCs SemiVOCs	G	A	-	Geoprobe sample approximately 75 feet southwest of Pond area.
R29-GW-07-01	Metals VOCs SemiVOCs	G	A	-	Geoprobe sample approximately 75 feet southeast of Pond area.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

5.32 IAAP-R30 (FLY ASH DISPOSAL AREA)

The SI sampling for IAAP-43 focused on soil and sediment contamination to characterize the fly ash at the point where it abuts the intermittent stream and to determine the extent and nature of any contaminants that leach or runoff into the stream. No surface water samples were taken because no water was present in the stream during SI sampling. Samples were analyzed for metals, explosives, and nitrates/sulfates. No explosives were found in any samples taken at the site. Metals were detected in soil samples collected from the landfill surface at levels above the evaluation criteria, but no metals were found in sediment samples collected from the stream bed.

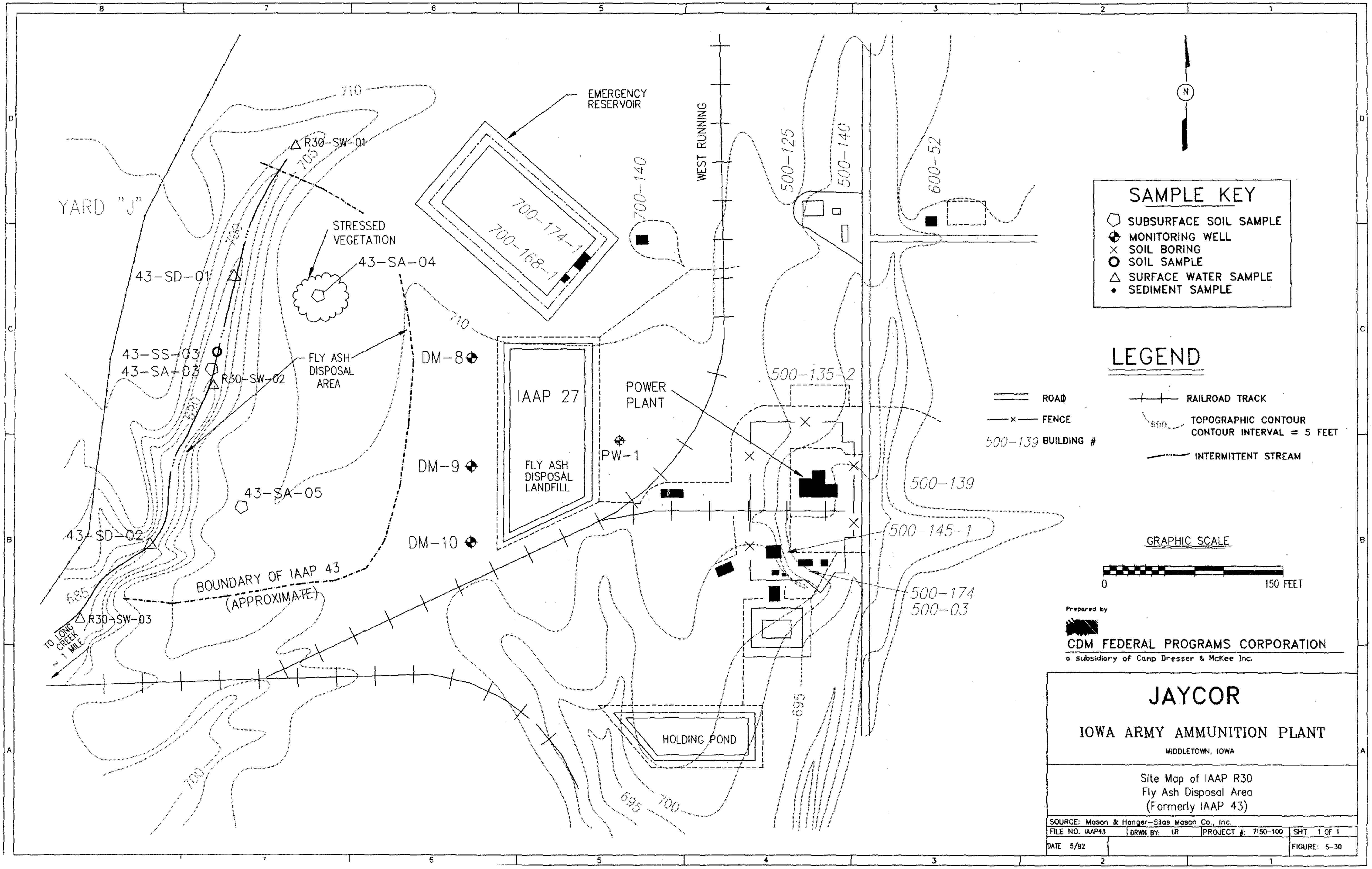
5.32.1 Data Requirements and Sampling Objectives

The main concern associated with IAAP-R30 is the possible migration of metals, explosives, and nitrates/sulfates from the disposal area via surface water and groundwater pathways. Phase I RI sampling is designed to delineate the extent of surface water contamination along drainage pathways. Surface water samples will be taken at locations upstream and downstream of IAAP-R30 from the intermittent stream, if possible. Sampling will be conducted during a rainfall event when surface water is likely to be present.

IAAP-R30 also is a potential source of groundwater contamination. Groundwater samples will be collected from wells DM-8, DM-9, and DM-10 as part of the RI for site IAAP-R19 (Fly Ash Landfill), which is immediately east of IAAP-R30. These three wells all are within 50 feet of the boundary of IAAP-R30 and data acquired from them will be used to assess groundwater quality in the immediate site vicinity.

5.32.2 Proposed Sampling Scheme

The following samples are proposed during Phase I of the RI/FS. All proposed sample locations (along with SI sample locations) are depicted on Figure 5-30. The proposed sample locations and analyses are summarized in Table 5-32.



EMERGENCY RESERVOIR
WEST RUNNING
YARD "J"
R30-SW-01
STRESSED VEGETATION
43-SA-04
43-SD-01
700-174-1
700-168-1
700-140
500-125
500-140
600-52
710
705
700
690
685
695
FLY ASH DISPOSAL AREA
43-SS-03
43-SA-03
R30-SW-02
DM-8
DM-9
DM-10
IAAP 27
FLY ASH DISPOSAL LANDFILL
PW-1
POWER PLANT
500-135-2
500-139
500-145-1
500-174
500-03
43-SA-05
43-SD-02
BOUNDARY OF IAAP 43 (APPROXIMATE)
R30-SW-03
TO LONG CREEK ~ 1 MILE
HOLDING POND
SAMPLE KEY
SUBSURFACE SOIL SAMPLE
MONITORING WELL
SOIL BORING
SOIL SAMPLE
SURFACE WATER SAMPLE
SEDIMENT SAMPLE
N
LEGEND
ROAD
RAILROAD TRACK
FENCE
TOPOGRAPHIC CONTOUR CONTOUR INTERVAL = 5 FEET
500-139 BUILDING #
INTERMITTENT STREAM
GRAPHIC SCALE
0
150 FEET
Prepared by
CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.
JAYCOR
IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
Site Map of IAAP R30
Fly Ash Disposal Area
(Formerly IAAP 43)
SOURCE: Mason & Hanger-Silas Mason Co., Inc.
FILE NO. IAAP43
DRWN BY: LR
PROJECT #: 7150-100
SHT. 1 OF 1
DATE 5/92
FIGURE: 5-30

Table 5-32
Proposed Sample Summary
IAAP-R30 (Fly Ash Disposal Area)

RI Sample Number	Analyses	Sample Type	Sample Category	Depth	Location
R30-SW-01-01	Metals Explosives Nitrates/Sulfates	A	G	-	Upstream (north) part of the intermittent stream where it enters the Fly Ash Disposal Area.
R30-SW-02-01	Metals Explosives Nitrates/Sulfates	A	G	-	Approximately 250 feet downstream from sample location R29-SW-01-01
R30-SW-03-01	Metals Explosives Nitrates/Sulfates	A	G	-	Downstream (south) part of the intermittent stream where it exits the Fly Ash Disposal Area.

C = Composite S = Screening Sample G = Grab A = Analytical Sample

SECTION 6.0 GENERAL DESCRIPTION OF FEASIBILITY TASKS

6.1 INTRODUCTION

The objective of the feasibility study (FS) is to methodically develop a range of remedial alternatives for IAAP from which to select appropriate remedial actions. Remedial alternatives considered "appropriate" will be those that ensure the protection of human health and the environment, to the degree specified by the Baseline Risk Assessment (BRA) together with ARARs. Remedial alternatives will be developed as combinations of technologies, and the environmental media to which they will be applied, on the basis of operable units to be defined. The FS is a three stage process which proceeds from the development of remedial alternative to their screening, and through their detailed analysis.

The development and initial screening of remedial alternatives will be based on existing data. Additional data requirements necessary to adequately screen remedial alternatives and to develop operable units will be identified as the screening of alternatives is performed. These additional data needs will be identified and subsequently incorporated into the RI/FS Work Plan. The development and screening of alternatives will address the IAAP sites by media and contaminants of concern for each operable unit as appropriate.

During the completion of the development and screening of alternatives, potential operable units will be identified. If current data are insufficient to determine whether an operable unit is appropriate, specific recommendations and rationale for additional data collection will be presented and subsequently incorporated into the RI/FS Work Plans. In addition, an evaluation will be performed identifying whether an alternative for an operable unit should be expedited through the FS process separately, or evaluated during the basewide Feasibility Study report.

6.2 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

Under Section 121(d)(1) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 as amended in 1986 by the Superfund Amendment and Reauthorization Act (SARA) remedial actions must attain a degree of cleanup which assures protection of human health and the environment. Additionally, CERCLA remedial actions that leave any hazardous substance, pollutant, or contaminant on-site must meet, upon completion of the remedial action, a level or standard of control that at least attains standards, requirements, limitations, or criteria that are "applicable or relevant and appropriate" under the circumstances of the release. These requirements, known as "ARARs", may be waived only for certain instances specified in Section 121(d)(4) of CERCLA.

ARARs are derived from both federal and state laws. Under Section 121(d)(2), the Federal ARARs for a site could include requirements under any of the Federal environmental laws (e.g., the Clean Air Act, the Clean Water Act, and the Safe Drinking Water Act). State ARARs include promulgated requirements under the State environmental or facility citing laws that are more stringent than federal ARARs and have been identified to EPA by the State in a timely manner. Subparagraph 121(d)(2)(c) of CERCLA limits the applicability of State requirements or citing laws which could effectively result in the statewide prohibition of land disposal of hazardous substances, pollutants, or contaminants unless certain conditions are met.

Subsection 121(d) of CERCLA requires that federal or state substantive requirements that qualify as ARARs be compiled by remedies (in the absence of a waiver). State requirements can be waived if a state has not consistently applied or demonstrated the intent to consistently apply a requirement in similar circumstances at other remedial actions within the state (Subparagraph 121(d)(4)(E) of CERCLA). Federal, state, or local permits do not need to be obtained for removal or remedial actions implemented on-site (Subsection 121(e) of CERCLA). "On-site" is interpreted by EPA to include the aerial extent of contamination and all suitable areas in a reasonable proximity to the contamination necessary for implementation of the response action.

The definition of "applicable" or "relevant and appropriate" requirements is derived from the National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule, 40 CFR Part 300, March 8, 1990 (NCP). These definitions are presented below.

Applicable requirements: "means those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstances at a CERCLA site. Only those state standards that are identified by the state in a timely manner that are more stringent that federal requirements may be applicable."

Relevant and appropriate requirements: "means those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility citing laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site. Only those state standards that are identified in a timely manner and are more stringent than federal requirements may be relevant and appropriate."

The determination of which requirements are "relevant and appropriate" is somewhat flexible. EPA and the state may look to the type of remedial actions contemplated, the hazardous substances present, the waste characteristics, the physical characteristics of the site, and other appropriate factors. It is possible for only a part of a requirement to be considered relevant and appropriate. Additionally, only substantive requirements need be followed, 50 Federal Register 47,946 (1985) (preamble to the NCP).

ARARs are classified into three groups to help in identification and compliance. The first group are ambient or chemical-specific requirements. These ARARs are usually site-specific health or risk-based numerical values which establish the acceptable amount or contaminant concentration that may be found in, or discharged to, the environment. Examples of this type of ARAR are ambient water quality criteria and drinking water standards.

The second group are performance, design, or other action-specific requirements. These ARARs are technology- or activity-based requirements or limitations on hazardous waste actions. Examples of action-specific ARARs are Resource Conservation and Recovery Act (RCRA) regulations for waste treatment, storage, and disposal.

The third group are location-specific requirements. These ARARs place restrictions on the concentrations of hazardous substances or the conduct of activity based on the site location. These include restrictions on activities in wetlands, floodplains, and historic sites.

ARARs must be identified on a site-specific basis from information about specific chemicals at the site, specific features of the site location, and actions that are being considered as remedies.

If no ARAR covers a particular situation, or if an ARAR is not sufficient to protect human health or the environment, then non-promulgated standards, criteria, guidance, and advisories must be used to provide a protective remedy. These non-promulgated standards, criteria, guidance, and advisories are categorized as "to be considered" (TBC) ARARs. A risk assessment may also be used to evaluate the sufficiency of a specific ARAR to provide protection of human health and the environment. Table 6-1 contains a list of potential federal and State of Iowa ARARs.

Federal ARARs potentially associated with the IAAP site are based upon the Safe Drinking Water Act, the Clean Water Act, the Clean Air Act, and the Resource Conservation and Recovery Act. The NCP supplements these requirements. Additionally, on-site investigations and remedial activities require compliance with regulations promulgated by the Occupational Safety and Health Administration for worker safety, and other Acts which require the consultation with other federal agencies for the protection of fish, wildlife and critical habitats of endangered species.

6.3 INITIAL DEVELOPMENT OF REMEDIAL ALTERNATIVES

A list of remedial action alternatives will be developed based on the general steps outlined in the CERCLA RI/FS Guidance document. The steps employed to develop the alternatives include the following:

- Develop remedial action objectives specifying the contaminants and media of interest, exposure pathways, and preliminary remediation goals.
- Develop general response actions for each media of interest defining containment, treatment, excavation, pumping, or other actions, singly or in combination, that may be taken to satisfy the remedial action objectives for the site.
- Identify volumes or areas of media to which general response actions might be applied.
- Identify and screen the technologies applicable to each general response action to eliminate those that cannot be implemented technically at the site.
- Identify and evaluate technology process options to select a representative process for each technology type retained for consideration.
- Assemble the selected representative technologies into alternatives representing a range of treatment and containment combinations, as appropriate.

6.3.1 Remedial Action Objectives

Preliminary remedial action objectives have been developed and will continue to be refined for media-specific goals to protect human health and the environment. Preliminary objectives were based on ARARs and general health protection goals. A risk assessment will be performed to develop objectives for contaminants and media lacking an ARAR. The objectives specify the chemicals of concern, exposure routes and receptors, and an acceptable level or range of levels for each exposure route. The methodology for developing and recommending reference doses for all media will be described in the protocol document as discussed in Section 4.2.2.

Table 6-1
Potential Applicable or Relevant and Appropriate Requirements (ARARs)

Requirement	Citation	Description	Applicable/ Relevant and Appropriate	Comment
Federal Chemical - Specific ARARs Safe Drinking Water Act (SDWA):	40 U.S.C Sect. 300			
National Primary Drinking Water Standards (MCLS)	40 CFR Part 141	Establishes health-base standards for public water systems (maximum contaminant levels).	Yes/-	The MCL for organic and inorganic contaminants are relevant for ground water contamination since the risk assessment evaluates potential future use of the groundwater as a drinking source.
Maximum Contaminant Level Goals (MCLGs)	40 CFR 141.50, 141.51	Establishes drinking water quality goals.	No/No	No non-zero MCLGs were associated with the contaminants present.
Solid Waste Disposal Act (SWDA):	40 U.S.C. Sect. 6901-6987			
Identification and Listing of Hazardous Waste	40 CFR Part 261	Defines those solid wastes which are subject to regulation as hazardous wastes under 40 C.F.R. Parts 262-265 and Part 124, 270 and 271.	Yes/-	See Note 1.
Clean Air Act:	42 U.S.C. Sect. 7401-7642			
National Primary and Secondary Ambient Air Quality Standards (NAAQA)	40 CFR Part 50	Establishes standards for ambient air quality to protect public health and welfare.	Yes/-	NAAGS may be applicable to the IAAP site during remedial actions.

Table 6-1 (Continued)

State Chemical - Specific ARARs				
Iowa Environmental Quality Act:				
Rules for Determining Cleanup Actions and Responsible Parties	Iowa Code Chapter 133 Effective 8/16/89	Establishes cleanup levels for contaminated groundwater and soil.	Yes/-	These regulations are applicable to any soil or groundwater contaminated above Iowa action levels.
Federal Action - Specific ARARs				
Solid Waste Disposal Act (SWDA):	42 U.S.C. Sect. 6901-6987			
Criteria for Classification of Solid Waste Facilities and Practice	40 CFR Part 257	Defines "Solid Waste" Establishes criteria for use in determining which solid wastes disposal facilities and practices pose a reasonable probability of adverse effects on health and thereby constitute prohibited open dumps.	Yes/-	Wastes at the IAAP site are solid wastes and the site is an open dump. This part would be applicable to remedial alternatives that involve the offsite disposal of solid wastes as defined in Subtitle D.
Hazardous Waste Management Systems General	40 CFR Part 260	Establishes procedure and criteria for modification or revocation of any provision in 40 C.F.R. Part 260-265.	Yes/-	See Note 1.
Identification and Listing of Hazardous Wastes	40 CFR Part 261	Defines those solid waste which are subject to regulation as hazardous wastes under 40 C.F.R.	Yes/-	See Note 1.
Standards applicable to Generator of Hazardous Waste	40 CFR Part 262	Establishes standards for generators of hazardous wastes.	Yes/-	See Note 1.

Table 6-1 (Continued)

Standards Applicable to Transports of Hazardous Waste	40 CFR Part 263	Establishes standards which apply to persons transporting hazardous waste within the U.S. if the transportation requires a manifest under 40 C.F.R., Part 262	Yes/-	See Note 1.
Standards Applicable to Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities	40 CFR Part 264	Establishes minimum national standards which define the acceptable management of hazardous waste for owners and operators of facilities which treat, store, or dispose of hazardous waste.	Yes/-	See Note 1.
	40 CFR Part 264 Subpart B	General Facilities Standards	Yes/-	See Note 1.
	Subpart G	Closure and Post-Closure	Yes/-	See Note 1.
	Subpart J	Tanks	Yes/-	If characteristic or listed hazardous waste, not applicable because wastes are treated in tanks within a 90 day time frame. Substantive requirements will be met.
	Subpart L	Waste Piles	Yes/-	If characteristic or listed hazardous waste, these requirements are not applicable because wastes are treated within a single area of contamination. Substantive requirements will be met.
	Subpart O	Incinerators	Yes/-	*

Table 6-1 (Continued)

Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities	40 CFR Part 266	Boiler Regulations	see comment	Applicable if hazardous wastes are burned as fuel in industrial furnace or boiler.
Land Disposal Restrictions	40 CFR Part 268	Establishes treatment standards that must be met prior to land disposal for listed and some characteristic wastes.	Yes/-	Applicable to remedial alternatives that involve offsite or onsite disposal of contaminated soil.
Hazardous Waste Permit Program	40 CFR Part 270	Establishes provisions covering basic EPA permitting requirements	see comments	*
Occupational Safety and Health Act:	29 U.S.C. Sect. 651-678	Regulates worker health and safety.	Yes/-	Under 40 C.F.R. Sect. 300.38 requirements of the Act apply to all response activities under the NCP.
Hazardous Waste Operations and Emergency Response, Final Rule	29 CFR 1910.120	Establish training, medical monitoring and workplace regulations and standards for all work done at hazardous wastes sites.	Yes/-	These regulations are applicable to all remedial activities conducted at the IAAP site.
Clean Water Act:	33 U.S.C. Sect. 1251 - 1376			
Ambient Water Quality Criteria Guidelines (AWQCG)	40 CFR Part 131 Quality Criteria for Water, 1976, 1980, 1986	Sets criteria for water quality based on toxicity to aquatic organisms and human health.	Yes/-	AWQCGs for PAHs and aromatics are relevant and appropriate to all remedies which discharge groundwater to a POTW or surface water.
National Pretreatment Standards	40 CFR Part 403	Sets standards to control pollutants which pass through or interfere with treatment processes in publicly owned treatment works (POTW) or which may contaminate sewage sludge.	Yes/-	These standards are applicable to all alternatives that involve discharge to POTW.

Table 6-1 (Continued)

Clean Air Act:	42 U.S.C. Sect. 7401 - 7642			
National Ambient Air Quality Standards/NESMAPSINSPS/BACT/PSD/LAER	40 CFR 60. 1-.17, .50-.54, .150- .154, .480-.489, 40 CFR 53.1-.33 40 CFR 61.01-.18, .50-.112, 240-.247	Sets treatment technology standards for emissions to air from: • Incinerators • fugitive emissions	Yes/-	These requirements are applicable to any alternatives that involve emission regulated by these standards.
Hazardous Materials Transportation Act:	49 U.S.C. Sect. 1801-1813			
Hazardous Materials Transportation Regulations	49 CFR Parts 107, 171-177	Regulates transportation of hazardous materials.	Yes/-	These requirements are applicable to all alternatives that involve transport of contaminated materials from the site.

Table 6-1 (Continued)

State Action - Specific ARARs				
Iowa Environmental Quality Act:	Enacted 1972, as amended chapter 455B of Iowa Code Annotated. 4550.430	The permission of IDNR's Director is required to change the use of a site on the Registry of abandoned or uncontrolled disposal sites.	Yes/-	The IAAP site is an uncontrolled waste site as defined by the Act. Therefore this section of the law is applicable.
Iowa Air Pollution Control Regulations	224. or 22.5	Establishes requirements for major stationary sources in attainment/unclassified areas (22.4) or nonattainment areas (22.5)	Yes/-	These regulations (either 22.4 or 22.5) are applicable to any remedial activities taken at the site, such as incineration or excavation.
	23.1 Emissions Standards	Establishes emission standards for new sources and for hazardous air pollutants.	Yes/-	These regulations would be applicable to certain new sources such as incinerators and to emissions to hazardous pollutants.
	23.3 (455B) Specific Contaminants	Establishes standards for various contaminants.	Yes/-	These regulations would apply to remedial actions.
	62.1(6)	Prohibits discharges to POTWs without a pretreatment agreement.	Yes/-	These prohibitions would apply to any offsite discharges to a POTW.
	(3) and (4)	Adopts the following Federal regulations: 40 CFR Part 403 and 40 CFR Part 125, Subpart N.	Yes/-	These regulations would be applicable to discharge from the site to a POTW.

Table 6-1 (Continued)

Iowa Air Pollution Control Regulations (Continued)	62.6	Establishes how IDNR will set effluent limitations or pretreatment requirements for pollutants for which there are no federal standards.	Yes/-	These regulations would be applicable to discharge from the site to a POTW.
	62.8 (3) and (4)	Establishes how IDNR may set pretreatment requirements which are more stringent than current standards if necessary.	Yes/-	These requirements may be applied to any discharges from the site to a POTW, if IDNR deems it necessary.
	63 Monitoring Analytical and Reporting Requirements	This chapter establishes requirements for these activities.	Yes/-	Off-site disposal options must comply with all portions of this chapter. Onsite disposal options must comply with the substantive requirements (63.3(1) through 63.3(4)).
	64.2(3)	Establishes siting criteria that must be complied with when building a new wastewater disposal system.	Yes/-	These regulations would apply to any treatment system built to remediate the groundwater.
	64.3(5)	Requirements for industries that discharge to another disposal system.	Yes/-	These regulations would apply to any remedial option that discharged treated water to a POTW.
Federal Location - Specific ARARs				
Clean Water Act - Section 404	33 U.S.C. Sect. 1251-1376	Regulates the discharge of dredged or fill material to waters and wetland areas.	Yes/-	These regulations are applicable for any alternative that involves discharge of dredged or fill material to waters or wetland.

Table 6-1 (Continued)

EPA Interim Regulations on Discharge of Dredged or Fill Material into Navigable Waters	40 CFR 230	Restores and maintains the chemical, physical and biological integrity of waters, including aquatic sites and wetlands.	Yes/-	Applicable to alternatives that involve discharge of dredged or fill material into navigable waters.
Army Corps of Engineers Permit Program Regulations for Navigable Waters	33 CFR Parts 320-330	Provides regulations for Army Corps of Engineers permitting process including excavation, dredging, and disposal activities in navigable waters, and discharge of dredged or fill material into waters.	Yes/-	Applicable to alternatives that involve excavation, dredging, disposal or discharge into waters.
Protection of Wetlands, Floodplain Management	40 CFR Part 6 Appendix A	Contains EPA's regulations for implementing Executive Order 11990, Protection of Wetlands, and Executive Order 11988, Floodplain Management. Requires the avoidance of adverse impacts of Federal actions upon wetlands and floodplains (including dredge and fill operations).	Yes/-	Applicable to alternatives that involve dredge and fill operations that may impact wetlands and floodplains.
<u>State Location - Specific ARARs</u>				
No State Location - Specific ARARs, are applicable or relevant and appropriate to the IAAP site.				

Note 1: RCRA requirements are applicable for characteristic (ignitable, corrosive, reactive, or TCLP toxic), or listed hazardous waste. For waste that are not characteristic or listed hazardous, RCRA requirements are relevant and appropriate, and substantive requirements will be met.

6.3.1.1 Soils and Sediments

Federal limits for contaminant levels in soils have not been established. During the SI, soil samples were collected and analyzed to establish preliminary site concentrations. At locations where background concentrations are exceeded, a risk-based analysis will be conducted, which will consider carcinogenic and noncarcinogenic compounds. SI sites exceeding background concentrations are included in the RI (Section 3.2). For soils at IAAP, the remedial action objectives will be to prevent ingestion/direct contact with soil that may potentially contain noncarcinogens in excess of the applicable reference dose and carcinogens contributing to excess cancer risks of 1×10^{-4} to 1×10^{-6}. In addition, the objective will be to prevent inhalation of the carcinogenic compounds in the soil exceeding cancer risk levels of 1×10^{-4} to 1×10^{-6}.

Regarding environmental protection, the objective will be to prevent migration of contaminants that would result in groundwater contamination in excess of MCLs and to prevent migration of contaminants to surface water that would result in concentrations in excess of Federal Ambient Water Quality Criteria (FAWQC).

6.3.1.2 Surface Water and Groundwater

For surface water and groundwater that may be used for drinking, EPA has chosen the maximum contaminant levels (MCLs) established for the Safe Drinking Water Act as generally being the ARAR. For contaminants without established MCLs, levels will be set using chemical-specific advisory levels, such as the reference dose where noncarcinogens are present and risk-based levels where carcinogens are present. FAWQC adjusted for drinking water only is sometimes used as "to be considered" guidance, but EPA has not taken a position on the use of FAWQC for protection of human health.

For surface water and groundwater at IAAP, the remedial action objectives will be to prevent ingestion of the water containing carcinogenic and noncarcinogenic compounds in excess of the applicable MCLs. In terms of environmental protection, the objectives will be to restore groundwater to drinking water quality levels and surface water to within FAWQC.

6.3.2 Remedial Response Actions

A preliminary list of broadly defined response actions will be developed in accordance with the RI/FS guidance. Details of this process are addressed in Section 6.4 The list will include a range of alternatives for the various media and contaminants of concern.

6.3.2.1 Soils and Sediments

For the soils and sediment at IAAP, general response actions will include:

- No Action/Institutional Controls:
  - No action
  - Property restrictions (current and future)

- Containment Actions:
  - Containment
  - Excavation and off-site disposal
  - Excavation and on-site disposal

- Excavation/Treatment/On-site or Off-site Disposal Actions:
  - Excavation/Treatment/Disposal
  - On-site and off-site treatment
  - In-situ treatment

6.3.2.2 Surface Water and Groundwater

Based on the results of the previous studies, potential pathways for migration include migration from the soils and sediments to the groundwater and surface water, movement with shallow groundwater to downgradient drinking water wells, shallow groundwater emerging downgradient as surface water in wet seasons, and potential movement from the shallow perched aquifers to the deeper aquifer and eventually to downgradient drinking water wells.

For surface water and groundwater at IAAP, general response actions will encompass one or more of the following three measures:

- No Action/Institutional Actions:
  - No action
  - Monitoring

- Containment Actions:
  - Containment
  - Flow diversions

- Collection/Treatment Actions:
  - Collection/Treatment/Disposal
  - In-situ groundwater treatment
  - Alternative residential water supply

To focus the evaluation on alternatives that are most likely to be chosen for implementation, an initial screening of the response actions will be conducted on the basis of effectiveness, implementability, and cost. An important criterion will be the effectiveness of a particular response action, with less emphasis on implementability and cost.

6.4 DEVELOPMENT AND SCREENING OF REMEDIAL ALTERNATIVES

The objective of this effort will be to reduce the number of technologies and alternatives for further analysis while preserving a range of options. This screening will be accomplished by evaluating alternatives on the basis of effectiveness, implementability and cost. The screening criteria to be used are briefly described below.

A separate report will be prepared for the development and screening of remedial alternatives. The report will include a discussion on the identification of operable units, provide rationale for the inclusion or exclusion of various alternatives, identify data needs to further develop alternatives, and assess ARARs in more detail. The schedule for the preparation and submission of this report to EPA for concurrence has not been established.

6.4.1 Effectiveness Evaluation

The effectiveness evaluation will consider the capability of each remedial alternative to protect human health and the environment. Each alternative will be evaluated for the protection it would provide, and the reductions in toxicity, mobility or volume of contaminants which it would achieve.

6.4.2 Implementability Evaluation

The implementability evaluation will measure both the technical and administrative feasibility of constructing, operating and maintaining each remedial action alternative. In addition, the availability of the technologies involved in a remedial alternative will be considered.

Innovative technologies will be considered throughout the screening process if there exists a reasonable belief that they will offer potential for better treatment performance or implementability, few or lesser adverse impacts than other available approaches, or lower costs than demonstrated technologies.

6.4.3 Cost Evaluation

The cost evaluation for the initial screening will be based on relative costs for the technology as demonstrated at similar sites or from vendor quotes. Cost will not be used as a screening criterion at this point of alternatives screening process; however, it will be used in the detailed evaluation of alternatives as described in Section 6.5.

6.4.4 Identification of Treatability Studies

After completing the development and initial screening of alternatives, the next step of the alternatives assessment process is to address the need for treatability studies or pilot programs. The need for such studies will be evaluated based on the sufficiency of the existing data at IAAP as they relate to treatability studies/pilot programs implemented at similar sites. The treatability studies will assist in evaluating the technical feasibility, implementability, and amount of treatment expected by the various technologies in order to effectively compare these technologies against more common treatment alternatives.

6.5 DETAILED EVALUATION OF REMEDIAL ALTERNATIVES

The remedial alternatives that pass the initial screening will be further evaluated, in detail. This evaluation will conform to the requirements of the NCP, in particular, Section 300.430 (e)(9), Subpart E, and will consist of a technical, environmental and cost evaluation as well as an analysis of other factors, as appropriate. The detailed evaluation will follow the process specified in the "Guidance on Feasibility Studies Under CERCLA" (EPA 1985), and "Interim Guidance on Superfund Selection of Remedy" (EPA 1987a) and "Guidance for Conducting RI/FS under CERCLA" (EPA 1988).

A set of nine evaluation criteria has been developed which is to be applied in the evaluation of each remedial alternative. After each of the remedial alternatives have been assessed against the nine criteria, a comparative analysis will be performed. This analysis will compare all the remedial alternatives against each other for each of the nine evaluation criteria.

6.5.1 Overall Protection of Human Health and the Environment

This criterion will provide a final check to assess whether each alternative meets the requirements for protection of human health and the environment. The overall assessment of protection is based on a composite of factors assessed under the evaluation criteria, especially long-term effectiveness and permanence, short-term effectiveness, and compliance with ARARs.

6.5.2 Compliance With ARARs

This criterion will be used to determine how each alternative complies with applicable or relevant and appropriate federal and state requirements, as defined in CERCLA, Section 121.

6.5.3 Long-Term Effectiveness

This criterion will addresses the effectiveness of the remedial action in terms of the risk remaining at the site after the response objectives have been met. The primary focus of this evaluation will be to determine the extent and effectiveness of the controls that may be required to manage the risk posed by treatment residuals and/or untreated wastes. The factors to be evaluated include the magnitude of remaining risk (measured by numerical standards such as cancer risk levels), and the adequacy, suitability and long-term reliability of management controls for providing continued protection from residuals (i.e., assessment of potential failure of the technical components).

6.5.4 Reduction of Toxicity, Mobility, or Volume

This criterion will address the statutory preference for selecting remedial actions that employ treatment technologies that permanently and significantly reduce toxicity, mobility or volume of the contaminants. The factors to evaluated include: the treatment process employed; the amount of hazardous material destroyed or treated; the degree of reduction expected in toxicity, mobility, or volume; and the type and quantity of treatment residuals.

6.5.5 Short-Term Effectiveness

This criterion will address the effectiveness of the alternative during the construction and implementation phase until the remedial actions have been completed and the selected level of protection has been achieved. Each alternative will be evaluated with respect to its effects on the community and on-site workers during the remedial actions, environmental impacts resulting from implementation, and the amount of time until protection is achieved.

6.5.6 Implementability

This criterion will address the technical and administrative feasibility of implementing an alternative and the availability of various services and materials required during its implementation. Technical feasibility will consider construction and operational difficulties, reliability, ease of undertaking additional remedial action, and the ability to monitor its effectiveness. Administrative feasibility will consider activities needed to coordinate with other agencies, such as obtaining permits or approvals for implementing remedial actions.

6.5.7 Cost

This criterion will address the capital costs, annual operation and maintenance costs, and present worth analysis.

Capital costs consist of direct and indirect costs. Direct costs include expenditures for the equipment, labor, and material necessary to perform remedial actions. Indirect costs include expenditures for engineering, financial, and other services that are not part of actual installation activities but are required to complete the installation of a remedial alternative.

Annual operation and maintenance costs are post-construction costs necessary to ensure the continued effectiveness of a remedial action. These costs will be estimated to provide an accuracy of +50 percent to -30 percent.

A present worth analysis is used to evaluate expenditures that occur over different time periods by discounting all future costs to a common base year, usually the current year. This allows the cost of remedial action alternatives to be compared on the basis of a single figure representing the amount of money that would be sufficient to cover all costs associated with the remedial action over its planned life. As suggested in the EPA's guidance (1988), a discount rate of 5 percent will be considered unless the market values indicate otherwise during the performance of the FS.

6.5.8 State Acceptance

This criterion will evaluate the technical and administrative issues and concerns the State of Iowa may have regarding each of the alternatives. The factors to be evaluated include those features of alternatives that the state supports, has reservations about, or is in opposition to.

6.5.9 Community Acceptance

This criterion will incorporate public concerns into the evaluation of the remedial alternatives.

6.6 FEASIBILITY STUDY (FS) REPORT

An FS report will be prepared to summarize the activities performed and to present the results and associated conclusions. The report will include a summary of laboratory treatability finds (if performed), a description of the initial screening study process and the detailed evaluation of the remedial action alternatives studied.

The FS Report will be composed of an executive summary and four sections. The executive summary will be a brief overview of the FS and the analysis underlying the remedial actions which were evaluated. The executive summary will be followed by the following four sections, as presented in Figure 6-1:

- Introduction and Site Background
- Remedial Alternatives Development
- Remedial Alternatives Screening
- Detailed Analysis of Alternatives

6.7 POST RI/FS SUPPORT

This task includes efforts to support the Record of Decision (ROD). Pursuant to 40 CFR Part 300.430(f), "the process for selection of a remedial action at a federal facility on the NPL, pursuant to CERCLA section 120, shall entail: (A) Joint selection of remedial action by the head of the relevant department, agency, or instrumentality (i.e., Army) and EPA; (B) If mutual agreement on the remedy is not reached, selection of the remedy is made by EPA." The following activities will be reported under this task:

- Preparing the proposed plan
- Attending public meetings
- Preparing the responsiveness summary
- Preparing of the ROD and assisting with briefings
- Reviewing and providing QC of the work effort
- Providing task management and QC

Figure 6-1

SUGGESTED FS REPORT FORMAT

Executive Summary

1 Introduction

- 1.1 Purpose and Organization of Report
- 1.2 Background Information (Summarized from RI Report)
  - 1.2.1 Site Description
  - 1.2.2 Site History
  - 1.2.3 Nature and Extent of Contamination
  - 1.2.4 Contaminant Fate and Transport
  - 1.2.5 Baseline Risk Assessment

2 Remedial Alternatives Development

- 2.1 Introduction
- 2.2 Remedial Action Objectives --
  Presents the development of remedial action objectives for each medium of interest (e.g., groundwater, soil, surface water, air,). For each medium, the following should be discussed:
  - Contaminants of interest
  - Allowable exposure based on risk assessment
  - Allowable exposure based on ARARs
  - Development of remedial action objectives
- 2.3 General Response Actions --
  For each medium of interest, describes the estimation of <u>areas</u> or <u>volumes</u> to which treatment, containment, or exposure technologies may be applied.
- 2.4 Identification and Screening of Technologies and Process Options;
  for each medium of interest, describes:
  - 2.4.1 Identification and Screening of Technologies
  - 2.4.2 Evaluation of Technologies and Selection of Representative Technologies

3 Remedial Alternatives Screening

- 3.1 Definition of Alternatives--
  Describe rationale for combination of technologies/media into alternatives. Note: This discussion may be by medium or for the operable units.
- 3.2 Screening Evaluation
  - 3.2.1 Introduction
  - 3.2.2 Alternative 1
    - 3.2.2.1 Description
    - 3.2.2.2 Evaluation
      - Effectiveness
      - Implementability
      - Cost
  - 3.2.3 Alternative 2
    - 3.2.3.1 Description
    - 3.2.3.2 Evaluation

Figure 6-1 (Continued)

3.2.4 Alternative 3

-
-
-

3.2.5 Summary of Screening

4 Detailed Analysis of Alternatives

4.1 Introduction

4.2 Individual Analysis of Alternatives

4.2.1 Alternative 1

4.2.1.1 Description

4.2.1.2 Assessment

- Overall Protection
- Compliance with ARARs
- Long-Term Effectiveness and Permanence
- Reduction of Mobility, Toxicity, or Volume Through Treatment
- Short-Term Effectiveness
- Implementability
- Cost
- State Acceptance
- Community Acceptance

4.2.2 Alternative 2

4.2.2.1 Description

4.2.2.2 Assessment

4.2.3 Alternative 3

4.3 Comparative Analysis

4.3.1 Overall Protection

4.3.2 Compliance with ARARs

4.3.3 Long-Term Effectiveness and Permanence

4.3.4 Reduction of Toxicity, Mobility, or Volume Through Treatment

4.3.5 Short-Term Effectiveness

4.3.6 Implementability

4.3.7 Cost

4.3.8 State Acceptance

4.3.9 Community Acceptance

SECTION 7.0 LONG-TERM GROUNDWATER MONITORING PLAN

7.1 INTRODUCTION

Groundwater at the IAAP is known to be contaminated. A Long-term Groundwater Monitoring Plan (LGMP) will be developed as a secondary document that will define the strategy for groundwater sampling and analysis as part of any institutional controls, or groundwater treatment activities as determined in the Feasibility Study (FS) and outlined in the Remedial Action Plan (RAP) IAAP. The LGMP is intended to provide a framework for overall groundwater sampling that balances protection of public health and the environment, technical need, and cost-effectivness. The LGMP is needed to ensure that an appropriate rationale is provided for the sampling of existing and future monitoring wells in the overall context of the RI/FS, RD/RA process.

7.2 PURPOSE AND OBJECTIVES

The LGMP documents long-term sampling strategy for periodic assessment of the nature and extent of groundwater contamination related to the activities at IAAP. The LGMP will be developed in conjunction with the FS to address the following issues:

- Suitability of the groundwater monitoring well network.
- Additional monitoring wells needs.
- Areas of groundwater contamination.
- Fate and transport of contaminants.
- Verification of groundwater treatment effectiveness, if applied.
- Current and future groundwater usage.
- Identify parameters and schedule for groundwater sampling.

Groundwater sampling during the Phase I RI is detailed within Section 5.0. Phase II RI activities will include facility-wide soil boring and well installation for the purpose of further defining the geology/hydrogeology of the site and to complete the characterization of site groundwater contamination, following Phase I screening. The objective of the groundwater sampling during the RI is to provide adequate data to support the Risk Assessment (RA) and FS.

SECTION 8.0 DATA MANAGEMENT PLAN

8.1 INTRODUCTION

The RI/FS field work at IAAP will generate a substantial amount of data. The quality and validity of such data during field sampling and analytical procedures for acquisition and compilation of field and laboratory data are subject to data management procedures. Such data management procedures will be based on general guidance promulgated in EPA's "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA."

The Data Management Plan section discusses data management and document control during field activities, USATHAMA's data management and QA/QC procedures pertaining to the Installation Restoration Data Management Information System (IRDMIS), and JAYCOR's use of FPCs map-based data storage, retrieval, and manipulation program called Environmental Data Manager (EDM).

8.2 MANAGEMENT OF FIELD DATA

Document control and recordkeeping during field activities is explained in detail in the IAAP RI/FS QAPjP, which is included in its entirety as Volume 3 of this deliverable. The QAPjP provides records of responsibility, adherence to field and laboratory SOPs and protocols, nonconformance events and their corrective measures, data deficiencies, and measures to be taken in safe-guarding field records (chain-of-custody records and logbooks) and other documents.

Logbooks and field sheets will be the primary documentation used in recording sampling methodology, site location and conditions, sample screening data, well data, other field information. Examples of field tracking sheets are included on pages 8-3 through 8-10.

Laboratory documentation and sample chain-of-custody will be conducted in strict conformance to SOPs and protocols in the QAPjP, and will be documented and recorded on laboratory chain-of-custody forms and in logbooks.

8.3 INSTALLATION RESTORATION DATA MANAGEMENT INFORMATION SYSTEM (IRDMIS)

Data used in this project can be grouped into two categories: IRDMIS and non-IRDMIS. The Installation Restoration (IR) Program, conducted by USATHAMA, is responsible for the identification and correction of contamination at Army properties. IRDMIS is an integrated system for the collection, validation, storage, retrieval, and presentation of IR and base closure data. Analytical data from samples are subjected to a group and records check by the laboratory, using IRDMIS PC Tools, and are then submitted to the contractor. Group checking is the second step to ensure the chemical data entered is valid. Lots that have been previously record-checked are analyzed in a group to determine that all sites in the lot are valid sites in the map files. Based on the lot's certification level, it is then checked for any required quality assurance data. The contractor once again conducts a group and records check using IRDMIS PC Tools and submits the analytical data to USATHAMA for validation. After validation, the analytical data is loaded to the main data base at Level 3 (98% confidence if the data was found free of errors). This data is now considered to have gone through USATHAMA's Quality Assurance Program (QAP) and is available for use in site characterization reports.

All other data, which has not passed through IRDMIS, is considered non-IRDMIS data. Non-IRDMIS data also includes information generated by other entities, such as EPA, state, and agencies other than USTHAMA.

8.4 ENVIRONMENTAL DATA MANAGER

EDM is a data base system specifically designed for the internal manipulation of spatially related data. EDM will allow AutoCad data associated with IAAP to be sorted, retrieved, and arranged to meet the needs of decision makers in determining such things as types of contamination present, areas of contamination, and the fate and transport of contaminants.

Sections 3.2 through 3.45 contain evaluations of existing environmental data which was used to determine which areas of the IAAP are considered contaminated and should be further examined in the Phase I RI. Data management in this section includes sorting existing data according to sampling locations specific to each SWMU, media (soil, groundwater, surface water, and sediment), contaminant and contaminant concentration. All data available for IAAP, IRDMIS and non-IRDMIS, were considered during the initial site evaluation.

Data generated during the RI will be added to the existing data base. All RI data will be processed through IRDMIS before being entered in the JAYCOR IAAP data base. The data base will then be used during the Feasibility Study to help evaluate remedial actions and remedial designs. Data management during the Risk Assessment will also be done by EDM.

SOIL METALS SCREENING

RI SITE: ____________ SITE NAME: ______________________________

DESCRIPTION OF SURVEY AREA: ______________________________

____

SCREENING SAMPLE	DEPTH	DATE	REQUESTED ANALYSES										RESULTS										CONFIRMATORY SAMPLES		
			Cd	Cr	Cu	Ni	Pb	Zn					Cd	Cr	Cu	Ni	Pb	Zn					Sample #	Date	Comment

WATER EXPLOSIVES SCREENING

RI SITE: ____________ **SITE NAME:** ______________________________

DESCRIPTION OF SURVEY AREA: ______________________________

____

SCREENING SAMPLE	DEPTH	DATE	REQUESTED ANALYSES									RESULTS									CONFIRMATORY SAMPLES		
			135 TNB	13 DNB	246 TNT	24 DNT	26 DNT	HMX	NB	RDX	TETRYL	135 TNB	13 DNB	246 TNT	24 DNT	26 DNT	HMX	NB	RDX	TETRYL	Sample #	Date	Comment

SOIL EXPLOSIVES SCREENING

RI SITE: ______________ **SITE NAME:** ____

DESCRIPTION OF SURVEY AREA: ____

____

SCREENING SAMPLE	DEPTH	DATE	REQUESTED ANALYSES									RESULTS									CONFIRMATORY SAMPLES		
			135 TNB	13 DNB	246 TNT	24 DNT	26 DNT	HMX	NB	RDX	TETRYL	135 TNB	13 DNB	246 TNT	24 DNT	26 DNT	HMX	NB	RDX	TETRYL	Sample #	Date	Comment

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CHROMATOGRAPHIC DATA
LOWER QUANTIFIABLE LIMIT (LQL)

Date: ______________________ Job Number: ____________________

1,1-DCE Area: ________________
Concentration ______ ug/L Response Factor: ______________________
Maximum Injection Volume: ________ ul
LQL - ________ ug/L

Trans-1,2-DCE Area: ________________
Concentration ______ ug/L Response Factor: ______________________
Maximum Injection Volume: ________ ul
LQL - ________ ug/L

CIS-1,2-DCE Area: ________________
Concentration ______ ug/L Response Factor: ______________________
Maximum Injection Volume: ________ ul
LQL - ________ ug/L

1,1,1-TCA Area: ________________
Concentration ______ ug/L Response Factor: ______________________
Maximum Injection Volume: ________ ul
LQL - ________ ug/L

TCE Area: ________________
Concentration ______ ug/L Response Factor: ______________________
Maximum Injection Volume: ________ ul
LQL - ________ ug/L

Perc Area: ________________
Concentration ______ ug/L Response Factor: ______________________
Maximum Injection Volume: ________ ul
LQL - ________ ug/L

Area counts used to calculate LQL (Lower Quantifiable Limit) __________

RECON SAMPLING DATA SHEET

PROJECT # ______________________
PROBE HOLE # ______________________
TOTAL DEPTH ______________________
SAMPLING DEVICE ______________________
REFUSAL ______________________

DATE ______________________
SAMPLE # ______________________
SAMPLE DEPTH ______________________
SAMPLE TYPE ______________________

DEPTH		SAMPLE INFORMATION

BURLINGTON ENVIRONMENTAL

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RECON SM SYSTEM SAMPLING WORK SHEET

PROJECT NAME: ______________________ DATE: ____________

PROJECT NO.: __________ PHASE: __________ TASK: ________ VAN: ________

LOCATION: ______________________________________

FIELD CREW: NAME POSITION/DUTIES

________________ ________________

________________ ________________

________________ ________________

CLINT/SITE REPRESENTATIVE: ______________________

PROBEHOLE NUMBER	SAMPLE #	SAMPLE DEPTH	* TYPE			DUP	VAC	COMMENTS
			S	W	V			

* S=SOIL
W=WATER
V=VAPOR

RECON℠ SAMPLE ANALYSIS
Work Sheet

Date ______________________ Project Name __________________________ Project Number ____________ Phase __________ Task ______

GC Operator ______________________________ GC Hewlett-Packard 5890A

Carrier Gas: H2 He Pressure (kPa) _____ Detector FID Temp. (C) 300

Oven Temp. Profile (C) Temp. 1 __________ Temp. 2 __________ Column DB-624 / 30 meter 0.53 ____

Time 1 __________ Time 2 __________ SE-54 / 15 meter 0.53 ____

Injector Temp. (C) _____ Final Temp. _____

Sample I.D.	Probe Hole Number	Depth (ft.)	Analysis Time	Inj. Vol. (µl)	Multiplier	VAC in. Hg	Comments

D = duplicate analysis
QC = quality control

RECON℠ SAMPLE ANALYSIS

Data Summary Table

Date ______________________

Project No. _________ Phase ____ Task ____

Sample I.D.	Probe Hole Number	Depth (ft.)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	Comments

D = duplicate analysis
QC = quality control
µg = micro gram/Liter

SECTION 9.0 COMMUNITY RELATIONS ACTIVITIES

The Superfund Community Relations Program consists of all those activities conducted throughout the planning and implementation of Superfund responses to encourage communication between government staff, their contractors, and the local public, as well as the planning, coordination, and administration of such activities. The broad objectives of Superfund community relations are the give the public the opportunity to comment on and provide input to technical decisions; inform the public of planned of ongoing actions; and focus and resolve conflicts. A Superfund Community Relations Plan (CRP) must detail the specific manner in which these broad program objectives will be met.

A CRP was prepared by USATHAMA for the remedial activities at IAAP, after community interviews were conducted in April 1990. USATHAMA will continue to manage all aspects of the CRP directly. The CRP was approved by the Region VII USEPA in May 1991. The primary purpose of the CRP is to document community concerns. It also provides a means for the public comment and provide input on technical decisions. Because the CRP was prepared and approved before RI activities began, it may need to be revised at later stages of the RI as project objectives are refined. The CRP will be revised as necessary as the RI process continues. The CRP consists of the Public Involvement and Response Plan (PIRP), which sets forth a site-specific program to establish a communication and information exchange between Army staff, the civilian work force, and ammunition plant workers; installation residents; Army agencies; various federal, state, county, and community agencies; and the public. Effective communication and timely information exchange are essential for maintaining community understanding and support of the IAAP mission and for implementing a successful PIRP in conjunction with the Installation Restoration Program.

The plan requires the involvement of citizens from the area communities and representatives from federal, state, and local agencies who are active in policy and decision-making processes. It is the responsibility of the USEPA and the Iowa Department of Natural Resources (IDNR) to oversee the public involvement program, and to ensure that the Army complies with federal and state laws.

The IAAP CRP was prepared according to the guidance promulgated in the following references:

- CERCLA 1980 (Public Law 96-510), as amended, including Section 117 of SARA 1986 (Public Law (99-499).
- Headquarters, Department of the Army Public Affairs Plan 10-1-87: Installation Restoration Program, October 1987.
- Army Regulation 200-1, "Environmental Protection and Enhancement", and the USAMC and AMCCOM supplements to the regulation.
- EPA guidance and publications, including "Public Involvement in the Superfund Program", (WH/FS-86-004), and CERCLA Compliance with other Federal Statutes [Federal Register 50(29):5928-5923].

- "Community Relations in Superfund: A Handbook", USEPA, OSWER Directive No. 9230.0-3B, June 1988, Interim.

- The National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

The CRP details the specific tasks required to meet the broad objectives of the Superfund Community Relations Program, and the overall goal of the public involvement program; that is, to provide an effective mechanism for communication and the exchange of information between and among local residents and communities, IAAP staff and residents, the Army, and the various federal, state, county and local agencies.

A copy of the USEPA-approved CRP is retained on file at USATHAMA, at the information repository at IAAP, the public library in Burlington, Iowa, and Danville City Hall in Danville, Iowa.

SECTION 10.0 PROJECT COORDINATION AND MANAGEMENT

10.1 PROJECT ORGANIZATION AND KEY PERSONNEL

Overall project direction for the RI/FS activities at IAAP will come from the Installation Restoration Division of USATHAMA at Edgewood Arsenal, Aberdeen Proving Ground, MD. JAYCOR is the principal contractor to USATHAMA. Key subcontractors on the JAYCOR team include CDM Federal Programs Corporation, Burns & Roe Environmental Services, and ESE Laboratories.

Site-specific coordination will be provided through the Environmental Office at the IAAP in Middletown, IA. Any significant modifications to the proposed work will be undertaken only with the approval and under the direction of the USATHAMA Project Officer. This section describes the project organization for the IAAP RI/FS and delineates the responsibilities for the key members of the JAYCOR team.

The project organization for management of the RI/FS is designed to provide clear program authority supported by a management control structure. This control structure provides:

- Clearly identified lines of communication and coordination;
- Monitoring of program budget, schedules, and financial performance;
- Management of key technical resources;
- Monthly financial management and progress reports; and,
- A means to implement and monitor health and safety, quality assurance, and quality control functions.

The organizational structure for the RI/FS at IAAP is illustrated in Figure 10-1. This figure depicts the interrelationship of the project team, and shows the key personnel and their respective assignments and technical disciplines. Should any personnel changes occur during the course of the project, the JAYCOR team will notify USATHAMA of the change and submit the necessary information regarding the official function, responsibility, authority, and experience of the newly assigned staff member. As is illustrated in Figure 10-1, JAYCOR is the prime contractor for the IAAP RI/FS, and as such is responsible for overall project management, coordination with USATHAMA, and QA/QC of the work performed during this project. Subcontractors to JAYCOR and their primary project responsibilities are:

CDM FEDERAL PROGRAMS CORPORATION (FPC) - Field sampling, field screening, risk assessment, feasibility studies, data management

Burns & Roe Environmental Services, Inc. (BRESI) - Field sampling

Environmental Science & Engineering Laboratories (ESE) - Chemical analysis of water and soil samples

Burlington Environmental - Phase I Geoprobe activities (soil gas surveys and analysis, subsurface soil sampling, and piezometer installation); and Phase II soil borings, monitoring well installation, and associated logging

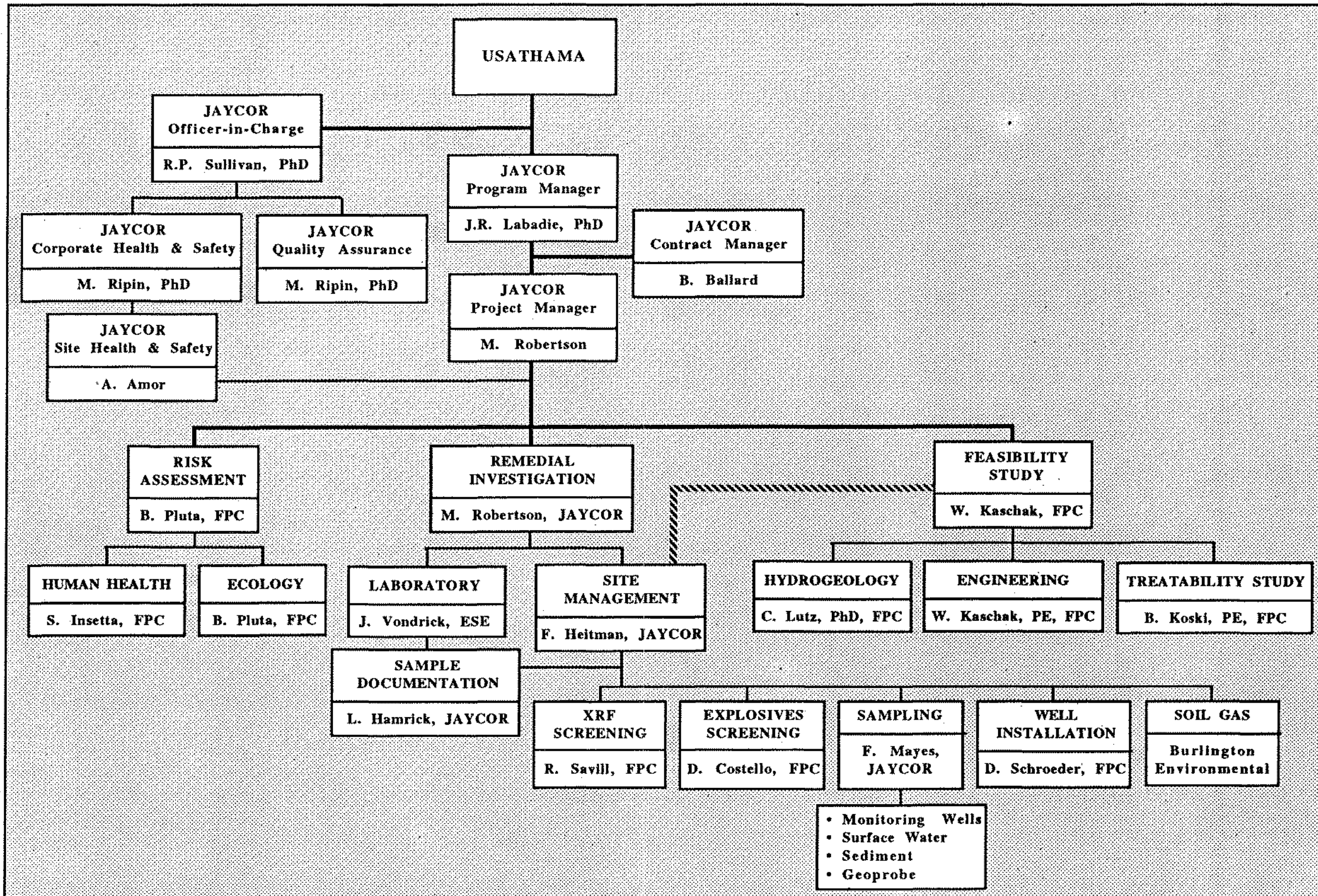

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Figure 10-1. Organizational Chart

Project responsibility within JAYCOR and its subcontractors proceeds from the Program Manager through the Project Manager, to the principal investigators assigned to oversee specific subtasks. Overall responsibility for the project will reside with the Program Manager, Dr. John Labadie. Dr. Labadie is the Environmental Services Division Manager and has expertise in hazardous materials management and contingency planning, and in supervising large, complex projects. The Program Manager will oversee all administrative aspects of the contract and the RI/FS tasks, direct the project schedule and oversee the budget, and prepare all requisite administrative reports.

The Project Manager is Mary Robertson of JAYCOR. Ms. Robertson reports to the Program Manager, Dr. Labadie. The Project Manager will coordinate and manage the day-to-day technical aspects of the project and project team activities, coordinate with subcontractors, and assign technical responsibilities for portions of the project to appropriate principal investigators. The Project Manager will rely on the expertise of the principal investigators to support the decision making process, and to ensure that objectives of the RI/FS are met through field work.

The principal subtask leaders (see Figure 10-1) will be in charge of technical work in their discipline areas. As specialists in their respective fields, they are assigned responsibility for the performance of related field activities, analysis of data, performance of detailed assessments and evaluations, and preparation of reports, as applicable.

The Site Manager is Mr. J. Fred Heitman. Mr. Heitman will direct the field effort. His responsibilities include ensuring that all samples are collected, preserved, packaged, documented, and properly shipped to the subcontractor laboratory for analyses. He will also ensure that field procedures outlined in the RI/FS work plan are rigorously followed during the field effort, by members of the JAYCOR team as well as subcontractors working on the site.

Marilyn Ripin, PhD, is the Quality Assurance Manager and will oversee all aspects of QA/QC, reporting directly to the Program Manager. Dr. Ripin also is responsible for conducting field procedure and laboratory conformance audits during the course of the sampling effort.

The Site Health and Safety Officer is Alan Amor, EIT. Mr. Amor will ensure that all field activities are conducted in strict conformance with the site HASP, USATHAMA protocols, and OSHA requirements. Should health and safety concerns arise that are beyond the purview of the Site Health and Safety Officer, the concerns will be resolved by the JAYCOR Corporate Health and Safety Officer, Dr. Marilyn Ripin.

ESE's responsibilities include sample analyses, analytical data interpretation, and reporting results of chemical analyses through the IRDMIS data base. ESE is a USATHAMA-certified laboratory and, as such, maintains laboratory QA/QC procedures that are consistent with the USATHAMA Quality Assurance Program Plan (January 1990). These QC procedures, Standard Operating Procedures (SOPs), and the use of USATHAMA-certified analytical methods ensure that the analytical results are of acceptable accuracy and precision to support the IRDMIS data base.

The ESE Project Manager is Mr. Joseph Vondrick. The Project Manager is the primary laboratory contact for the project. His responsibilities include coordinating sample analysis activities, implementing the USATHAMA QA Program, completing method certifications, and ensuring that corrective action is taken to correct problems as they occur. The Project Manager oversees the entry of chemical data into the IRDMIS and submittal of analytical data.

The ESE Laboratory QA Coordinator, Mr. Joe Owusu-Yau, is responsible for ensuring adherence to USATHAMA QA/QC procedures, laboratory SOPs, and certified methods analyses. He establishes sample lots, including appropriate QC samples, according to the certified method, reviews all laboratory data packages, and prepares and submits QC reports and control charts.

A copy of ESE Laboratories' SOP is included as Appendix G of the QAPjP.

10.2 SUBCONTRACTOR MANAGEMENT

As the prime contractor, JAYCOR has overall responsibility for subcontractor management. The JAYCOR project team includes CDM FPC and BRESI; specific tasks have been assigned based on areas of technical expertise. Certain RI field tasks that require specialized expertise or equipment will be subcontracted to other firms by JAYCOR. The subcontracting firms selected are highly qualified in their respective areas of expertise.

In addition to laboratory analyses, subcontracting services which will be required during Phase I are surveying, Geoprobe hydraulic sampling services, and soil gas analyses. The Geoprobe and soil gas sampling subcontractor is Burlington Environmental. A drilling subcontractor has not been procured for Phase II. The subcontractor selected will be highly qualified to provide drilling services and associated geotechnical investigations. As the scope of the drilling and geotechnical investigation program becomes more defined, additional qualified drilling firms will be identified. As the scope of these services becomes more defined, subcontracting firms will be identified and included on a list of potential subcontractors.

During the execution of the RI, the JAYCOR Project Manager coordinates and evaluates subcontractor performance on a daily or weekly basis as appropriate to the task. Subcontractors submit monthly progress reports detailing current activity and cost data (actual and planned). Monthly reports and invoices are reviewed by the JAYCOR Program Manager and the Contract Administrator. Since performance criteria are explicitly incorporated into all subcontracts, subcontractors must satisfy performance criteria to receive additional tasking/funding. If subcontractor personnel are not performing satisfactorily, the JAYCOR Program Manager will request that they be removed from the project. If subcontractor performance does not consistently meet the criteria, no further tasks will be assigned until capability is improved and adequate performance is demonstrated.

Procurement of all subcontractors will be in accordance with JAYCOR's Defense Contract Audit Agency approved Subcontractor Management Plan.

10.3 PROJECT MEETINGS

Meetings will be conducted on a regular basis to ensure efficient and effective communication among project personnel. Before the start of field activities, an initial RI kickoff meeting will be held to discuss personnel responsibilities, the anticipated schedule of activities, and logistics coordination during the project. Also during this meeting, guidance and training will be provided to all members of the project team to ensure standardization of sampling methods, sample documentation, field log book procedures, and other matters relating to the conduct of field work. Other meetings will be held on a more regular schedule: project status meetings will be held weekly during field work preparation and field work execution phases of this project; daily meetings will address health and safety issues and task assignments.

On an as needed basis, meetings will be held with the USATHAMA Project Officer to discuss project status and other current concerns which may impact the project.

10.4 PROJECT SCHEDULE

The current schedule for this project is presented as Figure 10-2. This schedule presents all the major tasks from Work Plan Preparation through Final Record of Decision. The initial RI field activities are projected to begin in July 1992. As with all field activities there are unforseen events which may impact the schedule. To account for inclement weather or equipment malfunction among other delays, some contingency time has been accounted for in this schedule.

JAYCOR uses an automated program management tool, TIMELINE, to manage this project. TIMELINE supports program planning and execution by providing accurate scheduling and resource information. TIMELINE greatly enhances the Program Manager's ability to monitor multiple tasks easily and ensure task completion on time and within budget by allowing the Project Manager to:

- Develop schedules and resource baselines;
- Archive old schedules as requirements change to create a historical record;
- Perform what-if analyses of impact caused by real or potential budget or schedule changes;
- Focus on critical activities having the potential to delay program completion;
- Reallocate resources to avoid delays and thus reduce schedule and cost risks;
- Track progress and cost effectiveness including subcontractors; and,
- Generate milestone schedule and plan status reports.

This schedule will be revised on a quarterly basis, showing current project progress and any delays or advances in scheduled activities. Schedule changes, project activities, and potential problems will be reported to the USATHAMA Project Officer and to Mr. Leon Baxter, IAAP Chief Engineer, for information, for resolution, or for further reporting to EPA.

10.5 RI/FS COORDINATION WITH OTHER ACTIVITIES

Access to the IAAP is restricted by a perimeter fence and security guards. In addition, the operating lines have perimeter fences and security guards. All project personnel will have the proper clearances to access all required areas of the sites. Some of these areas will require escorts, provided by IAAP. RI activities which require access to restricted areas of the site will be performed during typical working hours of the IAAP. Any activities which require access to restricted areas of the site will be coordinated through IAAP security.

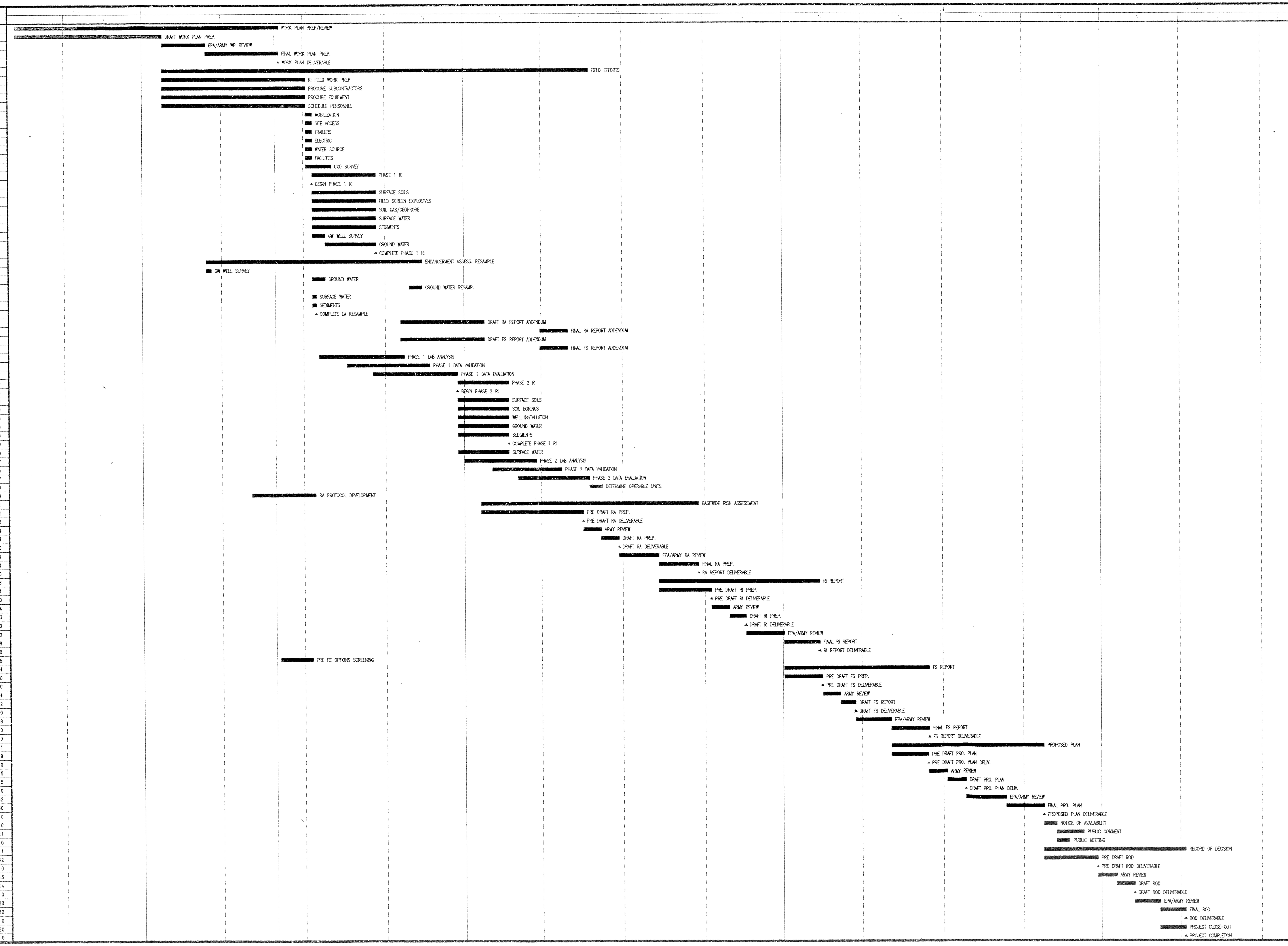
10.6 Problem Resolution and Contingency Planning

It is inevitable in a project of this scope and complexity that expected and unexpected problems will occur with an impact on both project activities and schedule. Potential problems include: late or incomplete laboratory analysis data; inclement weather; and equipment failure. JAYCOR has contingency procedures in place to mitigate problems. For example:

- Performance penalties included in laboratory subcontracts;
- Spreadsheet reporting formats for laboratory data that will permit easy identification and resolution of data gaps;
- On-line data transfer directly from the laboratory to EDM to eliminate data entry errors;
- Contingency allowance in the schedule to accommodate delays caused by inclement weather; and,
- Direct purchase contracts with suppliers that will minimize replacement time for faulty equipment.

The JAYCOR Program and Project Manger will closely monitor project activities and schedule to identify potential problems before they impact the project and will act aggressively to solve, prevent, or mitigate those problems.

Task Name	Start Date	End Date	Duration (Days)
WORK PLAN PREP/REVIEW	7-Aug-91	4-Jun-92	207
DRAFT WORK PLAN PREP.	7-Aug-91	27-Jan-92	116
EPA/ARMY WP REVIEW	27-Jan-92	16-Mar-92	34
FINAL WORK PLAN PREP.	16-Mar-92	4-Jun-92	57
WORK PLAN DELIVERABLE	4-Jun-92	4-Jun-92	0
FIELD EFFORTS	27-Jan-92	25-May-93	335
RI FIELD WORK PREP.	27-Jan-92	6-Jul-92	112
PROCURE SUBCONTRACTORS	27-Jan-92	6-Jul-92	112
PROCURE EQUIPMENT	27-Jan-92	6-Jul-92	112
SCHEDULE PERSONNEL	27-Jan-92	6-Jul-92	112
MOBILIZATION	6-Jul-92	13-Jul-92	5
SITE ACCESS	6-Jul-92	13-Jul-92	5
TRAILERS	6-Jul-92	13-Jul-92	5
ELECTRIC	6-Jul-92	13-Jul-92	5
WATER SOURCE	6-Jul-92	13-Jul-92	5
FACILITIES	6-Jul-92	13-Jul-92	5
UXO SURVEY	6-Jul-92	3-Aug-92	20
PHASE 1 RI	13-Jul-92	22-Sep-92	50
BEGIN PHASE 1 RI	13-Jul-92	13-Jul-92	0
SURFACE SOILS	13-Jul-92	22-Sep-92	50
FIELD SCREEN EXPLOSIVES	13-Jul-92	22-Sep-92	50
SOIL GAS/GEOPROBE	13-Jul-92	22-Sep-92	50
SURFACE WATER	13-Jul-92	22-Sep-92	50
SEDIMENTS	13-Jul-92	22-Sep-92	50
GW WELL SURVEY	13-Jul-92	27-Jul-92	10
GROUND WATER	27-Jul-92	22-Sep-92	40
COMPLETE PHASE 1 RI	22-Sep-92	22-Sep-92	0
ENDANGERMENT ASSESS. RESAMPLE	16-Mar-92	13-Nov-92	169
GW WELL SURVEY	16-Mar-92	20-Mar-92	4
GROUND WATER	13-Jul-92	27-Jul-92	10
GROUND WATER RESAMP.	29-Oct-92	13-Nov-92	10
SURFACE WATER	13-Jul-92	16-Jul-92	3
SEDIMENTS	13-Jul-92	16-Jul-92	3
COMPLETE EA RESAMPLE	16-Jul-92	16-Jul-92	0
DRAFT RA REPORT ADDENDUM	20-Oct-92	27-Jan-93	66
FINAL RA REPORT ADDENDUM	31-Mar-93	30-Apr-93	22
DRAFT FS REPORT ADDENDUM	20-Oct-92	27-Jan-93	66
FINAL FS REPORT ADDENDUM	31-Mar-93	30-Apr-93	22
PHASE 1 LAB ANALYSIS	20-Jul-92	23-Oct-92	67
PHASE 1 DATA VALIDATION	19-Aug-92	23-Nov-92	65
PHASE 1 DATA EVALUATION	17-Sep-92	24-Dec-92	67
PHASE 2 RI	24-Dec-92	24-Feb-93	40
BEGIN PHASE 2 RI	24-Dec-92	24-Dec-92	0
SURFACE SOILS	24-Dec-92	24-Feb-93	40
SOIL BORINGS	24-Dec-92	24-Feb-93	40
WELL INSTALLATION	24-Dec-92	24-Feb-93	40
GROUND WATER	24-Dec-92	24-Feb-93	40
SEDIMENTS	24-Dec-92	24-Feb-93	40
COMPLETE PHASE II RI	24-Feb-93	24-Feb-93	0
SURFACE WATER	24-Dec-92	24-Feb-93	40
PHASE 2 LAB ANALYSIS	4-Jan-93	26-Mar-93	57
PHASE 2 DATA VALIDATION	4-Feb-93	23-Apr-93	55
PHASE 2 DATA EVALUATION	5-Mar-93	25-May-93	57
DETERMINE OPERABLE UNITS	25-May-93	9-Jun-93	10
RA PROTOCOL DEVELOPMENT	4-May-92	15-Jul-92	50
BASEWIDE RISK ASSESSMENT	22-Jan-93	24-Sep-93	171
PRE DRAFT RA PREP.	22-Jan-93	18-May-93	81
PRE DRAFT RA DELIVERABLE	18-May-93	18-May-93	0
ARMY REVIEW	18-May-93	8-Jun-93	14
DRAFT RA PREP.	8-Jun-93	28-Jun-93	14
DRAFT RA DELIVERABLE	28-Jun-93	28-Jun-93	0
EPA/ARMY RA REVIEW	28-Jun-93	11-Aug-93	31
FINAL RA PREP.	11-Aug-93	24-Sep-93	31
RA REPORT DELIVERABLE	24-Sep-93	24-Sep-93	0
RI REPORT	11-Aug-93	14-Feb-94	126
PRE DRAFT RI PREP.	11-Aug-93	8-Oct-93	41
PRE DRAFT RI DELIVERABLE	8-Oct-93	8-Oct-93	0
ARMY REVIEW	8-Oct-93	29-Oct-93	14
DRAFT RI PREP.	29-Oct-93	18-Nov-93	13
DRAFT RI DELIVERABLE	18-Nov-93	18-Nov-93	0
EPA/ARMY REVIEW	18-Nov-93	4-Jan-94	30
FINAL RI REPORT	4-Jan-94	14-Feb-94	28
RI REPORT DELIVERABLE	14-Feb-94	14-Feb-94	0
PRE FS OPTIONS SCREENING	4-Jun-92	10-Jul-92	25
FS REPORT	4-Jan-94	16-Jun-94	114
PRE DRAFT FS PREP.	4-Jan-94	16-Feb-94	30
PRE DRAFT FS DELIVERABLE	16-Feb-94	16-Feb-94	0
ARMY REVIEW	16-Feb-94	9-Mar-94	14
DRAFT FS REPORT	9-Mar-94	25-Mar-94	12
DRAFT FS DELIVERABLE	25-Mar-94	25-Mar-94	0
EPA/ARMY REVIEW	25-Mar-94	4-May-94	28
FINAL FS REPORT	4-May-94	16-Jun-94	30
FS REPORT DELIVERABLE	16-Jun-94	16-Jun-94	0
PROPOSED PLAN	4-May-94	26-Oct-94	121
PRE DRAFT PRO. PLAN	4-May-94	15-Jun-94	29
PRE DRAFT PRO. PLAN DELIV.	15-Jun-94	15-Jun-94	0
ARMY REVIEW	15-Jun-94	7-Jul-94	15
DRAFT PRO. PLAN	7-Jul-94	28-Jul-94	15
DRAFT PRO. PLAN DELIV.	28-Jul-94	28-Jul-94	0
EPA/ARMY REVIEW	28-Jul-94	13-Sep-94	32
FINAL PRO. PLAN	13-Sep-94	26-Oct-94	30
PROPOSED PLAN DELIVERABLE	26-Oct-94	26-Oct-94	0
NOTICE OF AVAILABILITY	26-Oct-94	9-Nov-94	10
PUBLIC COMMENT	9-Nov-94	12-Dec-94	21
PUBLIC MEETING	9-Nov-94	25-Nov-94	10
RECORD OF DECISION	26-Oct-94	7-Apr-95	111
PRE DRAFT ROD	26-Oct-94	28-Dec-94	42
PRE DRAFT ROD DELIVERABLE	28-Dec-94	28-Dec-94	0
ARMY REVIEW	28-Dec-94	20-Jan-95	15
DRAFT ROD	20-Jan-95	9-Feb-95	14
DRAFT ROD DELIVERABLE	9-Feb-95	9-Feb-95	0
EPA/ARMY REVIEW	9-Feb-95	10-Mar-95	20
FINAL ROD	10-Mar-95	7-Apr-95	20
ROD DELIVERABLE	7-Apr-95	7-Apr-95	0
PROJECT CLOSE-OUT	10-Mar-95	7-Apr-95	20
PROJECT COMPLETION	7-Apr-95	7-Apr-95	0



Critical Path

SECTION 11.0 REFERENCES

Battelle Project Management Division, 29 August 1984, Final Report, Follow-on Study of Contamination at the Iowa Army Ammunition Plant, Report No. DRXTH-AS-CR-84297.

Baxter, Leon, Environmental Scientist, Iowa Army Ammunition Plant, Interview with Mary Robertson, JAYCOR, 8 April 1992.

Clear, J., and P. Collins, 1982, Geotechnical Report for Iowa Army Ammunition Plant, Environmental Research Group, Inc., Michigan.

Connor, Jon J. and Hansford T. Shacklette, 1975, Background Geochemistry of Some Rocks, Soils, Plants, and Vegetables in the Conterminous United States, U.S. Geological Survey, Professional Paper 574-F.

Dames & Moore, October 1985, Analytical Results of Groundwater Samples Collected from Wells EDA01-04, and G-29 and G-30, Iowa Army Ammunition Plant.

Dames & Moore, August 1986, Midwest Site Confirmatory Survey, Iowa Army Ammunition Plant, Contract No. DAAK-11-44-D0002.

Dames & Moore, 1989, Endangerment Assessment, Iowa Army Ammunition Plant, Former Line 1 Impoundment and Line 800 Pink Water Lagoon, USATHAMA, Edgewood, MD (pp.1-5).

Dames & Moore, March 1990, Final Assessment Report Petroleum Leak/Spill Area, Iowa Army Ammunition Plant, Contract No. DAAA15-85-D-0008.

Denz, Jeff, September 1990, Notes of Field Work and Interviews to locate contamination areas, Iowa Army Ammunition Plant.

Department of the Army, U.S. Army Medical Laboratory, St. Louis, Department of Entomology, 1974, Interim Report of Entomological Survey, Iowa Army Ammunition Plant.

Department of Defense, February 1990, Defense Environmental Restoration Program, Annual Report to Congress for Fiscal Year 1989.

EBASCO, October 1989, RCRA Part B Permit Application for the Iowa Army Ammunition Plant, Middletown, IA.

Ecology and Environment, Inc., June 1987, RCRA Facility Assessment, Final Report for the Iowa Army Ammunition Plant, Middletown, IA.

Ecology and Environment, Inc., April 1987, Draft Work Plan for the Sampling Visit at Iowa Army Ammunition Plant for the RCRA Facility Assessment.

Environmental Control Technology Corporation, November 1976, Final Report, Aquatic Field Surveys at Iowa, Radford, and Joliet Army Ammunition Plants, Vol.1, Iowa Army Ammunition Plant, Contract No. DAMD-17-75-C-5046.

Environmental Research Group, Inc., 17 September 1982, Iowa Army Ammunition Plant Contamination Report, Contract No. AAA09-78-C-3008.

Environmental Science and Engineering, Inc., October 1987, Final Report, Confirmatory Sampling of Selected Groundwater and Surface Water Sites (exact title unknown), Iowa Army Ammunition Plant.

Harris, E., and M.D. Parker, 1964, Stratigraphy of the Osage Series in Southeastern Iowa, Report of Investigation No. 1, Iowa Geological Survey, Iowa City, Iowa.

Holmberg, R., 1975, Radiological Condition Surveys of Real Property at Burlington, Iowa, Letter to D.R. Hensley, 24 February 1975.

Iowa Department of Water, Air, and Waste Management (now Iowa Department of Natural Resources), 1984, State of Iowa NPDES Permit No. 29-00-9-00, Iowa Army Ammunition Plant.

Iowa Department of Water, Air, and Waste Management (now Iowa Department of Natural Resources), Notice of Violation 567-62.1 and 567-64.3(1), issued by J. Patton for Iowa Army Ammunition Plant, Middletown, Iowa.

Iowa Geological Survey of Groundwater Resources, Des Moines County, Open File Report 29-80 WRD.

Mason & Hanger-Silas Mason Co., 1976, Building Identification Serials, Iowa Army Ammunition Plant, Burlington, Iowa.

Mason & Hanger-Silas Mason Co., 1978, Information Regarding Potential Releases from Solid Waste Management Units, submitted to Region VII Environmental Protection Agency.

Mason & Hanger-Silas Mason Co., 1978, Personnel Interviews Related to Production, Environmental, and Training Issues, Iowa Army Ammunition Plant, Middletown, Iowa.

Mason & Hanger-Silas Mason Co., 1979, "List of Substances for the Phase II Toxic Substances Inventory," Iowa Army Ammunition Plant, Middletown, Iowa.

Mason & Hanger-Silas Mason Co., 1985, Exposure Information Report, Line 4A Evaporation Lagoon, Iowa Army Ammunition Plant, Middletown, Iowa.

Mason & Hanger-Silas Mason Co., June 1985, Groundwater Quality Assessment, Inert Landfill and Line 6 Areas, Plan No. 38-26-0601-85, Iowa Army Ammunition Plant.

Mason & Hanger-Silas Mason Co., 1986, Protecting the Earth's Environment: 1986 Environmental Quality Award Submission, Iowa Army Ammunition Plant.

Mason & Hanger-Silas Mason Co., 4 October 1988, Report on Unauthorized Discharge of Explosive-Contaminated Wastewater at the Recirculation Tank Near Building 3-05-1.

Mason & Hanger-Silas Mason Co., December 1989, RCRA Part B Permit, Iowa Army Ammunition Plant, Middletown, IA.

Miller, Keith, Environmental Scientist, Iowa Army Ammunition Plant, April 1992, Telephone Interview with Dave Rosa, JAYCOR.

National Climatic Center, Asheville, North Carolina, 1979, U.S. Department of Commerce, Climatic Report on Des Moines County, Iowa.

Polson, Jack, Former Chief Scientist, Iowa Army Ammunition Plant, April 1992, Telephone Interview with Dr. John Labadie, JAYCOR.

Rissell, Pete, 1990, Fact Sheet, Iowa Army Ammunition Plant, Burlington, Iowa, Released 15 October 1990.

Rome Research Corporation, 1979, Aerial Color Infrared Photography Interpretation, Iowa Army Ammunition Plant, Contract No. DAAK11-78-C-0137.

SCS Engineers, 22 February 1982, Underground Pollution Investigation, Iowa Army Ammunition Plant, Middletown, IA, Contract No. DACA87-80-C-033.

Soil Testing Services, February-March 1981, Boring Logs for Monitoring Wells G-9, G-10, and G-11, Iowa Army Ammunition Plant.

Terracon Consultants, Inc., December 1980, Boring Logs for Subsurface Contamination Investigation, Iowa Army Ammunition Plant, U.S. Army Corps of Engineers.

Terracon Consultants, Inc., 5 January 1988, Summary Report of Environmental Investigations at Inert Landfill and Line 6 Area,, Iowa Army Ammunition Plant.

Terracon Consultants, Inc., December 1989, Final Report, Groundwater Quality Assessment, Inert Landfill and Line 6 Areas, Iowa Army Ammunition Plant, Middletown, IA.

U.S. Army Armament Material Readiness Command, March 1983, Memorandum to Commander, from Col. Joseph C. Staehler, regarding Follow-on Contamination Survey at Iowa Army Ammunition Plant.

U.S. Army Corps of Engineers, Huntsville Division, 1984, Boring Logs for Monitoring Wells EDA-01, EDA-02, Iowa Army Ammunition Plant, Middletown, Iowa.

U.S. Army Corps of Engineers, Ft. Worth Division, September 1988, RCRA Post-Closure Permit Application, Trench 5 of the Inert Landfill, Iowa Army Ammunition Plant, Middletown, Iowa.

U.S. Army Corps of Engineers, Omaha District, March 1989, Preliminary Draft Environmental Impact Statement, Proposed RDX Facility, Iowa Army Ammunition Plant.

U.S. Army Environmental Hygiene Agency, 1975, Final Report: Monitoring of Pesticide Disposal Practices, Entomological Special Study No. 44-005-75/76, September 1974-March 1975, Iowa Army Ammunition Plant.

U.S. Army Environmental Hygiene Agency, 18-22 March, 1-2 May, and 28-30 May 1985, Water Quality Engineering Consultation No. 31-24-0673-85, Investigation of Groundwater Contamination, Iowa Army Ammunition Plant.

U.S. Army Environmental Hygiene Agency, 29 February 1988, Exposure Information Report for Cell No. 5 of the Inert Landfill, Iowa Army Ammunition Plant.

U.S. Army Munitions Command, February 1984-March 1985, AMC OB/OD, Ground-Water Monitoring Study, Study No. 38-26-0457-86, Iowa Army Ammunition Plant.

U.S. Army Toxic and Hazardous Materials Agency, January 1980, Installation Assessment of Iowa Army Ammunition Plant, Report No. 127.

U.S. Department of Agriculture and Soil Conservation Service, 1979, Soil Survey of Des Moines County, Iowa.

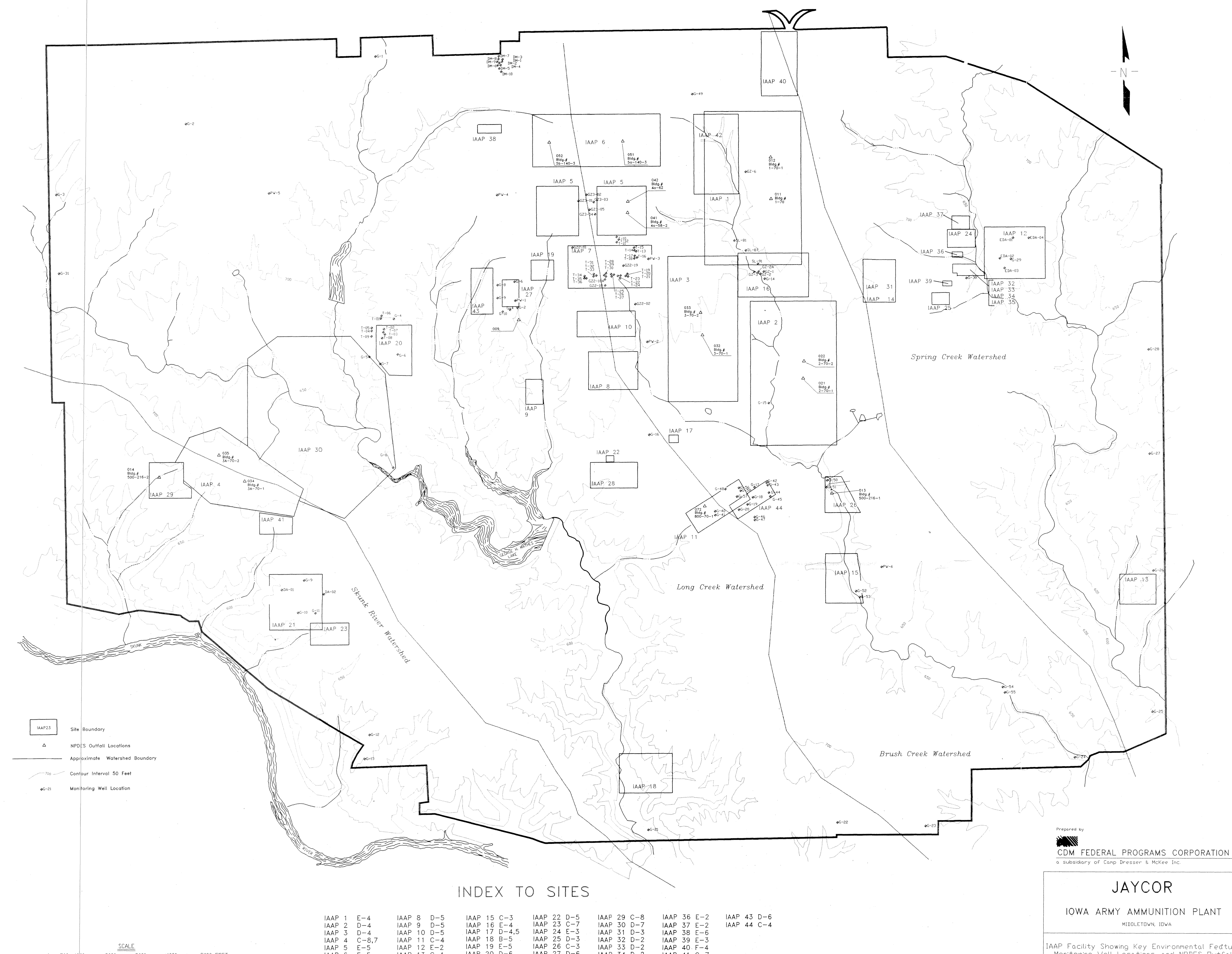
U.S. Environmental Protection Agency, 22 August 1986, Memorandum from David A. Wagoner, Director, Region VII Waste Management Division, to Lt. Col. Michael A. Roddy, III, Commanding Officer, Iowa Army Ammunition Plant.

U.S. Environmental Protection Agency, 1987, Draft Federal Facility Compliance Agreement, Iowa Army Ammunition Plant.

U.S. Environmental Protection Agency, September 1990, Federal Facility Agreement under CERCLA Section 120, In the Matter of the U.S. Department of the Army, Middletown, IA, Administrative Docket No. VII-F-90-0029.

U.S. Geological Survey, 1981 and 1964, Danville, Iowa, Quadrangle 7.5 Minute Series Topographic Map, 1981, combined with West Burlington, Iowa, Quadrangle 7.5 Minute Series Topographic Map, 1964, photo-revised 1976.

Unnamed Report, 1978, Working Draft of Partial Report on Contamination at Iowa Army Ammunition Plant, author unknown.



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JAYCOR

IOWA ARMY AMMUNITION PLANT

MIDDLETOWN, IOWA

IAAP Facility Showing Key Environmental Features, Monitoring Well Locations, and NPDES Outfalls

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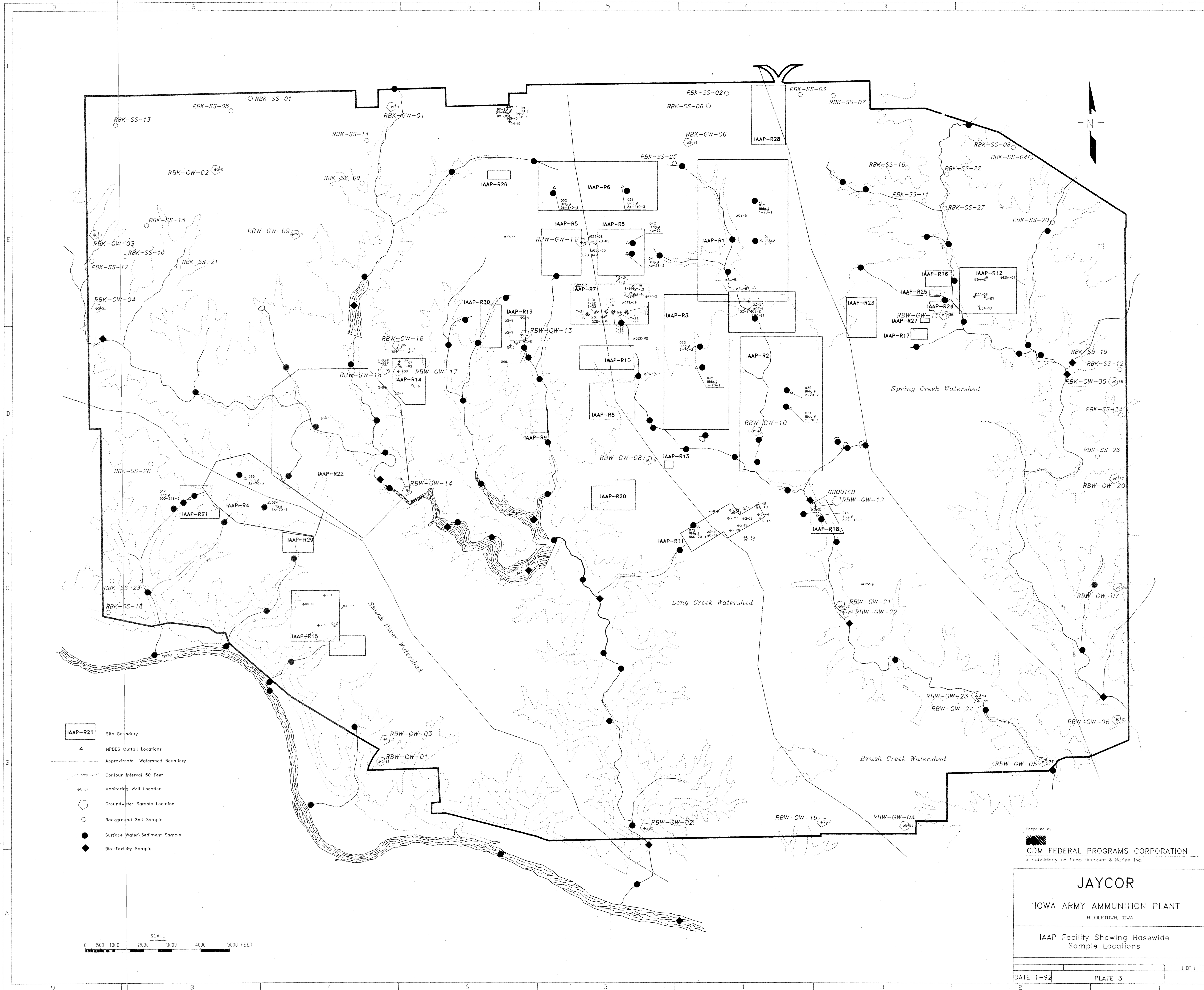
PLATE 2



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Surface Water\Sediment Sample
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IOWA ARMY AMMUNITION PLANT
MIDDLETOWN, IOWA
IAAP Facility Showing Basewide Sample Locations
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PLATE 3

APPENDIX A

U.S. GEOLOGICAL SURVEY STUDIES AND ANALYTICAL METHODS

STUDY NO. 12

(Residuum on carbonate rocks of Cambrian, Ordovician, and Mississippian ages in southern Missouri and northern Arkansas)

By RICHARD J. EBENS

Samples weighing about 2 kg each of cherty residuum (terra rossa) developed on carbonate rock units were collected in southern Missouri and northern Arkansas in the spring of 1972. The seven areas sampled are underlain by dolomites of the (1) Bonneterre, (2) Eminence or Potosi, (3) Gasconade, (4) Roubidoux, and (5) Jefferson City, Cotter, or Powell Formations, and by limestones of (6) Osagean and (7) Meramecian ages. Two samples were collected in each of 2 randomly selected sites in each of 6 randomly selected sampling localities in each of these 7 areas for a total of 168 samples. Twenty-five of the samples were split into 2 parts and then all 193 samples were arranged in a randomized sequence prior to analysis. Preliminary results of this work were published in Ebens (1973) and U.S. Geological Survey (1972e, 1973).

Residuum overlying the Bonneterre, Eminence, and Potosi Formations tends to be elevated in barium, lead, and zinc, and locally contains visible barite; therefore it was excluded from this compilation. Study conducted by Richard J. Ebens.

STUDY NO. 13

(Quaternary loess in Missouri)

By JON J. CONNOR

Samples weighing about 2 kg each were collected from thick deposits of Quaternary loess in bluffs adjacent to the Mississippi and Missouri Rivers in Missouri in the fall of 1970. The 2 river courses were divided into 6 segments, each about 150 km in length; 2 localities were randomly selected in each segment and 2 samples were randomly collected from a single vertical section in each locality for a total of 24 samples. Preliminary results of this work were published in Ebens (1973) and U.S. Geological Survey (1972e). Study conducted by Jon J. Connor and Richard J. Ebens.

STUDY NO. 14

(Garden soils, vegetables, native plants, and uncultivated soils in central and south-central Georgia)

By HANSFORD T. SHACKLETTE

This study and the following one were done in June and July 1965 and constitute a geochemical survey of two areas in Georgia that exhibit contrasting rates of cardiovascular mortality in humans. The counties sampled in this study were Bacon, Bleckley, Burke, Dodge, Emanuel, Jeff Davis, Jefferson, Jenkins, and Warren, all having high mortality rates. Vegetables and garden soils were sampled in 30 sites. Stems (terminal parts of branches 20–30 cm long) and leaves of native plants (trees and shrubs) and 3 soil horizons were also sampled at 30 sites. Selection of sampling sites, sampling methods, laboratory preparation and analysis of samples, and statistical treatment of the chemical data were discussed by Shacklette, Sauer, and Miesch (1970) and Shacklette, Erdman, and Keith (1973). Study conducted by Hansford T. Shacklette, Herbert I. Sauer, and A. T. Miesch.

STUDY NO. 15

(Garden soils, vegetables, native plants, and uncultivated soils in northern Georgia)

By HANSFORD T. SHACKLETTE

This study was conducted as the corollary of Study No. 14. The counties sampled were Cherokee, Fannin, Forsyth, Gilmer, Hall, Murray, Pickens, Towns, and Union, all having extremely low mortality rates. The sampling plan, sampling media, sample preparation, and analysis were the same as described for Study No. 14. Study conducted by Hansford T. Shacklette, Herbert I. Sauer, and A. T. Miesch.

STUDY NO. 16

(Agricultural soils in Missouri)

By RONALD R. TIDBALL

The study was conducted with the cooperation of the Missouri Agricultural Extension Service in collecting samples. The surface horizon (0–15 cm depth) of cultivated agricultural soils at 10 sites in each of the 114 counties of the State was sampled during 1970. Each sample is a composite taken over a single field prior to planting. Analysis was made of air-dried soil material less than 2 mm in diameter, pulverized to -100-mesh particle size in a ceramic mill. Sixty of the 1,140 samples were split for estimation of analytical error and the entire suite of 1,200 was submitted to the laboratory in a randomized sequence. Sampling plan, analytical results, and plotted maps of the distribution of element concentrations were reported by U.S. Geological Survey (1972b–f, 1973) and Tidball (1973). Study conducted by Ronald R. Tidball.

STUDY NO. 17

(Crop plants and associated soils in Missouri)

By HANSFORD T. SHACKLETTE

Mature corn grains and soybean seeds, and composite samples of the plow zone (0–15 cm) of cultivated soils, were collected in Missouri in September 1970. Insofar as possible, samples were taken at two randomly selected sites within each of five randomly selected 7½-minute quadrangles in each of the Floodplain Forest, Glaciated Prairie, Unglaciated Prairie, and Oak-hickory Forest vegetation-type areas in Missouri (fig. 2). Samples, including replicates (splits), were analyzed in a sequence random with respect to geographical origin. Sampling plan, results of chemical analyses, and statistical studies of the data were reported by U.S. Geological Survey (1972e, 1973) and Shacklette, Erdman, and Keith (1973). Study conducted by Hansford T. Shacklette, John R. Keith, and James A. Erdman.

rangles, were collected and analyzed. These quadrangles were centered on Longmont and spanned the Corridor, from within the mountains eastward onto the plains. The surficial materials were collected during November 1971 through February 1972 and were sampled to a depth of 15 cm. They ranged from well-developed agricultural soils to unconsolidated sediments and rock disintegration products. Samples, including 60 replicates (splits), were analyzed in a sequence random with respect to geographical origin. Preliminary results of this study were reported by Tourtelot (1973). Study conducted by Harry A. Tourtelot.

STUDY NO. 23

[Garden vegetables and field corn in Wisconsin, Minnesota, and Iowa]

By Hansford T. Shacklette

A variety of vegetables and field corn was collected in September 1961, from up to 27 sampling sites in home and institutional gardens and commercial plantings, principally in Wisconsin. One home garden in Iowa and a cornfield in Minnesota, both near the Wisconsin boundary, were also sampled. For brevity, these collections are listed in the summary tables as being from Wisconsin only. The selection of gardens to sample was based on availability of the desired kinds of vegetables in a garden, the facility of obtaining permission to sample, and the time available. Large gardens at the county hospitals of Dane, Grant, Iowa, and Richland Counties, and a commercial truck farm in Racine County, were sampled; other sites were family gardens. Corn was sampled in fields in which the grains were mature at the time of the study. The vegetable samples were prepared as for table use (but without cooking), and the mature grains of corn were removed from the cob. The samples were dried, pulverized, and burned to ash, and the ash was analyzed by semiquantitative spectrographic and other methods. See also Shacklette, Erdman, and Keith (1973). Study conducted by Hansford T. Shacklette.

STUDY NO. 24

[Cedar in Missouri]

By James A. Erdman

Red cedar was sampled in August and September of 1969 at two randomly selected sites within each of five randomly selected 7½-minute quadrangles within each vegetation-type area of Missouri (fig. 2). The terminal 20–30 cm part of branches, including both stems and leaves, was collected and the samples were analyzed by spectrographic and other methods, as reported by U.S. Geological Survey (1972b), in a random sequence unknown to the analyst. Application of these data to a contamination study was reported by Ebens, Erdman, Feder, Case, and Selby (1973). Study conducted by James A. Erdman, Hansford T. Shacklette, and John R. Keith.

STUDY NO. 25

[Surface soils and sagebrush, Wyoming and Montana]

By Jon J. Connor

Forty-eight samples of soil and sagebrush were collected in May 1973 from the Powder River Basin according to a hierarchical design. The basin was divided into 12 parts, each approximately 70 km on a side. Two townships were selected randomly from each part; a total of three sections were selected randomly in the two townships, and a total of four sampling sites were selected in the three sections. At each site a sample of the top 2 cm of undisturbed soil and a sample of the terminal stems and leaves of a living sagebrush were collected. Selected samples of each material were split into two parts and the samples in each resulting suite were analyzed in a randomized sequence. A few preliminary results of this study were given by Anderson, Keith, and Connor (1974). Study conducted by Jon J. Connor, John R. Keith, and Barbara M. Anderson.

METHODS OF ANALYSIS

A wide variety of analytical methods was used to generate the data underlying the tabulations in this report. In the earlier studies, the common metals in rocks and soils were generally determined by rapid spectrophotometric techniques (Shapiro and Brannock, 1962), or atomic absorption spectrophotometric methods (Shapiro, 1967). More recently, and particularly for studies in Missouri, many of these metals were analyzed by rapid X-ray fluorescence techniques. Trace-metal analysis in all work has relied heavily on both a semiquantitative emission spectrographic procedure slightly modified from that described by Myers, Havens, and Dunton, and a direct-reading emission spectrographic technique (Havens and Myers, 1973). Elements in plant ash not measured spectrographically were measured by atomic absorption, colorimetric, selective-ion electrode, or other special methods as listed in table 1. All analytical work was performed in laboratories of the U.S. Geological Survey. The analytical technique used for each entry in the summary tables 5–53 is identified by the appropriate number listed in table 1.

Forty-eight elements are listed in the summary tables. Of these, about 10 were detected in only a relatively few samples of only a few studies. Approximate limits of determination for a variety of elements commonly looked for in spectrographic work but seldom or never detected are listed in table 2.

For various reasons, 24 of the 92 naturally occurring elements were never analyzed for in any of these studies. They are the six noble gases (helium, neon, argon, krypton, xenon, and radon), nitrogen, oxygen, sulfur, chlorine, bromine, technetium, ruthenium, rhodium, cesium, promethium, osmium, iridium, polonium, astatine, francium, radium, actinium, and protactinium.

APPENDIX B

SUMMARY TABLES OF SITE INVESTIGATION DATA

DataChem Laboratories'
USATHAMA Analytical Methodology

USATHAMA Method No.	Method Title	Equivalent EPA Method
US06	Halocarbons/Water	601/5031
LG06	Halocarbons/Soil	8010/5030
UM21	Volatiles/Water/GC-MS	624/5030
LM23	Volatiles/Soil/GC-MS	8240/5030
AV8	Aromatics/Water	602/5030
AA9	Aromatics/Soil	8015/5030
UM25	Semi-Volatiles/Water/GC-MS	625/3525
LM25	Semi-Volatiles/Soil/GC-MS	8270/3540
UH20	Pesticides/Water	608/3510
LH17	Pesticides/Soil	8080
UW25	Explosives/Water	8330
LW23	Explosives/Soil	8330
AZ8	Thiodiglycol/Water	NONE
LL9	Thiodiglycol/Soil	NONE
SS12	ICP Metals/Water	200.7
JS12	ICP Metals/Soil	6010
CC8	Mercury/Water	245.1
Y9	Mercury/Soil	7471
LL8	Nitrate + Nitrite/Water	353.2
KF17	Nitrate + Nitrite/Soil	353.2
TF31	Nitrite/Water	353.2
TF29	Total Phosphorus/Water	365.4
KF15	Total Phosphorus/Soil	365.4
TF34	Cyanide/Water	335.5
KF15	Cyanide/Soil	9012
AX8	Arsenic/Water	206.2
B9	Arsenic/Soil	7060
SD18	Lead/Water	237.2
JD21	Lead/Soil	7421
SD25	Selenium/Water	270.2
JD20	Selenium/Soil	7740

99	Reserved for test names that do not require certification.
00	Reserved for special cases only when authorized by USATHAMA.
Y (a final digit of sample ID)	Primary Method
N (as final digit of sample ID)	Secondary Method

FLAGGING CODE	DESCRIPTION
B	Analyte found in blank as well as sample.
C	Analysis was confirmed.
D	Duplicate sample or Test Name.
E	Element run with background correction.
F	Sample filtered before analysis.
G	Reported results affected by interferences or high background.
H	Out of control but data accepted due to high recoveries.
I	Out of control, data rejected due to low recoveries.
J	Missed holding time; acceptable based on holding-time study.
K	Missed holding times for extraction and preparation.
L	Missed holding time for analysis.
M	Duplicate (high) spike analysis not within control limits.
N	Low spike recovery is not within control limits.
P	Results less than CRL but greater then COD.
Q	Surrogate recovery markedly different from historical data.
R	Analyte required for reporting purposes but not currently certified.
S	Results based on internal standard.
T	Analyzed for but not detected.
U	Analysis is unconfirmed.
V	Sample subjected to unusual storage conditions.
W	Single analyte required from a multi-analyte method.
X	Analyte recovery outside of certified range but within acceptable limits.

MEDIA	DESCRIPTION
GGW	Chemical Groundwater
CSE	Chemical Sediment
CSO	Chemical Soil
CSW	Chemical Surface Water
RGW	Radiological Groundwater
RSE	Radiological Sediment
RSO	Radiological Soil
RSW	Radiological Surface Water

SITE	DESCRIPTION
BASN	Basin
BORE	Bore Hole
CMPH	Composite sample taken from multiple locations
COMP	Composite
CREK	Creek
DTCH	Ditch or Drainage
LAGO	Lagoon
OTFL	Outfall
RNSW	Rinse Water
STRM	Stream
SURF	Surfaces in General
TRIP	Trip Blank

MEASUREMENT BOOLEAN	DESCRIPTION
LT	less than Certified Reporting Limit
ND	not detectable
blank	greater than Certified Reporting Limit

Parameter Group	USATHAMA Analyte Code
Metals	
Antimony	Sb
Arsenic	As
Barium	Ba
Beryllium	Be
Cadmium	Cd
Chromium	Cr
Copper	Cu
Lead	Pb
Mercury	Hg
Nickel	Ni
Selenium	Se
Silver	Ag
Zinc	Zn
Cyanide	CYn
Explosives	
1,3,5-Trinitrobenzene	135TNB
1,3-Dinitrobenzene	13DNB
2,4,6-Trintrotoluene	24TNT
2,4-Dinitrotoluene	24DNT
2,6-Dinitrotoluene	26DNT
Cyclotetramethylenetetranitramine	HMX
Nitrobenzene	NB
Cyclotrimethylenetrinitramine	RDX
N-Methyl-N,2,4,6,-Tetranitroniline	TETRYL
Volatiles	
1,1,1-Trichloroethane	111TCE
1,1,2-Trichloroethane	112TCE
1,1-Dichloroethylene	11DCE
1,2-Dichloroethylene	11DCLE
1,3-Dichloroethylene	12DCD4
1,4-Dichloroethylenes	12DCLE
1,2-Dichloropropane	12DCLP
1,3-Dichlorobenzene	13DCLB

Parameter Group	USATHAMA Analyte Code
Volatiles (Continued)	
1,3-Dichloropropane	13DCP
1,3-Dimethylbenzene	13DMB
2-Chloroethylvinyl ether	2CLEVE
Acetone	ACET
Acrylonitrile	ACRYLO
Bromodichloromethane	BRDCLM
Chloroethene/Vinyl Chloride	C2H3CL
Chloroethane	C2H5CL
Benzene	C6H6
Trichlorofluoromethane	CCL3F
Carbon Tetrachloride	CCL4
Methylene Chloride	CH2CL2
Bromomethane	CH3BR
Chloroform	CHCL3
Chlorobenzene/Monochlorobenzene	CLC6H5
Dibromochloromethane	DBRCLM
Dichlorobenzene	DCLB
Ethylbenzene - D10	ETB10
Ethylbenzene	Etc6H5
Toluene	MEC6H5
Methylethyl ketone/2-Butanone	MEK
Methylisobutyl ketone	MIBK
1,1,2,2-Tetrachloroethane	TCLEA
Trichloroethylene	TRCLE
Xylenes	XYLEN
Semivolatiles	
1,2,3-Trichlorobenzene	123TCB
1,2,4-Trichlorobenzene	124TCB
1,2-Dichlorobenzene	12DCLB
1,2-Diphenylhydrazine	12DPH
1.3-Dichlorobenzene-D4	13DBD4

Parameter Group	USATHAMA Analyte Code
Semivolatiles (Continued)	
1,3-Dichlorobenzene	13DCLB
1,4-Dichlorobenzene	14DCLB
2,3,6-Trichlorophenol	236TCP
2,4,5-Trichlorophenol	245TCP
2,4,6-Tribromophenol	246TBP
2,4,6-Trichlorophenol	246TCP
2,4-Dichlorophenol	24DCLP
2,4-Dimethylphenol	24DMPN
2,4-Dinitrophenol	24DNP
2,4-Dinitrotoluene	24DNT
2,6-Dinitroaniline	26DNT
2,6-Dinitrotoluene	26DNT
2-Chlorophenol	2CLP
2-Chlorophenol-D4	2CLPD4
2-Chloronaphthalene	2CNAP
2-Fluorobiphenyl	2FBP
2-Fluorophenol	2FP
2-Methylnaphthalene	2MNAP
2-Methylphenol	2MP
2-Nitrophenol	2NP
3,3-Dichlorobenzidine	33DCBD
3,5-Dinitroaniline	35DNA
3-Nitroaniline	3NANIL
3-Nitrotoluene	3NT
4,6-Dinitro-2-methylphenol	46DN2C
4-Bromophenyl-phenylether	4BRPPE
4-Chloro-3-methylphenol	4CL3C
4-Chlorophenyl-phenylether	4CLPPE
4-Methylphenol	4MP
4-Nitrophenol	4NP
alpha-Hexachlorocyclohexane	ABHC

Parameter Group	USATHAMA Analyte Code
Semivolatiles (Continued)	
alpha-Endosulfan	AENSLF
Aldrin	ALDRN
Acenaphthlene	ANAPNE
Acenaphthylene	ANAPYL
Anthracene	ANTRC
Altrazine	ATZ
bis(2-Chloroethoxy)methane	B2CEXM
2,2-oxybis(1-Chloropropane)	B2CIPE
bis(2-Chloroethyl)ether	B2CLEE
bis(2-Ethylhexyl)phthalate	B2EHP
Benzo(a)anthracene	BAANTR
Benzo(a)pyrene	BAPYR
Benzo(b)fluoranthene	BBFANT
beta-Benzenehexachloride	BBHC
Butylbenzylphthalate	BBZP
beta-Endosulfan	BENSLF
Benzo(g,h,i)perylene	BGHIPY
Benzo(k)fluoranthene	BKFANT
Benzylalcohol	BZALC
Chrysene	CHRY
Hexachlorobenzene	CL6B2
Hexachlorocyclopentadiene	CL6CP
Hexachlroethane	CL6ET
Chlordane	CLDAN
p-Chlorophenylmethyl sulfide	CPMS
p-Chlorophenylmethyl sulfoxide	CPMSO
p-Chlorophenylmethyl sulfone	CPMSO2
Dibenz(a,h)anthracene	DBAHA
Dibromochloropropane	DBCP
delta-Benzenehexachloride/delta-Hexachlorocyclohexane	DBHC
Dibenzofuran	DB2FUR
Dicyclopentadiene	DCPD

Parameter Group	USATHAMA Analyte Code
Semivolatiles (Continued)	
Vapona/Dichlorvos/Dichlorophos	DDVP
Diethylphthalate	DEP
Diethylphthalate-D4	DEPD4
Dithiane	DITH
Dieldrin	DLDRN
Dimethylphthalate	DMP
Di-n-butylphthalate	DNBP
Di-N-ootylphthalate-D4	DNOPD4
Endrin	ENDRN
Endrinaldehyde	ENDRNA
Endosulfan sulfate	ESFS04
Fluoroanthene	FANT
Fluorene	FLRENE
Hexachlorobutadiene	HCBD
Indeno(1,2,3-CD)pyrene	ICDPYR
Isodrin	ISODR
Isophorone	ISOPHR
Lindane	LIN
Methoxychlor	MEXCLR
Mirex	MIREX
Malathion	MLTHN
Naphthalene	NAP
Nitrobenzene	NB
Nitrobenzene-D5	NBD5
N-Nitrosodimethylamine	NNDMEA
N-Nitrosodi-N-propylamine	NNDNPA
N-Nitrosodiphenylamine	NNDPA
N-Nitroso-di-N-diapropylamine	OXAT
PCB1016	PCB016
PCB 1260	PCB260
PCB 1262	PCB262

Parameter Group	USATHAMA Analyte Code
Semivolatiles (Continued)	
Pentachlorophenol	PCP
Phenanthrene	PHANTR
Phenol-06	PHEND6
Phenol	PHENOL
2,2-Bis(p-chlorophenyl)-1,1-dichlorethane	PPDDD
2,2-Bis(p-chlorophenyl)-1,1-dichlorethene	PPDDE
2,2-Bis(p-chlorophenyl)-1,1-1,-trichlorethane	PPDDT
Parathion	PRTHN
Pyrene	PYR
Supona/2-chloro-1(2,4 dichlorophenyl)vinyldiethylphosphate	SUPONA
Terphenyl-D14	TRPD14
Toxaphene	TXPHEN
Pesticide/PCBs	
alpha-BHC	ABHC
beta-BHC	BBHC
delta-BHC	DBHC
gamma-BHC (Lindane)	LiN
Heptachlor	HPCL
Aldrin	ALDRN
Heptachlor epoxide	HPCLE
Endosulfan I	AENSLF
Dieldrin	DLDRN
4,4 - DDE	PPDDE
Endrin	ENDRN
Endosulfan II	BENSLF
4,4 - DDD	PPDPD
Endosulfan sulfate	ENSO4
4,4 - DDT	PPDDT
Methoxychlor	MEXCLR
Endrin ketone	ENDRN

Parameter Group	USATHAMA Analyte Code
Pesticides	
Endrin aldehyde	ENDRNA
alpha-Chlordane	ACLDAN
gamma-Chlordane	GCLDAN
Toxaphene	TXPHEN
Aroclor-1016	PBC016
Aroclor-1221	PCB221
Aroclor-1232	PCB232
Aroclor-1242	PCB242
Aroclor-1248	PCB248
Aroclor-1254	PCB254
Aroclor-1260	PCB260
Radionuclides	
Gross Alpha	ALPHAG
Gross Beta	BETAG
Gamma Scan	GAMMAS
▪ Actinium 28	AC228
▪ Bismouth	BI214
▪ Cesium 137	CS138
▪ Lead 212	PB212
▪ Lead 214	PB214
▪ Radium 226	RA226
▪ Thallium 208	TL208

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP01	SD	EXPLOSIVES	1,3,5-TRINITROBENZENE	01-SD-03	08/06/1991	01SD0301Y	0.500	2.1	<LW02	2.09	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.59	<LW02	0.59	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.59	<LW02	0.59	UGG
			2,4,6-TNT	01-SD-03	08/06/1991	01SD0301YP	0.500	1.9	=LW02	1.92	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	01-SD-03	08/06/1991	01SD0301N	0.500	1.4	<LM25	1.4	UGG
						01SD0301Y	0.500	0.42	<LW02	0.42	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	1.4	<LM25	1.4	UGG
						01SD0801Y	0.500	0.42	<LW02	0.42	UGG
						01SD0802ND	0.500	1.4	<LM25	1.4	UGG
			2,6-DINITROTOLUENE	01-SD-03	08/06/1991	01SD0301N	0.500	0.32	<LM25	0.32	UGG
						01SD0301Y	0.500	0.4	<LW02	0.4	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	0.32	<LM25	0.32	UGG
						01SD0801Y	0.500	0.4	<LW02	0.4	UGG
						01SD0802ND	0.500	0.32	<LM25	0.32	UGG
			HMX	01-SD-03	08/06/1991	01SD0301Y	0.500	160.0	=LW02	1.27	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	1.3	<LW02	1.27	UGG
			NITROBENZENE	01-SD-03	08/06/1991	01SD0301N	0.500	1.8	<LM25	1.8	UGG
						01SD0301Y	0.500	0.42	<LW02	0.42	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	1.8	<LM25	1.8	UGG
						01SD0801Y	0.500	0.42	<LW02	0.42	UGG
						01SD0802ND	0.500	1.8	<LM25	1.8	UGG
			RDX	01-SD-03	08/06/1991	01SD0301Y	0.500	78.0	=LW02	0.98	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.98	<LW02	0.98	UGG
			TETRYL	01-SD-03	08/06/1991	01SD0301Y	0.500	0.25	<LW02	0.25	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	01-SD-03	08/06/1991	01SD0301Y	0.500	19.6	<JS12	19.6	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	19.6	<JS12	19.6	UGG
						01SD0802YD	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	01-SD-03	08/06/1991	01SD0301Y	0.500	6.73	=B9	2.5	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	4.34	=B9	2.5	UGG
						01SD0802YD	0.500	5.5	=B9	2.5	UGG
			BARIUM	01-SD-03	08/06/1991	01SD0301Y	0.500	9,900.0	=JS12	3.29	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	76.3	=JS12	3.29	UGG
						01SD0802YD	0.500	127.0	=JS12	3.29	UGG
			BERYLLIUM	01-SD-03	08/06/1991	01SD0301Y	0.500	0.427	<JS12	0.427	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.621	=JS12	0.427	UGG
						01SD0802YD	0.500	0.741	=JS12	0.427	UGG
			CADMIUM	01-SD-03	08/06/1991	01SD0301Y	0.500	1.2	<JS12	1.2	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	1.2	<JS12	1.2	UGG
						01SD0802YD	0.500	1.2	<JS12	1.2	UGG
			CHROMIUM	01-SD-03	08/06/1991	01SD0301Y	0.500	140.0	=JS12	1.04	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	13.4	=JS12	1.04	UGG
						01SD0802YD	0.500	18.1	=JS12	1.04	UGG
			COPPER	01-SD-03	08/06/1991	01SD0301Y	0.500	39.8	=JS12	2.84	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	10.1	=JS12	2.84	UGG
						01SD0802YD	0.500	16.9	=JS12	2.84	UGG
			LEAD	01-SD-03	08/06/1991	01SD0301Y	0.500	400.0	=JD21	0.467	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				01-SD-08	08/07/1991	01SD0801Y	0.500	24.0	=JD21	0.467	UGG
						01SD0802YD	0.500	19.0	=JD21	0.467	UGG
			MERCURY	01-SD-03	08/06/1991	01SD0301Y	0.500	0.107	=Y9	0.05	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.05	<Y9	0.05	UGG
						01SD0802YD	0.500	0.05	<Y9	0.05	UGG
			NICKEL	01-SD-03	08/06/1991	01SD0301Y	0.500	22.5	=JS12	2.74	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	13.6	=JS12	2.74	UGG
						01SD0802YD	0.500	17.2	=JS12	2.74	UGG
			SELENIUM	01-SD-03	08/06/1991	01SD0301Y	0.500	0.449	<JD20	0.449	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.449	<JD20	0.449	UGG
						01SD0802YD	0.500	0.449	<JD20	0.449	UGG
			SILVER	01-SD-03	08/06/1991	01SD0301Y	0.500	0.803	<JS12	0.803	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.803	<JS12	0.803	UGG
						01SD0802YD	0.500	0.803	<JS12	0.803	UGG
			THALLIUM	01-SD-03	08/06/1991	01SD0301Y	0.500	34.3	<JS12	34.3	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	34.3	<JS12	34.3	UGG
						01SD0802YD	0.500	34.3	<JS12	34.3	UGG
			ZINC	01-SD-03	08/06/1991	01SD0301Y	0.500	359.0	=JS12	2.34	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	29.2	=JS12	2.34	UGG
						01SD0802YD	0.500	55.5	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	01-SD-03	08/06/1991	01SD0301N	0.500	0.068	<LM25	0.068	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	0.068	<LM25	0.068	UGG
						01SD0802ND	0.500	0.068	<LM25	0.068	UGG
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	01-SD-03	08/06/1991	01SD0301N	0.500	0.1	<LM25	0.1	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	0.1	<LM25	0.1	UGG
						01SD0802ND	0.500	0.1	<LM25	0.1	UGG
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	01-SD-03	08/06/1991	01SD0301N	0.500	0.064	<LM25	0.064	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	0.064	<LM25	0.064	UGG
						01SD0802ND	0.500	0.064	<LM25	0.064	UGG
			ALDRIN	01-SD-03	08/06/1991	01SD0301N	0.500	1.3	<LM25	1.3	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	1.3	<LM25	1.3	UGG
						01SD0802ND	0.500	1.3	<LM25	1.3	UGG
			ALPHA-BENZENEHEXACHLORIDE	01-SD-03	08/06/1991	01SD0301N	0.500	1.3	<LM25	1.3	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	1.3	<LM25	1.3	UGG
						01SD0802ND	0.500	1.3	<LM25	1.3	UGG
			ALPHA-ENDOSULFAN/ENDOSULFAN I	01-SD-03	08/06/1991	01SD0301N	0.500	0.4	<LM25	0.4	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	0.4	<LM25	0.4	UGG
						01SD0802ND	0.500	0.4	<LM25	0.4	UGG
			BETA-BENZENEHEXACHLORIDE	01-SD-03	08/06/1991	01SD0301N	0.500	1.3	<LM25	1.3	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	1.3	<LM25	1.3	UGG
						01SD0802ND	0.500	1.3	<LM25	1.3	UGG
			BETA-ENDOSULFAN/ENDOSULFAN II	01-SD-03	08/06/1991	01SD0301N	0.500	2.4	<LM25	2.4	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	2.4	<LM25	2.4	UGG
						01SD0802ND	0.500	2.4	<LM25	2.4	UGG
			CHLORDANE	01-SD-03	08/06/1991	01SD0301N	0.500	0.68	<LM25	0.68	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	0.68	<LM25	0.68	UGG
						01SD0802ND	0.500	0.68	<LM25	0.68	UGG
			DELTA-BENZENEHEXACHLORIDE	01-SD-03	08/06/1991	01SD0301N	0.500	0.21	<LM25	0.21	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	0.21	<LM25	0.21	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						01SD0802ND	0.500	0.21	<LM25	0.21	UGG
			DIELDRIN	01-SD-03	08/06/1991	01SD0301N	0.500	0.079	<LM25	0.079	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	0.079	<LM25	0.079	UGG
						01SD0802ND	0.500	0.079	<LM25	0.079	UGG
			ENDRIN	01-SD-03	08/06/1991	01SD0301N	0.500	1.3	<LM25	1.3	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	1.3	<LM25	1.3	UGG
						01SD0802ND	0.500	1.3	<LM25	1.3	UGG
			HEPTACHLOR	01-SD-03	08/06/1991	01SD0301N	0.500	0.24	<LM25	0.24	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	0.24	<LM25	0.24	UGG
						01SD0802ND	0.500	0.24	<LM25	0.24	UGG
			HEPTACHLOR EPOXIDE	01-SD-03	08/06/1991	01SD0301N	0.500	0.48	<LM25	0.48	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	0.48	<LM25	0.48	UGG
						01SD0802ND	0.500	0.48	<LM25	0.48	UGG
			ISODRIN	01-SD-03	08/06/1991	01SD0301N	0.500	0.48	<LM25	0.48	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	0.48	<LM25	0.48	UGG
						01SD0802ND	0.500	0.48	<LM25	0.48	UGG
			LINDANE	01-SD-03	08/06/1991	01SD0301N	0.500	0.1	<LM25	0.1	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	0.1	<LM25	0.1	UGG
						01SD0802ND	0.500	0.1	<LM25	0.1	UGG
			METHOXYCHLOR	01-SD-03	08/06/1991	01SD0301N	0.500	0.26	<LM25	0.26	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	0.26	<LM25	0.26	UGG
						01SD0802ND	0.500	0.26	<LM25	0.26	UGG
			PCB 1016	01-SD-03	08/06/1991	01SD0301N	0.500	0.32	<LM25	0.32	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	0.32	<LM25	0.32	UGG
						01SD0802ND	0.500	0.32	<LM25	0.32	UGG
			PCB 1221	01-SD-03	08/06/1991	01SD0301NR	0.500	1.9	*LM25	1.9	UGG
				01-SD-08	08/07/1991	01SD0801NR	0.500	1.9	*LM25	1.9	UGG
						01SD0802NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1232	01-SD-03	08/06/1991	01SD0301NR	0.500	1.9	*LM25	1.9	UGG
				01-SD-08	08/07/1991	01SD0801NR	0.500	1.9	*LM25	1.9	UGG
						01SD0802NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1242	01-SD-03	08/06/1991	01SD0301NR	0.500	1.9	*LM25	1.9	UGG
				01-SD-08	08/07/1991	01SD0801NR	0.500	1.9	*LM25	1.9	UGG
						01SD0802NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1248	01-SD-03	08/06/1991	01SD0301NR	0.500	1.9	*LM25	1.9	UGG
				01-SD-08	08/07/1991	01SD0801NR	0.500	1.9	*LM25	1.9	UGG
						01SD0802NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1254	01-SD-03	08/06/1991	01SD0301NR	0.500	3.8	*LM25	3.8	UGG
				01-SD-08	08/07/1991	01SD0801NR	0.500	3.8	*LM25	3.8	UGG
						01SD0802NR	0.500	3.8	*LM25	3.8	UGG
			PCB 1260	01-SD-03	08/06/1991	01SD0301N	0.500	0.79	<LM25	0.79	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	0.79	<LM25	0.79	UGG
						01SD0802ND	0.500	0.79	<LM25	0.79	UGG
			PCB 1262	01-SD-03	08/06/1991	01SD0301Y	0.500	6.3	<LM25	0.3	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	6.3	<LM25	0.3	UGG
						01SD0802YD	0.500	6.3	<LM25	0.3	UGG
			TOXAPHENE	01-SD-03	08/06/1991	01SD0301NR	0.500	12.0	*LM25	12.0	UGG
				01-SD-08	08/07/1991	01SD0801NR	0.500	12.0	*LM25	12.0	UGG
						01SD0802NR	0.500	12.0	*LM25	12.0	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
		RADIONUCLIDES	ACTINIUM 228	01-SD-03	08/06/1991	01SD0301Y	0.500	3.4	=99	0.0	PCG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.8	=99	0.0	PCG
			ALPHA GROSS	01-SD-03	08/06/1991	01SD0301Y	0.500	2.1	=00	0.0	PCG
				01-SD-08	08/07/1991	01SD0801Y	0.500	2.7	=00	0.0	PCG
						01SD0802YD	0.500	2.2	=00	0.0	PCG
			BISMUTH 214	01-SD-03	08/06/1991	01SD0301Y	0.500	0.26	=99	0.0	PCG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.42	=99	0.0	PCG
						01SD0802YD	0.500	0.44	=99	0.0	PCG
			GROSS BETA	01-SD-03	08/06/1991	01SD0301Y	0.500	1.9	=00	0.0	PCG
				01-SD-08	08/07/1991	01SD0801Y	0.500	4.7	=00	0.0	PCG
						01SD0802YD	0.500	4.7	=00	0.0	PCG
			LEAD 212	01-SD-03	08/06/1991	01SD0301Y	0.500	0.7	=99	0.0	PCG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.37	=99	0.0	PCG
						01SD0802YD	0.500	0.47	=99	0.0	PCG
			LEAD 214	01-SD-03	08/06/1991	01SD0301Y	0.500	0.44	=99	0.0	PCG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.49	=99	0.0	PCG
						01SD0802YD	0.500	0.55	=99	0.0	PCG
			RADIUM 226	01-SD-03	08/06/1991	01SD0301Y	0.500	0.42	=99	0.0	PCG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.38	=99	0.0	PCG
						01SD0802YD	0.500	0.41	=99	0.0	PCG
			THALLIUM 208	01-SD-03	08/06/1991	01SD0301Y	0.500	0.8	=99	0.0	PCG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.3	=99	0.0	PCG
						01SD0802YD	0.500	0.4	=99	0.0	PCG
		SEMIVOLATILES	1,2,3-TRICHLOROBENZENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.032	<LM25	0.032	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.032	<LM25	0.032	UGG
						01SD0802YD	0.500	0.032	<LM25	0.032	UGG
			1,2,4-TRICHLOROBENZENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.22	<LM25	0.22	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.22	<LM25	0.22	UGG
						01SD0802YD	0.500	0.22	<LM25	0.22	UGG
			1,2-DICHLOROBENZENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.042	<LM25	0.042	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.042	<LM25	0.042	UGG
						01SD0802YD	0.500	0.042	<LM25	0.042	UGG
			1,2-DIPHENYLHYDRAZINE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.52	<LM25	0.52	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.52	<LM25	0.52	UGG
						01SD0802YD	0.500	0.52	<LM25	0.52	UGG
			1,4-DICHLOROBENZENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.034	<LM25	0.034	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.034	<LM25	0.034	UGG
						01SD0802YD	0.500	0.034	<LM25	0.034	UGG
			1,4-OXATHIANE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.075	<LM25	0.075	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.075	<LM25	0.075	UGG
						01SD0802YD	0.500	0.075	<LM25	0.075	UGG
			2,3,6-TCP	01-SD-03	08/06/1991	01SD0301Y	0.500	0.62	<LM25	0.62	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.62	<LM25	0.62	UGG
						01SD0802YD	0.500	0.62	<LM25	0.62	UGG
			2,4,5-TRICHLOROPHENOL	01-SD-03	08/06/1991	01SD0301Y	0.500	0.49	<LM25	0.49	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.49	<LM25	0.49	UGG
						01SD0802YD	0.500	0.49	<LM25	0.49	UGG
			2,4,6-TRICHLOROPHENOL	01-SD-03	08/06/1991	01SD0301Y	0.500	0.061	<LM25	0.061	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.061	<LM25	0.061	UGG

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						01SD0802YD	0.500	0.061	<LM25	0.061	UGG
			2,4-DICHLOROPHENOL	01-SD-03	08/06/1991	01SD0301Y	0.500	0.065	<LM25	0.065	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.065	<LM25	0.065	UGG
						01SD0802YD	0.500	0.065	<LM25	0.065	UGG
			2,4-DIMETHYLPHENOL	01-SD-03	08/06/1991	01SD0301Y	0.500	3.0	<LM25	3.0	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	3.0	<LM25	3.0	UGG
						01SD0802YD	0.500	3.0	<LM25	3.0	UGG
			2,4-DINITROPHENOL	01-SD-03	08/06/1991	01SD0301Y	0.500	4.7	<LM25	4.7	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	4.7	<LM25	4.7	UGG
						01SD0802YD	0.500	4.7	<LM25	4.7	UGG
			2,6-DINITROANILINE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.57	<LM25	0.57	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.57	<LM25	0.57	UGG
						01SD0802YD	0.500	0.57	<LM25	0.57	UGG
			2-CHLORONAPHTHALENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.24	<LM25	0.24	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.24	<LM25	0.24	UGG
						01SD0802YD	0.500	0.24	<LM25	0.24	UGG
			2-CHLOROPHENOL	01-SD-03	08/06/1991	01SD0301Y	0.500	0.055	<LM25	0.055	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.055	<LM25	0.055	UGG
						01SD0802YD	0.500	0.055	<LM25	0.055	UGG
			2-METHYL-4,6-DINITROPHENOL/4,6	01-SD-03	08/06/1991	01SD0301Y	0.500	0.8	<LM25	0.8	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.8	<LM25	0.8	UGG
						01SD0802YD	0.500	0.8	<LM25	0.8	UGG
			2-METHYLNAPHTHALENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.032	<LM25	0.032	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.032	<LM25	0.032	UGG
						01SD0802YD	0.500	0.032	<LM25	0.032	UGG
			2-METHYLPHENOL/2-CRESOL	01-SD-03	08/06/1991	01SD0301Y	0.500	0.098	<LM25	0.098	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.098	<LM25	0.098	UGG
						01SD0802YD	0.500	0.098	<LM25	0.098	UGG
			2-NITROANILINE	01-SD-03	08/06/1991	01SD0301NR	0.500	3.1	*LM25	3.1	UGG
				01-SD-08	08/07/1991	01SD0801NR	0.500	3.1	*LM25	3.1	UGG
						01SD0802NR	0.500	3.1	*LM25	3.1	UGG
			2-NITROPHENOL	01-SD-03	08/06/1991	01SD0301Y	0.500	1.1	<LM25	1.1	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	1.1	<LM25	1.1	UGG
						01SD0802YD	0.500	1.1	<LM25	1.1	UGG
			3,3'-DICHLOROBENZIDINE	01-SD-03	08/06/1991	01SD0301Y	0.500	1.6	<LM25	1.6	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	1.6	<LM25	1.6	UGG
						01SD0802YD	0.500	1.6	<LM25	1.6	UGG
			3,5-DINITROANILINE	01-SD-03	08/06/1991	01SD0301Y	0.500	1.6	<LM25	1.6	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	1.6	<LM25	1.6	UGG
						01SD0802YD	0.500	1.6	<LM25	1.6	UGG
			3-METHYL-4-CHLOROPHENOL/4-CHLO	01-SD-03	08/06/1991	01SD0301Y	0.500	0.93	<LM25	0.93	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.93	<LM25	0.93	UGG
						01SD0802YD	0.500	0.93	<LM25	0.93	UGG
			3-NITROANILINE	01-SD-03	08/06/1991	01SD0301Y	0.500	3.0	<LM25	3.0	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	3.0	<LM25	3.0	UGG
						01SD0802YD	0.500	3.0	<LM25	3.0	UGG
			3-NITROTOLUENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.34	<LM25	0.34	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.34	<LM25	0.34	UGG
						01SD0802YD	0.500	0.34	<LM25	0.34	UGG

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			4-BROMOPHENYLPHENYL ETHER	01-SD-03	08/06/1991	01SD0301Y	0.500	0.041	<LM25	0.041	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.041	<LM25	0.041	UGG
						01SD0802YD	0.500	0.041	<LM25	0.041	UGG
			4-CHLOROANILINE	01-SD-03	08/06/1991	01SD0301NR	0.500	0.63	*LM25	0.63	UGG
				01-SD-08	08/07/1991	01SD0801NR	0.500	0.63	*LM25	0.63	UGG
						01SD0802NR	0.500	0.63	*LM25	0.63	UGG
			4-CHLOROPHENYLPHENYL ETHER	01-SD-03	08/06/1991	01SD0301Y	0.500	0.17	<LM25	0.17	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.17	<LM25	0.17	UGG
						01SD0802YD	0.500	0.17	<LM25	0.17	UGG
			4-METHYLPHENOL/4-CRESOL	01-SD-03	08/06/1991	01SD0301Y	0.500	0.24	<LM25	0.24	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.24	<LM25	0.24	UGG
						01SD0802YD	0.500	0.24	<LM25	0.24	UGG
			4-NITROANILINE	01-SD-03	08/06/1991	01SD0301NR	0.500	3.1	*LM25	3.1	UGG
				01-SD-08	08/07/1991	01SD0801NR	0.500	3.1	*LM25	3.1	UGG
						01SD0802NR	0.500	3.1	*LM25	3.1	UGG
			4-NITROPHENOL	01-SD-03	08/06/1991	01SD0301Y	0.500	3.3	<LM25	3.3	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	3.3	<LM25	3.3	UGG
						01SD0802YD	0.500	3.3	<LM25	3.3	UGG
			ACENAPHTHENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.041	<LM25	0.041	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.041	<LM25	0.041	UGG
						01SD0802YD	0.500	0.041	<LM25	0.041	UGG
			ACENAPHTHYLENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.033	<LM25	0.033	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.033	<LM25	0.033	UGG
						01SD0802YD	0.500	0.033	<LM25	0.033	UGG
			ANTHRACENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.71	<LM25	0.71	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.71	<LM25	0.71	UGG
						01SD0802YD	0.500	0.71	<LM25	0.71	UGG
			ATRAZINE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.065	<LM25	0.065	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.065	<LM25	0.065	UGG
						01SD0802YD	0.500	0.065	<LM25	0.065	UGG
			BENZO(A)ANTHRACENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.041	<LM25	0.48	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.041	<LM25	0.48	UGG
						01SD0802YD	0.500	0.041	<LM25	0.48	UGG
			BENZO(A)PYRENE	01-SD-03	08/06/1991	01SD0301Y	0.500	1.2	<LM25	1.2	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	1.2	<LM25	1.2	UGG
						01SD0802YD	0.500	1.2	<LM25	1.2	UGG
			BENZO(B)FLUORANTHENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.31	<LM25	0.31	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.31	<LM25	0.31	UGG
						01SD0802YD	0.500	0.31	<LM25	0.31	UGG
			BENZO(G,H,I)PERYLENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.18	<LM25	0.18	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.18	<LM25	0.18	UGG
						01SD0802YD	0.500	0.18	<LM25	0.18	UGG
			BENZO(K)FLUORANTHENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.13	<LM25	0.13	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.13	<LM25	0.13	UGG
						01SD0802YD	0.500	0.13	<LM25	0.13	UGG
			BENZOIC ACID	01-SD-03	08/06/1991	01SD0301NR	0.500	3.1	*LM25	3.1	UGG
				01-SD-08	08/07/1991	01SD0801NR	0.500	3.1	*LM25	3.1	UGG
						01SD0802NR	0.500	3.1	*LM25	3.1	UGG
			BENZYL ALCOHOL	01-SD-03	08/06/1991	01SD0301Y	0.500	0.032	<LM25	0.032	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.032	<LM25	0.032	UGG
						01SD0802YD	0.500	0.032	<LM25	0.032	UGG
			BIS (2-CHLOROETHOXY) METHANE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.19	<LM25	0.19	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.19	<LM25	0.19	UGG
						01SD0802YD	0.500	0.19	<LM25	0.19	UGG
			BIS (2-CHLOROETHYL) ETHER	01-SD-03	08/06/1991	01SD0301Y	0.500	0.36	<LM25	0.36	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.36	<LM25	0.36	UGG
						01SD0802YD	0.500	0.36	<LM25	0.36	UGG
			BIS (2-CHLOROISOPROPYL) ETHER	01-SD-03	08/06/1991	01SD0301Y	0.500	0.44	<LM25	0.44	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.44	<LM25	0.44	UGG
						01SD0802YD	0.500	0.44	<LM25	0.44	UGG
			BIS (2-ETHYLHEXYL) PHTHALATE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.48	<LM25	0.48	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.48	<LM25	0.48	UGG
						01SD0802YD	0.500	0.48	<LM25	0.48	UGG
			BUTYLBENZYL PHTHALATE	01-SD-03	08/06/1991	01SD0301Y	0.500	1.8	<LM25	1.8	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	1.8	<LM25	1.8	UGG
						01SD0802YD	0.500	1.8	<LM25	1.8	UGG
			CHRYSENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.032	<LM25	0.032	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.032	<LM25	0.032	UGG
						01SD0802YD	0.500	0.032	<LM25	0.032	UGG
			DI-N-BUTYL PHTHALATE	01-SD-03	08/06/1991	01SD0301Y	0.500	1.3	<LM25	1.3	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	1.3	<LM25	1.3	UGG
						01SD0802YD	0.500	1.3	<LM25	1.3	UGG
			DI-N-OCTYL PHTHALATE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.23	<LM25	0.23	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.23	<LM25	0.23	UGG
						01SD0802YD	0.500	0.23	<LM25	0.23	UGG
			DIBENZ(A,H)ANTHRACENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.31	<LM25	0.31	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.31	<LM25	0.31	UGG
						01SD0802YD	0.500	0.31	<LM25	0.31	UGG
			DIBENZOFURAN	01-SD-03	08/06/1991	01SD0301Y	0.500	0.038	<LM25	0.038	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.038	<LM25	0.038	UGG
						01SD0802YD	0.500	0.038	<LM25	0.038	UGG
			DIBROMOCHLOROPROPANE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.071	<LM25	0.071	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.071	<LM25	0.071	UGG
						01SD0802YD	0.500	0.071	<LM25	0.071	UGG
			DICYCLOPENTADIENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.57	<LM25	0.57	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.57	<LM25	0.57	UGG
						01SD0802YD	0.500	0.57	<LM25	0.57	UGG
			DIETHYL PHTHALATE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.24	<LM25	0.24	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.24	<LM25	0.24	UGG
						01SD0802YD	0.500	0.24	<LM25	0.24	UGG
			DIMETHYL PHTHALATE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.063	<LM25	0.063	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.063	<LM25	0.063	UGG
						01SD0802YD	0.500	0.063	<LM25	0.063	UGG
			DITHIANE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.065	<LM25	0.065	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.065	<LM25	0.065	UGG
						01SD0802YD	0.500	0.065	<LM25	0.065	UGG
			ENDOSULFAN SULFATE	01-SD-03	08/06/1991	01SD0301Y	0.500	1.2	<LM25	1.2	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	1.2	<LM25	1.2	UGG

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						01SD0802YD	0.500	1.2	<LM25	1.2	UGG
			ENDRIN ALDEHYDE	01-SD-03	08/06/1991	01SD0301Y	0.500	1.8	<LM25	1.8	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	1.8	<LM25	1.8	UGG
						01SD0802YD	0.500	1.8	<LM25	1.8	UGG
			ENDRIN KETONE	01-SD-03	08/06/1991	01SD0301NR	0.500	0.28	*LM25	0.28	UGG
				01-SD-08	08/07/1991	01SD0801NR	0.500	0.28	*LM25	0.28	UGG
						01SD0802NR	0.500	0.28	*LM25	0.28	UGG
			FLUORANTHENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.032	<LM25	0.032	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.032	<LM25	0.032	UGG
						01SD0802YD	0.500	0.032	<LM25	0.032	UGG
			FLUORENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.065	<LM25	0.065	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.065	<LM25	0.065	UGG
						01SD0802YD	0.500	0.065	<LM25	0.065	UGG
			HEXACHLOROBENZENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.08	<LM25	0.08	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.08	<LM25	0.08	UGG
						01SD0802YD	0.500	0.08	<LM25	0.08	UGG
			HEXACHLOROBUTADIENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.97	<LM25	0.97	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.97	<LM25	0.97	UGG
						01SD0802YD	0.500	0.97	<LM25	0.97	UGG
			HEXACHLOROCYCLOPENTADIENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.52	<LM25	0.52	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.52	<LM25	0.52	UGG
						01SD0802YD	0.500	0.52	<LM25	0.52	UGG
			HEXACHLOROETHANE	01-SD-03	08/06/1991	01SD0301Y	0.500	1.8	<LM25	1.8	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	1.8	<LM25	1.8	UGG
						01SD0802YD	0.500	1.8	<LM25	1.8	UGG
			INDENO(1,2,3-C,D)PYRENE	01-SD-03	08/06/1991	01SD0301Y	0.500	2.4	<LM25	2.4	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	2.4	<LM25	2.4	UGG
						01SD0802YD	0.500	2.4	<LM25	2.4	UGG
			ISOPHORONE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.39	<LM25	0.39	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.39	<LM25	0.39	UGG
						01SD0802YD	0.500	0.39	<LM25	0.39	UGG
			MALATHION	01-SD-03	08/06/1991	01SD0301Y	0.500	0.18	<LM25	0.18	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.18	<LM25	0.18	UGG
						01SD0802YD	0.500	0.18	<LM25	0.18	UGG
			MIREX	01-SD-03	08/06/1991	01SD0301Y	0.500	0.14	<LM25	0.14	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.14	<LM25	0.14	UGG
						01SD0802YD	0.500	0.14	<LM25	0.14	UGG
			N-NITROSODI-N-PROPYLAMINE	01-SD-03	08/06/1991	01SD0301Y	0.500	1.1	<LM25	1.1	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	1.1	<LM25	1.1	UGG
						01SD0802YD	0.500	1.1	<LM25	1.1	UGG
			N-NITROSODIMETHYLAMINE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.46	<LM25	0.46	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.46	<LM25	0.46	UGG
						01SD0802YD	0.500	0.46	<LM25	0.46	UGG
			N-NITROSODIPHENYLAMINE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.29	<LM25	0.29	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.29	<LM25	0.29	UGG
						01SD0802YD	0.500	0.29	<LM25	0.29	UGG
			NAPHTHALENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.74	<LM25	0.74	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.74	<LM25	0.74	UGG
						01SD0802YD	0.500	0.74	<LM25	0.74	UGG

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			P-CHLOROPHENYLMETHYL SULFIDE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.097	<LM25	0.097	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.097	<LM25	0.097	UGG
						01SD0802YD	0.500	0.097	<LM25	0.097	UGG
			P-CHLOROPHENYLMETHYL SULFONE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.066	<LM25	0.066	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.066	<LM25	0.066	UGG
						01SD0802YD	0.500	0.066	<LM25	0.066	UGG
			P-CHLOROPHENYLMETHYL SULFOXIDE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.32	<LM25	0.32	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.32	<LM25	0.32	UGG
						01SD0802YD	0.500	0.32	<LM25	0.32	UGG
			PARATHION	01-SD-03	08/06/1991	01SD0301Y	0.500	1.7	<LM25	1.7	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	1.7	<LM25	1.7	UGG
						01SD0802YD	0.500	1.7	<LM25	1.7	UGG
			PENTACHLOROPHENOL	01-SD-03	08/06/1991	01SD0301Y	0.500	0.76	<LM25	0.76	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.76	<LM25	0.76	UGG
						01SD0802YD	0.500	0.76	<LM25	0.76	UGG
			PHENANTHRENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.032	<LM25	0.032	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.032	<LM25	0.032	UGG
						01SD0802YD	0.500	0.032	<LM25	0.032	UGG
			PHENOL	01-SD-03	08/06/1991	01SD0301Y	0.500	0.052	<LM25	0.052	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.052	<LM25	0.052	UGG
						01SD0802YD	0.500	0.052	<LM25	0.052	UGG
			PYRENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.083	<LM25	0.083	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.083	<LM25	0.083	UGG
						01SD0802YD	0.500	0.083	<LM25	0.083	UGG
			SUPONA/2-CHLORO-1-(2,4-DICHLOR	01-SD-03	08/06/1991	01SD0301Y	0.500	0.92	<LM25	0.92	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.92	<LM25	0.92	UGG
						01SD0802YD	0.500	0.92	<LM25	0.92	UGG
			VAPONA	01-SD-03	08/06/1991	01SD0301Y	0.500	0.068	<LM25	0.068	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.068	<LM25	0.068	UGG
						01SD0802YD	0.500	0.068	<LM25	0.068	UGG
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	01-SD-03	08/06/1991	01SD0301Y	0.500	0.5	<LM23	0.5	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.5	<LM23	0.5	UGG
						01SD0802YD	0.500	0.5	<LM23	0.5	UGG
			1,1,1-TRICHLOROETHANE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.2	<LM23	0.2	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.2	<LM23	0.2	UGG
						01SD0802YD	0.500	0.2	<LM23	0.2	UGG
			1,1,2,2-TETRACHLOROETHANE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.2	<LM23	0.2	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.2	<LM23	0.2	UGG
						01SD0802YD	0.500	0.2	<LM23	0.2	UGG
			1,1,2-TRICHLOROETHANE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.33	<LM23	0.33	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.33	<LM23	0.33	UGG
						01SD0802YD	0.500	0.33	<LM23	0.33	UGG
			1,1-DICHLOROETHANE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.49	<LM23	0.49	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.49	<LM23	0.49	UGG
						01SD0802YD	0.500	0.49	<LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	01-SD-03	08/06/1991	01SD0301Y	0.500	0.27	<LM23	0.27	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.27	<LM23	0.27	UGG
						01SD0802YD	0.500	0.27	<LM23	0.27	UGG
			1,2-DICHLOROETHANE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.32	<LM23	0.32	UGG

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				01-SD-08	08/07/1991	01SD0801Y	0.500	0.32	<LM23	0.32	UGG
						01SD0802YD	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	01-SD-03	08/06/1991	01SD0301Y	0.500	0.32	<LM23	0.32	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.32	<LM23	0.32	UGG
						01SD0802YD	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROPROPANE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.53	<LM23	0.53	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.53	<LM23	0.53	UGG
						01SD0802YD	0.500	0.53	<LM23	0.53	UGG
			1,3-DICHLOROBENZENE	01-SD-03	08/06/1991	01SD0301N	0.500	0.042	<LM25	0.042	UGG
						01SD0301Y	0.500	0.14	<LM23	0.14	UGG
				01-SD-08	08/07/1991	01SD0801N	0.500	0.042	<LM25	0.042	UGG
						01SD0801Y	0.500	0.14	<LM23	0.14	UGG
						01SD0802ND	0.500	0.042	<LM25	0.042	UGG
						01SD0802YD	0.500	0.14	<LM23	0.14	UGG
			1,3-DICLOROPROPANE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.2	<LM23	0.2	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.2	<LM23	0.2	UGG
						01SD0802YD	0.500	0.2	<LM23	0.2	UGG
			1,3-DIMETHYLBENZENE/M-XYLENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.23	<LM23	0.23	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.23	<LM23	0.23	UGG
						01SD0802YD	0.500	0.23	<LM23	0.23	UGG
			ACETIC ACID, VINYL ESTER/VINYL	01-SD-03	08/06/1991	01SD0301NR	0.500	1.0	*LM23	1.0	UGG
				01-SD-08	08/07/1991	01SD0801NR	0.500	1.0	*LM23	1.0	UGG
						01SD0802NR	0.500	1.0	*LM23	1.0	UGG
			ACETONE	01-SD-03	08/06/1991	01SD0301Y	0.500	3.3	<LM23	3.3	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	3.3	<LM23	3.3	UGG
						01SD0802YD	0.500	3.3	<LM23	3.3	UGG
			ACRYLONITRILE	01-SD-03	08/06/1991	01SD0301Y	0.500	2.0	<LM23	2.0	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	2.0	<LM23	2.0	UGG
						01SD0802YD	0.500	2.0	<LM23	2.0	UGG
			BENZENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.1	<LM23	0.1	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.1	<LM23	0.1	UGG
						01SD0802YD	0.500	0.1	<LM23	0.1	UGG
			BROMODICHLOROMETHANE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.2	<LM23	0.2	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.2	<LM23	0.2	UGG
						01SD0802YD	0.500	0.2	<LM23	0.2	UGG
			BROMOFORM	01-SD-03	08/06/1991	01SD0301Y	0.500	0.2	<LM23	0.2	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.2	<LM23	0.2	UGG
						01SD0802YD	0.500	0.2	<LM23	0.2	UGG
			BROMOMETHANE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.26	<LM23	0.26	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.26	<LM23	0.26	UGG
						01SD0802YD	0.500	0.26	<LM23	0.26	UGG
			CARBON DISULFIDE	01-SD-03	08/06/1991	01SD0301NR	0.500	0.6	*LM23	0.6	UGG
				01-SD-08	08/07/1991	01SD0801NR	0.500	0.6	*LM23	0.6	UGG
						01SD0802NR	0.500	0.6	*LM23	0.6	UGG
			CARBON TETRACHLORIDE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.31	<LM23	0.31	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.31	<LM23	0.31	UGG
						01SD0802YD	0.500	0.31	<LM23	0.31	UGG
			CHLORFORM	01-SD-03	08/06/1991	01SD0301Y	0.500	0.24	<LM23	0.24	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.24	<LM23	0.24	UGG

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						01SD0802YD	0.500	0.24	<LM23	0.24	UGG
			CHLOROBENZENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.1	<LM23	0.1	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.1	<LM23	0.1	UGG
						01SD0802YD	0.500	0.1	<LM23	0.1	UGG
			CHLOROETHANE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.64	<LM23	0.64	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.64	<LM23	0.64	UGG
						01SD0802YD	0.500	0.64	<LM23	0.64	UGG
			CHLOROETHANE/VINYL CHLORIDE	01-SD-03	08/06/1991	01SD0301Y	0.500	1.8	<LM23	1.8	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	1.8	<LM23	1.8	UGG
						01SD0802YD	0.500	1.8	<LM23	1.8	UGG
			CHLOROMETHANE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.96	<LM23	0.96	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.96	<LM23	0.96	UGG
						01SD0802YD	0.500	0.96	<LM23	0.96	UGG
			CIS-1,3-DICHLOROPROPYLENE/CIS-	01-SD-03	08/06/1991	01SD0301NR	0.500	0.6	*LM23	0.6	UGG
				01-SD-08	08/07/1991	01SD0801NR	0.500	0.6	*LM23	0.6	UGG
						01SD0802NR	0.500	0.6	*LM23	0.6	UGG
			DIBROMOCHLOROMETHANE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.25	<LM23	0.25	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.25	<LM23	0.25	UGG
						01SD0802YD	0.500	0.25	<LM23	0.25	UGG
			DICHLOROBENZENE - NONSPECIFIC	01-SD-03	08/06/1991	01SD0301Y	0.500	0.2	<LM23	0.2	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.2	<LM23	0.2	UGG
						01SD0802YD	0.500	0.2	<LM23	0.2	UGG
			ETHYLBENZENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.19	<LM23	0.19	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.19	<LM23	0.19	UGG
						01SD0802YD	0.500	0.19	<LM23	0.19	UGG
			METHYL-N-BUTYL KETONE/2-HEXANO	01-SD-03	08/06/1991	01SD0301NR	0.500	1.0	*LM23	1.0	UGG
				01-SD-08	08/07/1991	01SD0801NR	0.500	1.0	*LM23	1.0	UGG
						01SD0802NR	0.500	1.0	*LM23	1.0	UGG
			METHYLENE CHLORIDE	01-SD-03	08/06/1991	01SD0301Y	0.500	4.4	<LM23	4.4	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	4.4	<LM23	4.4	UGG
						01SD0802YD	0.500	4.4	<LM23	4.4	UGG
			METHYLETHYL PHENOL/METHYLETHYL	01-SD-03	08/06/1991	01SD0301Y	0.500	4.3	<LM23	4.3	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	4.3	<LM23	4.3	UGG
						01SD0802YD	0.500	4.3	<LM23	4.3	UGG
			METHYLISOBUTYL KETONE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.63	<LM23	0.63	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.63	<LM23	0.63	UGG
						01SD0802YD	0.500	0.63	<LM23	0.63	UGG
			STYRENE	01-SD-03	08/06/1991	01SD0301NR	0.500	0.6	*LM23	0.6	UGG
				01-SD-08	08/07/1991	01SD0801NR	0.500	0.6	*LM23	0.6	UGG
						01SD0802NR	0.500	0.6	*LM23	0.6	UGG
			TETRACHLOROETHYLENE/TETRACHLOR	01-SD-03	08/06/1991	01SD0301Y	0.500	0.16	<LM23	0.16	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.16	<LM23	0.16	UGG
						01SD0802YD	0.500	0.16	<LM23	0.16	UGG
			TOLUENE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.1	<LM23	0.1	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.1	<LM23	0.1	UGG
						01SD0802YD	0.500	0.1	<LM23	0.1	UGG
			TRANS-1,3-DICHLOROPROPENE	01-SD-03	08/06/1991	01SD0301NR	0.500	0.6	*LM23	0.6	UGG
				01-SD-08	08/07/1991	01SD0801NR	0.500	0.6	*LM23	0.6	UGG
						01SD0802NR	0.500	0.6	*LM23	0.6	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			TRICHLOROETHYLENE/TRICHLOROETH	01-SD-03	08/06/1991	01SD0301Y	0.500	0.23	<LM23	0.23	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.23	<LM23	0.23	UGG
						01SD0802YD	0.500	0.23	<LM23	0.23	UGG
			TRICHLOROFLUOROMETHANE	01-SD-03	08/06/1991	01SD0301Y	0.500	0.23	<LM23	0.23	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.23	<LM23	0.23	UGG
						01SD0802YD	0.500	0.23	<LM23	0.23	UGG
			XYLENES	01-SD-03	08/06/1991	01SD0301Y	0.500	0.78	<LM23	0.78	UGG
				01-SD-08	08/07/1991	01SD0801Y	0.500	0.78	<LM23	0.78	UGG
						01SD0802YD	0.500	0.78	<LM23	0.78	UGG
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	01-SA-02	08/07/1991	01SA0201Y	1.500	2.1	<LW02	2.09	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	2.1	<LW02	2.09	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.59	<LW02	0.59	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.59	<LW02	0.59	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.59	<LW02	0.59	UGG
			2,4,6-TNT	01-SA-02	08/07/1991	01SA0201Y	1.500	1.9	<LW02	1.92	UGG
				01-SA-05	08/07/1991	01SA0501YP	1.000	0.8	=LW02	1.92	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	01-SA-02	08/07/1991	01SA0201N	1.500	1.4	<LM25	1.4	UGG
						01SA0201Y	1.500	0.42	<LW02	0.42	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	1.4	<LM25	1.4	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	1.4	<LM25	1.4	UGG
						01SA0501Y	1.000	0.42	<LW02	0.42	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	1.4	<LM25	1.4	UGG
						01SA0601Y	1.500	0.42	<LW02	0.42	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	1.4	<LM25	1.4	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	1.4	<LM25	1.4	UGG
						01SS0101ND	0.500	1.4	<LM25	1.4	UGG
			2,6-DINITROTOLUENE	01-SA-02	08/07/1991	01SA0201N	1.500	0.32	<LM25	0.32	UGG
						01SA0201Y	1.500	0.4	<LW02	0.4	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	0.32	<LM25	0.32	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	0.32	<LM25	0.32	UGG
						01SA0501Y	1.000	0.4	<LW02	0.4	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.32	<LM25	0.32	UGG
						01SA0601Y	1.500	0.4	<LW02	0.4	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	0.32	<LM25	0.32	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.32	<LM25	0.32	UGG
						01SS0101ND	0.500	0.32	<LM25	0.32	UGG
			HMX	01-SA-02	08/07/1991	01SA0201Y	1.500	1.3	<LW02	1.27	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	1.3	<LW02	1.27	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	1.3	<LW02	1.27	UGG
			NITROBENZENE	01-SA-02	08/07/1991	01SA0201N	1.500	1.8	<LM25	1.8	UGG
						01SA0201Y	1.500	0.42	<LW02	0.42	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	1.8	<LM25	1.8	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	1.8	<LM25	1.8	UGG
						01SA0501Y	1.000	0.42	<LW02	0.42	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	1.8	<LM25	1.8	UGG
						01SA0601Y	1.500	0.42	<LW02	0.42	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	1.8	<LM25	1.8	UGG

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				01-SS-01	08/07/1991	01SS0101N	0.500	1.8	<LM25	1.8	UGG
						01SS0101ND	0.500	1.8	<LM25	1.8	UGG
			RDX	01-SA-02	08/07/1991	01SA0201Y	1.500	0.98	<LW02	0.98	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.98	<LW02	0.98	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.98	<LW02	0.98	UGG
			TETRYL	01-SA-02	08/07/1991	01SA0201Y	1.500	0.25	<LW02	0.25	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.25	<LW02	0.25	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	01-SA-02	08/07/1991	01SA0201Y	1.500	19.6	<JS12	19.6	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	19.6	<JS12	19.6	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	19.6	<JS12	19.6	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	19.6	<JS12	19.6	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	01-SA-02	08/07/1991	01SA0201Y	1.500	7.06	=B9	2.5	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	13.6	=B9	2.5	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	8.57	=B9	2.5	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	8.88	=B9	2.5	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	8.4	=B9	2.5	UGG
			BARIUM	01-SA-02	08/07/1991	01SA0201Y	1.500	266.0	=JS12	3.29	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	186.0	=JS12	3.29	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	12,000.0	=JS12	3.29	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	198.0	=JS12	3.29	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	212.0	=JS12	3.29	UGG
			BERYLLIUM	01-SA-02	08/07/1991	01SA0201Y	1.500	1.1	=JS12	0.427	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.951	=JS12	0.427	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.784	=JS12	0.427	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	1.1	=JS12	0.427	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	1.12	=JS12	0.427	UGG
			CADMIUM	01-SA-02	08/07/1991	01SA0201Y	1.500	1.2	<JS12	1.2	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.2	<JS12	1.2	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	3.26	=JS12	1.2	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	1.2	<JS12	1.2	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	1.65	=JS12	1.2	UGG
			CHROMIUM	01-SA-02	08/07/1991	01SA0201Y	1.500	38.7	=JS12	1.04	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	30.1	=JS12	1.04	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	111.0	=JS12	1.04	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	28.5	=JS12	1.04	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	37.6	=JS12	1.04	UGG
			COPPER	01-SA-02	08/07/1991	01SA0201Y	1.500	19.8	=JS12	2.84	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	16.9	=JS12	2.84	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	74.0	=JS12	2.84	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	36.8	=JS12	2.84	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	23.2	=JS12	2.84	UGG
			LEAD	01-SA-02	08/07/1991	01SA0201Y	1.500	17.0	=JD21	0.467	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	43.0	=JD21	0.467	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	310.0	=JD21	0.467	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	20.0	=JD21	0.467	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	21.0	=JD21	0.467	UGG
			MERCURY	01-SA-02	08/07/1991	01SA0201Y	1.500	0.05	<Y9	0.05	UGG

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				01-SA-04	08/07/1991	01SA0401Y	1.000	0.05	<Y9	0.05	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.111	=Y9	0.05	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.05	<Y9	0.05	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.05	<Y9	0.05	UGG
			NICKEL	01-SA-02	08/07/1991	01SA0201Y	1.500	20.4	=JS12	2.74	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	18.8	=JS12	2.74	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	62.9	=JS12	2.74	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	19.5	=JS12	2.74	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	23.0	=JS12	2.74	UGG
			SELENIUM	01-SA-02	08/07/1991	01SA0201Y	1.500	0.449	<JD20	0.449	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.449	<JD20	0.449	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.449	<JD20	0.449	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.449	<JD20	0.449	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.449	<JD20	0.449	UGG
			SILVER	01-SA-02	08/07/1991	01SA0201Y	1.500	0.803	<JS12	0.803	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.803	<JS12	0.803	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.803	<JS12	0.803	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.803	<JS12	0.803	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.803	<JS12	0.803	UGG
			THALLIUM	01-SA-02	08/07/1991	01SA0201Y	1.500	34.3	<JS12	34.3	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	34.3	<JS12	34.3	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	34.3	<JS12	34.3	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	34.3	<JS12	34.3	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	34.3	<JS12	34.3	UGG
			ZINC	01-SA-02	08/07/1991	01SA0201Y	1.500	92.7	=JS12	2.34	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	65.2	=JS12	2.34	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	804.0	=JS12	2.34	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	135.0	=JS12	2.34	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	119.0	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	01-SA-02	08/07/1991	01SA0201N	1.500	0.068	<LM25	0.068	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	0.068	<LM25	0.068	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	0.068	<LM25	0.068	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.068	<LM25	0.068	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	0.068	<LM25	0.068	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.068	<LM25	0.068	UGG
						01SS0101ND	0.500	0.068	<LM25	0.068	UGG
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	01-SA-02	08/07/1991	01SA0201N	1.500	0.1	<LM25	0.1	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	0.1	<LM25	0.1	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	0.1	<LM25	0.1	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.1	<LM25	0.1	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	0.1	<LM25	0.1	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.1	<LM25	0.1	UGG
						01SS0101ND	0.500	0.1	<LM25	0.1	UGG
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	01-SA-02	08/07/1991	01SA0201N	1.500	0.064	<LM25	0.064	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	0.064	<LM25	0.064	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	0.064	<LM25	0.064	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.064	<LM25	0.064	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	0.064	<LM25	0.064	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.064	<LM25	0.064	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						01SS0101ND	0.500	0.064	<LM25	0.064	UGG
			ALDRIN	01-SA-02	08/07/1991	01SA0201N	1.500	1.3	<LM25	1.3	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	1.3	<LM25	1.3	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	1.3	<LM25	1.3	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	1.3	<LM25	1.3	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	1.3	<LM25	1.3	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	1.3	<LM25	1.3	UGG
						01SS0101ND	0.500	1.3	<LM25	1.3	UGG
			ALPHA-BENZENEHEXACHLORIDE	01-SA-02	08/07/1991	01SA0201N	1.500	1.3	<LM25	1.3	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	1.3	<LM25	1.3	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	1.3	<LM25	1.3	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	1.3	<LM25	1.3	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	1.3	<LM25	1.3	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	1.3	<LM25	1.3	UGG
						01SS0101ND	0.500	1.3	<LM25	1.3	UGG
			ALPHA-ENDOSULFAN/ENDOSULFAN I	01-SA-02	08/07/1991	01SA0201N	1.500	0.4	<LM25	0.4	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	0.4	<LM25	0.4	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	0.4	<LM25	0.4	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.4	<LM25	0.4	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	0.4	<LM25	0.4	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.4	<LM25	0.4	UGG
						01SS0101ND	0.500	0.4	<LM25	0.4	UGG
			BETA-BENZENEHEXACHLORIDE	01-SA-02	08/07/1991	01SA0201N	1.500	1.3	<LM25	1.3	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	1.3	<LM25	1.3	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	1.3	<LM25	1.3	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	1.3	<LM25	1.3	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	1.3	<LM25	1.3	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	1.3	<LM25	1.3	UGG
						01SS0101ND	0.500	1.3	<LM25	1.3	UGG
			BETA-ENDOSULFAN/ENDOSULFAN II	01-SA-02	08/07/1991	01SA0201N	1.500	2.4	<LM25	2.4	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	2.4	<LM25	2.4	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	2.4	<LM25	2.4	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	2.4	<LM25	2.4	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	2.4	<LM25	2.4	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	2.4	<LM25	2.4	UGG
						01SS0101ND	0.500	2.4	<LM25	2.4	UGG
			CHLORDANE	01-SA-02	08/07/1991	01SA0201N	1.500	0.68	<LM25	0.68	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	0.68	<LM25	0.68	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	0.68	<LM25	0.68	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.68	<LM25	0.68	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	0.68	<LM25	0.68	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.68	<LM25	0.68	UGG
						01SS0101ND	0.500	0.68	<LM25	0.68	UGG
			DELTA-BENZENEHEXACHLORIDE	01-SA-02	08/07/1991	01SA0201N	1.500	0.21	<LM25	0.21	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	0.21	<LM25	0.21	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	0.21	<LM25	0.21	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.21	<LM25	0.21	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	0.21	<LM25	0.21	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.21	<LM25	0.21	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						01SS0101ND	0.500	0.21	<LM25	0.21	UGG
			DIELDRIN	01-SA-02	08/07/1991	01SA0201N	1.500	0.079	<LM25	0.079	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	0.079	<LM25	0.079	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	0.079	<LM25	0.079	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.079	<LM25	0.079	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	0.079	<LM25	0.079	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.079	<LM25	0.079	UGG
						01SS0101ND	0.500	0.079	<LM25	0.079	UGG
			ENDRIN	01-SA-02	08/07/1991	01SA0201N	1.500	1.3	<LM25	1.3	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	1.3	<LM25	1.3	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	1.3	<LM25	1.3	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	1.3	<LM25	1.3	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	1.3	<LM25	1.3	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	1.3	<LM25	1.3	UGG
						01SS0101ND	0.500	1.3	<LM25	1.3	UGG
			HEPTACHLOR	01-SA-02	08/07/1991	01SA0201N	1.500	0.24	<LM25	0.24	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	0.24	<LM25	0.24	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	0.24	<LM25	0.24	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.24	<LM25	0.24	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	0.24	<LM25	0.24	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.24	<LM25	0.24	UGG
						01SS0101ND	0.500	0.24	<LM25	0.24	UGG
			HEPTACHLOR EPOXIDE	01-SA-02	08/07/1991	01SA0201N	1.500	0.48	<LM25	0.48	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	0.48	<LM25	0.48	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	0.48	<LM25	0.48	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.48	<LM25	0.48	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	0.48	<LM25	0.48	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.48	<LM25	0.48	UGG
						01SS0101ND	0.500	0.48	<LM25	0.48	UGG
			ISODRIN	01-SA-02	08/07/1991	01SA0201N	1.500	0.48	<LM25	0.48	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	0.48	<LM25	0.48	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	0.48	<LM25	0.48	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.48	<LM25	0.48	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	0.48	<LM25	0.48	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.48	<LM25	0.48	UGG
						01SS0101ND	0.500	0.48	<LM25	0.48	UGG
			LINDANE	01-SA-02	08/07/1991	01SA0201N	1.500	0.1	<LM25	0.1	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	0.1	<LM25	0.1	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	0.1	<LM25	0.1	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.1	<LM25	0.1	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	0.1	<LM25	0.1	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.1	<LM25	0.1	UGG
						01SS0101ND	0.500	0.1	<LM25	0.1	UGG
			METHOXYCHLOR	01-SA-02	08/07/1991	01SA0201N	1.500	0.26	<LM25	0.26	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	0.26	<LM25	0.26	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	0.26	<LM25	0.26	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.26	<LM25	0.26	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	0.26	<LM25	0.26	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.26	<LM25	0.26	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						01SS0101ND	0.500	0.26	<LM25	0.26	UGG
			PCB 1016	01-SA-02	08/07/1991	01SA0201N	1.500	0.32	<LM25	0.32	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	0.32	<LM25	0.32	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	0.32	<LM25	0.32	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.32	<LM25	0.32	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	0.32	<LM25	0.32	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.32	<LM25	0.32	UGG
						01SS0101ND	0.500	0.32	<LM25	0.32	UGG
			PCB 1221	01-SA-02	08/07/1991	01SA0201NR	1.500	1.9	*LM25	1.9	UGG
				01-SA-04	08/07/1991	01SA0401NR	1.000	1.9	*LM25	1.9	UGG
				01-SA-05	08/07/1991	01SA0501NR	1.000	1.9	*LM25	1.9	UGG
				01-SA-06	08/06/1991	01SA0601NR	1.500	1.9	*LM25	1.9	UGG
				01-SA-07	08/06/1991	01SA0701NR	2.000	1.9	*LM25	1.9	UGG
				01-SS-01	08/07/1991	01SS0101NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1232	01-SA-02	08/07/1991	01SA0201NR	1.500	1.9	*LM25	1.9	UGG
				01-SA-04	08/07/1991	01SA0401NR	1.000	1.9	*LM25	1.9	UGG
				01-SA-05	08/07/1991	01SA0501NR	1.000	1.9	*LM25	1.9	UGG
				01-SA-06	08/06/1991	01SA0601NR	1.500	1.9	*LM25	1.9	UGG
				01-SA-07	08/06/1991	01SA0701NR	2.000	1.9	*LM25	1.9	UGG
				01-SS-01	08/07/1991	01SS0101NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1242	01-SA-02	08/07/1991	01SA0201NR	1.500	1.9	*LM25	1.9	UGG
				01-SA-04	08/07/1991	01SA0401NR	1.000	1.9	*LM25	1.9	UGG
				01-SA-05	08/07/1991	01SA0501NR	1.000	1.9	*LM25	1.9	UGG
				01-SA-06	08/06/1991	01SA0601NR	1.500	1.9	*LM25	1.9	UGG
				01-SA-07	08/06/1991	01SA0701NR	2.000	1.9	*LM25	1.9	UGG
				01-SS-01	08/07/1991	01SS0101NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1248	01-SA-02	08/07/1991	01SA0201NR	1.500	1.9	*LM25	1.9	UGG
				01-SA-04	08/07/1991	01SA0401NR	1.000	1.9	*LM25	1.9	UGG
				01-SA-05	08/07/1991	01SA0501NR	1.000	1.9	*LM25	1.9	UGG
				01-SA-06	08/06/1991	01SA0601NR	1.500	1.9	*LM25	1.9	UGG
				01-SA-07	08/06/1991	01SA0701NR	2.000	1.9	*LM25	1.9	UGG
				01-SS-01	08/07/1991	01SS0101NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1254	01-SA-02	08/07/1991	01SA0201NR	1.500	3.8	*LM25	3.8	UGG
				01-SA-04	08/07/1991	01SA0401NR	1.000	3.8	*LM25	3.8	UGG
				01-SA-05	08/07/1991	01SA0501NR	1.000	3.8	*LM25	3.8	UGG
				01-SA-06	08/06/1991	01SA0601NR	1.500	3.8	*LM25	3.8	UGG
				01-SA-07	08/06/1991	01SA0701NR	2.000	3.8	*LM25	3.8	UGG
				01-SS-01	08/07/1991	01SS0101NR	0.500	3.8	*LM25	3.8	UGG
			PCB 1260	01-SA-02	08/07/1991	01SA0201N	1.500	0.79	<LM25	0.79	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	0.79	<LM25	0.79	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	0.79	<LM25	0.79	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.79	<LM25	0.79	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	0.79	<LM25	0.79	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.79	<LM25	0.79	UGG
						01SS0101ND	0.500	0.79	<LM25	0.79	UGG
			PCB 1262	01-SA-02	08/07/1991	01SA0201Y	1.500	6.3	<LM25	0.3	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	6.3	<LM25	0.3	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	6.3	<LM25	0.3	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	6.3	<LM25	0.3	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				01-SA-07	08/06/1991	01SA0701Y	2.000	6.3	<LM25	0.3	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	6.3	<LM25	0.3	UGG
						01SS0101YD	0.500	6.3	<LM25	0.3	UGG
			TOXAPHENE	01-SA-02	08/07/1991	01SA0201NR	1.500	12.0	*LM25	12.0	UGG
				01-SA-04	08/07/1991	01SA0401NR	1.000	12.0	*LM25	12.0	UGG
				01-SA-05	08/07/1991	01SA0501NR	1.000	12.0	*LM25	12.0	UGG
				01-SA-06	08/06/1991	01SA0601NR	1.500	12.0	*LM25	12.0	UGG
				01-SA-07	08/06/1991	01SA0701NR	2.000	12.0	*LM25	12.0	UGG
				01-SS-01	08/07/1991	01SS0101NR	0.500	12.0	*LM25	12.0	UGG
		RADIONUCLIDES	ACTINIUM 228	01-SA-02	08/07/1991	01SA0201Y	1.500	0.7	=99	0.0	PCG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.9	=99	0.0	PCG
				01-SA-07	08/06/1991	01SA0701Y	2.000	1.6	=99	0.0	PCG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.8	=99	0.0	PCG
						01SS0101Y	0.500	0.8	=99	0.0	PCG
			ALPHA GROSS	01-SA-02	08/07/1991	01SA0201Y	1.500	2.6	=00	0.0	PCG
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.8	=00	0.0	PCG
				01-SA-05	08/07/1991	01SA0501Y	1.000	2.7	=00	0.0	PCG
				01-SA-06	08/06/1991	01SA0601N	1.500	1.5	=00	0.0	PCG
				01-SA-07	08/06/1991	01SA0701Y	2.000	2.4	=00	0.0	PCG
				01-SS-01	08/07/1991	01SS0101N	0.500	3.4	=00	0.0	PCG
						01SS0101Y	0.500	3.4	=00	0.0	PCG
			BISMUTH 214	01-SA-02	08/07/1991	01SA0201Y	1.500	0.4	=99	0.0	PCG
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.43	=99	0.0	PCG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.86	=99	0.0	PCG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.99	=99	0.0	PCG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.55	=99	0.0	PCG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.67	=99	0.0	PCG
						01SS0101Y	0.500	0.67	=99	0.0	PCG
			GROSS BETA	01-SA-02	08/07/1991	01SA0201Y	1.500	3.9	=00	0.0	PCG
				01-SA-04	08/07/1991	01SA0401Y	1.000	5.3	=00	0.0	PCG
				01-SA-05	08/07/1991	01SA0501Y	1.000	3.6	=00	0.0	PCG
				01-SA-06	08/06/1991	01SA0601N	1.500	1.8	=00	0.0	PCG
				01-SA-07	08/06/1991	01SA0701Y	2.000	2.1	=00	0.0	PCG
				01-SS-01	08/07/1991	01SS0101N	0.500	2.7	=00	0.0	PCG
						01SS0101Y	0.500	2.7	=00	0.0	PCG
			LEAD 212	01-SA-02	08/07/1991	01SA0201Y	1.500	0.53	=99	0.0	PCG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.58	=99	0.0	PCG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.72	=99	0.0	PCG
				01-SA-07	08/06/1991	01SA0701Y	2.000	1.2	=99	0.0	PCG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.71	=99	0.0	PCG
						01SS0101Y	0.500	0.71	=99	0.0	PCG
			LEAD 214	01-SA-02	08/07/1991	01SA0201Y	1.500	0.45	=99	0.0	PCG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.51	=99	0.0	PCG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.39	=99	0.0	PCG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.58	=99	0.0	PCG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.62	=99	0.0	PCG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.61	=99	0.0	PCG
						01SS0101Y	0.500	0.61	=99	0.0	PCG
			RADIUM 226	01-SA-02	08/07/1991	01SA0201Y	1.500	0.44	=99	0.0	PCG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.01	=99	0.0	PCG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.56	=99	0.0	PCG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.46	=99	0.0	PCG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.55	=99	0.0	PCG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.56	=99	0.0	PCG
						01SS0101Y	0.500	0.56	=99	0.0	PCG
			THALLIUM 208	01-SA-02	08/07/1991	01SA0201Y	1.500	0.5	=99	0.0	PCG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.7	=99	0.0	PCG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.7	=99	0.0	PCG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.63	=99	0.0	PCG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.6	=99	0.0	PCG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.6	=99	0.0	PCG
						01SS0101Y	0.500	0.6	=99	0.0	PCG
		SEMIVOLATILES	1,2,3-TRICHLOROBENZENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.032	<LM25	0.032	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.032	<LM25	0.032	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.032	<LM25	0.032	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.032	<LM25	0.032	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.032	<LM25	0.032	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.032	<LM25	0.032	UGG
						01SS0101YD	0.500	0.032	<LM25	0.032	UGG
			1,2,4-TRICHLOROBENZENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.22	<LM25	0.22	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.22	<LM25	0.22	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.22	<LM25	0.22	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.22	<LM25	0.22	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.22	<LM25	0.22	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.22	<LM25	0.22	UGG
						01SS0101YD	0.500	0.22	<LM25	0.22	UGG
			1,2-DICHLOROBENZENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.042	<LM25	0.042	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.042	<LM25	0.042	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.042	<LM25	0.042	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.042	<LM25	0.042	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.042	<LM25	0.042	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.042	<LM25	0.042	UGG
						01SS0101YD	0.500	0.042	<LM25	0.042	UGG
			1,2-DIPHENYLHYDRAZINE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.52	<LM25	0.52	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.52	<LM25	0.52	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.52	<LM25	0.52	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.52	<LM25	0.52	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.52	<LM25	0.52	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.52	<LM25	0.52	UGG
						01SS0101YD	0.500	0.52	<LM25	0.52	UGG
			1,4-DICHLOROBENZENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.034	<LM25	0.034	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.034	<LM25	0.034	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.034	<LM25	0.034	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.034	<LM25	0.034	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.034	<LM25	0.034	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.034	<LM25	0.034	UGG
						01SS0101YD	0.500	0.034	<LM25	0.034	UGG
			1,4-OXATHIANE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.075	<LM25	0.075	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.075	<LM25	0.075	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.075	<LM25	0.075	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.075	<LM25	0.075	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.075	<LM25	0.075	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.075	<LM25	0.075	UGG
						01SS0101YD	0.500	0.075	<LM25	0.075	UGG
			2,3,6-TCP	01-SA-02	08/07/1991	01SA0201Y	1.500	0.62	<LM25	0.62	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.62	<LM25	0.62	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.62	<LM25	0.62	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.62	<LM25	0.62	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.62	<LM25	0.62	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.62	<LM25	0.62	UGG
						01SS0101YD	0.500	0.62	<LM25	0.62	UGG
			2,4,5-TRICHLOROPHENOL	01-SA-02	08/07/1991	01SA0201Y	1.500	0.49	<LM25	0.49	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.49	<LM25	0.49	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.49	<LM25	0.49	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.49	<LM25	0.49	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.49	<LM25	0.49	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.49	<LM25	0.49	UGG
						01SS0101YD	0.500	0.49	<LM25	0.49	UGG
			2,4,6-TRICHLOROPHENOL	01-SA-02	08/07/1991	01SA0201Y	1.500	0.061	<LM25	0.061	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.061	<LM25	0.061	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.061	<LM25	0.061	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.061	<LM25	0.061	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.061	<LM25	0.061	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.061	<LM25	0.061	UGG
						01SS0101YD	0.500	0.061	<LM25	0.061	UGG
			2,4-DICHLOROPHENOL	01-SA-02	08/07/1991	01SA0201Y	1.500	0.065	<LM25	0.065	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.065	<LM25	0.065	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.065	<LM25	0.065	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.065	<LM25	0.065	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.065	<LM25	0.065	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.065	<LM25	0.065	UGG
						01SS0101YD	0.500	0.065	<LM25	0.065	UGG
			2,4-DIMETHYLPHENOL	01-SA-02	08/07/1991	01SA0201Y	1.500	3.0	<LM25	3.0	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	3.0	<LM25	3.0	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	3.0	<LM25	3.0	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	3.0	<LM25	3.0	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	3.0	<LM25	3.0	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	3.0	<LM25	3.0	UGG
						01SS0101YD	0.500	3.0	<LM25	3.0	UGG
			2,4-DINITROPHENOL	01-SA-02	08/07/1991	01SA0201Y	1.500	4.7	<LM25	4.7	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	4.7	<LM25	4.7	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	4.7	<LM25	4.7	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	4.7	<LM25	4.7	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	4.7	<LM25	4.7	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	4.7	<LM25	4.7	UGG
						01SS0101YD	0.500	4.7	<LM25	4.7	UGG
			2,6-DINITROANILINE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.57	<LM25	0.57	UGG

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				01-SA-04	08/07/1991	01SA0401Y	1.000	0.57	<LM25	0.57	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.57	<LM25	0.57	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.57	<LM25	0.57	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.57	<LM25	0.57	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.57	<LM25	0.57	UGG
						01SS0101YD	0.500	0.57	<LM25	0.57	UGG
			2-CHLORONAPHTHALENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.24	<LM25	0.24	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.24	<LM25	0.24	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.24	<LM25	0.24	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.24	<LM25	0.24	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.24	<LM25	0.24	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.24	<LM25	0.24	UGG
						01SS0101YD	0.500	0.24	<LM25	0.24	UGG
			2-CHLOROPHENOL	01-SA-02	08/07/1991	01SA0201Y	1.500	0.055	<LM25	0.055	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.055	<LM25	0.055	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.055	<LM25	0.055	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.055	<LM25	0.055	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.055	<LM25	0.055	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.055	<LM25	0.055	UGG
						01SS0101YD	0.500	0.055	<LM25	0.055	UGG
			2-METHYL-4,6-DINITROPHENOL/4,6	01-SA-02	08/07/1991	01SA0201Y	1.500	0.8	<LM25	0.8	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.8	<LM25	0.8	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.8	<LM25	0.8	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.8	<LM25	0.8	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.8	<LM25	0.8	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.8	<LM25	0.8	UGG
						01SS0101YD	0.500	0.8	<LM25	0.8	UGG
			2-METHYLNAPHTHALENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.032	<LM25	0.032	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.032	<LM25	0.032	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.032	<LM25	0.032	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.032	<LM25	0.032	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.032	<LM25	0.032	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.032	<LM25	0.032	UGG
						01SS0101YD	0.500	0.032	<LM25	0.032	UGG
			2-METHYLPHENOL/2-CRESOL	01-SA-02	08/07/1991	01SA0201Y	1.500	0.098	<LM25	0.098	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.098	<LM25	0.098	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.098	<LM25	0.098	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.098	<LM25	0.098	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.098	<LM25	0.098	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.098	<LM25	0.098	UGG
						01SS0101YD	0.500	0.098	<LM25	0.098	UGG
			2-NITROANILINE	01-SA-02	08/07/1991	01SA0201NR	1.500	3.1	*LM25	3.1	UGG
				01-SA-04	08/07/1991	01SA0401NR	1.000	3.1	*LM25	3.1	UGG
				01-SA-05	08/07/1991	01SA0501NR	1.000	3.1	*LM25	3.1	UGG
				01-SA-06	08/06/1991	01SA0601NR	1.500	3.1	*LM25	3.1	UGG
				01-SA-07	08/06/1991	01SA0701NR	2.000	3.1	*LM25	3.1	UGG
				01-SS-01	08/07/1991	01SS0101NR	0.500	3.1	*LM25	3.1	UGG
			2-NITROPHENOL	01-SA-02	08/07/1991	01SA0201Y	1.500	1.1	<LM25	1.1	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.1	<LM25	1.1	UGG

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				01-SA-05	08/07/1991	01SA0501Y	1.000	1.1	<LM25	1.1	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	1.1	<LM25	1.1	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	1.1	<LM25	1.1	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	1.1	<LM25	1.1	UGG
						01SS0101YD	0.500	1.1	<LM25	1.1	UGG
			3,3'-DICHLOROBENZIDINE	01-SA-02	08/07/1991	01SA0201Y	1.500	1.6	<LM25	1.6	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.6	<LM25	1.6	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	1.6	<LM25	1.6	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	1.6	<LM25	1.6	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	1.6	<LM25	1.6	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	1.6	<LM25	1.6	UGG
						01SS0101YD	0.500	1.6	<LM25	1.6	UGG
			3,5-DINITROANILINE	01-SA-02	08/07/1991	01SA0201Y	1.500	1.6	<LM25	1.6	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.6	<LM25	1.6	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	1.6	<LM25	1.6	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	1.6	<LM25	1.6	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	1.6	<LM25	1.6	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	1.6	<LM25	1.6	UGG
						01SS0101YD	0.500	1.6	<LM25	1.6	UGG
			3-METHYL-4-CHLOROPHENOL/4-CHLO	01-SA-02	08/07/1991	01SA0201Y	1.500	0.93	<LM25	0.93	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.93	<LM25	0.93	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.93	<LM25	0.93	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.93	<LM25	0.93	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.93	<LM25	0.93	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.93	<LM25	0.93	UGG
						01SS0101YD	0.500	0.93	<LM25	0.93	UGG
			3-NITROANILINE	01-SA-02	08/07/1991	01SA0201Y	1.500	3.0	<LM25	3.0	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	3.0	<LM25	3.0	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	3.0	<LM25	3.0	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	3.0	<LM25	3.0	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	3.0	<LM25	3.0	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	3.0	<LM25	3.0	UGG
						01SS0101YD	0.500	3.0	<LM25	3.0	UGG
			3-NITROTOLUENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.34	<LM25	0.34	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.34	<LM25	0.34	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.34	<LM25	0.34	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.34	<LM25	0.34	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.34	<LM25	0.34	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.34	<LM25	0.34	UGG
						01SS0101YD	0.500	0.34	<LM25	0.34	UGG
			4-BROMOPHENYLPHENYL ETHER	01-SA-02	08/07/1991	01SA0201Y	1.500	0.041	<LM25	0.041	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.041	<LM25	0.041	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.041	<LM25	0.041	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.041	<LM25	0.041	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.041	<LM25	0.041	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.041	<LM25	0.041	UGG
						01SS0101YD	0.500	0.041	<LM25	0.041	UGG
			4-CHLOROANILINE	01-SA-02	08/07/1991	01SA0201NR	1.500	0.63	*LM25	0.63	UGG
				01-SA-04	08/07/1991	01SA0401NR	1.000	0.63	*LM25	0.63	UGG

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				01-SA-05	08/07/1991	01SA0501NR	1.000	0.63	*LM25	0.63	UGG
				01-SA-06	08/06/1991	01SA0601NR	1.500	0.63	*LM25	0.63	UGG
				01-SA-07	08/06/1991	01SA0701NR	2.000	0.63	*LM25	0.63	UGG
				01-SS-01	08/07/1991	01SS0101NR	0.500	0.63	*LM25	0.63	UGG
			4-CHLOROPHENYLPHENYL ETHER	01-SA-02	08/07/1991	01SA0201Y	1.500	0.17	<LM25	0.17	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.17	<LM25	0.17	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.17	<LM25	0.17	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.17	<LM25	0.17	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.17	<LM25	0.17	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.17	<LM25	0.17	UGG
						01SS0101YD	0.500	0.17	<LM25	0.17	UGG
			4-METHYLPHENOL/4-CRESOL	01-SA-02	08/07/1991	01SA0201Y	1.500	0.24	<LM25	0.24	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.24	<LM25	0.24	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.24	<LM25	0.24	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.24	<LM25	0.24	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.24	<LM25	0.24	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.24	<LM25	0.24	UGG
						01SS0101YD	0.500	0.24	<LM25	0.24	UGG
			4-NITROANILINE	01-SA-02	08/07/1991	01SA0201NR	1.500	3.1	*LM25	3.1	UGG
				01-SA-04	08/07/1991	01SA0401NR	1.000	3.1	*LM25	3.1	UGG
				01-SA-05	08/07/1991	01SA0501NR	1.000	3.1	*LM25	3.1	UGG
				01-SA-06	08/06/1991	01SA0601NR	1.500	3.1	*LM25	3.1	UGG
				01-SA-07	08/06/1991	01SA0701NR	2.000	3.1	*LM25	3.1	UGG
				01-SS-01	08/07/1991	01SS0101NR	0.500	3.1	*LM25	3.1	UGG
			4-NITROPHENOL	01-SA-02	08/07/1991	01SA0201Y	1.500	3.3	<LM25	3.3	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	3.3	<LM25	3.3	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	3.3	<LM25	3.3	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	3.3	<LM25	3.3	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	3.3	<LM25	3.3	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	3.3	<LM25	3.3	UGG
						01SS0101YD	0.500	3.3	<LM25	3.3	UGG
			ACENAPHTHENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.041	<LM25	0.041	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.041	<LM25	0.041	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.041	<LM25	0.041	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.041	<LM25	0.041	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.041	<LM25	0.041	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.041	<LM25	0.041	UGG
						01SS0101YD	0.500	0.041	<LM25	0.041	UGG
			ACENAPHTHYLENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.033	<LM25	0.033	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.033	<LM25	0.033	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.033	<LM25	0.033	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.033	<LM25	0.033	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.033	<LM25	0.033	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.033	<LM25	0.033	UGG
						01SS0101YD	0.500	0.033	<LM25	0.033	UGG
			ANTHRACENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.71	<LM25	0.71	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.71	<LM25	0.71	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.71	<LM25	0.71	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.71	<LM25	0.71	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.71	<LM25	0.71	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.71	<LM25	0.71	UGG
						01SS0101YD	0.500	0.71	<LM25	0.71	UGG
			ATRAZINE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.065	<LM25	0.065	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.065	<LM25	0.065	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.065	<LM25	0.065	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.065	<LM25	0.065	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.065	<LM25	0.065	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.065	<LM25	0.065	UGG
						01SS0101YD	0.500	0.065	<LM25	0.065	UGG
			BENZO(A)ANTHRACENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.041	<LM25	0.48	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.041	<LM25	0.48	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.041	<LM25	0.48	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.041	<LM25	0.48	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.041	<LM25	0.48	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.041	<LM25	0.48	UGG
						01SS0101YD	0.500	0.041	<LM25	0.48	UGG
			BENZO(A)PYRENE	01-SA-02	08/07/1991	01SA0201Y	1.500	1.2	<LM25	1.2	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.2	<LM25	1.2	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	1.2	<LM25	1.2	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	1.2	<LM25	1.2	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	1.2	<LM25	1.2	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	1.2	<LM25	1.2	UGG
						01SS0101YD	0.500	1.2	<LM25	1.2	UGG
			BENZO(B)FLUORANTHENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.31	<LM25	0.31	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.31	<LM25	0.31	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.31	<LM25	0.31	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.31	<LM25	0.31	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.31	<LM25	0.31	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.31	<LM25	0.31	UGG
						01SS0101YD	0.500	0.31	<LM25	0.31	UGG
			BENZO(G,H,I)PERYLENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.18	<LM25	0.18	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.18	<LM25	0.18	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.18	<LM25	0.18	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.18	<LM25	0.18	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.18	<LM25	0.18	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.18	<LM25	0.18	UGG
						01SS0101YD	0.500	0.18	<LM25	0.18	UGG
			BENZO(K)FLUORANTHENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.13	<LM25	0.13	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.13	<LM25	0.13	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.13	<LM25	0.13	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.13	<LM25	0.13	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.13	<LM25	0.13	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.13	<LM25	0.13	UGG
						01SS0101YD	0.500	0.13	<LM25	0.13	UGG
			BENZOIC ACID	01-SA-02	08/07/1991	01SA0201NR	1.500	3.1	*LM25	3.1	UGG
				01-SA-04	08/07/1991	01SA0401NR	1.000	3.1	*LM25	3.1	UGG
				01-SA-05	08/07/1991	01SA0501NR	1.000	3.1	*LM25	3.1	UGG
				01-SA-06	08/06/1991	01SA0601NR	1.500	3.1	*LM25	3.1	UGG

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				01-SA-07	08/06/1991	01SA0701NR	2.000	3.1	*LM25	3.1	UGG
				01-SS-01	08/07/1991	01SS0101NR	0.500	3.1	*LM25	3.1	UGG
			BENZYL ALCOHOL	01-SA-02	08/07/1991	01SA0201Y	1.500	0.032	<LM25	0.032	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.032	<LM25	0.032	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.032	<LM25	0.032	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.032	<LM25	0.032	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.032	<LM25	0.032	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.032	<LM25	0.032	UGG
						01SS0101YD	0.500	0.032	<LM25	0.032	UGG
			BIS (2-CHLOROETHOXY) METHANE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.19	<LM25	0.19	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.19	<LM25	0.19	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.19	<LM25	0.19	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.19	<LM25	0.19	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.19	<LM25	0.19	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.19	<LM25	0.19	UGG
						01SS0101YD	0.500	0.19	<LM25	0.19	UGG
			BIS (2-CHLOROETHYL) ETHER	01-SA-02	08/07/1991	01SA0201Y	1.500	0.36	<LM25	0.36	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.36	<LM25	0.36	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.36	<LM25	0.36	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.36	<LM25	0.36	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.36	<LM25	0.36	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.36	<LM25	0.36	UGG
						01SS0101YD	0.500	0.36	<LM25	0.36	UGG
			BIS (2-CHLOROISOPROPYL) ETHER	01-SA-02	08/07/1991	01SA0201Y	1.500	0.44	<LM25	0.44	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.44	<LM25	0.44	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.44	<LM25	0.44	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.44	<LM25	0.44	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.44	<LM25	0.44	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.44	<LM25	0.44	UGG
						01SS0101YD	0.500	0.44	<LM25	0.44	UGG
			BIS (2-ETHYLHEXYL) PHTHALATE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.48	<LM25	0.48	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.48	<LM25	0.48	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.48	<LM25	0.48	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.48	<LM25	0.48	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.48	<LM25	0.48	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.48	<LM25	0.48	UGG
						01SS0101YD	0.500	4.42	=LM25	0.48	UGG
			BUTYLBENZYL PHTHALATE	01-SA-02	08/07/1991	01SA0201Y	1.500	1.8	<LM25	1.8	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.8	<LM25	1.8	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	1.8	<LM25	1.8	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	1.8	<LM25	1.8	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	1.8	<LM25	1.8	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	1.8	<LM25	1.8	UGG
						01SS0101YD	0.500	1.8	<LM25	1.8	UGG
			CHRYSENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.032	<LM25	0.032	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.032	<LM25	0.032	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.032	<LM25	0.032	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.032	<LM25	0.032	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.032	<LM25	0.032	UGG

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				01-SS-01	08/07/1991	01SS0101Y	0.500	0.032	<LM25	0.032	UGG
						01SS0101YD	0.500	0.032	<LM25	0.032	UGG
			DI-N-BUTYL PHTHALATE	01-SA-02	08/07/1991	01SA0201Y	1.500	1.3	<LM25	1.3	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.3	<LM25	1.3	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	1.3	<LM25	1.3	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	1.3	<LM25	1.3	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	1.26	=LM25	1.3	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	1.3	<LM25	1.3	UGG
						01SS0101YD	0.500	1.3	<LM25	1.3	UGG
			DI-N-OCTYL PHTHALATE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.23	<LM25	0.23	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.23	<LM25	0.23	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.23	<LM25	0.23	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.23	<LM25	0.23	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.23	<LM25	0.23	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.23	<LM25	0.23	UGG
						01SS0101YD	0.500	0.23	<LM25	0.23	UGG
			DIBENZ(A,H)ANTHRACENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.31	<LM25	0.31	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.31	<LM25	0.31	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.31	<LM25	0.31	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.31	<LM25	0.31	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.31	<LM25	0.31	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.31	<LM25	0.31	UGG
						01SS0101YD	0.500	0.31	<LM25	0.31	UGG
			DIBENZOFURAN	01-SA-02	08/07/1991	01SA0201Y	1.500	0.038	<LM25	0.038	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.038	<LM25	0.038	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.038	<LM25	0.038	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.038	<LM25	0.038	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.038	<LM25	0.038	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.038	<LM25	0.038	UGG
						01SS0101YD	0.500	0.038	<LM25	0.038	UGG
			DIBROMOCHLOROPROPANE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.071	<LM25	0.071	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.071	<LM25	0.071	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.071	<LM25	0.071	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.071	<LM25	0.071	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.071	<LM25	0.071	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.071	<LM25	0.071	UGG
						01SS0101YD	0.500	0.071	<LM25	0.071	UGG
			DICYCLOPENTADIENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.57	<LM25	0.57	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.57	<LM25	0.57	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.57	<LM25	0.57	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.57	<LM25	0.57	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.57	<LM25	0.57	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.57	<LM25	0.57	UGG
						01SS0101YD	0.500	0.57	<LM25	0.57	UGG
			DIETHYL PHTHALATE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.24	<LM25	0.24	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.24	<LM25	0.24	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.24	<LM25	0.24	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.24	<LM25	0.24	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.24	<LM25	0.24	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.24	<LM25	0.24	UGG
						01SS0101YD	0.500	0.24	<LM25	0.24	UGG
			DIMETHYL PHTHALATE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.063	<LM25	0.063	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.063	<LM25	0.063	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.063	<LM25	0.063	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.063	<LM25	0.063	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.063	<LM25	0.063	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.063	<LM25	0.063	UGG
						01SS0101YD	0.500	0.063	<LM25	0.063	UGG
			DITHIANE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.065	<LM25	0.065	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.065	<LM25	0.065	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.065	<LM25	0.065	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.065	<LM25	0.065	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.065	<LM25	0.065	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.065	<LM25	0.065	UGG
						01SS0101YD	0.500	0.065	<LM25	0.065	UGG
			ENDOSULFAN SULFATE	01-SA-02	08/07/1991	01SA0201Y	1.500	1.2	<LM25	1.2	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.2	<LM25	1.2	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	1.2	<LM25	1.2	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	1.2	<LM25	1.2	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	1.2	<LM25	1.2	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	1.2	<LM25	1.2	UGG
						01SS0101YD	0.500	1.2	<LM25	1.2	UGG
			ENDRIN ALDEHYDE	01-SA-02	08/07/1991	01SA0201Y	1.500	1.8	<LM25	1.8	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.8	<LM25	1.8	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	1.8	<LM25	1.8	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	1.8	<LM25	1.8	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	1.8	<LM25	1.8	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	1.8	<LM25	1.8	UGG
						01SS0101YD	0.500	1.8	<LM25	1.8	UGG
			ENDRIN KETONE	01-SA-02	08/07/1991	01SA0201NR	1.500	0.28	*LM25	0.28	UGG
				01-SA-04	08/07/1991	01SA0401NR	1.000	0.28	*LM25	0.28	UGG
				01-SA-05	08/07/1991	01SA0501NR	1.000	0.28	*LM25	0.28	UGG
				01-SA-06	08/06/1991	01SA0601NR	1.500	0.28	*LM25	0.28	UGG
				01-SA-07	08/06/1991	01SA0701NR	2.000	0.28	*LM25	0.28	UGG
				01-SS-01	08/07/1991	01SS0101NR	0.500	0.28	*LM25	0.28	UGG
			FLUORANTHENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.032	<LM25	0.032	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.119	=LM25	0.032	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.032	<LM25	0.032	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.032	<LM25	0.032	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.032	<LM25	0.032	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.032	<LM25	0.032	UGG
						01SS0101YD	0.500	0.032	<LM25	0.032	UGG
			FLUORENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.065	<LM25	0.065	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.065	<LM25	0.065	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.065	<LM25	0.065	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.065	<LM25	0.065	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.065	<LM25	0.065	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.065	<LM25	0.065	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						01SS0101YD	0.500	0.065	<LM25	0.065	UGG
			HEXACHLOROBENZENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.08	<LM25	0.08	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.08	<LM25	0.08	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.08	<LM25	0.08	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.08	<LM25	0.08	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.08	<LM25	0.08	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.08	<LM25	0.08	UGG
						01SS0101YD	0.500	0.08	<LM25	0.08	UGG
			HEXACHLOROBUTADIENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.97	<LM25	0.97	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.97	<LM25	0.97	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.97	<LM25	0.97	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.97	<LM25	0.97	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.97	<LM25	0.97	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.97	<LM25	0.97	UGG
						01SS0101YD	0.500	0.97	<LM25	0.97	UGG
			HEXACHLOROCYCLOPENTADIENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.52	<LM25	0.52	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.52	<LM25	0.52	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.52	<LM25	0.52	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.52	<LM25	0.52	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.52	<LM25	0.52	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.52	<LM25	0.52	UGG
						01SS0101YD	0.500	0.52	<LM25	0.52	UGG
			HEXACHLOROETHANE	01-SA-02	08/07/1991	01SA0201Y	1.500	1.8	<LM25	1.8	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.8	<LM25	1.8	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	1.8	<LM25	1.8	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	1.8	<LM25	1.8	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	1.8	<LM25	1.8	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	1.8	<LM25	1.8	UGG
						01SS0101YD	0.500	1.8	<LM25	1.8	UGG
			INDENO(1,2,3-C,D)PYRENE	01-SA-02	08/07/1991	01SA0201Y	1.500	2.4	<LM25	2.4	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	2.4	<LM25	2.4	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	2.4	<LM25	2.4	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	2.4	<LM25	2.4	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	2.4	<LM25	2.4	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	2.4	<LM25	2.4	UGG
						01SS0101YD	0.500	2.4	<LM25	2.4	UGG
			ISOPHORONE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.39	<LM25	0.39	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.39	<LM25	0.39	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.39	<LM25	0.39	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.39	<LM25	0.39	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.39	<LM25	0.39	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.39	<LM25	0.39	UGG
						01SS0101YD	0.500	0.39	<LM25	0.39	UGG
			MALATHION	01-SA-02	08/07/1991	01SA0201Y	1.500	0.18	<LM25	0.18	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.18	<LM25	0.18	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.18	<LM25	0.18	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.18	<LM25	0.18	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.18	<LM25	0.18	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.18	<LM25	0.18	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						01SS0101YD	0.500	0.18	<LM25	0.18	UGG
			MIREX	01-SA-02	08/07/1991	01SA0201Y	1.500	0.14	<LM25	0.14	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.14	<LM25	0.14	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.14	<LM25	0.14	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.14	<LM25	0.14	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.14	<LM25	0.14	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.14	<LM25	0.14	UGG
						01SS0101YD	0.500	0.14	<LM25	0.14	UGG
			N-NITROSODI-N-PROPYLAMINE	01-SA-02	08/07/1991	01SA0201Y	1.500	1.1	<LM25	1.1	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.1	<LM25	1.1	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	1.1	<LM25	1.1	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	1.1	<LM25	1.1	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	1.1	<LM25	1.1	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	1.1	<LM25	1.1	UGG
						01SS0101YD	0.500	1.1	<LM25	1.1	UGG
			N-NITROSODIMETHYLAMINE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.46	<LM25	0.46	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.46	<LM25	0.46	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.46	<LM25	0.46	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.46	<LM25	0.46	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.46	<LM25	0.46	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.46	<LM25	0.46	UGG
						01SS0101YD	0.500	0.46	<LM25	0.46	UGG
			N-NITROSODIPHENYLAMINE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.29	<LM25	0.29	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.29	<LM25	0.29	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.29	<LM25	0.29	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.29	<LM25	0.29	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.29	<LM25	0.29	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.29	<LM25	0.29	UGG
						01SS0101YD	0.500	0.29	<LM25	0.29	UGG
			NAPHTHALENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.74	<LM25	0.74	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.74	<LM25	0.74	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.74	<LM25	0.74	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.74	<LM25	0.74	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.74	<LM25	0.74	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.74	<LM25	0.74	UGG
						01SS0101YD	0.500	0.74	<LM25	0.74	UGG
			P-CHLOROPHENYLMETHYL SULFIDE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.097	<LM25	0.097	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.097	<LM25	0.097	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.097	<LM25	0.097	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.097	<LM25	0.097	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.097	<LM25	0.097	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.097	<LM25	0.097	UGG
						01SS0101YD	0.500	0.097	<LM25	0.097	UGG
			P-CHLOROPHENYLMETHYL SULFONE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.066	<LM25	0.066	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.066	<LM25	0.066	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.066	<LM25	0.066	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.066	<LM25	0.066	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.066	<LM25	0.066	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.066	<LM25	0.066	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						01SS0101YD	0.500	0.066	<LM25	0.066	UGG
			P-CHLOROPHENYLMETHYL SULFOXIDE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.32	<LM25	0.32	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.32	<LM25	0.32	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.32	<LM25	0.32	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.32	<LM25	0.32	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.32	<LM25	0.32	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.32	<LM25	0.32	UGG
						01SS0101YD	0.500	0.32	<LM25	0.32	UGG
			PARATHION	01-SA-02	08/07/1991	01SA0201Y	1.500	1.7	<LM25	1.7	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.7	<LM25	1.7	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	1.7	<LM25	1.7	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	1.7	<LM25	1.7	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	1.7	<LM25	1.7	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	1.7	<LM25	1.7	UGG
						01SS0101YD	0.500	1.7	<LM25	1.7	UGG
			PENTACHLOROPHENOL	01-SA-02	08/07/1991	01SA0201Y	1.500	0.76	<LM25	0.76	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.76	<LM25	0.76	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.76	<LM25	0.76	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.76	<LM25	0.76	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.76	<LM25	0.76	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.76	<LM25	0.76	UGG
						01SS0101YD	0.500	0.76	<LM25	0.76	UGG
			PHENANTHRENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.032	<LM25	0.032	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.032	<LM25	0.032	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.032	<LM25	0.032	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.032	<LM25	0.032	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.032	<LM25	0.032	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.032	<LM25	0.032	UGG
						01SS0101YD	0.500	0.032	<LM25	0.032	UGG
			PHENOL	01-SA-02	08/07/1991	01SA0201Y	1.500	0.052	<LM25	0.052	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.052	<LM25	0.052	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.052	<LM25	0.052	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.052	<LM25	0.052	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.052	<LM25	0.052	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.052	<LM25	0.052	UGG
						01SS0101YD	0.500	0.052	<LM25	0.052	UGG
			PYRENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.083	<LM25	0.083	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.248	=LM25	0.083	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.083	<LM25	0.083	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.083	<LM25	0.083	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.083	<LM25	0.083	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.083	<LM25	0.083	UGG
						01SS0101YD	0.500	0.083	<LM25	0.083	UGG
			SUPONA/2-CHLORO-1-(2,4-DICHLOR	01-SA-02	08/07/1991	01SA0201Y	1.500	0.92	<LM25	0.92	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.92	<LM25	0.92	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.92	<LM25	0.92	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.92	<LM25	0.92	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.92	<LM25	0.92	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.92	<LM25	0.92	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						01SS0101YD	0.500	0.92	<LM25	0.92	UGG
			VAPONA	01-SA-02	08/07/1991	01SA0201Y	1.500	0.068	<LM25	0.068	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.068	<LM25	0.068	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.068	<LM25	0.068	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.068	<LM25	0.068	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.068	<LM25	0.068	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.068	<LM25	0.068	UGG
						01SS0101YD	0.500	0.068	<LM25	0.068	UGG
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	01-SA-02	08/07/1991	01SA0201Y	1.500	0.5	<LM23	0.5	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.5	<LM23	0.5	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.5	<LM23	0.5	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.5	<LM23	0.5	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.5	<LM23	0.5	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.5	<LM23	0.5	UGG
						01SS0101YD	0.500	0.5	<LM23	0.5	UGG
			1,1,1-TRICHLOROETHANE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.2	<LM23	0.2	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.2	<LM23	0.2	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.2	<LM23	0.2	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.2	<LM23	0.2	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.2	<LM23	0.2	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.2	<LM23	0.2	UGG
						01SS0101YD	0.500	0.2	<LM23	0.2	UGG
			1,1,2,2-TETRACHLOROETHANE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.2	<LM23	0.2	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.2	<LM23	0.2	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.2	<LM23	0.2	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.2	<LM23	0.2	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.2	<LM23	0.2	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.2	<LM23	0.2	UGG
						01SS0101YD	0.500	0.2	<LM23	0.2	UGG
			1,1,2-TRICHLOROETHANE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.33	<LM23	0.33	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.33	<LM23	0.33	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.33	<LM23	0.33	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.33	<LM23	0.33	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.33	<LM23	0.33	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.33	<LM23	0.33	UGG
						01SS0101YD	0.500	0.33	<LM23	0.33	UGG
			1,1-DICHLOROETHANE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.49	<LM23	0.49	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.49	<LM23	0.49	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.49	<LM23	0.49	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.49	<LM23	0.49	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.49	<LM23	0.49	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.49	<LM23	0.49	UGG
						01SS0101YD	0.500	0.49	<LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	01-SA-02	08/07/1991	01SA0201Y	1.500	0.27	<LM23	0.27	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.27	<LM23	0.27	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.27	<LM23	0.27	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.27	<LM23	0.27	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.27	<LM23	0.27	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.27	<LM23	0.27	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						01SS0101YD	0.500	0.27	<LM23	0.27	UGG
			1,2-DICHLOROETHANE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.32	<LM23	0.32	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.32	<LM23	0.32	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.32	<LM23	0.32	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.32	<LM23	0.32	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.32	<LM23	0.32	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.32	<LM23	0.32	UGG
						01SS0101YD	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	01-SA-02	08/07/1991	01SA0201Y	1.500	0.32	<LM23	0.32	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.32	<LM23	0.32	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.32	<LM23	0.32	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.32	<LM23	0.32	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.32	<LM23	0.32	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.32	<LM23	0.32	UGG
						01SS0101YD	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROPROPANE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.53	<LM23	0.53	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.53	<LM23	0.53	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.53	<LM23	0.53	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.53	<LM23	0.53	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.53	<LM23	0.53	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.53	<LM23	0.53	UGG
						01SS0101YD	0.500	0.53	<LM23	0.53	UGG
			1,3-DICHLOROBENZENE	01-SA-02	08/07/1991	01SA0201N	1.500	0.042	<LM25	0.042	UGG
						01SA0201Y	1.500	0.14	<LM23	0.14	UGG
				01-SA-04	08/07/1991	01SA0401N	1.000	0.042	<LM25	0.042	UGG
						01SA0401Y	1.000	0.14	<LM23	0.14	UGG
				01-SA-05	08/07/1991	01SA0501N	1.000	0.042	<LM25	0.042	UGG
						01SA0501Y	1.000	0.14	<LM23	0.14	UGG
				01-SA-06	08/06/1991	01SA0601N	1.500	0.042	<LM25	0.042	UGG
						01SA0601Y	1.500	0.14	<LM23	0.14	UGG
				01-SA-07	08/06/1991	01SA0701N	2.000	0.042	<LM25	0.042	UGG
						01SA0701Y	2.000	0.14	<LM23	0.14	UGG
				01-SS-01	08/07/1991	01SS0101N	0.500	0.042	<LM25	0.042	UGG
						01SS0101ND	0.500	0.042	<LM25	0.042	UGG
						01SS0101Y	0.500	0.14	<LM23	0.14	UGG
						01SS0101YD	0.500	0.14	<LM23	0.14	UGG
			1,3-DICLOROPROPANE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.2	<LM23	0.2	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.2	<LM23	0.2	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.2	<LM23	0.2	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.2	<LM23	0.2	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.2	<LM23	0.2	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.2	<LM23	0.2	UGG
						01SS0101YD	0.500	0.2	<LM23	0.2	UGG
			1,3-DIMETHYLBENZENE/M-XYLENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.23	<LM23	0.23	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.23	<LM23	0.23	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.23	<LM23	0.23	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.23	<LM23	0.23	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.23	<LM23	0.23	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.23	<LM23	0.23	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						01SS0101YD	0.500	0.23	<LM23	0.23	UGG
			ACETIC ACID, VINYL ESTER/VINYL	01-SA-02	08/07/1991	01SA0201NR	1.500	1.0	*LM23	1.0	UGG
				01-SA-04	08/07/1991	01SA0401NR	1.000	1.0	*LM23	1.0	UGG
				01-SA-05	08/07/1991	01SA0501NR	1.000	1.0	*LM23	1.0	UGG
				01-SA-06	08/06/1991	01SA0601NR	1.500	1.0	*LM23	1.0	UGG
				01-SA-07	08/06/1991	01SA0701NR	2.000	1.0	*LM23	1.0	UGG
				01-SS-01	08/07/1991	01SS0101NR	0.500	1.0	*LM23	1.0	UGG
			ACETONE	01-SA-02	08/07/1991	01SA0201Y	1.500	3.3	<LM23	3.3	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	3.3	<LM23	3.3	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	3.3	<LM23	3.3	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	3.3	<LM23	3.3	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	3.3	<LM23	3.3	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	3.3	<LM23	3.3	UGG
						01SS0101YD	0.500	3.3	<LM23	3.3	UGG
			ACRYLONITRILE	01-SA-02	08/07/1991	01SA0201Y	1.500	2.0	<LM23	2.0	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	2.0	<LM23	2.0	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	2.0	<LM23	2.0	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	2.0	<LM23	2.0	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	2.0	<LM23	2.0	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	2.0	<LM23	2.0	UGG
						01SS0101YD	0.500	2.0	<LM23	2.0	UGG
			BENZENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.1	<LM23	0.1	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.1	<LM23	0.1	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.1	<LM23	0.1	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.1	<LM23	0.1	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.1	<LM23	0.1	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.1	<LM23	0.1	UGG
						01SS0101YD	0.500	0.1	<LM23	0.1	UGG
			BROMODICHLOROMETHANE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.2	<LM23	0.2	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.2	<LM23	0.2	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.2	<LM23	0.2	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.2	<LM23	0.2	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.2	<LM23	0.2	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.2	<LM23	0.2	UGG
						01SS0101YD	0.500	0.2	<LM23	0.2	UGG
			BROMOFORM	01-SA-02	08/07/1991	01SA0201Y	1.500	0.2	<LM23	0.2	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.2	<LM23	0.2	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.2	<LM23	0.2	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.2	<LM23	0.2	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.2	<LM23	0.2	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.2	<LM23	0.2	UGG
						01SS0101YD	0.500	0.2	<LM23	0.2	UGG
			BROMOMETHANE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.26	<LM23	0.26	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.26	<LM23	0.26	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.26	<LM23	0.26	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.26	<LM23	0.26	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.26	<LM23	0.26	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.26	<LM23	0.26	UGG
						01SS0101YD	0.500	0.26	<LM23	0.26	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			CARBON DISULFIDE	01-SA-02	08/07/1991	01SA0201NR	1.500	0.6	*LM23	0.6	UGG
				01-SA-04	08/07/1991	01SA0401NR	1.000	0.6	*LM23	0.6	UGG
				01-SA-05	08/07/1991	01SA0501NR	1.000	0.6	*LM23	0.6	UGG
				01-SA-06	08/06/1991	01SA0601NR	1.500	0.6	*LM23	0.6	UGG
				01-SA-07	08/06/1991	01SA0701NR	2.000	0.6	*LM23	0.6	UGG
				01-SS-01	08/07/1991	01SS0101NR	0.500	0.6	*LM23	0.6	UGG
			CARBON TETRACHLORIDE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.31	<LM23	0.31	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.31	<LM23	0.31	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.31	<LM23	0.31	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.31	<LM23	0.31	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.31	<LM23	0.31	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.31	<LM23	0.31	UGG
						01SS0101YD	0.500	0.31	<LM23	0.31	UGG
			CHLORFORM	01-SA-02	08/07/1991	01SA0201Y	1.500	0.24	<LM23	0.24	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.24	<LM23	0.24	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.24	<LM23	0.24	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.24	<LM23	0.24	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.24	<LM23	0.24	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.24	<LM23	0.24	UGG
						01SS0101YD	0.500	0.24	<LM23	0.24	UGG
			CHLOROBENZENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.1	<LM23	0.1	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.1	<LM23	0.1	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.1	<LM23	0.1	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.1	<LM23	0.1	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.1	<LM23	0.1	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.1	<LM23	0.1	UGG
						01SS0101YD	0.500	0.1	<LM23	0.1	UGG
			CHLOROETHANE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.64	<LM23	0.64	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.64	<LM23	0.64	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.64	<LM23	0.64	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.64	<LM23	0.64	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.64	<LM23	0.64	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.64	<LM23	0.64	UGG
						01SS0101YD	0.500	0.64	<LM23	0.64	UGG
			CHLOROETHANE/VINYL CHLORIDE	01-SA-02	08/07/1991	01SA0201Y	1.500	1.8	<LM23	1.8	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	1.8	<LM23	1.8	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	1.8	<LM23	1.8	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	1.8	<LM23	1.8	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	1.8	<LM23	1.8	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	1.8	<LM23	1.8	UGG
						01SS0101YD	0.500	1.8	<LM23	1.8	UGG
			CHLOROMETHANE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.96	<LM23	0.96	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.96	<LM23	0.96	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.96	<LM23	0.96	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.96	<LM23	0.96	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.96	<LM23	0.96	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.96	<LM23	0.96	UGG
						01SS0101YD	0.500	0.96	<LM23	0.96	UGG
			CIS-1,3-DICHLOROPROPYLENE/CIS-	01-SA-02	08/07/1991	01SA0201NR	1.500	0.6	*LM23	0.6	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				01-SA-04	08/07/1991	01SA0401NR	1.000	0.6	*LM23	0.6	UGG
				01-SA-05	08/07/1991	01SA0501NR	1.000	0.6	*LM23	0.6	UGG
				01-SA-06	08/06/1991	01SA0601NR	1.500	0.6	*LM23	0.6	UGG
				01-SA-07	08/06/1991	01SA0701NR	2.000	0.6	*LM23	0.6	UGG
				01-SS-01	08/07/1991	01SS0101NR	0.500	0.6	*LM23	0.6	UGG
			DIBROMOCHLOROMETHANE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.25	<LM23	0.25	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.25	<LM23	0.25	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.25	<LM23	0.25	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.25	<LM23	0.25	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.25	<LM23	0.25	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.25	<LM23	0.25	UGG
						01SS0101YD	0.500	0.25	<LM23	0.25	UGG
			DICHLOROBENZENE - NONSPECIFIC	01-SA-02	08/07/1991	01SA0201Y	1.500	0.2	<LM23	0.2	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.2	<LM23	0.2	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.2	<LM23	0.2	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.2	<LM23	0.2	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.2	<LM23	0.2	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.2	<LM23	0.2	UGG
						01SS0101YD	0.500	0.2	<LM23	0.2	UGG
			ETHYLBENZENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.19	<LM23	0.19	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.19	<LM23	0.19	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.19	<LM23	0.19	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.19	<LM23	0.19	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.19	<LM23	0.19	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.19	<LM23	0.19	UGG
						01SS0101YD	0.500	0.19	<LM23	0.19	UGG
			METHYL-N-BUTYL KETONE/2-HEXANO	01-SA-02	08/07/1991	01SA0201NR	1.500	1.0	*LM23	1.0	UGG
				01-SA-04	08/07/1991	01SA0401NR	1.000	1.0	*LM23	1.0	UGG
				01-SA-05	08/07/1991	01SA0501NR	1.000	1.0	*LM23	1.0	UGG
				01-SA-06	08/06/1991	01SA0601NR	1.500	1.0	*LM23	1.0	UGG
				01-SA-07	08/06/1991	01SA0701NR	2.000	1.0	*LM23	1.0	UGG
				01-SS-01	08/07/1991	01SS0101NR	0.500	1.0	*LM23	1.0	UGG
			METHYLENE CHLORIDE	01-SA-02	08/07/1991	01SA0201Y	1.500	4.4	<LM23	4.4	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	4.4	<LM23	4.4	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	4.4	<LM23	4.4	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	4.4	<LM23	4.4	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	4.4	<LM23	4.4	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	4.4	<LM23	4.4	UGG
						01SS0101YD	0.500	4.4	<LM23	4.4	UGG
			METHYLETHYL PHENOL/METHYLETHYL	01-SA-02	08/07/1991	01SA0201Y	1.500	4.3	<LM23	4.3	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	4.3	<LM23	4.3	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	4.3	<LM23	4.3	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	4.3	<LM23	4.3	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	4.3	<LM23	4.3	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	4.3	<LM23	4.3	UGG
						01SS0101YD	0.500	4.3	<LM23	4.3	UGG
			METHYLISOBUTYL KETONE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.63	<LM23	0.63	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.63	<LM23	0.63	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.63	<LM23	0.63	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.63	<LM23	0.63	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.63	<LM23	0.63	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.63	<LM23	0.63	UGG
						01SS0101YD	0.500	0.63	<LM23	0.63	UGG
			STYRENE	01-SA-02	08/07/1991	01SA0201NR	1.500	0.6	*LM23	0.6	UGG
				01-SA-04	08/07/1991	01SA0401NR	1.000	0.6	*LM23	0.6	UGG
				01-SA-05	08/07/1991	01SA0501NR	1.000	0.6	*LM23	0.6	UGG
				01-SA-06	08/06/1991	01SA0601NR	1.500	0.6	*LM23	0.6	UGG
				01-SA-07	08/06/1991	01SA0701NR	2.000	0.6	*LM23	0.6	UGG
				01-SS-01	08/07/1991	01SS0101NR	0.500	0.6	*LM23	0.6	UGG
			TETRACHLOROETHYLENE/TETRACHLOR	01-SA-02	08/07/1991	01SA0201Y	1.500	0.16	<LM23	0.16	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.16	<LM23	0.16	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.16	<LM23	0.16	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.16	<LM23	0.16	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.16	<LM23	0.16	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.16	<LM23	0.16	UGG
						01SS0101YD	0.500	0.16	<LM23	0.16	UGG
			TOLUENE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.1	<LM23	0.1	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.1	<LM23	0.1	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.1	<LM23	0.1	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.1	<LM23	0.1	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.1	<LM23	0.1	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.1	<LM23	0.1	UGG
						01SS0101YD	0.500	0.1	<LM23	0.1	UGG
			TRANS-1,3-DICHLOROPROPENE	01-SA-02	08/07/1991	01SA0201NR	1.500	0.6	*LM23	0.6	UGG
				01-SA-04	08/07/1991	01SA0401NR	1.000	0.6	*LM23	0.6	UGG
				01-SA-05	08/07/1991	01SA0501NR	1.000	0.6	*LM23	0.6	UGG
				01-SA-06	08/06/1991	01SA0601NR	1.500	0.6	*LM23	0.6	UGG
				01-SA-07	08/06/1991	01SA0701NR	2.000	0.6	*LM23	0.6	UGG
				01-SS-01	08/07/1991	01SS0101NR	0.500	0.6	*LM23	0.6	UGG
			TRICHLOROETHYLENE/TRICHLOROETH	01-SA-02	08/07/1991	01SA0201Y	1.500	0.23	<LM23	0.23	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.23	<LM23	0.23	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.23	<LM23	0.23	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.23	<LM23	0.23	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.23	<LM23	0.23	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.23	<LM23	0.23	UGG
						01SS0101YD	0.500	0.23	<LM23	0.23	UGG
			TRICHLOROFLUOROMETHANE	01-SA-02	08/07/1991	01SA0201Y	1.500	0.23	<LM23	0.23	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.23	<LM23	0.23	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.23	<LM23	0.23	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.23	<LM23	0.23	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.23	<LM23	0.23	UGG
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.23	<LM23	0.23	UGG
						01SS0101YD	0.500	0.23	<LM23	0.23	UGG
			XYLENES	01-SA-02	08/07/1991	01SA0201Y	1.500	0.78	<LM23	0.78	UGG
				01-SA-04	08/07/1991	01SA0401Y	1.000	0.78	<LM23	0.78	UGG
				01-SA-05	08/07/1991	01SA0501Y	1.000	0.78	<LM23	0.78	UGG
				01-SA-06	08/06/1991	01SA0601Y	1.500	0.78	<LM23	0.78	UGG
				01-SA-07	08/06/1991	01SA0701Y	2.000	0.78	<LM23	0.78	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				01-SS-01	08/07/1991	01SS0101Y	0.500	0.78	<LM23	0.78	UGG
						01SS0101YD	0.500	0.78	<LM23	0.78	UGG
	SW	EXPLOSIVES	1,3,5-TRINITROBENZENE	01-SW-08	08/07/1991	01SW0801Y	0.500	0.56	<UW01	0.56	UGL
			1,3-DINITROBENZENE	01-SW-08	08/07/1991	01SW0801Y	0.500	0.61	<UW01	0.61	UGL
			2,4,6-TNT	01-SW-08	08/07/1991	01SW0801Y	0.500	0.78	<UW01	0.78	UGL
			2,4-DINITROTOLUENE	01-SW-08	08/07/1991	01SW0801N	0.500	5.8	<UM25	5.8	UGL
						01SW0801Y	0.500	0.6	<UW01	0.6	UGL
			2,6-DINITROTOLUENE	01-SW-08	08/07/1991	01SW0801N	0.500	6.7	<UM25	6.7	UGL
						01SW0801Y	0.500	0.55	<UW01	0.55	UGL
			HMX	01-SW-08	08/07/1991	01SW0801Y	0.500	1.3	<UW01	1.3	UGL
			NITROBENZENE	01-SW-08	08/07/1991	01SW0801N	0.500	3.7	<UM25	3.7	UGL
						01SW0801Y	0.500	1.1	<UW01	1.13	UGL
			RDX	01-SW-08	08/07/1991	01SW0801Y	0.500	0.63	<UW01	0.63	UGL
			TETRYL	01-SW-08	08/07/1991	01SW0801Y	0.500	0.66	<UW01	0.66	UGL
		METALS	ANTIMONY	01-SW-08	08/07/1991	01SW0801N	0.500	60.0	<99	60.0	UGL
			ARSENIC	01-SW-08	08/07/1991	01SW0801Y	0.500	2.35	<AX8	2.35	UGL
			BARIUM	01-SW-08	08/07/1991	01SW0801N	0.500	8.95	=99	0.0	UGL
			BERYLLIUM	01-SW-08	08/07/1991	01SW0801N	0.500	1.12	<99	1.12	UGL
			CADMIUM	01-SW-08	08/07/1991	01SW0801N	0.500	6.78	<99	6.78	UGL
			CHROMIUM	01-SW-08	08/07/1991	01SW0801N	0.500	16.8	<99	16.8	UGL
			COPPER	01-SW-08	08/07/1991	01SW0801N	0.500	59.4	=99	0.0	UGL
			LEAD	01-SW-08	08/07/1991	01SW0801Y	0.500	4.47	<SD18	4.47	UGL
			MERCURY	01-SW-08	08/07/1991	01SW0801Y	0.500	0.1	<CC8	0.1	UGL
			NICKEL	01-SW-08	08/07/1991	01SW0801N	0.500	32.1	<99	32.1	UGL
			SELENIUM	01-SW-08	08/07/1991	01SW0801Y	0.500	2.53	<SD25	2.53	UGL
			SILVER	01-SW-08	08/07/1991	01SW0801N	0.500	10.0	<99	10.0	UGL
			THALLIUM	01-SW-08	08/07/1991	01SW0801N	0.500	125.0	<99	125.0	UGL
			ZINC	01-SW-08	08/07/1991	01SW0801N	0.500	39.3	=99	0.0	UGL
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	01-SW-08	08/07/1991	01SW0801N	0.500	14.0	<UM25	14.0	UGL
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	01-SW-08	08/07/1991	01SW0801N	0.500	18.0	<UM25	18.0	UGL
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	01-SW-08	08/07/1991	01SW0801N	0.500	18.0	<UM25	18.0	UGL
			ALDRIN	01-SW-08	08/07/1991	01SW0801N	0.500	13.0	<UM25	13.0	UGL
			ALPHA-BENZENEHEXACHLORIDE	01-SW-08	08/07/1991	01SW0801N	0.500	5.3	<UM25	5.3	UGL
			ALPHA-ENDOSULFAN/ENDOSULFAN I	01-SW-08	08/07/1991	01SW0801N	0.500	23.0	<UM25	23.0	UGL
			BETA-BENZENEHEXACHLORIDE	01-SW-08	08/07/1991	01SW0801N	0.500	17.0	<UM25	17.0	UGL
			BETA-ENDOSULFAN/ENDOSULFAN II	01-SW-08	08/07/1991	01SW0801N	0.500	42.0	<UM25	42.0	UGL
			CHLORDANE	01-SW-08	08/07/1991	01SW0801NR	0.500	37.0	*UM25	37.0	UGL
			DELTA-BENZENEHEXACHLORIDE	01-SW-08	08/07/1991	01SW0801NR	0.500	3.0	*UM25	3.0	UGL
			DIELDRIN	01-SW-08	08/07/1991	01SW0801N	0.500	26.0	<UM25	26.0	UGL
			ENDRIN	01-SW-08	08/07/1991	01SW0801N	0.500	18.0	<UM25	18.0	UGL
			HEPTACHLOR	01-SW-08	08/07/1991	01SW0801N	0.500	38.0	<UM25	38.0	UGL
			HEPTACHLOR EPOXIDE	01-SW-08	08/07/1991	01SW0801N	0.500	28.0	<UM25	0.28	UGL
			ISODRIN	01-SW-08	08/07/1991	01SW0801N	0.500	7.8	<UM25	7.8	UGL
			LINDANE	01-SW-08	08/07/1991	01SW0801N	0.500	7.2	<UM25	7.2	UGL
			METHOXYCHLOR	01-SW-08	08/07/1991	01SW0801N	0.500	11.0	<UM25	11.0	UGL
			PCB 1016	01-SW-08	08/07/1991	01SW0801NR	0.500	9.1	*UM25	9.1	UGL
			PCB 1221	01-SW-08	08/07/1991	01SW0801NR	0.500	7.2	*UM25	7.2	UGL
			PCB 1232	01-SW-08	08/07/1991	01SW0801NR	0.500	9.9	*UM25	9.9	UGL
			PCB 1242	01-SW-08	08/07/1991	01SW0801NR	0.500	5.2	*UM25	5.2	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			PCB 1248	01-SW-08	08/07/1991	01SW0801NR	0.500	38.0	*UM25	38.0	UGL
			PCB 1254	01-SW-08	08/07/1991	01SW0801NR	0.500	33.0	*UM25	33.0	UGL
			PCB 1260	01-SW-08	08/07/1991	01SW0801NR	0.500	13.0	*UM25	13.0	UGL
			TOXAPHENE	01-SW-08	08/07/1991	01SW0801NR	0.500	17.0	*UM25	17.0	UGL
		RADIONUCLIDES	ALPHA GROSS	01-SW-08	08/07/1991	01SW0801Y	0.500	2.0	=00	0.0	PCL
			GAMMA SCAN / GAMMA SCREEN	01-SW-08	08/07/1991	01SW0801Y	0.500	2.0	=99	0.0	PCL
			GROSS BETA	01-SW-08	08/07/1991	01SW0801Y	0.500	3.0	=00	0.0	PCL
		SEMIVOLATILES	1,2,3-TRICHLOROBENZENE	01-SW-08	08/07/1991	01SW0801Y	0.500	5.8	<UM25	5.8	UGL
			1,2,4-TRICHLOROBENZENE	01-SW-08	08/07/1991	01SW0801Y	0.500	2.4	<UM25	2.4	UGL
			1,2-DICHLOROBENZENE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.2	<UM25	1.2	UGL
			1,2-DIPHENYLHYDRAZINE	01-SW-08	08/07/1991	01SW0801Y	0.500	13.0	<UM25	13.0	UGL
			1,4-DICHLOROBENZENE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.5	<UM25	1.5	UGL
			1,4-OXATHIANE	01-SW-08	08/07/1991	01SW0801Y	0.500	27.0	<UM25	27.0	UGL
			2,3,6-TCP	01-SW-08	08/07/1991	01SW0801Y	0.500	1.7	<UM25	1.7	UGL
			2,4,5-TRICHLOROPHENOL	01-SW-08	08/07/1991	01SW0801Y	0.500	2.8	<UM25	2.8	UGL
			2,4,6-TRICHLOROPHENOL	01-SW-08	08/07/1991	01SW0801Y	0.500	3.6	<UM25	3.6	UGL
			2,4-DICHLOROPHENOL	01-SW-08	08/07/1991	01SW0801Y	0.500	8.4	<UM25	8.4	UGL
			2,4-DIMETHYLPHENOL	01-SW-08	08/07/1991	01SW0801Y	0.500	4.4	<UM25	4.4	UGL
			2,4-DINITROPHENOL	01-SW-08	08/07/1991	01SW0801Y	0.500	176.0	<UM25	176.0	UGL
			2,6-DINITROANILINE	01-SW-08	08/07/1991	01SW0801Y	0.500	8.8	<UM25	8.8	UGL
			2-CHLORONAPHTHALENE	01-SW-08	08/07/1991	01SW0801Y	0.500	2.6	<UM25	2.6	UGL
			2-CHLOROPHENOL	01-SW-08	08/07/1991	01SW0801Y	0.500	2.8	<UM25	2.8	UGL
			2-METHYL-4,6-DINITROPHENOL/4,6	01-SW-08	08/07/1991	01SW0801NR	0.500	50.0	*UM25	50.0	UGL
			2-METHYLNAPHTHALENE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.3	<UM25	1.3	UGL
			2-METHYLPHENOL/2-CRESOL	01-SW-08	08/07/1991	01SW0801Y	0.500	3.6	<UM25	3.6	UGL
			2-NITROANILINE	01-SW-08	08/07/1991	01SW0801NR	0.500	31.0	*UM25	31.0	UGL
			2-NITROPHENOL	01-SW-08	08/07/1991	01SW0801Y	0.500	8.2	<UM25	8.2	UGL
			3,3'-DICHLOROBENZIDINE	01-SW-08	08/07/1991	01SW0801Y	0.500	5.0	<UM25	5.0	UGL
			3,5-DINITROANILINE	01-SW-08	08/07/1991	01SW0801Y	0.500	21.0	<UM25	21.0	UGL
			3-METHYL-4-CHLOROPHENOL/4-CHLO	01-SW-08	08/07/1991	01SW0801Y	0.500	8.5	<UM25	8.5	UGL
			3-NITROANILINE	01-SW-08	08/07/1991	01SW0801Y	0.500	15.0	<UM25	15.0	UGL
			3-NITROTOLUENE	01-SW-08	08/07/1991	01SW0801Y	0.500	2.9	<UM25	2.9	UGL
			4-BROMOPHENYLPHENYL ETHER	01-SW-08	08/07/1991	01SW0801Y	0.500	22.0	<UM25	22.0	UGL
			4-CHLOROANILINE	01-SW-08	08/07/1991	01SW0801NR	0.500	1.0	*UM25	1.0	UGL
			4-CHLOROPHENYLPHENYL ETHER	01-SW-08	08/07/1991	01SW0801Y	0.500	23.0	<UM25	23.0	UGL
			4-METHYLPHENOL/4-CRESOL	01-SW-08	08/07/1991	01SW0801Y	0.500	2.8	<UM25	2.8	UGL
			4-NITROANILINE	01-SW-08	08/07/1991	01SW0801NR	0.500	31.0	*UM25	31.0	UGL
			4-NITROPHENOL	01-SW-08	08/07/1991	01SW0801Y	0.500	96.0	<UM25	96.0	UGL
			ACENAPHTHENE	01-SW-08	08/07/1991	01SW0801Y	0.500	5.8	<UM25	5.8	UGL
			ACENAPHTHYLENE	01-SW-08	08/07/1991	01SW0801Y	0.500	5.1	<UM25	5.1	UGL
			ANTHRACENE	01-SW-08	08/07/1991	01SW0801Y	0.500	5.2	<UM25	5.2	UGL
			ATRAZINE	01-SW-08	08/07/1991	01SW0801Y	0.500	5.9	<UM25	5.9	UGL
			BENZO(A)ANTHRACENE	01-SW-08	08/07/1991	01SW0801Y	0.500	9.8	<UM25	9.8	UGL
			BENZO(A)PYRENE	01-SW-08	08/07/1991	01SW0801Y	0.500	14.0	<UM25	14.0	UGL
			BENZO(B)FLUORANTHENE	01-SW-08	08/07/1991	01SW0801Y	0.500	10.0	<UM25	10.0	UGL
			BENZO(G,H,I)PERYLENE	01-SW-08	08/07/1991	01SW0801Y	0.500	15.0	<UM25	15.0	UGL
			BENZO(K)FLUORANTHENE	01-SW-08	08/07/1991	01SW0801Y	0.500	10.0	<UM25	10.0	UGL
			BENZOIC ACID	01-SW-08	08/07/1991	01SW0801NR	0.500	3.1	*UM25	3.1	UGL
			BENZYL ALCOHOL	01-SW-08	08/07/1991	01SW0801Y	0.500	4.0	<UM25	4.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			BIS (2-CHLOROETHOXY) METHANE	01-SW-08	08/07/1991	01SW0801Y	0.500	6.8	<UM25	6.8	UGL
			BIS (2-CHLOROETHYL) ETHER	01-SW-08	08/07/1991	01SW0801Y	0.500	0.68	<UM25	0.68	UGL
			BIS (2-CHLOROISOPROPYL) ETHER	01-SW-08	08/07/1991	01SW0801Y	0.500	5.0	<UM25	5.0	UGL
			BIS (2-ETHYLHEXYL) PHTHALATE	01-SW-08	08/07/1991	01SW0801Y	0.500	7.7	<UM25	0.48	UGL
			BROMACIL	01-SW-08	08/07/1991	01SW0801Y	0.500	2.9	<UM25	2.9	UGL
			BUTYLBENZYL PHTHALATE	01-SW-08	08/07/1991	01SW0801Y	0.500	28.0	<UM25	28.0	UGL
			CHRYSENE	01-SW-08	08/07/1991	01SW0801Y	0.500	7.4	<UM25	7.4	UGL
			DI-N-BUTYL PHTHALATE	01-SW-08	08/07/1991	01SW0801Y	0.500	33.0	<UM25	33.0	UGL
			DI-N-OCTYL PHTHALATE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.5	<UM25	1.5	UGL
			DIBENZ(A,H)ANTHRACENE	01-SW-08	08/07/1991	01SW0801Y	0.500	12.0	<UM25	12.0	UGL
			DIBENZOFURAN	01-SW-08	08/07/1991	01SW0801Y	0.500	5.1	<UM25	5.1	UGL
			DIBROMOCHLOROPROPANE	01-SW-08	08/07/1991	01SW0801Y	0.500	12.0	<UM25	12.0	UGL
			DICYCLOPENTADIENE	01-SW-08	08/07/1991	01SW0801Y	0.500	5.5	<UM25	5.5	UGL
			DIETHYL PHTHALATE	01-SW-08	08/07/1991	01SW0801Y	0.500	5.9	<UM25	5.9	UGL
			DIISOPROPYL METHYLPHOSPHONATE	01-SW-08	08/07/1991	01SW0801Y	0.500	21.0	<UM25	21.0	UGL
			DIMETHYL METHYLPHOSPHATE	01-SW-08	08/07/1991	01SW0801Y	0.500	130.0	<UM25	130.0	UGL
			DIMETHYL PHTHALATE	01-SW-08	08/07/1991	01SW0801Y	0.500	2.2	<UM25	2.2	UGL
			DITHIANE	01-SW-08	08/07/1991	01SW0801Y	0.500	3.3	<UM25	3.3	UGL
			ENDOSULFAN SULFATE	01-SW-08	08/07/1991	01SW0801Y	0.500	50.0	<UM25	50.0	UGL
			ENDRIN ALDEHYDE	01-SW-08	08/07/1991	01SW0801N	0.500	5.0	<UM25	5.0	UGL
			ENDRIN KETONE	01-SW-08	08/07/1991	01SW0801NR	0.500	6.0	*UM25	6.0	UGL
			FLUORANTHENE	01-SW-08	08/07/1991	01SW0801Y	0.500	24.0	<UM25	24.0	UGL
			FLUORENE	01-SW-08	08/07/1991	01SW0801Y	0.500	9.2	<UM25	9.2	UGL
			HEXACHLOROBENZENE	01-SW-08	08/07/1991	01SW0801Y	0.500	12.0	<UM25	12.0	UGL
			HEXACHLOROBUTADIENE	01-SW-08	08/07/1991	01SW0801Y	0.500	8.7	<UM25	8.7	UGL
			HEXACHLOROCYCLOPENTADIENE	01-SW-08	08/07/1991	01SW0801Y	0.500	54.0	<UM25	54.0	UGL
			HEXACHLOROETHANE	01-SW-08	08/07/1991	01SW0801Y	0.500	8.3	<UM25	8.3	UGL
			INDENO(1,2,3-C,D)PYRENE	01-SW-08	08/07/1991	01SW0801Y	0.500	21.0	<UM25	0.21	UGL
			ISOPHORONE	01-SW-08	08/07/1991	01SW0801Y	0.500	2.4	<UM25	2.4	UGL
			MALATHION	01-SW-08	08/07/1991	01SW0801Y	0.500	21.0	<UM25	21.0	UGL
			MIREX	01-SW-08	08/07/1991	01SW0801Y	0.500	24.0	<UM25	24.0	UGL
			N-NITROSODI-N-PROPYLAMINE	01-SW-08	08/07/1991	01SW0801Y	0.500	6.8	<UM25	6.8	UGL
			N-NITROSODIMETHYLAMINE	01-SW-08	08/07/1991	01SW0801Y	0.500	9.7	<UM25	9.7	UGL
			N-NITROSODIPHENYLAMINE	01-SW-08	08/07/1991	01SW0801Y	0.500	3.7	<UM25	3.7	UGL
			NAPHTHALENE	01-SW-08	08/07/1991	01SW0801Y	0.500	0.5	<UM25	0.5	UGL
			P-CHLOROPHENYLMETHYL SULFIDE	01-SW-08	08/07/1991	01SW0801Y	0.500	10.0	<UM25	10.0	UGL
			P-CHLOROPHENYLMETHYL SULFONE	01-SW-08	08/07/1991	01SW0801Y	0.500	5.3	<UM25	5.3	UGL
			P-CHLOROPHENYLMETHYL SULFOXIDE	01-SW-08	08/07/1991	01SW0801Y	0.500	15.0	<UM25	15.0	UGL
			PARATHION	01-SW-08	08/07/1991	01SW0801Y	0.500	37.0	<UM25	37.0	UGL
			PENTACHLOROPHENOL	01-SW-08	08/07/1991	01SW0801Y	0.500	9.1	<UM25	9.1	UGL
			PHENANTHRENE	01-SW-08	08/07/1991	01SW0801Y	0.500	9.9	<UM25	9.9	UGL
			PHENOL	01-SW-08	08/07/1991	01SW0801Y	0.500	2.2	<UM25	2.2	UGL
			PYRENE	01-SW-08	08/07/1991	01SW0801Y	0.500	17.0	<UM25	17.0	UGL
			SUPONA/2-CHLORO-1-(2,4-DICHLOR	01-SW-08	08/07/1991	01SW0801Y	0.500	19.0	<UM25	19.0	UGL
			VAPONA	01-SW-08	08/07/1991	01SW0801Y	0.500	8.5	<UM25	8.5	UGL
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	01-SW-08	08/07/1991	01SW0801Y	0.500	3.5	<UM21	3.5	UGL
			1,1,1-TRICHLOROETHANE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			1,1,2,2-TETRACHLOROETHANE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.5	<UM21	1.5	UGL
			1,1,2-TRICHLOROETHANE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			1,1-DICHLOROETHANE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			1,1-DICHLOROETHYLENE/1,1-DICHL	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			1,2-DICHLOROETHANE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			1,2-DICHLOROETHENES/1,2-DICHLO	01-SW-08	08/07/1991	01SW0801Y	0.500	5.0	<UM21	5.0	UGL
			1,2-DICHLOROPROPANE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			1,3-DICHLOROBENZENE	01-SW-08	08/07/1991	01SW0801N	0.500	3.4	<UM25	3.4	UGL
						01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			1,3-DICLOROPROPANE	01-SW-08	08/07/1991	01SW0801Y	0.500	4.8	<UM21	4.8	UGL
			1,3-DIMETHYLBENZENE/M-XYLENE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			ACETIC ACID, VINYL ESTER/VINYL	01-SW-08	08/07/1991	01SW0801NR	0.500	10.0	*UM21	10.0	UGL
			ACETONE	01-SW-08	08/07/1991	01SW0801Y	0.500	8.0	<UM21	8.0	UGL
			ACRYLONITRILE	01-SW-08	08/07/1991	01SW0801Y	0.500	8.4	<UM21	8.4	UGL
			BENZENE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			BROMODICHLOROMETHANE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			BROMOFORM	01-SW-08	08/07/1991	01SW0801Y	0.500	11.0	<UM21	11.0	UGL
			BROMOMETHANE	01-SW-08	08/07/1991	01SW0801Y	0.500	14.0	<UM21	14.0	UGL
			CARBON DISULFIDE	01-SW-08	08/07/1991	01SW0801NR	0.500	5.0	*UM21	5.0	UGL
			CARBON TETRACHLORIDE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			CHLORFORM	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			CHLOROBENZENE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			CHLOROETHANE	01-SW-08	08/07/1991	01SW0801Y	0.500	8.0	<UM21	8.0	UGL
			CHLOROETHANE/VINYL CHLORIDE	01-SW-08	08/07/1991	01SW0801Y	0.500	12.0	<UM21	12.0	UGL
			CHLOROMETHANE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.2	<UM21	1.2	UGL
			CIS-1,3-DICHLOROPROPYLENE/CIS-	01-SW-08	08/07/1991	01SW0801NR	0.500	5.0	*UM21	5.0	UGL
			DIBROMOCHLOROMETHANE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			DICHLOROBENZENE - NONSPECIFIC	01-SW-08	08/07/1991	01SW0801Y	0.500	2.0	<UM21	2.0	UGL
			ETHYLBENZENE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			METHYL-N-BUTYL KETONE/2-HEXANO	01-SW-08	08/07/1991	01SW0801NR	0.500	10.0	*UM21	10.0	UGL
			METHYLENE CHLORIDE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			METHYLETHYL PHENOL/METHYLETHYL	01-SW-08	08/07/1991	01SW0801Y	0.500	10.0	<UM21	10.0	UGL
			METHYLISOBUTYL KETONE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.4	<UM21	1.4	UGL
			STYRENE	01-SW-08	08/07/1991	01SW0801NR	0.500	5.0	*UM21	5.0	UGL
			TETRACHLOROETHYLENE/TETRACHLOR	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			TOLUENE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			TRANS-1,3-DICHLOROPROPENE	01-SW-08	08/07/1991	01SW0801NR	0.500	5.0	*UM21	5.0	UGL
			TRICHLOROETHYLENE/TRICHLOROETH	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			TRICHLOROFLUOROMETHANE	01-SW-08	08/07/1991	01SW0801Y	0.500	1.0	<UM21	1.0	UGL
			XYLENES	01-SW-08	08/07/1991	01SW0801Y	0.500	2.0	<UM21	2.0	UGL

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SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP02	SD	EXPLOSIVES	1,3,5-TRINITROBENZENE	02-SD-02	08/08/1991	02SD0201Y	0.500	2.1	<LW02	2.09	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.59	<LW02	0.59	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.59	<LW02	0.59	UGG
			2,4,6-TNT	02-SD-02	08/08/1991	02SD0201Y	0.500	1.9	<LW02	1.92	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	02-SD-02	08/08/1991	02SD0201N	0.500	1.4	<LM25	1.4	UGG
						02SD0201Y	0.500	0.42	<LW02	0.42	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	1.4	<LM25	1.4	UGG
						02SD0601Y	0.500	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	02-SD-02	08/08/1991	02SD0201N	0.500	0.32	<LM25	0.32	UGG
						02SD0201Y	0.500	0.4	<LW02	0.4	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	0.32	<LM25	0.32	UGG
						02SD0601Y	0.500	0.4	<LW02	0.4	UGG
			HMX	02-SD-02	08/08/1991	02SD0201Y	0.500	1.3	<LW02	1.27	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	1.3	<LW02	1.27	UGG
			NITROBENZENE	02-SD-02	08/08/1991	02SD0201N	0.500	1.8	<LM25	1.8	UGG
						02SD0201Y	0.500	0.42	<LW02	0.42	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	1.8	<LM25	1.8	UGG
						02SD0601Y	0.500	0.42	<LW02	0.42	UGG
			RDX	02-SD-02	08/08/1991	02SD0201Y	0.500	0.98	<LW02	0.98	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.98	<LW02	0.98	UGG
			TETRYL	02-SD-02	08/08/1991	02SD0201Y	0.500	0.25	<LW02	0.25	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	02-SD-02	08/08/1991	02SD0201N	0.500	19.6	<99	19.6	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	02-SD-02	08/08/1991	02SD0201Y	0.500	4.92	=B9	2.5	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	3.59	=B9	2.5	UGG
			BARIUM	02-SD-02	08/08/1991	02SD0201Y	0.500	174.0	=JS12	3.29	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	172.0	=JS12	3.29	UGG
			BERYLLIUM	02-SD-02	08/08/1991	02SD0201Y	0.500	0.427	<JS12	0.427	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	1.07	=JS12	0.427	UGG
			CADMIUM	02-SD-02	08/08/1991	02SD0201Y	0.500	1.2	<JS12	1.2	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	1.2	<JS12	1.2	UGG
			CHROMIUM	02-SD-02	08/08/1991	02SD0201Y	0.500	58.1	=JS12	1.04	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	24.8	=JS12	1.04	UGG
			COPPER	02-SD-02	08/08/1991	02SD0201Y	0.500	63.3	=JS12	2.84	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	16.4	=JS12	2.84	UGG
			LEAD	02-SD-02	08/08/1991	02SD0201Y	0.500	30.0	=JD21	0.467	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	19.0	=JD21	0.467	UGG
			MERCURY	02-SD-02	08/08/1991	02SD0201Y	0.500	1.41	=Y9	0.05	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.05	<Y9	0.05	UGG
			NICKEL	02-SD-02	08/08/1991	02SD0201Y	0.500	16.4	=JS12	2.74	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	17.6	=JS12	2.74	UGG
			SELENIUM	02-SD-02	08/08/1991	02SD0201Y	0.500	0.449	<JD20	0.449	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.449	<JD20	0.449	UGG
			SILVER	02-SD-02	08/08/1991	02SD0201Y	0.500	0.803	<JS12	0.803	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.803	<JS12	0.803	UGG
			THALLIUM	02-SD-02	08/08/1991	02SD0201Y	0.500	34.3	<JS12	34.3	UGG

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SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				02-SD-06	08/08/1991	02SD0601Y	0.500	34.3	<JS12	34.3	UGG
			ZINC	02-SD-02	08/08/1991	02SD0201Y	0.500	216.0	=JS12	2.34	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	59.5	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	02-SD-02	08/08/1991	02SD0201N	0.500	0.068	<LM25	0.068	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	0.068	<LM25	0.068	UGG
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	02-SD-02	08/08/1991	02SD0201N	0.500	0.1	<LM25	0.1	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	0.1	<LM25	0.1	UGG
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	02-SD-02	08/08/1991	02SD0201N	0.500	0.064	<LM25	0.064	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	0.064	<LM25	0.064	UGG
			ALDRIN	02-SD-02	08/08/1991	02SD0201N	0.500	1.3	<LM25	1.3	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	1.3	<LM25	1.3	UGG
			ALPHA-BENZENEHEXACHLORIDE	02-SD-02	08/08/1991	02SD0201N	0.500	1.3	<LM25	1.3	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	1.3	<LM25	1.3	UGG
			ALPHA-ENDOSULFAN/ENDOSULFAN I	02-SD-02	08/08/1991	02SD0201N	0.500	0.4	<LM25	0.4	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	0.4	<LM25	0.4	UGG
			BETA-BENZENEHEXACHLORIDE	02-SD-02	08/08/1991	02SD0201N	0.500	1.3	<LM25	1.3	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	1.3	<LM25	1.3	UGG
			BETA-ENDOSULFAN/ENDOSULFAN II	02-SD-02	08/08/1991	02SD0201N	0.500	2.4	<LM25	2.4	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	2.4	<LM25	2.4	UGG
			CHLORDANE	02-SD-02	08/08/1991	02SD0201N	0.500	0.68	<LM25	0.68	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	0.68	<LM25	0.68	UGG
			DELTA-BENZENEHEXACHLORIDE	02-SD-02	08/08/1991	02SD0201N	0.500	0.21	<LM25	0.21	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	0.21	<LM25	0.21	UGG
			DIELDRIN	02-SD-02	08/08/1991	02SD0201N	0.500	0.079	<LM25	0.079	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	0.079	<LM25	0.079	UGG
			ENDRIN	02-SD-02	08/08/1991	02SD0201N	0.500	1.3	<LM25	1.3	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	1.3	<LM25	1.3	UGG
			HEPTACHLOR	02-SD-02	08/08/1991	02SD0201N	0.500	0.24	<LM25	0.24	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	0.24	<LM25	0.24	UGG
			HEPTACHLOR EPOXIDE	02-SD-02	08/08/1991	02SD0201N	0.500	0.48	<LM25	0.48	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	0.48	<LM25	0.48	UGG
			ISODRIN	02-SD-02	08/08/1991	02SD0201N	0.500	0.48	<LM25	0.48	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	0.48	<LM25	0.48	UGG
			LINDANE	02-SD-02	08/08/1991	02SD0201N	0.500	0.1	<LM25	0.1	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	0.1	<LM25	0.1	UGG
			METHOXYCHLOR	02-SD-02	08/08/1991	02SD0201N	0.500	0.26	<LM25	0.26	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	0.26	<LM25	0.26	UGG
			PCB 1016	02-SD-02	08/08/1991	02SD0201N	0.500	0.32	<LM25	0.32	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	0.32	<LM25	0.32	UGG
			PCB 1221	02-SD-02	08/08/1991	02SD0201NR	0.500	1.9	*LM25	1.9	UGG
				02-SD-06	08/08/1991	02SD0601NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1232	02-SD-02	08/08/1991	02SD0201NR	0.500	1.9	*LM25	1.9	UGG
				02-SD-06	08/08/1991	02SD0601NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1242	02-SD-02	08/08/1991	02SD0201NR	0.500	1.9	*LM25	1.9	UGG
				02-SD-06	08/08/1991	02SD0601NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1248	02-SD-02	08/08/1991	02SD0201NR	0.500	1.9	*LM25	1.9	UGG
				02-SD-06	08/08/1991	02SD0601NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1254	02-SD-02	08/08/1991	02SD0201NR	0.500	3.8	*LM25	3.8	UGG
				02-SD-06	08/08/1991	02SD0601NR	0.500	3.8	*LM25	3.8	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			PCB 1260	02-SD-02	08/08/1991	02SD0201N	0.500	0.79	<LM25	0.79	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	0.79	<LM25	0.79	UGG
			PCB 1262	02-SD-02	08/08/1991	02SD0201Y	0.500	6.3	<LM25	0.3	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	6.3	<LM25	0.3	UGG
			TOXAPHENE	02-SD-02	08/08/1991	02SD0201NR	0.500	12.0	*LM25	12.0	UGG
				02-SD-06	08/08/1991	02SD0601NR	0.500	12.0	*LM25	12.0	UGG
		SEMIVOLATILES	1,2,3-TRICHLOROBENZENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.032	<LM25	0.032	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.032	<LM25	0.032	UGG
			1,2,4-TRICHLOROBENZENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.22	<LM25	0.22	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.22	<LM25	0.22	UGG
			1,2-DICHLOROBENZENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.042	<LM25	0.042	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.042	<LM25	0.042	UGG
			1,2-DIPHENYLHYDRAZINE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.52	<LM25	0.52	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.52	<LM25	0.52	UGG
			1,4-DICHLOROBENZENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.034	<LM25	0.034	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.034	<LM25	0.034	UGG
			1,4-OXATHIANE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.075	<LM25	0.075	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.075	<LM25	0.075	UGG
			2,3,6-TCP	02-SD-02	08/08/1991	02SD0201Y	0.500	0.62	<LM25	0.62	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.62	<LM25	0.62	UGG
			2,4,5-TRICHLOROPHENOL	02-SD-02	08/08/1991	02SD0201Y	0.500	0.49	<LM25	0.49	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.49	<LM25	0.49	UGG
			2,4,6-TRICHLOROPHENOL	02-SD-02	08/08/1991	02SD0201Y	0.500	0.061	<LM25	0.061	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.061	<LM25	0.061	UGG
			2,4-DICHLOROPHENOL	02-SD-02	08/08/1991	02SD0201Y	0.500	0.065	<LM25	0.065	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.065	<LM25	0.065	UGG
			2,4-DIMETHYLPHENOL	02-SD-02	08/08/1991	02SD0201Y	0.500	3.0	<LM25	3.0	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	3.0	<LM25	3.0	UGG
			2,4-DINITROPHENOL	02-SD-02	08/08/1991	02SD0201Y	0.500	4.7	<LM25	4.7	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	4.7	<LM25	4.7	UGG
			2,6-DINITROANILINE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.57	<LM25	0.57	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.57	<LM25	0.57	UGG
			2-CHLORONAPHTHALENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.24	<LM25	0.24	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.24	<LM25	0.24	UGG
			2-CHLOROPHENOL	02-SD-02	08/08/1991	02SD0201Y	0.500	0.055	<LM25	0.055	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.055	<LM25	0.055	UGG
			2-METHYL-4,6-DINITROPHENOL/4,6	02-SD-02	08/08/1991	02SD0201Y	0.500	0.8	<LM25	0.8	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.8	<LM25	0.8	UGG
			2-METHYLNAPHTHALENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.032	<LM25	0.032	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.032	<LM25	0.032	UGG
			2-METHYLPHENOL/2-CRESOL	02-SD-02	08/08/1991	02SD0201Y	0.500	0.098	<LM25	0.098	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.098	<LM25	0.098	UGG
			2-NITROANILINE	02-SD-02	08/08/1991	02SD0201NR	0.500	3.1	*LM25	3.1	UGG
				02-SD-06	08/08/1991	02SD0601NR	0.500	3.1	*LM25	3.1	UGG
			2-NITROPHENOL	02-SD-02	08/08/1991	02SD0201Y	0.500	1.1	<LM25	1.1	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	1.1	<LM25	1.1	UGG
			3,3'-DICHLOROBENZIDINE	02-SD-02	08/08/1991	02SD0201Y	0.500	1.6	<LM25	1.6	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	1.6	<LM25	1.6	UGG
			3,5-DINITROANILINE	02-SD-02	08/08/1991	02SD0201Y	0.500	1.6	<LM25	1.6	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				02-SD-06	08/08/1991	02SD0601Y	0.500	1.6	<LM25	1.6	UGG
			3-METHYL-4-CHLOROPHENOL/4-CHLO	02-SD-02	08/08/1991	02SD0201Y	0.500	0.93	<LM25	0.93	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.93	<LM25	0.93	UGG
			3-NITROANILINE	02-SD-02	08/08/1991	02SD0201Y	0.500	3.0	<LM25	3.0	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	3.0	<LM25	3.0	UGG
			3-NITROTOLUENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.34	<LM25	0.34	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.34	<LM25	0.34	UGG
			4-BROMOPHENYLPHENYL ETHER	02-SD-02	08/08/1991	02SD0201Y	0.500	0.041	<LM25	0.041	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.041	<LM25	0.041	UGG
			4-CHLOROANILINE	02-SD-02	08/08/1991	02SD0201NR	0.500	0.63	*LM25	0.63	UGG
				02-SD-06	08/08/1991	02SD0601NR	0.500	0.63	*LM25	0.63	UGG
			4-CHLOROPHENYLPHENYL ETHER	02-SD-02	08/08/1991	02SD0201Y	0.500	0.17	<LM25	0.17	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.17	<LM25	0.17	UGG
			4-METHYLPHENOL/4-CRESOL	02-SD-02	08/08/1991	02SD0201Y	0.500	0.24	<LM25	0.24	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.24	<LM25	0.24	UGG
			4-NITROANILINE	02-SD-02	08/08/1991	02SD0201NR	0.500	3.1	*LM25	3.1	UGG
				02-SD-06	08/08/1991	02SD0601NR	0.500	3.1	*LM25	3.1	UGG
			4-NITROPHENOL	02-SD-02	08/08/1991	02SD0201Y	0.500	3.3	<LM25	3.3	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	3.3	<LM25	3.3	UGG
			ACENAPHTHENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.041	<LM25	0.041	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.041	<LM25	0.041	UGG
			ACENAPHTHYLENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.033	<LM25	0.033	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.033	<LM25	0.033	UGG
			ANTHRACENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.71	<LM25	0.71	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.71	<LM25	0.71	UGG
			ATRAZINE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.065	<LM25	0.065	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.065	<LM25	0.065	UGG
			BENZO(A)ANTHRACENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.041	<LM25	0.48	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.041	<LM25	0.48	UGG
			BENZO(A)PYRENE	02-SD-02	08/08/1991	02SD0201Y	0.500	1.2	<LM25	1.2	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	1.2	<LM25	1.2	UGG
			BENZO(B)FLUORANTHENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.31	<LM25	0.31	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.31	<LM25	0.31	UGG
			BENZO(G,H,I)PERYLENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.18	<LM25	0.18	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.18	<LM25	0.18	UGG
			BENZO(K)FLUORANTHENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.13	<LM25	0.13	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.13	<LM25	0.13	UGG
			BENZOIC ACID	02-SD-02	08/08/1991	02SD0201NR	0.500	3.1	*LM25	3.1	UGG
				02-SD-06	08/08/1991	02SD0601NR	0.500	3.1	*LM25	3.1	UGG
			BENZYL ALCOHOL	02-SD-02	08/08/1991	02SD0201Y	0.500	0.032	<LM25	0.032	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.032	<LM25	0.032	UGG
			BIS (2-CHLOROETHOXY) METHANE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.19	<LM25	0.19	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.19	<LM25	0.19	UGG
			BIS (2-CHLOROETHYL) ETHER	02-SD-02	08/08/1991	02SD0201Y	0.500	0.36	<LM25	0.36	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.36	<LM25	0.36	UGG
			BIS (2-CHLOROISOPROPYL) ETHER	02-SD-02	08/08/1991	02SD0201Y	0.500	0.44	<LM25	0.44	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.44	<LM25	0.44	UGG
			BIS (2-ETHYLHEXYL) PHTHALATE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.48	<LM25	0.48	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.48	<LM25	0.48	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			BUTYLBENZYL PHTHALATE	02-SD-02	08/08/1991	02SD0201Y	0.500	1.8	<LM25	1.8	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	1.8	<LM25	1.8	UGG
			CHRYSENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.032	<LM25	0.032	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.032	<LM25	0.032	UGG
			DI-N-BUTYL PHTHALATE	02-SD-02	08/08/1991	02SD0201Y	0.500	1.3	<LM25	1.3	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	1.3	<LM25	1.3	UGG
			DI-N-OCTYL PHTHALATE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.23	<LM25	0.23	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.23	<LM25	0.23	UGG
			DIBENZ(A,H)ANTHRACENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.31	<LM25	0.31	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.31	<LM25	0.31	UGG
			DIBENZOFURAN	02-SD-02	08/08/1991	02SD0201Y	0.500	0.038	<LM25	0.038	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.038	<LM25	0.038	UGG
			DIBROMOCHLOROPROPANE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.071	<LM25	0.071	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.071	<LM25	0.071	UGG
			DICYCLOPENTADIENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.57	<LM25	0.57	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.57	<LM25	0.57	UGG
			DIETHYL PHTHALATE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.24	<LM25	0.24	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.24	<LM25	0.24	UGG
			DIMETHYL PHTHALATE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.063	<LM25	0.063	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.063	<LM25	0.063	UGG
			DITHIANE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.065	<LM25	0.065	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.065	<LM25	0.065	UGG
			ENDOSULFAN SULFATE	02-SD-02	08/08/1991	02SD0201Y	0.500	1.2	<LM25	1.2	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	1.2	<LM25	1.2	UGG
			ENDRIN ALDEHYDE	02-SD-02	08/08/1991	02SD0201Y	0.500	1.8	<LM25	1.8	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	1.8	<LM25	1.8	UGG
			ENDRIN KETONE	02-SD-02	08/08/1991	02SD0201NR	0.500	0.28	*LM25	0.28	UGG
				02-SD-06	08/08/1991	02SD0601NR	0.500	0.28	*LM25	0.28	UGG
			FLUORANTHENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.032	<LM25	0.032	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.032	<LM25	0.032	UGG
			FLUORENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.065	<LM25	0.065	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.065	<LM25	0.065	UGG
			HEXACHLOROBENZENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.08	<LM25	0.08	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.08	<LM25	0.08	UGG
			HEXACHLOROBUTADIENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.97	<LM25	0.97	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.97	<LM25	0.97	UGG
			HEXACHLOROCYCLOPENTADIENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.52	<LM25	0.52	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.52	<LM25	0.52	UGG
			HEXACHLOROETHANE	02-SD-02	08/08/1991	02SD0201Y	0.500	1.8	<LM25	1.8	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	1.8	<LM25	1.8	UGG
			INDENO(1,2,3-C,D)PYRENE	02-SD-02	08/08/1991	02SD0201Y	0.500	2.4	<LM25	2.4	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	2.4	<LM25	2.4	UGG
			ISOPHORONE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.39	<LM25	0.39	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.39	<LM25	0.39	UGG
			MALATHION	02-SD-02	08/08/1991	02SD0201Y	0.500	0.18	<LM25	0.18	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.18	<LM25	0.18	UGG
			MIREX	02-SD-02	08/08/1991	02SD0201Y	0.500	0.14	<LM25	0.14	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.14	<LM25	0.14	UGG
			N-NITROSODI-N-PROPYLAMINE	02-SD-02	08/08/1991	02SD0201Y	0.500	1.1	<LM25	1.1	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				02-SD-06	08/08/1991	02SD0601Y	0.500	1.1	<LM25	1.1	UGG
			N-NITROSODIMETHYLAMINE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.46	<LM25	0.46	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.46	<LM25	0.46	UGG
			N-NITROSODIPHENYLAMINE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.29	<LM25	0.29	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.29	<LM25	0.29	UGG
			NAPHTHALENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.74	<LM25	0.74	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.74	<LM25	0.74	UGG
			P-CHLOROPHENYLMETHYL SULFIDE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.097	<LM25	0.097	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.097	<LM25	0.097	UGG
			P-CHLOROPHENYLMETHYL SULFONE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.066	<LM25	0.066	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.066	<LM25	0.066	UGG
			P-CHLOROPHENYLMETHYL SULFOXIDE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.32	<LM25	0.32	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.32	<LM25	0.32	UGG
			PARATHION	02-SD-02	08/08/1991	02SD0201Y	0.500	1.7	<LM25	1.7	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	1.7	<LM25	1.7	UGG
			PENTACHLOROPHENOL	02-SD-02	08/08/1991	02SD0201Y	0.500	0.76	<LM25	0.76	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.76	<LM25	0.76	UGG
			PHENANTHRENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.032	<LM25	0.032	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.032	<LM25	0.032	UGG
			PHENOL	02-SD-02	08/08/1991	02SD0201Y	0.500	0.052	<LM25	0.052	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.052	<LM25	0.052	UGG
			PYRENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.083	<LM25	0.083	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.083	<LM25	0.083	UGG
			SUPONA/2-CHLORO-1-(2,4-DICHLOR	02-SD-02	08/08/1991	02SD0201Y	0.500	0.92	<LM25	0.92	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.92	<LM25	0.92	UGG
			VAPONA	02-SD-02	08/08/1991	02SD0201Y	0.500	0.068	<LM25	0.068	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.068	<LM25	0.068	UGG
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	02-SD-02	08/08/1991	02SD0201Y	0.500	0.5	<LM23	0.5	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.5	<LM23	0.5	UGG
			1,1,1-TRICHLOROETHANE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.2	<LM23	0.2	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2,2-TETRACHLOROETHANE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.2	<LM23	0.2	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2-TRICHLOROETHANE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.33	<LM23	0.33	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.33	<LM23	0.33	UGG
			1,1-DICHLOROETHANE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.49	<LM23	0.49	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.49	<LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	02-SD-02	08/08/1991	02SD0201Y	0.500	0.27	<LM23	0.27	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.27	<LM23	0.27	UGG
			1,2-DICHLOROETHANE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.32	<LM23	0.32	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	02-SD-02	08/08/1991	02SD0201Y	0.500	0.32	<LM23	0.32	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROPROPANE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.53	<LM23	0.53	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.53	<LM23	0.53	UGG
			1,3-DICHLOROBENZENE	02-SD-02	08/08/1991	02SD0201N	0.500	0.042	<LM25	0.042	UGG
						02SD0201Y	0.500	0.14	<LM23	0.14	UGG
				02-SD-06	08/08/1991	02SD0601N	0.500	0.042	<LM25	0.042	UGG
						02SD0601Y	0.500	0.14	<LM23	0.14	UGG

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			1,3-DICLOROPROPANE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.2	<LM23	0.2	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.2	<LM23	0.2	UGG
			1,3-DIMETHYLBENZENE/M-XYLENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.23	<LM23	0.23	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.23	<LM23	0.23	UGG
			ACETIC ACID, VINYL ESTER/VINYL	02-SD-02	08/08/1991	02SD0201NR	0.500	1.0	*LM23	1.0	UGG
				02-SD-06	08/08/1991	02SD0601NR	0.500	1.0	*LM23	1.0	UGG
			ACETONE	02-SD-02	08/08/1991	02SD0201Y	0.500	3.3	<LM23	3.3	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	3.3	<LM23	3.3	UGG
			ACRYLONITRILE	02-SD-02	08/08/1991	02SD0201Y	0.500	2.0	<LM23	2.0	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	2.0	<LM23	2.0	UGG
			BENZENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.1	<LM23	0.1	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.1	<LM23	0.1	UGG
			BROMODICHLOROMETHANE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.2	<LM23	0.2	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.2	<LM23	0.2	UGG
			BROMOFORM	02-SD-02	08/08/1991	02SD0201Y	0.500	0.2	<LM23	0.2	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.2	<LM23	0.2	UGG
			BROMOMETHANE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.26	<LM23	0.26	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.26	<LM23	0.26	UGG
			CARBON DISULFIDE	02-SD-02	08/08/1991	02SD0201NR	0.500	0.6	*LM23	0.6	UGG
				02-SD-06	08/08/1991	02SD0601NR	0.500	0.6	*LM23	0.6	UGG
			CARBON TETRACHLORIDE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.31	<LM23	0.31	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.31	<LM23	0.31	UGG
			CHLORFORM	02-SD-02	08/08/1991	02SD0201Y	0.500	0.24	<LM23	0.24	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.24	<LM23	0.24	UGG
			CHLOROBENZENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.1	<LM23	0.1	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.1	<LM23	0.1	UGG
			CHLOROETHANE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.64	<LM23	0.64	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.64	<LM23	0.64	UGG
			CHLOROETHANE/VINYL CHLORIDE	02-SD-02	08/08/1991	02SD0201Y	0.500	1.8	<LM23	1.8	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	1.8	<LM23	1.8	UGG
			CHLOROMETHANE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.96	<LM23	0.96	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.96	<LM23	0.96	UGG
			CIS-1,3-DICHLOROPROPYLENE/CIS-	02-SD-02	08/08/1991	02SD0201NR	0.500	0.6	*LM23	0.6	UGG
				02-SD-06	08/08/1991	02SD0601NR	0.500	0.6	*LM23	0.6	UGG
			DIBROMOCHLOROMETHANE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.25	<LM23	0.25	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.25	<LM23	0.25	UGG
			DICHLOROBENZENE - NONSPECIFIC	02-SD-02	08/08/1991	02SD0201Y	0.500	0.2	<LM23	0.2	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.2	<LM23	0.2	UGG
			ETHYLBENZENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.19	<LM23	0.19	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.19	<LM23	0.19	UGG
			METHYL-N-BUTYL KETONE/2-HEXANO	02-SD-02	08/08/1991	02SD0201NR	0.500	1.0	*LM23	1.0	UGG
				02-SD-06	08/08/1991	02SD0601NR	0.500	1.0	*LM23	1.0	UGG
			METHYLENE CHLORIDE	02-SD-02	08/08/1991	02SD0201Y	0.500	4.4	<LM23	4.4	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	4.4	<LM23	4.4	UGG
			METHYLETHYL PHENOL/METHYLETHYL	02-SD-02	08/08/1991	02SD0201Y	0.500	4.3	<LM23	4.3	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	4.3	<LM23	4.3	UGG
			METHYLISOBUTYL KETONE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.63	<LM23	0.63	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.63	<LM23	0.63	UGG
			STYRENE	02-SD-02	08/08/1991	02SD0201NR	0.500	0.6	*LM23	0.6	UGG

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				02-SD-06	08/08/1991	02SD0601NR	0.500	0.6	*LM23	0.6	UGG
			TETRACHLOROETHYLENE/TETRACHLOR	02-SD-02	08/08/1991	02SD0201Y	0.500	0.16	<LM23	0.16	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.16	<LM23	0.16	UGG
			TOLUENE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.1	<LM23	0.1	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.1	<LM23	0.1	UGG
			TRANS-1,3-DICHLOROPROPENE	02-SD-02	08/08/1991	02SD0201NR	0.500	0.6	*LM23	0.6	UGG
				02-SD-06	08/08/1991	02SD0601NR	0.500	0.6	*LM23	0.6	UGG
			TRICHLOROETHYLENE/TRICHLOROETH	02-SD-02	08/08/1991	02SD0201Y	0.500	0.23	<LM23	0.23	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.23	<LM23	0.23	UGG
			TRICHLOROFLUOROMETHANE	02-SD-02	08/08/1991	02SD0201Y	0.500	0.23	<LM23	0.23	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.23	<LM23	0.23	UGG
			XYLENES	02-SD-02	08/08/1991	02SD0201Y	0.500	0.78	<LM23	0.78	UGG
				02-SD-06	08/08/1991	02SD0601Y	0.500	0.78	<LM23	0.78	UGG
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	02-SA-01	08/08/1991	02SA0101Y	1.500	2.1	<LW02	2.09	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	2.1	<LW02	2.09	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	2.1	<LW02	2.09	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	2.1	<LW02	2.09	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.59	<LW02	0.59	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.59	<LW02	0.59	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.59	<LW02	0.59	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	0.59	<LW02	0.59	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	0.59	<LW02	0.59	UGG
			2,4,6-TNT	02-SA-01	08/08/1991	02SA0101Y	1.500	1.9	<LW02	1.92	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	1.9	<LW02	1.92	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	1.9	<LW02	1.92	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	1.9	<LW02	1.92	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	02-SA-01	08/08/1991	02SA0101N	1.500	1.4	<LM25	1.4	UGG
						02SA0101Y	1.500	0.42	<LW02	0.42	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	1.4	<LM25	1.4	UGG
						02SA0301Y	0.700	0.42	<LW02	0.42	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	1.4	<LM25	1.4	UGG
						02SA0401Y	1.500	0.42	<LW02	0.42	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	1.4	<LM25	1.4	UGG
						02SA0802N	1.500	1.4	<LM25	1.4	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	0.42	<LW02	0.42	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	02-SA-01	08/08/1991	02SA0101N	1.500	0.32	<LM25	0.32	UGG
						02SA0101Y	1.500	0.4	<LW02	0.4	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	0.32	<LM25	0.32	UGG
						02SA0301Y	0.700	0.4	<LW02	0.4	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	0.32	<LM25	0.32	UGG
						02SA0401Y	1.500	0.4	<LW02	0.4	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	0.32	<LM25	0.32	UGG
						02SA0802N	1.500	0.32	<LM25	0.32	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	0.4	<LW02	0.4	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	0.4	<LW02	0.4	UGG
			HMX	02-SA-01	08/08/1991	02SA0101Y	1.500	1.3	<LW02	1.27	UGG

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				02-SA-03	08/08/1991	02SA0301Y	0.700	1.3	<LW02	1.27	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	1.3	<LW02	1.27	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	1.8	=LW02	1.27	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	1.3	<LW02	1.27	UGG
			NITROBENZENE	02-SA-01	08/08/1991	02SA0101N	1.500	1.8	<LM25	1.8	UGG
						02SA0101Y	1.500	0.42	<LW02	0.42	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	1.8	<LM25	1.8	UGG
						02SA0301Y	0.700	0.42	<LW02	0.42	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	1.8	<LM25	1.8	UGG
						02SA0401Y	1.500	0.42	<LW02	0.42	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	1.8	<LM25	1.8	UGG
						02SA0802N	1.500	1.8	<LM25	1.8	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	0.42	<LW02	0.42	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	0.42	<LW02	0.42	UGG
			RDX	02-SA-01	08/08/1991	02SA0101Y	1.500	0.98	<LW02	0.98	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.98	<LW02	0.98	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.98	<LW02	0.98	UGG
				02-SS-05	08/08/1991	02SS0501YP	0.500	0.63	=LW02	0.98	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	0.98	<LW02	0.98	UGG
			TETRYL	02-SA-01	08/08/1991	02SA0101Y	1.500	0.25	<LW02	0.25	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.25	<LW02	0.25	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.25	<LW02	0.25	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	0.25	<LW02	0.25	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	02-SA-01	08/08/1991	02SA0101Y	1.500	19.6	<JS12	19.6	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	19.6	<JS12	19.6	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	19.6	<JS12	19.6	UGG
				02-SS-05	08/08/1991	02SS0501N	0.500	19.6	<99	19.6	UGG
				02-SS-07	08/08/1991	02SS0701N	0.400	19.6	<99	19.6	UGG
			ARSENIC	02-SA-01	08/08/1991	02SA0101Y	1.500	3.35	=B9	2.5	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	8.78	=B9	2.5	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	5.24	=B9	2.5	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	5.16	=B9	2.5	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	7.93	=B9	2.5	UGG
			BARIUM	02-SA-01	08/08/1991	02SA0101Y	1.500	198.0	=JS12	3.29	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	232.0	=JS12	3.29	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	262.0	=JS12	3.29	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	196.0	=JS12	3.29	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	248.0	=JS12	3.29	UGG
			BERYLLIUM	02-SA-01	08/08/1991	02SA0101Y	1.500	1.1	=JS12	0.427	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.86	=JS12	0.427	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.907	=JS12	0.427	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	0.897	=JS12	0.427	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	0.905	=JS12	0.427	UGG
			CADMIUM	02-SA-01	08/08/1991	02SA0101Y	1.500	1.2	<JS12	1.2	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	2.14	=JS12	1.2	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	1.2	<JS12	1.2	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	1.2	<JS12	1.2	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	1.2	<JS12	1.2	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			CHROMIUM	02-SA-01	08/08/1991	02SA0101Y	1.500	41.4	=JS12	1.04	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	36.3	=JS12	1.04	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	26.3	=JS12	1.04	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	43.2	=JS12	1.04	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	32.9	=JS12	1.04	UGG
			COPPER	02-SA-01	08/08/1991	02SA0101Y	1.500	17.2	=JS12	2.84	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	87.3	=JS12	2.84	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	103.0	=JS12	2.84	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	33.4	=JS12	2.84	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	21.4	=JS12	2.84	UGG
			LEAD	02-SA-01	08/08/1991	02SA0101Y	1.500	16.0	=JD21	0.467	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	26.0	=JD21	0.467	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	25.0	=JD21	0.467	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	170.0	=JD21	0.467	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	23.0	=JD21	0.467	UGG
			MERCURY	02-SA-01	08/08/1991	02SA0101Y	1.500	0.074	=Y9	0.05	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.068	=Y9	0.05	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.083	=Y9	0.05	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	0.05	<Y9	0.05	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	0.05	<Y9	0.05	UGG
			NICKEL	02-SA-01	08/08/1991	02SA0101Y	1.500	15.9	=JS12	2.74	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	15.2	=JS12	2.74	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	18.6	=JS12	2.74	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	22.0	=JS12	2.74	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	25.0	=JS12	2.74	UGG
			SELENIUM	02-SA-01	08/08/1991	02SA0101Y	1.500	0.449	<JD20	0.449	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.449	<JD20	0.449	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.449	<JD20	0.449	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	0.449	<JD20	0.449	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	0.449	<JD20	0.449	UGG
			SILVER	02-SA-01	08/08/1991	02SA0101Y	1.500	0.803	<JS12	0.803	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.803	<JS12	0.803	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.803	<JS12	0.803	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	0.803	<JS12	0.803	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	0.803	<JS12	0.803	UGG
			THALLIUM	02-SA-01	08/08/1991	02SA0101Y	1.500	34.3	<JS12	34.3	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	34.3	<JS12	34.3	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	34.3	<JS12	34.3	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	34.3	<JS12	34.3	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	34.3	<JS12	34.3	UGG
			ZINC	02-SA-01	08/08/1991	02SA0101Y	1.500	66.7	=JS12	2.34	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	102.0	=JS12	2.34	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	102.0	=JS12	2.34	UGG
				02-SS-05	08/08/1991	02SS0501Y	0.500	124.0	=JS12	2.34	UGG
				02-SS-07	08/08/1991	02SS0701Y	0.400	73.6	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	02-SA-01	08/08/1991	02SA0101N	1.500	0.068	<LM25	0.068	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	0.068	<LM25	0.068	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	0.068	<LM25	0.068	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	0.068	<LM25	0.068	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						02SA0802N	1.500	0.068	<LM25	0.068	UGG
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	02-SA-01	08/08/1991	02SA0101N	1.500	0.1	<LM25	0.1	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	0.1	<LM25	0.1	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	0.1	<LM25	0.1	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	0.1	<LM25	0.1	UGG
						02SA0802N	1.500	0.1	<LM25	0.1	UGG
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	02-SA-01	08/08/1991	02SA0101N	1.500	0.064	<LM25	0.064	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	0.064	<LM25	0.064	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	0.064	<LM25	0.064	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	0.064	<LM25	0.064	UGG
						02SA0802N	1.500	0.064	<LM25	0.064	UGG
			ALDRIN	02-SA-01	08/08/1991	02SA0101N	1.500	1.3	<LM25	1.3	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	1.3	<LM25	1.3	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	1.3	<LM25	1.3	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	1.3	<LM25	1.3	UGG
						02SA0802N	1.500	1.3	<LM25	1.3	UGG
			ALPHA-BENZENEHEXACHLORIDE	02-SA-01	08/08/1991	02SA0101N	1.500	1.3	<LM25	1.3	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	1.3	<LM25	1.3	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	1.3	<LM25	1.3	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	1.3	<LM25	1.3	UGG
						02SA0802N	1.500	1.3	<LM25	1.3	UGG
			ALPHA-ENDOSULFAN/ENDOSULFAN I	02-SA-01	08/08/1991	02SA0101N	1.500	0.4	<LM25	0.4	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	0.4	<LM25	0.4	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	0.4	<LM25	0.4	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	0.4	<LM25	0.4	UGG
						02SA0802N	1.500	0.4	<LM25	0.4	UGG
			BETA-BENZENEHEXACHLORIDE	02-SA-01	08/08/1991	02SA0101N	1.500	1.3	<LM25	1.3	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	1.3	<LM25	1.3	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	1.3	<LM25	1.3	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	1.3	<LM25	1.3	UGG
						02SA0802N	1.500	1.3	<LM25	1.3	UGG
			BETA-ENDOSULFAN/ENDOSULFAN II	02-SA-01	08/08/1991	02SA0101N	1.500	2.4	<LM25	2.4	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	2.4	<LM25	2.4	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	2.4	<LM25	2.4	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	2.4	<LM25	2.4	UGG
						02SA0802N	1.500	2.4	<LM25	2.4	UGG
			CHLORDANE	02-SA-01	08/08/1991	02SA0101N	1.500	0.68	<LM25	0.68	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	0.68	<LM25	0.68	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	0.68	<LM25	0.68	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	0.68	<LM25	0.68	UGG
						02SA0802N	1.500	0.68	<LM25	0.68	UGG
			DELTA-BENZENEHEXACHLORIDE	02-SA-01	08/08/1991	02SA0101N	1.500	0.21	<LM25	0.21	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	0.21	<LM25	0.21	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	0.21	<LM25	0.21	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	0.21	<LM25	0.21	UGG
						02SA0802N	1.500	0.21	<LM25	0.21	UGG
			DIELDRIN	02-SA-01	08/08/1991	02SA0101N	1.500	0.079	<LM25	0.079	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	0.079	<LM25	0.079	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	0.079	<LM25	0.079	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				02-SA-08	08/08/1991	02SA0801N	1.500	0.079	<LM25	0.079	UGG
						02SA0802N	1.500	0.079	<LM25	0.079	UGG
			ENDRIN	02-SA-01	08/08/1991	02SA0101N	1.500	1.3	<LM25	1.3	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	1.3	<LM25	1.3	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	1.3	<LM25	1.3	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	1.3	<LM25	1.3	UGG
						02SA0802N	1.500	1.3	<LM25	1.3	UGG
			HEPTACHLOR	02-SA-01	08/08/1991	02SA0101N	1.500	0.24	<LM25	0.24	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	0.24	<LM25	0.24	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	0.24	<LM25	0.24	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	0.24	<LM25	0.24	UGG
						02SA0802N	1.500	0.24	<LM25	0.24	UGG
			HEPTACHLOR EPOXIDE	02-SA-01	08/08/1991	02SA0101N	1.500	0.48	<LM25	0.48	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	0.48	<LM25	0.48	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	0.48	<LM25	0.48	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	0.48	<LM25	0.48	UGG
						02SA0802N	1.500	0.48	<LM25	0.48	UGG
			ISODRIN	02-SA-01	08/08/1991	02SA0101N	1.500	0.48	<LM25	0.48	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	0.48	<LM25	0.48	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	0.48	<LM25	0.48	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	0.48	<LM25	0.48	UGG
						02SA0802N	1.500	0.48	<LM25	0.48	UGG
			LINDANE	02-SA-01	08/08/1991	02SA0101N	1.500	0.1	<LM25	0.1	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	0.1	<LM25	0.1	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	0.1	<LM25	0.1	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	0.1	<LM25	0.1	UGG
						02SA0802N	1.500	0.1	<LM25	0.1	UGG
			METHOXYCHLOR	02-SA-01	08/08/1991	02SA0101N	1.500	0.26	<LM25	0.26	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	0.26	<LM25	0.26	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	0.26	<LM25	0.26	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	0.26	<LM25	0.26	UGG
						02SA0802N	1.500	0.26	<LM25	0.26	UGG
			PCB 1016	02-SA-01	08/08/1991	02SA0101N	1.500	0.32	<LM25	0.32	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	0.32	<LM25	0.32	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	0.32	<LM25	0.32	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	0.32	<LM25	0.32	UGG
						02SA0802N	1.500	0.32	<LM25	0.32	UGG
			PCB 1221	02-SA-01	08/08/1991	02SA0101NR	1.500	1.9	*LM25	1.9	UGG
				02-SA-03	08/08/1991	02SA0301NR	0.700	1.9	*LM25	1.9	UGG
				02-SA-04	08/08/1991	02SA0401NR	1.500	1.9	*LM25	1.9	UGG
				02-SA-08	08/08/1991	02SA0801NR	1.500	1.9	*LM25	1.9	UGG
						02SA0802NR	1.500	1.9	*LM25	1.9	UGG
			PCB 1232	02-SA-01	08/08/1991	02SA0101NR	1.500	1.9	*LM25	1.9	UGG
				02-SA-03	08/08/1991	02SA0301NR	0.700	1.9	*LM25	1.9	UGG
				02-SA-04	08/08/1991	02SA0401NR	1.500	1.9	*LM25	1.9	UGG
				02-SA-08	08/08/1991	02SA0801NR	1.500	1.9	*LM25	1.9	UGG
						02SA0802NR	1.500	1.9	*LM25	1.9	UGG
			PCB 1242	02-SA-01	08/08/1991	02SA0101NR	1.500	1.9	*LM25	1.9	UGG
				02-SA-03	08/08/1991	02SA0301NR	0.700	1.9	*LM25	1.9	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				02-SA-04	08/08/1991	02SA0401NR	1.500	1.9	*LM25	1.9	UGG
				02-SA-08	08/08/1991	02SA0801NR	1.500	1.9	*LM25	1.9	UGG
						02SA0802NR	1.500	1.9	*LM25	1.9	UGG
			PCB 1248	02-SA-01	08/08/1991	02SA0101NR	1.500	1.9	*LM25	1.9	UGG
				02-SA-03	08/08/1991	02SA0301NR	0.700	1.9	*LM25	1.9	UGG
				02-SA-04	08/08/1991	02SA0401NR	1.500	1.9	*LM25	1.9	UGG
				02-SA-08	08/08/1991	02SA0801NR	1.500	1.9	*LM25	1.9	UGG
						02SA0802NR	1.500	1.9	*LM25	1.9	UGG
			PCB 1254	02-SA-01	08/08/1991	02SA0101NR	1.500	3.8	*LM25	3.8	UGG
				02-SA-03	08/08/1991	02SA0301NR	0.700	3.8	*LM25	3.8	UGG
				02-SA-04	08/08/1991	02SA0401NR	1.500	3.8	*LM25	3.8	UGG
				02-SA-08	08/08/1991	02SA0801NR	1.500	3.8	*LM25	3.8	UGG
						02SA0802NR	1.500	3.8	*LM25	3.8	UGG
			PCB 1260	02-SA-01	08/08/1991	02SA0101N	1.500	0.79	<LM25	0.79	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	0.79	<LM25	0.79	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	0.79	<LM25	0.79	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	0.79	<LM25	0.79	UGG
						02SA0802N	1.500	0.79	<LM25	0.79	UGG
			PCB 1262	02-SA-01	08/08/1991	02SA0101Y	1.500	6.3	<LM25	0.3	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	6.3	<LM25	0.3	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	6.3	<LM25	0.3	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	6.3	<LM25	0.3	UGG
						02SA0802Y	1.500	6.3	<LM25	0.3	UGG
			TOXAPHENE	02-SA-01	08/08/1991	02SA0101NR	1.500	12.0	*LM25	12.0	UGG
				02-SA-03	08/08/1991	02SA0301NR	0.700	12.0	*LM25	12.0	UGG
				02-SA-04	08/08/1991	02SA0401NR	1.500	12.0	*LM25	12.0	UGG
				02-SA-08	08/08/1991	02SA0801NR	1.500	12.0	*LM25	12.0	UGG
						02SA0802NR	1.500	12.0	*LM25	12.0	UGG
		SEMIVOLATILES	1,2,3-TRICHLOROBENZENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.032	<LM25	0.032	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.032	<LM25	0.032	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.032	<LM25	0.032	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.032	<LM25	0.032	UGG
						02SA0802Y	1.500	0.032	<LM25	0.032	UGG
			1,2,4-TRICHLOROBENZENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.22	<LM25	0.22	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.22	<LM25	0.22	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.22	<LM25	0.22	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.22	<LM25	0.22	UGG
						02SA0802Y	1.500	0.22	<LM25	0.22	UGG
			1,2-DICHLOROBENZENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.042	<LM25	0.042	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.042	<LM25	0.042	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.042	<LM25	0.042	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.042	<LM25	0.042	UGG
						02SA0802Y	1.500	0.042	<LM25	0.042	UGG
			1,2-DIPHENYLHYDRAZINE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.52	<LM25	0.52	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.52	<LM25	0.52	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.52	<LM25	0.52	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.52	<LM25	0.52	UGG
						02SA0802Y	1.500	0.52	<LM25	0.52	UGG
			1,4-DICHLOROBENZENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.034	<LM25	0.034	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.034	<LM25	0.034	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.034	<LM25	0.034	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.034	<LM25	0.034	UGG
						02SA0802Y	1.500	0.034	<LM25	0.034	UGG
			1,4-OXATHIANE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.075	<LM25	0.075	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.075	<LM25	0.075	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.075	<LM25	0.075	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.075	<LM25	0.075	UGG
						02SA0802Y	1.500	0.075	<LM25	0.075	UGG
			2,3,6-TCP	02-SA-01	08/08/1991	02SA0101Y	1.500	0.62	<LM25	0.62	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.62	<LM25	0.62	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.62	<LM25	0.62	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.62	<LM25	0.62	UGG
						02SA0802Y	1.500	0.62	<LM25	0.62	UGG
			2,4,5-TRICHLOROPHENOL	02-SA-01	08/08/1991	02SA0101Y	1.500	0.49	<LM25	0.49	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.49	<LM25	0.49	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.49	<LM25	0.49	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.49	<LM25	0.49	UGG
						02SA0802Y	1.500	0.49	<LM25	0.49	UGG
			2,4,6-TRICHLOROPHENOL	02-SA-01	08/08/1991	02SA0101Y	1.500	0.061	<LM25	0.061	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.061	<LM25	0.061	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.061	<LM25	0.061	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.061	<LM25	0.061	UGG
						02SA0802Y	1.500	0.061	<LM25	0.061	UGG
			2,4-DICHLOROPHENOL	02-SA-01	08/08/1991	02SA0101Y	1.500	0.065	<LM25	0.065	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.065	<LM25	0.065	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.065	<LM25	0.065	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.065	<LM25	0.065	UGG
						02SA0802Y	1.500	0.065	<LM25	0.065	UGG
			2,4-DIMETHYLPHENOL	02-SA-01	08/08/1991	02SA0101Y	1.500	3.0	<LM25	3.0	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	3.0	<LM25	3.0	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	3.0	<LM25	3.0	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	3.0	<LM25	3.0	UGG
						02SA0802Y	1.500	3.0	<LM25	3.0	UGG
			2,4-DINITROPHENOL	02-SA-01	08/08/1991	02SA0101Y	1.500	4.7	<LM25	4.7	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	4.7	<LM25	4.7	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	4.7	<LM25	4.7	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	4.7	<LM25	4.7	UGG
						02SA0802Y	1.500	4.7	<LM25	4.7	UGG
			2,6-DINITROANILINE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.57	<LM25	0.57	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.57	<LM25	0.57	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.57	<LM25	0.57	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.57	<LM25	0.57	UGG
						02SA0802Y	1.500	0.57	<LM25	0.57	UGG
			2-CHLORONAPHTHALENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.24	<LM25	0.24	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.24	<LM25	0.24	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.24	<LM25	0.24	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.24	<LM25	0.24	UGG
						02SA0802Y	1.500	0.24	<LM25	0.24	UGG

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			2-CHLOROPHENOL	02-SA-01	08/08/1991	02SA0101Y	1.500	0.055	<LM25	0.055	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.055	<LM25	0.055	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.055	<LM25	0.055	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.055	<LM25	0.055	UGG
						02SA0802Y	1.500	0.055	<LM25	0.055	UGG
			2-METHYL-4,6-DINITROPHENOL/4,6	02-SA-01	08/08/1991	02SA0101Y	1.500	0.8	<LM25	0.8	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.8	<LM25	0.8	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.8	<LM25	0.8	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.8	<LM25	0.8	UGG
						02SA0802Y	1.500	0.8	<LM25	0.8	UGG
			2-METHYLNAPHTHALENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.032	<LM25	0.032	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.032	<LM25	0.032	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.032	<LM25	0.032	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.032	<LM25	0.032	UGG
						02SA0802Y	1.500	0.032	<LM25	0.032	UGG
			2-METHYLPHENOL/2-CRESOL	02-SA-01	08/08/1991	02SA0101Y	1.500	0.098	<LM25	0.098	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.098	<LM25	0.098	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.098	<LM25	0.098	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.098	<LM25	0.098	UGG
						02SA0802Y	1.500	0.098	<LM25	0.098	UGG
			2-NITROANILINE	02-SA-01	08/08/1991	02SA0101NR	1.500	3.1	*LM25	3.1	UGG
				02-SA-03	08/08/1991	02SA0301NR	0.700	3.1	*LM25	3.1	UGG
				02-SA-04	08/08/1991	02SA0401NR	1.500	3.1	*LM25	3.1	UGG
				02-SA-08	08/08/1991	02SA0801NR	1.500	3.1	*LM25	3.1	UGG
						02SA0802NR	1.500	3.1	*LM25	3.1	UGG
			2-NITROPHENOL	02-SA-01	08/08/1991	02SA0101Y	1.500	1.1	<LM25	1.1	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	1.1	<LM25	1.1	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	1.1	<LM25	1.1	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	1.1	<LM25	1.1	UGG
						02SA0802Y	1.500	1.1	<LM25	1.1	UGG
			3,3'-DICHLOROBENZIDINE	02-SA-01	08/08/1991	02SA0101Y	1.500	1.6	<LM25	1.6	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	1.6	<LM25	1.6	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	1.6	<LM25	1.6	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	1.6	<LM25	1.6	UGG
						02SA0802Y	1.500	1.6	<LM25	1.6	UGG
			3,5-DINITROANILINE	02-SA-01	08/08/1991	02SA0101Y	1.500	1.6	<LM25	1.6	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	1.6	<LM25	1.6	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	1.6	<LM25	1.6	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	1.6	<LM25	1.6	UGG
						02SA0802Y	1.500	1.6	<LM25	1.6	UGG
			3-METHYL-4-CHLOROPHENOL/4-CHLO	02-SA-01	08/08/1991	02SA0101Y	1.500	0.93	<LM25	0.93	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.93	<LM25	0.93	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.93	<LM25	0.93	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.93	<LM25	0.93	UGG
						02SA0802Y	1.500	0.93	<LM25	0.93	UGG
			3-NITROANILINE	02-SA-01	08/08/1991	02SA0101Y	1.500	3.0	<LM25	3.0	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	3.0	<LM25	3.0	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	3.0	<LM25	3.0	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	3.0	<LM25	3.0	UGG

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						02SA0802Y	1.500	3.0	<LM25	3.0	UGG
			3-NITROTOLUENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.34	<LM25	0.34	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.34	<LM25	0.34	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.34	<LM25	0.34	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.34	<LM25	0.34	UGG
						02SA0802Y	1.500	0.34	<LM25	0.34	UGG
			4-BROMOPHENYLPHENYL ETHER	02-SA-01	08/08/1991	02SA0101Y	1.500	0.041	<LM25	0.041	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.041	<LM25	0.041	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.041	<LM25	0.041	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.041	<LM25	0.041	UGG
						02SA0802Y	1.500	0.041	<LM25	0.041	UGG
			4-CHLOROANILINE	02-SA-01	08/08/1991	02SA0101NR	1.500	0.63	*LM25	0.63	UGG
				02-SA-03	08/08/1991	02SA0301NR	0.700	0.63	*LM25	0.63	UGG
				02-SA-04	08/08/1991	02SA0401NR	1.500	0.63	*LM25	0.63	UGG
				02-SA-08	08/08/1991	02SA0801NR	1.500	0.63	*LM25	0.63	UGG
						02SA0802NR	1.500	0.63	*LM25	0.63	UGG
			4-CHLOROPHENYLPHENYL ETHER	02-SA-01	08/08/1991	02SA0101Y	1.500	0.17	<LM25	0.17	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.17	<LM25	0.17	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.17	<LM25	0.17	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.17	<LM25	0.17	UGG
						02SA0802Y	1.500	0.17	<LM25	0.17	UGG
			4-METHYLPHENOL/4-CRESOL	02-SA-01	08/08/1991	02SA0101Y	1.500	0.24	<LM25	0.24	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.24	<LM25	0.24	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.24	<LM25	0.24	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.24	<LM25	0.24	UGG
						02SA0802Y	1.500	0.24	<LM25	0.24	UGG
			4-NITROANILINE	02-SA-01	08/08/1991	02SA0101NR	1.500	3.1	*LM25	3.1	UGG
				02-SA-03	08/08/1991	02SA0301NR	0.700	3.1	*LM25	3.1	UGG
				02-SA-04	08/08/1991	02SA0401NR	1.500	3.1	*LM25	3.1	UGG
				02-SA-08	08/08/1991	02SA0801NR	1.500	3.1	*LM25	3.1	UGG
						02SA0802NR	1.500	3.1	*LM25	3.1	UGG
			4-NITROPHENOL	02-SA-01	08/08/1991	02SA0101Y	1.500	3.3	<LM25	3.3	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	3.3	<LM25	3.3	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	3.3	<LM25	3.3	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	3.3	<LM25	3.3	UGG
						02SA0802Y	1.500	3.3	<LM25	3.3	UGG
			ACENAPHTHENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.041	<LM25	0.041	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.041	<LM25	0.041	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.041	<LM25	0.041	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.041	<LM25	0.041	UGG
						02SA0802Y	1.500	0.041	<LM25	0.041	UGG
			ACENAPHTHYLENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.033	<LM25	0.033	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.033	<LM25	0.033	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.033	<LM25	0.033	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.033	<LM25	0.033	UGG
						02SA0802Y	1.500	0.033	<LM25	0.033	UGG
			ANTHRACENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.71	<LM25	0.71	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.71	<LM25	0.71	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.71	<LM25	0.71	UGG

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				02-SA-08	08/08/1991	02SA0801Y	1.500	0.71	<LM25	0.71	UGG
						02SA0802Y	1.500	0.71	<LM25	0.71	UGG
			ATRAZINE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.065	<LM25	0.065	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.065	<LM25	0.065	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.065	<LM25	0.065	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.065	<LM25	0.065	UGG
						02SA0802Y	1.500	0.065	<LM25	0.065	UGG
			BENZO(A)ANTHRACENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.041	<LM25	0.48	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.041	<LM25	0.48	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.041	<LM25	0.48	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.041	<LM25	0.48	UGG
						02SA0802Y	1.500	0.041	<LM25	0.48	UGG
			BENZO(A)PYRENE	02-SA-01	08/08/1991	02SA0101Y	1.500	1.2	<LM25	1.2	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	1.2	<LM25	1.2	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	1.2	<LM25	1.2	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	1.2	<LM25	1.2	UGG
						02SA0802Y	1.500	1.2	<LM25	1.2	UGG
			BENZO(B)FLUORANTHENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.31	<LM25	0.31	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.31	<LM25	0.31	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.31	<LM25	0.31	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.31	<LM25	0.31	UGG
						02SA0802Y	1.500	0.31	<LM25	0.31	UGG
			BENZO(G,H,I)PERYLENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.18	<LM25	0.18	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.18	<LM25	0.18	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.18	<LM25	0.18	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.18	<LM25	0.18	UGG
						02SA0802Y	1.500	0.18	<LM25	0.18	UGG
			BENZO(K)FLUORANTHENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.13	<LM25	0.13	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.13	<LM25	0.13	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.13	<LM25	0.13	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.13	<LM25	0.13	UGG
						02SA0802Y	1.500	0.13	<LM25	0.13	UGG
			BENZOIC ACID	02-SA-01	08/08/1991	02SA0101NR	1.500	3.1	*LM25	3.1	UGG
				02-SA-03	08/08/1991	02SA0301NR	0.700	3.1	*LM25	3.1	UGG
				02-SA-04	08/08/1991	02SA0401NR	1.500	3.1	*LM25	3.1	UGG
				02-SA-08	08/08/1991	02SA0801NR	1.500	3.1	*LM25	3.1	UGG
						02SA0802NR	1.500	3.1	*LM25	3.1	UGG
			BENZYL ALCOHOL	02-SA-01	08/08/1991	02SA0101Y	1.500	0.032	<LM25	0.032	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.032	<LM25	0.032	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.032	<LM25	0.032	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.032	<LM25	0.032	UGG
						02SA0802Y	1.500	0.032	<LM25	0.032	UGG
			BIS (2-CHLOROETHOXY) METHANE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.19	<LM25	0.19	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.19	<LM25	0.19	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.19	<LM25	0.19	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.19	<LM25	0.19	UGG
						02SA0802Y	1.500	0.19	<LM25	0.19	UGG
			BIS (2-CHLOROETHYL) ETHER	02-SA-01	08/08/1991	02SA0101Y	1.500	0.36	<LM25	0.36	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.36	<LM25	0.36	UGG

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				02-SA-04	08/08/1991	02SA0401Y	1.500	0.36	<LM25	0.36	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.36	<LM25	0.36	UGG
						02SA0802Y	1.500	0.36	<LM25	0.36	UGG
			BIS (2-CHLOROISOPROPYL) ETHER	02-SA-01	08/08/1991	02SA0101Y	1.500	0.44	<LM25	0.44	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.44	<LM25	0.44	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.44	<LM25	0.44	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.44	<LM25	0.44	UGG
						02SA0802Y	1.500	0.44	<LM25	0.44	UGG
			BIS (2-ETHYLHEXYL) PHTHALATE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.48	<LM25	0.48	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.48	<LM25	0.48	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.48	<LM25	0.48	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	1.25	=LM25	0.48	UGG
						02SA0802Y	1.500	1.79	=LM25	0.48	UGG
			BUTYLBENZYL PHTHALATE	02-SA-01	08/08/1991	02SA0101Y	1.500	1.8	<LM25	1.8	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	1.8	<LM25	1.8	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	1.8	<LM25	1.8	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	1.8	<LM25	1.8	UGG
						02SA0802Y	1.500	1.8	<LM25	1.8	UGG
			CHRYSENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.032	<LM25	0.032	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.032	<LM25	0.032	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.032	<LM25	0.032	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.032	<LM25	0.032	UGG
						02SA0802Y	1.500	0.032	<LM25	0.032	UGG
			DI-N-BUTYL PHTHALATE	02-SA-01	08/08/1991	02SA0101Y	1.500	1.3	<LM25	1.3	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	1.3	<LM25	1.3	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	6.2	>LM25	1.3	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	1.3	<LM25	1.3	UGG
						02SA0802Y	1.500	1.3	<LM25	1.3	UGG
			DI-N-OCTYL PHTHALATE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.23	<LM25	0.23	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.23	<LM25	0.23	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.23	<LM25	0.23	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.23	<LM25	0.23	UGG
						02SA0802Y	1.500	0.23	<LM25	0.23	UGG
			DIBENZ(A,H)ANTHRACENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.31	<LM25	0.31	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.31	<LM25	0.31	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.31	<LM25	0.31	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.31	<LM25	0.31	UGG
						02SA0802Y	1.500	0.31	<LM25	0.31	UGG
			DIBENZOFURAN	02-SA-01	08/08/1991	02SA0101Y	1.500	0.038	<LM25	0.038	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.038	<LM25	0.038	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.038	<LM25	0.038	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.038	<LM25	0.038	UGG
						02SA0802Y	1.500	0.038	<LM25	0.038	UGG
			DIBROMOCHLOROPROPANE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.071	<LM25	0.071	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.071	<LM25	0.071	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.071	<LM25	0.071	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.071	<LM25	0.071	UGG
						02SA0802Y	1.500	0.071	<LM25	0.071	UGG
			DICYCLOPENTADIENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.57	<LM25	0.57	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.57	<LM25	0.57	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.57	<LM25	0.57	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.57	<LM25	0.57	UGG
						02SA0802Y	1.500	0.57	<LM25	0.57	UGG
			DIETHYL PHTHALATE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.24	<LM25	0.24	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.24	<LM25	0.24	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.24	<LM25	0.24	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.24	<LM25	0.24	UGG
						02SA0802Y	1.500	0.24	<LM25	0.24	UGG
			DIMETHYL PHTHALATE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.063	<LM25	0.063	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.063	<LM25	0.063	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.063	<LM25	0.063	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.063	<LM25	0.063	UGG
						02SA0802Y	1.500	0.063	<LM25	0.063	UGG
			DITHIANE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.065	<LM25	0.065	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.065	<LM25	0.065	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.065	<LM25	0.065	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.065	<LM25	0.065	UGG
						02SA0802Y	1.500	0.065	<LM25	0.065	UGG
			ENDOSULFAN SULFATE	02-SA-01	08/08/1991	02SA0101Y	1.500	1.2	<LM25	1.2	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	1.2	<LM25	1.2	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	1.2	<LM25	1.2	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	1.2	<LM25	1.2	UGG
						02SA0802Y	1.500	1.2	<LM25	1.2	UGG
			ENDRIN ALDEHYDE	02-SA-01	08/08/1991	02SA0101Y	1.500	1.8	<LM25	1.8	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	1.8	<LM25	1.8	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	1.8	<LM25	1.8	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	1.8	<LM25	1.8	UGG
						02SA0802Y	1.500	1.8	<LM25	1.8	UGG
			ENDRIN KETONE	02-SA-01	08/08/1991	02SA0101NR	1.500	0.28	*LM25	0.28	UGG
				02-SA-03	08/08/1991	02SA0301NR	0.700	0.28	*LM25	0.28	UGG
				02-SA-04	08/08/1991	02SA0401NR	1.500	0.28	*LM25	0.28	UGG
				02-SA-08	08/08/1991	02SA0801NR	1.500	0.28	*LM25	0.28	UGG
						02SA0802NR	1.500	0.28	*LM25	0.28	UGG
			FLUORANTHENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.032	<LM25	0.032	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.032	<LM25	0.032	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.032	<LM25	0.032	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.032	<LM25	0.032	UGG
						02SA0802Y	1.500	0.032	<LM25	0.032	UGG
			FLUORENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.065	<LM25	0.065	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.065	<LM25	0.065	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.065	<LM25	0.065	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.065	<LM25	0.065	UGG
						02SA0802Y	1.500	0.065	<LM25	0.065	UGG
			HEXACHLOROBENZENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.08	<LM25	0.08	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.08	<LM25	0.08	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.08	<LM25	0.08	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.08	<LM25	0.08	UGG
						02SA0802Y	1.500	0.08	<LM25	0.08	UGG

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			HEXACHLOROBUTADIENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.97	<LM25	0.97	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.97	<LM25	0.97	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.97	<LM25	0.97	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.97	<LM25	0.97	UGG
						02SA0802Y	1.500	0.97	<LM25	0.97	UGG
			HEXACHLOROCYCLOPENTADIENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.52	<LM25	0.52	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.52	<LM25	0.52	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.52	<LM25	0.52	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.52	<LM25	0.52	UGG
						02SA0802Y	1.500	0.52	<LM25	0.52	UGG
			HEXACHLOROETHANE	02-SA-01	08/08/1991	02SA0101Y	1.500	1.8	<LM25	1.8	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	1.8	<LM25	1.8	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	1.8	<LM25	1.8	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	1.8	<LM25	1.8	UGG
						02SA0802Y	1.500	1.8	<LM25	1.8	UGG
			INDENO(1,2,3-C,D)PYRENE	02-SA-01	08/08/1991	02SA0101Y	1.500	2.4	<LM25	2.4	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	2.4	<LM25	2.4	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	2.4	<LM25	2.4	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	2.4	<LM25	2.4	UGG
						02SA0802Y	1.500	2.4	<LM25	2.4	UGG
			ISOPHORONE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.39	<LM25	0.39	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.39	<LM25	0.39	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.39	<LM25	0.39	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.39	<LM25	0.39	UGG
						02SA0802Y	1.500	0.39	<LM25	0.39	UGG
			MALATHION	02-SA-01	08/08/1991	02SA0101Y	1.500	0.18	<LM25	0.18	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.18	<LM25	0.18	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.18	<LM25	0.18	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.18	<LM25	0.18	UGG
						02SA0802Y	1.500	0.18	<LM25	0.18	UGG
			MIREX	02-SA-01	08/08/1991	02SA0101Y	1.500	0.14	<LM25	0.14	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.14	<LM25	0.14	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.14	<LM25	0.14	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.14	<LM25	0.14	UGG
						02SA0802Y	1.500	0.14	<LM25	0.14	UGG
			N-NITROSODI-N-PROPYLAMINE	02-SA-01	08/08/1991	02SA0101Y	1.500	1.1	<LM25	1.1	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	1.1	<LM25	1.1	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	1.1	<LM25	1.1	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	1.1	<LM25	1.1	UGG
						02SA0802Y	1.500	1.1	<LM25	1.1	UGG
			N-NITROSODIMETHYLAMINE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.46	<LM25	0.46	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.46	<LM25	0.46	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.46	<LM25	0.46	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.46	<LM25	0.46	UGG
						02SA0802Y	1.500	0.46	<LM25	0.46	UGG
			N-NITROSODIPHENYLAMINE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.29	<LM25	0.29	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.29	<LM25	0.29	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.29	<LM25	0.29	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.29	<LM25	0.29	UGG

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						02SA0802Y	1.500	0.29	<LM25	0.29	UGG
			NAPHTHALENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.74	<LM25	0.74	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.74	<LM25	0.74	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.74	<LM25	0.74	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.74	<LM25	0.74	UGG
						02SA0802Y	1.500	0.74	<LM25	0.74	UGG
			P-CHLOROPHENYLMETHYL SULFIDE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.097	<LM25	0.097	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.097	<LM25	0.097	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.097	<LM25	0.097	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.097	<LM25	0.097	UGG
						02SA0802Y	1.500	0.097	<LM25	0.097	UGG
			P-CHLOROPHENYLMETHYL SULFONE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.066	<LM25	0.066	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.066	<LM25	0.066	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.066	<LM25	0.066	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.066	<LM25	0.066	UGG
						02SA0802Y	1.500	0.066	<LM25	0.066	UGG
			P-CHLOROPHENYLMETHYL SULFOXIDE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.32	<LM25	0.32	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.32	<LM25	0.32	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.32	<LM25	0.32	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.32	<LM25	0.32	UGG
						02SA0802Y	1.500	0.32	<LM25	0.32	UGG
			PARATHION	02-SA-01	08/08/1991	02SA0101Y	1.500	1.7	<LM25	1.7	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	1.7	<LM25	1.7	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	1.7	<LM25	1.7	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	1.7	<LM25	1.7	UGG
						02SA0802Y	1.500	1.7	<LM25	1.7	UGG
			PENTACHLOROPHENOL	02-SA-01	08/08/1991	02SA0101Y	1.500	0.76	<LM25	0.76	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.76	<LM25	0.76	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.76	<LM25	0.76	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.76	<LM25	0.76	UGG
						02SA0802Y	1.500	0.76	<LM25	0.76	UGG
			PHENANTHRENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.032	<LM25	0.032	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.032	<LM25	0.032	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.032	<LM25	0.032	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.032	<LM25	0.032	UGG
						02SA0802Y	1.500	0.032	<LM25	0.032	UGG
			PHENOL	02-SA-01	08/08/1991	02SA0101Y	1.500	0.052	<LM25	0.052	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.052	<LM25	0.052	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.052	<LM25	0.052	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.052	<LM25	0.052	UGG
						02SA0802Y	1.500	0.052	<LM25	0.052	UGG
			PYRENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.083	<LM25	0.083	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.083	<LM25	0.083	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.173	=LM25	0.083	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.083	<LM25	0.083	UGG
						02SA0802Y	1.500	0.083	<LM25	0.083	UGG
			SUPONA/2-CHLORO-1-(2,4-DICHLOR	02-SA-01	08/08/1991	02SA0101Y	1.500	0.92	<LM25	0.92	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.92	<LM25	0.92	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.92	<LM25	0.92	UGG

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				02-SA-08	08/08/1991	02SA0801Y	1.500	0.92	<LM25	0.92	UGG
						02SA0802Y	1.500	0.92	<LM25	0.92	UGG
			VAPONA	02-SA-01	08/08/1991	02SA0101Y	1.500	0.068	<LM25	0.068	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.068	<LM25	0.068	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.068	<LM25	0.068	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.068	<LM25	0.068	UGG
						02SA0802Y	1.500	0.068	<LM25	0.068	UGG
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	02-SA-01	08/08/1991	02SA0101Y	1.500	0.5	<LM23	0.5	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.5	<LM23	0.5	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.5	<LM23	0.5	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.5	<LM23	0.5	UGG
						02SA0802Y	1.500	0.5	<LM23	0.5	UGG
			1,1,1-TRICHLOROETHANE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.2	<LM23	0.2	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.2	<LM23	0.2	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.2	<LM23	0.2	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.2	<LM23	0.2	UGG
						02SA0802Y	1.500	0.2	<LM23	0.2	UGG
			1,1,2,2-TETRACHLOROETHANE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.2	<LM23	0.2	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.2	<LM23	0.2	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.2	<LM23	0.2	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.2	<LM23	0.2	UGG
						02SA0802Y	1.500	0.2	<LM23	0.2	UGG
			1,1,2-TRICHLOROETHANE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.33	<LM23	0.33	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.33	<LM23	0.33	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.33	<LM23	0.33	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.33	<LM23	0.33	UGG
						02SA0802Y	1.500	0.33	<LM23	0.33	UGG
			1,1-DICHLOROETHANE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.49	<LM23	0.49	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.49	<LM23	0.49	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.49	<LM23	0.49	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.49	<LM23	0.49	UGG
						02SA0802Y	1.500	0.49	<LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	02-SA-01	08/08/1991	02SA0101Y	1.500	0.27	<LM23	0.27	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.27	<LM23	0.27	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.27	<LM23	0.27	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.27	<LM23	0.27	UGG
						02SA0802Y	1.500	0.27	<LM23	0.27	UGG
			1,2-DICHLOROETHANE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.32	<LM23	0.32	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.32	<LM23	0.32	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.32	<LM23	0.32	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.32	<LM23	0.32	UGG
						02SA0802Y	1.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	02-SA-01	08/08/1991	02SA0101Y	1.500	0.32	<LM23	0.32	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.32	<LM23	0.32	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.32	<LM23	0.32	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.32	<LM23	0.32	UGG
						02SA0802Y	1.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROPROPANE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.53	<LM23	0.53	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.53	<LM23	0.53	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.53	<LM23	0.53	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.53	<LM23	0.53	UGG
						02SA0802Y	1.500	0.53	<LM23	0.53	UGG
			1,3-DICHLOROBENZENE	02-SA-01	08/08/1991	02SA0101N	1.500	0.042	<LM25	0.042	UGG
						02SA0101Y	1.500	0.14	<LM23	0.14	UGG
				02-SA-03	08/08/1991	02SA0301N	0.700	0.042	<LM25	0.042	UGG
						02SA0301Y	0.700	0.14	<LM23	0.14	UGG
				02-SA-04	08/08/1991	02SA0401N	1.500	0.042	<LM25	0.042	UGG
						02SA0401Y	1.500	0.14	<LM23	0.14	UGG
				02-SA-08	08/08/1991	02SA0801N	1.500	0.042	<LM25	0.042	UGG
						02SA0801Y	1.500	0.14	<LM23	0.14	UGG
						02SA0802N	1.500	0.042	<LM25	0.042	UGG
						02SA0802Y	1.500	0.14	<LM23	0.14	UGG
			1,3-DICLOROPROPANE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.2	<LM23	0.2	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.2	<LM23	0.2	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.2	<LM23	0.2	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.2	<LM23	0.2	UGG
						02SA0802Y	1.500	0.2	<LM23	0.2	UGG
			1,3-DIMETHYLBENZENE/M-XYLENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.23	<LM23	0.23	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.23	<LM23	0.23	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.23	<LM23	0.23	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.23	<LM23	0.23	UGG
						02SA0802Y	1.500	0.23	<LM23	0.23	UGG
			ACETIC ACID, VINYL ESTER/VINYL	02-SA-01	08/08/1991	02SA0101NR	1.500	1.0	*LM23	1.0	UGG
				02-SA-03	08/08/1991	02SA0301NR	0.700	1.0	*LM23	1.0	UGG
				02-SA-04	08/08/1991	02SA0401NR	1.500	1.0	*LM23	1.0	UGG
				02-SA-08	08/08/1991	02SA0801NR	1.500	1.0	*LM23	1.0	UGG
						02SA0802NR	1.500	1.0	*LM23	1.0	UGG
			ACETONE	02-SA-01	08/08/1991	02SA0101Y	1.500	3.3	<LM23	3.3	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	3.3	<LM23	3.3	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	3.3	<LM23	3.3	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	3.3	<LM23	3.3	UGG
						02SA0802Y	1.500	3.3	<LM23	3.3	UGG
			ACRYLONITRILE	02-SA-01	08/08/1991	02SA0101Y	1.500	2.0	<LM23	2.0	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	2.0	<LM23	2.0	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	2.0	<LM23	2.0	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	2.0	<LM23	2.0	UGG
						02SA0802Y	1.500	2.0	<LM23	2.0	UGG
			BENZENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.1	<LM23	0.1	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.1	<LM23	0.1	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.1	<LM23	0.1	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.1	<LM23	0.1	UGG
						02SA0802Y	1.500	0.1	<LM23	0.1	UGG
			BROMODICHLOROMETHANE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.2	<LM23	0.2	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.2	<LM23	0.2	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.2	<LM23	0.2	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.2	<LM23	0.2	UGG
						02SA0802Y	1.500	0.2	<LM23	0.2	UGG
			BROMOFORM	02-SA-01	08/08/1991	02SA0101Y	1.500	0.2	<LM23	0.2	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.2	<LM23	0.2	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.2	<LM23	0.2	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.2	<LM23	0.2	UGG
						02SA0802Y	1.500	0.2	<LM23	0.2	UGG
			BROMOMETHANE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.26	<LM23	0.26	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.26	<LM23	0.26	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.26	<LM23	0.26	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.26	<LM23	0.26	UGG
						02SA0802Y	1.500	0.26	<LM23	0.26	UGG
			CARBON DISULFIDE	02-SA-01	08/08/1991	02SA0101NR	1.500	0.6	*LM23	0.6	UGG
				02-SA-03	08/08/1991	02SA0301NR	0.700	0.6	*LM23	0.6	UGG
				02-SA-04	08/08/1991	02SA0401NR	1.500	0.6	*LM23	0.6	UGG
				02-SA-08	08/08/1991	02SA0801NR	1.500	0.6	*LM23	0.6	UGG
						02SA0802NR	1.500	0.6	*LM23	0.6	UGG
			CARBON TETRACHLORIDE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.31	<LM23	0.31	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.31	<LM23	0.31	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.31	<LM23	0.31	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.31	<LM23	0.31	UGG
						02SA0802Y	1.500	0.31	<LM23	0.31	UGG
			CHLORFORM	02-SA-01	08/08/1991	02SA0101Y	1.500	0.24	<LM23	0.24	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.24	<LM23	0.24	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.24	<LM23	0.24	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.24	<LM23	0.24	UGG
						02SA0802Y	1.500	0.24	<LM23	0.24	UGG
			CHLOROBENZENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.1	<LM23	0.1	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.1	<LM23	0.1	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.1	<LM23	0.1	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.1	<LM23	0.1	UGG
						02SA0802Y	1.500	0.1	<LM23	0.1	UGG
			CHLOROETHANE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.64	<LM23	0.64	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.64	<LM23	0.64	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.64	<LM23	0.64	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.64	<LM23	0.64	UGG
						02SA0802Y	1.500	0.64	<LM23	0.64	UGG
			CHLOROETHANE/VINYL CHLORIDE	02-SA-01	08/08/1991	02SA0101Y	1.500	1.8	<LM23	1.8	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	1.8	<LM23	1.8	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	1.8	<LM23	1.8	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	1.8	<LM23	1.8	UGG
						02SA0802Y	1.500	1.8	<LM23	1.8	UGG
			CHLOROMETHANE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.96	<LM23	0.96	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.96	<LM23	0.96	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.96	<LM23	0.96	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.96	<LM23	0.96	UGG
						02SA0802Y	1.500	0.96	<LM23	0.96	UGG
			CIS-1,3-DICHLOROPROPYLENE/CIS-	02-SA-01	08/08/1991	02SA0101NR	1.500	0.6	*LM23	0.6	UGG
				02-SA-03	08/08/1991	02SA0301NR	0.700	0.6	*LM23	0.6	UGG
				02-SA-04	08/08/1991	02SA0401NR	1.500	0.6	*LM23	0.6	UGG
				02-SA-08	08/08/1991	02SA0801NR	1.500	0.6	*LM23	0.6	UGG
						02SA0802NR	1.500	0.6	*LM23	0.6	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			DIBROMOCHLOROMETHANE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.25	<LM23	0.25	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.25	<LM23	0.25	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.25	<LM23	0.25	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.25	<LM23	0.25	UGG
						02SA0802Y	1.500	0.25	<LM23	0.25	UGG
			DICHLOROBENZENE - NONSPECIFIC	02-SA-01	08/08/1991	02SA0101Y	1.500	0.2	<LM23	0.2	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.2	<LM23	0.2	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.2	<LM23	0.2	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.2	<LM23	0.2	UGG
						02SA0802Y	1.500	0.2	<LM23	0.2	UGG
			ETHYLBENZENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.19	<LM23	0.19	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.19	<LM23	0.19	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.19	<LM23	0.19	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.19	<LM23	0.19	UGG
						02SA0802Y	1.500	0.19	<LM23	0.19	UGG
			METHYL-N-BUTYL KETONE/2-HEXANO	02-SA-01	08/08/1991	02SA0101NR	1.500	1.0	*LM23	1.0	UGG
				02-SA-03	08/08/1991	02SA0301NR	0.700	1.0	*LM23	1.0	UGG
				02-SA-04	08/08/1991	02SA0401NR	1.500	1.0	*LM23	1.0	UGG
				02-SA-08	08/08/1991	02SA0801NR	1.500	1.0	*LM23	1.0	UGG
						02SA0802NR	1.500	1.0	*LM23	1.0	UGG
			METHYLENE CHLORIDE	02-SA-01	08/08/1991	02SA0101Y	1.500	4.4	<LM23	4.4	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	4.4	<LM23	4.4	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	4.4	<LM23	4.4	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	4.4	<LM23	4.4	UGG
						02SA0802Y	1.500	4.4	<LM23	4.4	UGG
			METHYLETHYL PHENOL/METHYLETHYL	02-SA-01	08/08/1991	02SA0101Y	1.500	4.3	<LM23	4.3	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	4.3	<LM23	4.3	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	4.3	<LM23	4.3	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	4.3	<LM23	4.3	UGG
						02SA0802Y	1.500	4.3	<LM23	4.3	UGG
			METHYLISOBUTYL KETONE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.63	<LM23	0.63	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.63	<LM23	0.63	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.63	<LM23	0.63	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.63	<LM23	0.63	UGG
						02SA0802Y	1.500	0.63	<LM23	0.63	UGG
			STYRENE	02-SA-01	08/08/1991	02SA0101NR	1.500	0.6	*LM23	0.6	UGG
				02-SA-03	08/08/1991	02SA0301NR	0.700	0.6	*LM23	0.6	UGG
				02-SA-04	08/08/1991	02SA0401NR	1.500	0.6	*LM23	0.6	UGG
				02-SA-08	08/08/1991	02SA0801NR	1.500	0.6	*LM23	0.6	UGG
						02SA0802NR	1.500	0.6	*LM23	0.6	UGG
			TETRACHLOROETHYLENE/TETRACHLOR	02-SA-01	08/08/1991	02SA0101Y	1.500	0.16	<LM23	0.16	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.16	<LM23	0.16	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.16	<LM23	0.16	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.16	<LM23	0.16	UGG
						02SA0802Y	1.500	0.16	<LM23	0.16	UGG
			TOLUENE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.1	<LM23	0.1	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.1	<LM23	0.1	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.1	<LM23	0.1	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.1	<LM23	0.1	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						02SA0802Y	1.500	0.1	<LM23	0.1	UGG
			TRANS-1,3-DICHLOROPROPENE	02-SA-01	08/08/1991	02SA0101NR	1.500	0.6	*LM23	0.6	UGG
				02-SA-03	08/08/1991	02SA0301NR	0.700	0.6	*LM23	0.6	UGG
				02-SA-04	08/08/1991	02SA0401NR	1.500	0.6	*LM23	0.6	UGG
				02-SA-08	08/08/1991	02SA0801NR	1.500	0.6	*LM23	0.6	UGG
						02SA0802NR	1.500	0.6	*LM23	0.6	UGG
			TRICHLOROETHYLENE/TRICHLOROETH	02-SA-01	08/08/1991	02SA0101Y	1.500	0.23	<LM23	0.23	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.23	<LM23	0.23	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.23	<LM23	0.23	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.23	<LM23	0.23	UGG
						02SA0802Y	1.500	0.23	<LM23	0.23	UGG
			TRICHLOROFLUOROMETHANE	02-SA-01	08/08/1991	02SA0101Y	1.500	0.23	<LM23	0.23	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.23	<LM23	0.23	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.23	<LM23	0.23	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.23	<LM23	0.23	UGG
						02SA0802Y	1.500	0.23	<LM23	0.23	UGG
			XYLENES	02-SA-01	08/08/1991	02SA0101Y	1.500	0.78	<LM23	0.78	UGG
				02-SA-03	08/08/1991	02SA0301Y	0.700	0.78	<LM23	0.78	UGG
				02-SA-04	08/08/1991	02SA0401Y	1.500	0.78	<LM23	0.78	UGG
				02-SA-08	08/08/1991	02SA0801Y	1.500	0.78	<LM23	0.78	UGG
						02SA0802Y	1.500	0.78	<LM23	0.78	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP03	SD	EXPLOSIVES	1,3,5-TRINITROBENZENE	03-SD-07	08/13/1991	03SD0701Y	0.500	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.59	<LW02	0.59	UGG
			2,4,6-TNT	03-SD-07	08/13/1991	03SD0701Y	0.500	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	03-SD-07	08/13/1991	03SD0701N	0.500	1.4	<LM25	1.4	UGG
						03SD0701Y	0.500	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	03-SD-07	08/13/1991	03SD0701N	0.500	0.32	<LM25	0.32	UGG
						03SD0701Y	0.500	0.4	<LW02	0.4	UGG
			HMX	03-SD-07	08/13/1991	03SD0701Y	0.500	1.3	<LW02	1.27	UGG
			NITROBENZENE	03-SD-07	08/13/1991	03SD0701N	0.500	1.8	<LM25	1.8	UGG
						03SD0701Y	0.500	0.42	<LW02	0.42	UGG
			RDX	03-SD-07	08/13/1991	03SD0701Y	0.500	0.98	<LW02	0.98	UGG
			TETRYL	03-SD-07	08/13/1991	03SD0701Y	0.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	03-SD-07	08/13/1991	03SD0701Y	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	03-SD-07	08/13/1991	03SD0701Y	0.500	2.5	<B9	2.5	UGG
			BARIUM	03-SD-07	08/13/1991	03SD0701Y	0.500	237.0	=JS12	3.29	UGG
			BERYLLIUM	03-SD-07	08/13/1991	03SD0701Y	0.500	0.983	=JS12	0.427	UGG
			CADMIUM	03-SD-07	08/13/1991	03SD0701Y	0.500	1.2	<JS12	1.2	UGG
			CHROMIUM	03-SD-07	08/13/1991	03SD0701Y	0.500	33.4	=JS12	1.04	UGG
			COPPER	03-SD-07	08/13/1991	03SD0701Y	0.500	53.1	=JS12	2.84	UGG
			LEAD	03-SD-07	08/13/1991	03SD0701Y	0.500	20.0	=JD21	0.467	UGG
			MERCURY	03-SD-07	08/13/1991	03SD0701Y	0.500	0.05	<Y9	0.05	UGG
			NICKEL	03-SD-07	08/13/1991	03SD0701Y	0.500	18.9	=JS12	2.74	UGG
			SELENIUM	03-SD-07	08/13/1991	03SD0701Y	0.500	0.449	<JD20	0.449	UGG
			SILVER	03-SD-07	08/13/1991	03SD0701Y	0.500	0.803	<JS12	0.803	UGG
			THALLIUM	03-SD-07	08/13/1991	03SD0701Y	0.500	34.3	<JS12	34.3	UGG
			ZINC	03-SD-07	08/13/1991	03SD0701Y	0.500	113.0	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	03-SD-07	08/13/1991	03SD0701N	0.500	0.068	<LM25	0.068	UGG
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	03-SD-07	08/13/1991	03SD0701N	0.500	0.1	<LM25	0.1	UGG
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	03-SD-07	08/13/1991	03SD0701N	0.500	0.064	<LM25	0.064	UGG
			ALDRIN	03-SD-07	08/13/1991	03SD0701N	0.500	1.3	<LM25	1.3	UGG
			ALPHA-BENZENEHEXACHLORIDE	03-SD-07	08/13/1991	03SD0701N	0.500	1.3	<LM25	1.3	UGG
			ALPHA-ENDOSULFAN/ENDOSULFAN I	03-SD-07	08/13/1991	03SD0701N	0.500	0.4	<LM25	0.4	UGG
			BETA-BENZENEHEXACHLORIDE	03-SD-07	08/13/1991	03SD0701N	0.500	1.3	<LM25	1.3	UGG
			BETA-ENDOSULFAN/ENDOSULFAN II	03-SD-07	08/13/1991	03SD0701N	0.500	2.4	<LM25	2.4	UGG
			CHLORDANE	03-SD-07	08/13/1991	03SD0701N	0.500	0.68	<LM25	0.68	UGG
			DELTA-BENZENEHEXACHLORIDE	03-SD-07	08/13/1991	03SD0701N	0.500	0.21	<LM25	0.21	UGG
			DIELDRIN	03-SD-07	08/13/1991	03SD0701N	0.500	0.079	<LM25	0.079	UGG
			ENDRIN	03-SD-07	08/13/1991	03SD0701N	0.500	1.3	<LM25	1.3	UGG
			HEPTACHLOR	03-SD-07	08/13/1991	03SD0701N	0.500	0.24	<LM25	0.24	UGG
			HEPTACHLOR EPOXIDE	03-SD-07	08/13/1991	03SD0701N	0.500	0.48	<LM25	0.48	UGG
			ISODRIN	03-SD-07	08/13/1991	03SD0701N	0.500	0.48	<LM25	0.48	UGG
			LINDANE	03-SD-07	08/13/1991	03SD0701N	0.500	0.1	<LM25	0.1	UGG
			METHOXYCHLOR	03-SD-07	08/13/1991	03SD0701N	0.500	0.26	<LM25	0.26	UGG
			PCB 1016	03-SD-07	08/13/1991	03SD0701N	0.500	0.32	<LM25	0.32	UGG
			PCB 1221	03-SD-07	08/13/1991	03SD0701NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1232	03-SD-07	08/13/1991	03SD0701NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1242	03-SD-07	08/13/1991	03SD0701NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1248	03-SD-07	08/13/1991	03SD0701NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1254	03-SD-07	08/13/1991	03SD0701NR	0.500	3.8	*LM25	3.8	UGG

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			PCB 1260	03-SD-07	08/13/1991	03SD0701N	0.500	0.79	<LM25	0.79	UGG
			PCB 1262	03-SD-07	08/13/1991	03SD0701Y	0.500	6.3	<LM25	0.3	UGG
			TOXAPHENE	03-SD-07	08/13/1991	03SD0701NR	0.500	12.0	*LM25	12.0	UGG
		SEMIVOLATILES	1,2,3-TRICHLOROBENZENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.032	<LM25	0.032	UGG
			1,2,4-TRICHLOROBENZENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.22	<LM25	0.22	UGG
			1,2-DICHLOROBENZENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.042	<LM25	0.042	UGG
			1,2-DIPHENYLHYDRAZINE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.52	<LM25	0.52	UGG
			1,4-DICHLOROBENZENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.034	<LM25	0.034	UGG
			1,4-OXATHIANE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.075	<LM25	0.075	UGG
			2,3,6-TCP	03-SD-07	08/13/1991	03SD0701Y	0.500	0.62	<LM25	0.62	UGG
			2,4,5-TRICHLOROPHENOL	03-SD-07	08/13/1991	03SD0701Y	0.500	0.49	<LM25	0.49	UGG
			2,4,6-TRICHLOROPHENOL	03-SD-07	08/13/1991	03SD0701Y	0.500	0.061	<LM25	0.061	UGG
			2,4-DICHLOROPHENOL	03-SD-07	08/13/1991	03SD0701Y	0.500	0.065	<LM25	0.065	UGG
			2,4-DIMETHYLPHENOL	03-SD-07	08/13/1991	03SD0701Y	0.500	3.0	<LM25	3.0	UGG
			2,4-DINITROPHENOL	03-SD-07	08/13/1991	03SD0701Y	0.500	4.7	<LM25	4.7	UGG
			2,6-DINITROANILINE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.57	<LM25	0.57	UGG
			2-CHLORONAPHTHALENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.24	<LM25	0.24	UGG
			2-CHLOROPHENOL	03-SD-07	08/13/1991	03SD0701Y	0.500	0.055	<LM25	0.055	UGG
			2-METHYL-4,6-DINITROPHENOL/4,6	03-SD-07	08/13/1991	03SD0701Y	0.500	0.8	<LM25	0.8	UGG
			2-METHYLNAPHTHALENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.032	<LM25	0.032	UGG
			2-METHYLPHENOL/2-CRESOL	03-SD-07	08/13/1991	03SD0701Y	0.500	0.098	<LM25	0.098	UGG
			2-NITROANILINE	03-SD-07	08/13/1991	03SD0701NR	0.500	3.1	*LM25	3.1	UGG
			2-NITROPHENOL	03-SD-07	08/13/1991	03SD0701Y	0.500	1.1	<LM25	1.1	UGG
			3,3'-DICHLOROBENZIDINE	03-SD-07	08/13/1991	03SD0701Y	0.500	1.6	<LM25	1.6	UGG
			3,5-DINITROANILINE	03-SD-07	08/13/1991	03SD0701Y	0.500	1.6	<LM25	1.6	UGG
			3-METHYL-4-CHLOROPHENOL/4-CHLO	03-SD-07	08/13/1991	03SD0701Y	0.500	0.93	<LM25	0.93	UGG
			3-NITROANILINE	03-SD-07	08/13/1991	03SD0701Y	0.500	3.0	<LM25	3.0	UGG
			3-NITROTOLUENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.34	<LM25	0.34	UGG
			4-BROMOPHENYLPHENYL ETHER	03-SD-07	08/13/1991	03SD0701Y	0.500	0.041	<LM25	0.041	UGG
			4-CHLOROANILINE	03-SD-07	08/13/1991	03SD0701NR	0.500	0.63	*LM25	0.63	UGG
			4-CHLOROPHENYLPHENYL ETHER	03-SD-07	08/13/1991	03SD0701Y	0.500	0.17	<LM25	0.17	UGG
			4-METHYLPHENOL/4-CRESOL	03-SD-07	08/13/1991	03SD0701Y	0.500	0.24	<LM25	0.24	UGG
			4-NITROANILINE	03-SD-07	08/13/1991	03SD0701NR	0.500	3.1	*LM25	3.1	UGG
			4-NITROPHENOL	03-SD-07	08/13/1991	03SD0701Y	0.500	3.3	<LM25	3.3	UGG
			ACENAPHTHENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.041	<LM25	0.041	UGG
			ACENAPHTHYLENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.033	<LM25	0.033	UGG
			ANTHRACENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.71	<LM25	0.71	UGG
			ATRAZINE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.065	<LM25	0.065	UGG
			BENZO(A)ANTHRACENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.041	<LM25	0.48	UGG
			BENZO(A)PYRENE	03-SD-07	08/13/1991	03SD0701Y	0.500	1.2	<LM25	1.2	UGG
			BENZO(B)FLUORANTHENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.31	<LM25	0.31	UGG
			BENZO(G,H,I)PERYLENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.18	<LM25	0.18	UGG
			BENZO(K)FLUORANTHENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.13	<LM25	0.13	UGG
			BENZOIC ACID	03-SD-07	08/13/1991	03SD0701NR	0.500	3.1	*LM25	3.1	UGG
			BENZYL ALCOHOL	03-SD-07	08/13/1991	03SD0701Y	0.500	0.032	<LM25	0.032	UGG
			BIS (2-CHLOROETHOXY) METHANE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.19	<LM25	0.19	UGG
			BIS (2-CHLOROETHYL) ETHER	03-SD-07	08/13/1991	03SD0701Y	0.500	0.36	<LM25	0.36	UGG
			BIS (2-CHLOROISOPROPYL) ETHER	03-SD-07	08/13/1991	03SD0701Y	0.500	0.44	<LM25	0.44	UGG
			BIS (2-ETHYLHEXYL) PHTHALATE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.48	<LM25	0.48	UGG

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			BUTYLBENZYL PHTHALATE	03-SD-07	08/13/1991	03SD0701Y	0.500	1.8	<LM25	1.8	UGG
			CHRYSENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.032	<LM25	0.032	UGG
			DI-N-BUTYL PHTHALATE	03-SD-07	08/13/1991	03SD0701Y	0.500	1.3	<LM25	1.3	UGG
			DI-N-OCTYL PHTHALATE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.23	<LM25	0.23	UGG
			DIBENZ(A,H)ANTHRACENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.31	<LM25	0.31	UGG
			DIBENZOFURAN	03-SD-07	08/13/1991	03SD0701Y	0.500	0.038	<LM25	0.038	UGG
			DIBROMOCHLOROPROPANE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.071	<LM25	0.071	UGG
			DICYCLOPENTADIENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.57	<LM25	0.57	UGG
			DIETHYL PHTHALATE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.24	<LM25	0.24	UGG
			DIMETHYL PHTHALATE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.063	<LM25	0.063	UGG
			DITHIANE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.065	<LM25	0.065	UGG
			ENDOSULFAN SULFATE	03-SD-07	08/13/1991	03SD0701Y	0.500	1.2	<LM25	1.2	UGG
			ENDRIN ALDEHYDE	03-SD-07	08/13/1991	03SD0701Y	0.500	1.8	<LM25	1.8	UGG
			ENDRIN KETONE	03-SD-07	08/13/1991	03SD0701NR	0.500	0.28	*LM25	0.28	UGG
			FLUORANTHENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.032	<LM25	0.032	UGG
			FLUORENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.065	<LM25	0.065	UGG
			HEXACHLOROBENZENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.08	<LM25	0.08	UGG
			HEXACHLOROBUTADIENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.97	<LM25	0.97	UGG
			HEXACHLOROCYCLOPENTADIENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.52	<LM25	0.52	UGG
			HEXACHLOROETHANE	03-SD-07	08/13/1991	03SD0701Y	0.500	1.8	<LM25	1.8	UGG
			INDENO(1,2,3-C,D)PYRENE	03-SD-07	08/13/1991	03SD0701Y	0.500	2.4	<LM25	2.4	UGG
			ISOPHORONE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.39	<LM25	0.39	UGG
			MALATHION	03-SD-07	08/13/1991	03SD0701Y	0.500	0.18	<LM25	0.18	UGG
			MIREX	03-SD-07	08/13/1991	03SD0701Y	0.500	0.14	<LM25	0.14	UGG
			N-NITROSODI-N-PROPYLAMINE	03-SD-07	08/13/1991	03SD0701Y	0.500	1.1	<LM25	1.1	UGG
			N-NITROSODIMETHYLAMINE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.46	<LM25	0.46	UGG
			N-NITROSODIPHENYLAMINE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.29	<LM25	0.29	UGG
			NAPHTHALENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.74	<LM25	0.74	UGG
			P-CHLOROPHENYLMETHYL SULFIDE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.097	<LM25	0.097	UGG
			P-CHLOROPHENYLMETHYL SULFONE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.066	<LM25	0.066	UGG
			P-CHLOROPHENYLMETHYL SULFOXIDE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.32	<LM25	0.32	UGG
			PARATHION	03-SD-07	08/13/1991	03SD0701Y	0.500	1.7	<LM25	1.7	UGG
			PENTACHLOROPHENOL	03-SD-07	08/13/1991	03SD0701Y	0.500	0.76	<LM25	0.76	UGG
			PHENANTHRENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.032	<LM25	0.032	UGG
			PHENOL	03-SD-07	08/13/1991	03SD0701Y	0.500	0.052	<LM25	0.052	UGG
			PYRENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.083	<LM25	0.083	UGG
			SUPONA/2-CHLORO-1-(2,4-DICHLOR	03-SD-07	08/13/1991	03SD0701Y	0.500	0.92	<LM25	0.92	UGG
			VAPONA	03-SD-07	08/13/1991	03SD0701Y	0.500	0.068	<LM25	0.068	UGG
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	03-SD-07	08/13/1991	03SD0701Y	0.500	0.5	<LM23	0.5	UGG
			1,1,1-TRICHLOROETHANE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2,2-TETRACHLOROETHANE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2-TRICHLOROETHANE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.33	<LM23	0.33	UGG
			1,1-DICHLOROETHANE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.49	<LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	03-SD-07	08/13/1991	03SD0701Y	0.500	0.27	<LM23	0.27	UGG
			1,2-DICHLOROETHANE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	03-SD-07	08/13/1991	03SD0701Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROPROPANE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.53	<LM23	0.53	UGG
			1,3-DICHLOROBENZENE	03-SD-07	08/13/1991	03SD0701N	0.500	0.042	<LM25	0.042	UGG
						03SD0701Y	0.500	0.14	<LM23	0.14	UGG

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			1,3-DICLOROPROPANE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.2	<LM23	0.2	UGG
			1,3-DIMETHYLBENZENE/M-XYLENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.23	<LM23	0.23	UGG
			ACETIC ACID, VINYL ESTER/VINYL	03-SD-07	08/13/1991	03SD0701NR	0.500	1.0	*LM23	1.0	UGG
			ACETONE	03-SD-07	08/13/1991	03SD0701Y	0.500	3.3	<LM23	3.3	UGG
			ACRYLONITRILE	03-SD-07	08/13/1991	03SD0701Y	0.500	2.0	<LM23	2.0	UGG
			BENZENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.1	<LM23	0.1	UGG
			BROMODICHLOROMETHANE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.2	<LM23	0.2	UGG
			BROMOFORM	03-SD-07	08/13/1991	03SD0701Y	0.500	0.2	<LM23	0.2	UGG
			BROMOMETHANE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.26	<LM23	0.26	UGG
			CARBON DISULFIDE	03-SD-07	08/13/1991	03SD0701NR	0.500	0.6	*LM23	0.6	UGG
			CARBON TETRACHLORIDE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.31	<LM23	0.31	UGG
			CHLORFORM	03-SD-07	08/13/1991	03SD0701Y	0.500	0.24	<LM23	0.24	UGG
			CHLOROBENZENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.1	<LM23	0.1	UGG
			CHLOROETHANE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.64	<LM23	0.64	UGG
			CHLOROETHANE/VINYL CHLORIDE	03-SD-07	08/13/1991	03SD0701Y	0.500	1.8	<LM23	1.8	UGG
			CHLOROMETHANE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.96	<LM23	0.96	UGG
			CIS-1,3-DICHLOROPROPYLENE/CIS-	03-SD-07	08/13/1991	03SD0701NR	0.500	0.6	*LM23	0.6	UGG
			DIBROMOCHLOROMETHANE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.25	<LM23	0.25	UGG
			DICHLOROBENZENE - NONSPECIFIC	03-SD-07	08/13/1991	03SD0701Y	0.500	0.2	<LM23	0.2	UGG
			ETHYLBENZENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.19	<LM23	0.19	UGG
			METHYL-N-BUTYL KETONE/2-HEXANO	03-SD-07	08/13/1991	03SD0701NR	0.500	1.0	*LM23	1.0	UGG
			METHYLENE CHLORIDE	03-SD-07	08/13/1991	03SD0701Y	0.500	4.4	<LM23	4.4	UGG
			METHYLETHYL PHENOL/METHYLETHYL	03-SD-07	08/13/1991	03SD0701Y	0.500	4.3	<LM23	4.3	UGG
			METHYLISOBUTYL KETONE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.63	<LM23	0.63	UGG
			STYRENE	03-SD-07	08/13/1991	03SD0701NR	0.500	0.6	*LM23	0.6	UGG
			TETRACHLOROETHYLENE/TETRACHLOR	03-SD-07	08/13/1991	03SD0701Y	0.500	0.16	<LM23	0.16	UGG
			TOLUENE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.1	<LM23	0.1	UGG
			TRANS-1,3-DICHLOROPROPENE	03-SD-07	08/13/1991	03SD0701NR	0.500	0.6	*LM23	0.6	UGG
			TRICHLOROETHYLENE/TRICHLOROETH	03-SD-07	08/13/1991	03SD0701Y	0.500	0.23	<LM23	0.23	UGG
			TRICHLOROFLUOROMETHANE	03-SD-07	08/13/1991	03SD0701Y	0.500	0.23	<LM23	0.23	UGG
			XYLENES	03-SD-07	08/13/1991	03SD0701Y	0.500	0.78	<LM23	0.78	UGG
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	03-SA-02	08/12/1991	03SA0201Y	1.000	2.1	<LW02	2.09	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	2.1	<LW02	2.09	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	2.1	<LW02	2.09	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	2.1	<LW02	2.09	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	2.1	<LW02	2.09	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	4.6	=LW02	2.09	UGG
						03SA0902Y	1.800	2.1	<LW02	2.09	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	2.1	<LW02	2.09	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	1.9	=LW02	2.09	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	2.1	<LW02	2.09	UGG
						03SS1202YD	0.500	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.59	<LW02	0.59	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.59	<LW02	0.59	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.59	<LW02	0.59	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.59	<LW02	0.59	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.59	<LW02	0.59	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.59	<LW02	0.59	UGG
						03SA0902Y	1.800	0.59	<LW02	0.59	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.59	<LW02	0.59	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	0.59	<LW02	0.59	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	0.59	<LW02	0.59	UGG
						03SS1202YD	0.500	0.59	<LW02	0.59	UGG
			2,4,6-TNT	03-SA-02	08/12/1991	03SA0201Y	1.000	1.9	<LW02	1.92	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	1.9	<LW02	1.92	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	1.9	<LW02	1.92	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	1.9	<LW02	1.92	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	1.9	<LW02	1.92	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	76.0	=LW02	1.92	UGG
						03SA0902Y	1.800	3.4	=LW02	1.92	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	1.9	<LW02	1.92	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	2,600.0	=LW02	1.92	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	1.9	<LW02	1.92	UGG
						03SS1202YD	0.500	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	03-SA-02	08/12/1991	03SA0201N	1.000	1.4	<LM25	1.4	UGG
						03SA0201Y	1.000	0.42	<LW02	0.42	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	1.4	<LM25	1.4	UGG
						03SA0301Y	4.000	0.42	<LW02	0.42	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	1.4	<LM25	1.4	UGG
						03SA0401Y	2.000	0.42	<LW02	0.42	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	1.4	<LM25	1.4	UGG
						03SA0501Y	1.000	0.42	<LW02	0.42	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	1.4	<LM25	1.4	UGG
						03SA0801Y	1.000	0.42	<LW02	0.42	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	1.4	<LM25	1.4	UGG
						03SA0901Y	1.000	0.42	<LW02	0.42	UGG
						03SA0902N	1.800	1.4	<LM25	1.4	UGG
						03SA0902Y	1.800	0.42	<LW02	0.42	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	1.4	<LM25	1.4	UGG
						03SS0101Y	0.500	0.42	<LW02	0.42	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	0.57	=LW02	0.42	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	0.42	<LW02	0.42	UGG
						03SS1202YD	0.500	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	03-SA-02	08/12/1991	03SA0201N	1.000	0.32	<LM25	0.32	UGG
						03SA0201Y	1.000	0.4	<LW02	0.4	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	0.32	<LM25	0.32	UGG
						03SA0301Y	4.000	0.4	<LW02	0.4	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	0.32	<LM25	0.32	UGG
						03SA0401Y	2.000	0.4	<LW02	0.4	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	0.32	<LM25	0.32	UGG
						03SA0501Y	1.000	0.4	<LW02	0.4	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	0.32	<LM25	0.32	UGG
						03SA0801Y	1.000	0.4	<LW02	0.4	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	0.32	<LM25	0.32	UGG
						03SA0901Y	1.000	0.4	<LW02	0.4	UGG
						03SA0902N	1.800	0.32	<LM25	0.32	UGG
						03SA0902Y	1.800	0.4	<LW02	0.4	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	0.32	<LM25	0.32	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						03SS0101Y	0.500	0.4	<LW02	0.4	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	3.3	=LW02	0.4	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	0.4	<LW02	0.4	UGG
						03SS1202YD	0.500	0.4	<LW02	0.4	UGG
			HMX	03-SA-02	08/12/1991	03SA0201Y	1.000	1.3	<LW02	1.27	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	1.3	<LW02	1.27	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	1.3	<LW02	1.27	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	1.3	<LW02	1.27	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	21.0	=LW02	1.27	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	8.0	=LW02	1.27	UGG
						03SA0902YP	1.800	0.88	=LW02	1.27	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	1.3	<LW02	1.27	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	1.3	<LW02	1.27	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	1.3	<LW02	1.27	UGG
						03SS1202YD	0.500	1.3	<LW02	1.27	UGG
			NITROBENZENE	03-SA-02	08/12/1991	03SA0201N	1.000	1.8	<LM25	1.8	UGG
						03SA0201Y	1.000	0.42	<LW02	0.42	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	1.8	<LM25	1.8	UGG
						03SA0301Y	4.000	0.42	<LW02	0.42	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	1.8	<LM25	1.8	UGG
						03SA0401Y	2.000	0.42	<LW02	0.42	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	1.8	<LM25	1.8	UGG
						03SA0501Y	1.000	0.42	<LW02	0.42	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	1.8	<LM25	1.8	UGG
						03SA0801Y	1.000	0.42	<LW02	0.42	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	1.8	<LM25	1.8	UGG
						03SA0901Y	1.000	0.42	<LW02	0.42	UGG
						03SA0902N	1.800	1.8	<LM25	1.8	UGG
						03SA0902Y	1.800	0.42	<LW02	0.42	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	1.8	<LM25	1.8	UGG
						03SS0101Y	0.500	0.42	<LW02	0.42	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	0.46	=LW02	0.42	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	0.42	<LW02	0.42	UGG
						03SS1202YD	0.500	0.42	<LW02	0.42	UGG
			RDX	03-SA-02	08/12/1991	03SA0201Y	1.000	0.98	<LW02	0.98	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.98	<LW02	0.98	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.98	<LW02	0.98	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.98	<LW02	0.98	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	58.0	=LW02	0.98	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	3.1	=LW02	0.98	UGG
						03SA0902YP	1.800	0.81	=LW02	0.98	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.98	<LW02	0.98	UGG
				03-SS-11	08/12/1991	03SS1101YP	0.500	0.49	=LW02	0.98	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	0.98	<LW02	0.98	UGG
						03SS1202YD	0.500	0.98	<LW02	0.98	UGG
			TETRYL	03-SA-02	08/12/1991	03SA0201Y	1.000	0.25	<LW02	0.25	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.25	<LW02	0.25	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.25	<LW02	0.25	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.25	<LW02	0.25	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.25	<LW02	0.25	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.25	<LW02	0.25	UGG
						03SA0902Y	1.800	0.25	<LW02	0.25	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.25	<LW02	0.25	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	0.25	<LW02	0.25	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	0.25	<LW02	0.25	UGG
						03SS1202YD	0.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	03-SA-02	08/12/1991	03SA0201Y	1.000	19.6	<JS12	19.6	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	19.6	<JS12	19.6	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	19.6	<JS12	19.6	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	19.6	<JS12	19.6	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	19.6	<JS12	19.6	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	19.6	<JS12	19.6	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	19.6	<JS12	19.6	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	19.6	<JS12	19.6	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	19.6	<JS12	19.6	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	19.6	<JS12	19.6	UGG
						03SS1202YD	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	03-SA-02	08/12/1991	03SA0201Y	1.000	5.81	=B9	2.5	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	4.57	=B9	2.5	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	3.7	=B9	2.5	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	2.5	<B9	2.5	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	12.7	=B9	2.5	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	5.17	=B9	2.5	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	7.24	=B9	2.5	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	6.75	=B9	2.5	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	4.0	=B9	2.5	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	6.51	=B9	2.5	UGG
						03SS1202YD	0.500	5.0	=B9	2.5	UGG
			BARIUM	03-SA-02	08/12/1991	03SA0201Y	1.000	264.0	=JS12	3.29	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	252.0	=JS12	3.29	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	296.0	=JS12	3.29	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	62.7	=JS12	3.29	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	22.0	=JS12	3.29	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	150.0	=JS12	3.29	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	21.2	=JS12	3.29	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	103.0	=JS12	3.29	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	80.5	=JS12	3.29	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	196.0	=JS12	3.29	UGG
						03SS1202YD	0.500	173.0	=JS12	3.29	UGG
			BERYLLIUM	03-SA-02	08/12/1991	03SA0201Y	1.000	1.15	=JS12	0.427	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.829	=JS12	0.427	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.867	=JS12	0.427	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.427	<JS12	0.427	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	2.51	=JS12	0.427	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	0.947	=JS12	0.427	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	1.86	=JS12	0.427	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	1.0	=JS12	0.427	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	2.84	=JS12	0.427	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SS-12	08/12/1991	03SS1201Y	0.500	1.14	=JS12	0.427	UGG
						03SS1202YD	0.500	1.13	=JS12	0.427	UGG
			CADMIUM	03-SA-02	08/12/1991	03SA0201Y	1.000	1.2	<JS12	1.2	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	1.2	<JS12	1.2	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	1.2	<JS12	1.2	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	1.2	<JS12	1.2	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	1.2	<JS12	1.2	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	1.2	<JS12	1.2	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	1.2	<JS12	1.2	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	1.2	<JS12	1.2	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	7.46	=JS12	1.2	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	1.2	<JS12	1.2	UGG
						03SS1202YD	0.500	1.2	<JS12	1.2	UGG
			CHROMIUM	03-SA-02	08/12/1991	03SA0201Y	1.000	36.2	=JS12	1.04	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	64.4	=JS12	1.04	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	34.2	=JS12	1.04	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	10.9	=JS12	1.04	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	14.3	=JS12	1.04	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	19.7	=JS12	1.04	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	244.0	=JS12	1.04	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	23.5	=JS12	1.04	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	38.7	=JS12	1.04	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	28.6	=JS12	1.04	UGG
						03SS1202YD	0.500	19.7	=JS12	1.04	UGG
			COPPER	03-SA-02	08/12/1991	03SA0201Y	1.000	118.0	=JS12	2.84	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	2,000.0	=JS12	2.84	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	381.0	=JS12	2.84	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	35.1	=JS12	2.84	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	4.82	=JS12	2.84	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	16.4	=JS12	2.84	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	12,000.0	=JS12	2.84	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	30.6	=JS12	2.84	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	117.0	=JS12	2.84	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	19.3	=JS12	2.84	UGG
						03SS1202YD	0.500	17.5	=JS12	2.84	UGG
			LEAD	03-SA-02	08/12/1991	03SA0201Y	1.000	24.0	=JD21	0.467	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	17.0	=JD21	0.467	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	18.0	=JD21	0.467	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	5.5	=JD21	0.467	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	20.0	=JD21	0.467	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	38.0	=JD21	0.467	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	52.0	=JD21	0.467	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	90.0	=JD21	0.467	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	180.0	=JD21	0.467	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	43.0	=JD21	0.467	UGG
						03SS1202YD	0.500	44.0	=JD21	0.467	UGG
			MERCURY	03-SA-02	08/12/1991	03SA0201Y	1.000	0.07	=Y9	0.05	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	3.2	=Y9	0.05	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	10.0	=Y9	0.05	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.05	<Y9	0.05	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.089	=Y9	0.05	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	0.05	<Y9	0.05	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.05	<Y9	0.05	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	0.1	=Y9	0.05	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	0.106	=Y9	0.05	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	0.055	=Y9	0.05	UGG
						03SS1202YD	0.500	0.055	=Y9	0.05	UGG
			NICKEL	03-SA-02	08/12/1991	03SA0201Y	1.000	27.8	=JS12	2.74	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	27.8	=JS12	2.74	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	16.1	=JS12	2.74	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	5.88	=JS12	2.74	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	7.79	=JS12	2.74	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	14.1	=JS12	2.74	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	193.0	=JS12	2.74	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	20.0	=JS12	2.74	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	26.7	=JS12	2.74	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	19.5	=JS12	2.74	UGG
						03SS1202YD	0.500	22.1	=JS12	2.74	UGG
			SELENIUM	03-SA-02	08/12/1991	03SA0201Y	1.000	0.647	=JD20	0.449	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.449	<JD20	0.449	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.449	<JD20	0.449	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.449	<JD20	0.449	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.449	<JD20	0.449	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	0.449	<JD20	0.449	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.449	<JD20	0.449	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	0.449	<JD20	0.449	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	0.449	<JD20	0.449	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	0.449	<JD20	0.449	UGG
						03SS1202YD	0.500	0.449	<JD20	0.449	UGG
			SILVER	03-SA-02	08/12/1991	03SA0201Y	1.000	0.803	<JS12	0.803	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.803	<JS12	0.803	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.803	<JS12	0.803	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.803	<JS12	0.803	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.803	<JS12	0.803	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	0.803	<JS12	0.803	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.969	=JS12	0.803	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	0.803	<JS12	0.803	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	0.803	<JS12	0.803	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	0.803	<JS12	0.803	UGG
						03SS1202YD	0.500	0.803	<JS12	0.803	UGG
			THALLIUM	03-SA-02	08/12/1991	03SA0201Y	1.000	34.3	<JS12	34.3	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	34.3	<JS12	34.3	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	34.3	<JS12	34.3	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	34.3	<JS12	34.3	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	34.3	<JS12	34.3	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	34.3	<JS12	34.3	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	67.3	=JS12	34.3	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	34.3	<JS12	34.3	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SS-11	08/12/1991	03SS1101Y	0.500	34.3	<JS12	34.3	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	34.3	<JS12	34.3	UGG
						03SS1202YD	0.500	34.3	<JS12	34.3	UGG
			ZINC	03-SA-02	08/12/1991	03SA0201Y	1.000	239.0	=JS12	2.34	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	1,100.0	=JS12	2.34	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	141.0	=JS12	2.34	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	34.7	=JS12	2.34	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	24.3	=JS12	2.34	UGG
				03-SA-09	08/13/1991	03SA0902Y	1.800	81.5	=JS12	2.34	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	5,600.0	=JS12	2.34	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	229.0	=JS12	2.34	UGG
				03-SS-11	08/12/1991	03SS1101Y	0.500	865.0	=JS12	2.34	UGG
				03-SS-12	08/12/1991	03SS1201Y	0.500	106.0	=JS12	2.34	UGG
						03SS1202YD	0.500	94.9	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	03-SA-02	08/12/1991	03SA0201N	1.000	0.068	<LM25	0.068	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	0.068	<LM25	0.068	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	0.068	<LM25	0.068	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	0.068	<LM25	0.068	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	0.068	<LM25	0.068	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	0.068	<LM25	0.068	UGG
						03SA0902N	1.800	0.068	<LM25	0.068	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	0.068	<LM25	0.068	UGG
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	03-SA-02	08/12/1991	03SA0201N	1.000	0.1	<LM25	0.1	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	0.1	<LM25	0.1	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	0.1	<LM25	0.1	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	0.1	<LM25	0.1	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	0.1	<LM25	0.1	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	0.1	<LM25	0.1	UGG
						03SA0902N	1.800	0.1	<LM25	0.1	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	0.1	<LM25	0.1	UGG
				03-SS-10	08/12/1991	03SS1001YU	0.500	0.1	>LH17	0.0034	UGG
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	03-SA-02	08/12/1991	03SA0201N	1.000	0.064	<LM25	0.064	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	0.064	<LM25	0.064	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	0.064	<LM25	0.064	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	0.064	<LM25	0.064	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	0.064	<LM25	0.064	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	0.064	<LM25	0.064	UGG
						03SA0902N	1.800	0.064	<LM25	0.064	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	0.064	<LM25	0.064	UGG
			ALDRIN	03-SA-02	08/12/1991	03SA0201N	1.000	1.3	<LM25	1.3	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	1.3	<LM25	1.3	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	1.3	<LM25	1.3	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	1.3	<LM25	1.3	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	1.3	<LM25	1.3	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	1.3	<LM25	1.3	UGG
						03SA0902N	1.800	1.3	<LM25	1.3	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	1.3	<LM25	1.3	UGG
				03-SS-10	08/12/1991	03SS1001YU	0.500	0.008	=LH17	0.0014	UGG
			ALPHA-BENZENEHEXACHLORIDE	03-SA-02	08/12/1991	03SA0201N	1.000	1.3	<LM25	1.3	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SA-03	08/13/1991	03SA0301N	4.000	1.3	<LM25	1.3	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	1.3	<LM25	1.3	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	1.3	<LM25	1.3	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	1.3	<LM25	1.3	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	1.3	<LM25	1.3	UGG
						03SA0902N	1.800	1.3	<LM25	1.3	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	1.3	<LM25	1.3	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	0.003	<LH17	0.0028	UGG
			ALPHA-ENDOSULFAN/ENDOSULFAN I	03-SA-02	08/12/1991	03SA0201N	1.000	0.4	<LM25	0.4	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	0.4	<LM25	0.4	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	0.4	<LM25	0.4	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	0.4	<LM25	0.4	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	0.4	<LM25	0.4	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	0.4	<LM25	0.4	UGG
						03SA0902N	1.800	0.4	<LM25	0.4	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	0.4	<LM25	0.4	UGG
			BETA-BENZENEHEXACHLORIDE	03-SA-02	08/12/1991	03SA0201N	1.000	1.3	<LM25	1.3	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	1.3	<LM25	1.3	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	1.3	<LM25	1.3	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	1.3	<LM25	1.3	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	1.3	<LM25	1.3	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	1.3	<LM25	1.3	UGG
						03SA0902N	1.800	1.3	<LM25	1.3	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	1.3	<LM25	1.3	UGG
			BETA-ENDOSULFAN/ENDOSULFAN II	03-SA-02	08/12/1991	03SA0201N	1.000	2.4	<LM25	2.4	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	2.4	<LM25	2.4	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	2.4	<LM25	2.4	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	2.4	<LM25	2.4	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	2.4	<LM25	2.4	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	2.4	<LM25	2.4	UGG
						03SA0902N	1.800	2.4	<LM25	2.4	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	2.4	<LM25	2.4	UGG
			CHLORDANE	03-SA-02	08/12/1991	03SA0201N	1.000	0.68	<LM25	0.68	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	0.68	<LM25	0.68	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	0.68	<LM25	0.68	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	0.68	<LM25	0.68	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	0.68	<LM25	0.68	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	0.68	<LM25	0.68	UGG
						03SA0902N	1.800	0.68	<LM25	0.68	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	0.68	<LM25	0.68	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	0.068	<LH17	0.0684	UGG
			DELTA-BENZENEHEXACHLORIDE	03-SA-02	08/12/1991	03SA0201N	1.000	0.21	<LM25	0.21	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	0.21	<LM25	0.21	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	0.21	<LM25	0.21	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	0.21	<LM25	0.21	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	0.21	<LM25	0.21	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	0.21	<LM25	0.21	UGG
						03SA0902N	1.800	0.21	<LM25	0.21	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	0.21	<LM25	0.21	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SS-10	08/12/1991	03SS1001Y	0.500	0.008	<LH17	0.0085	UGG
			DIELDRIN	03-SA-02	08/12/1991	03SA0201N	1.000	0.079	<LM25	0.079	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	0.079	<LM25	0.079	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	0.079	<LM25	0.079	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	0.079	<LM25	0.079	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	0.079	<LM25	0.079	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	0.079	<LM25	0.079	UGG
						03SA0902N	1.800	0.079	<LM25	0.079	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	0.079	<LM25	0.079	UGG
				03-SS-10	08/12/1991	03SS1001YC	0.500	0.013	=LH17	0.0016	UGG
			ENDRIN	03-SA-02	08/12/1991	03SA0201N	1.000	1.3	<LM25	1.3	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	1.3	<LM25	1.3	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	1.3	<LM25	1.3	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	1.3	<LM25	1.3	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	1.3	<LM25	1.3	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	1.3	<LM25	1.3	UGG
						03SA0902N	1.800	1.3	<LM25	1.3	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	1.3	<LM25	1.3	UGG
				03-SS-10	08/12/1991	03SS1001YU	0.500	0.013	=LH17	0.0065	UGG
			HEPTACHLOR	03-SA-02	08/12/1991	03SA0201N	1.000	0.24	<LM25	0.24	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	0.24	<LM25	0.24	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	0.24	<LM25	0.24	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	0.24	<LM25	0.24	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	0.24	<LM25	0.24	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	0.24	<LM25	0.24	UGG
						03SA0902N	1.800	0.24	<LM25	0.24	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	0.24	<LM25	0.24	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	0.002	<LH17	0.0022	UGG
			HEPTACHLOR EPOXIDE	03-SA-02	08/12/1991	03SA0201N	1.000	0.48	<LM25	0.48	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	0.48	<LM25	0.48	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	0.48	<LM25	0.48	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	0.48	<LM25	0.48	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	0.48	<LM25	0.48	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	0.48	<LM25	0.48	UGG
						03SA0902N	1.800	0.48	<LM25	0.48	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	0.48	<LM25	0.48	UGG
			ISODRIN	03-SA-02	08/12/1991	03SA0201N	1.000	0.48	<LM25	0.48	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	0.48	<LM25	0.48	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	0.48	<LM25	0.48	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	0.48	<LM25	0.48	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	0.48	<LM25	0.48	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	0.48	<LM25	0.48	UGG
						03SA0902N	1.800	0.48	<LM25	0.48	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	0.48	<LM25	0.48	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	0.003	<LH17	0.003	UGG
			LINDANE	03-SA-02	08/12/1991	03SA0201N	1.000	0.1	<LM25	0.1	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	0.1	<LM25	0.1	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	0.1	<LM25	0.1	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	0.1	<LM25	0.1	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SA-08	08/13/1991	03SA0801N	1.000	0.1	<LM25	0.1	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	0.1	<LM25	0.1	UGG
						03SA0902N	1.800	0.1	<LM25	0.1	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	0.1	<LM25	0.1	UGG
				03-SS-10	08/12/1991	03SS1001YU	0.500	0.001	=LH17	0.001	UGG
			METHOXYCHLOR	03-SA-02	08/12/1991	03SA0201N	1.000	0.26	<LM25	0.26	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	0.26	<LM25	0.26	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	0.26	<LM25	0.26	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	0.26	<LM25	0.26	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	0.26	<LM25	0.26	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	0.26	<LM25	0.26	UGG
						03SA0902N	1.800	0.26	<LM25	0.26	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	0.26	<LM25	0.26	UGG
			PCB 1016	03-SA-02	08/12/1991	03SA0201N	1.000	0.32	<LM25	0.32	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	0.32	<LM25	0.32	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	0.32	<LM25	0.32	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	0.32	<LM25	0.32	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	0.32	<LM25	0.32	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	0.32	<LM25	0.32	UGG
						03SA0902N	1.800	0.32	<LM25	0.32	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	0.32	<LM25	0.32	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	0.1	<LH17	0.1	UGG
			PCB 1221	03-SA-02	08/12/1991	03SA0201NR	1.000	1.9	*LM25	1.9	UGG
				03-SA-03	08/13/1991	03SA0301NR	4.000	1.9	*LM25	1.9	UGG
				03-SA-04	08/12/1991	03SA0401NR	2.000	1.9	*LM25	1.9	UGG
				03-SA-05	08/13/1991	03SA0501NR	1.000	1.9	*LM25	1.9	UGG
				03-SA-08	08/13/1991	03SA0801NR	1.000	1.9	*LM25	1.9	UGG
				03-SA-09	08/13/1991	03SA0901NR	1.000	1.9	*LM25	1.9	UGG
						03SA0902NR	1.800	1.9	*LM25	1.9	UGG
				03-SS-01	08/12/1991	03SS0101NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1232	03-SA-02	08/12/1991	03SA0201NR	1.000	1.9	*LM25	1.9	UGG
				03-SA-03	08/13/1991	03SA0301NR	4.000	1.9	*LM25	1.9	UGG
				03-SA-04	08/12/1991	03SA0401NR	2.000	1.9	*LM25	1.9	UGG
				03-SA-05	08/13/1991	03SA0501NR	1.000	1.9	*LM25	1.9	UGG
				03-SA-08	08/13/1991	03SA0801NR	1.000	1.9	*LM25	1.9	UGG
				03-SA-09	08/13/1991	03SA0901NR	1.000	1.9	*LM25	1.9	UGG
						03SA0902NR	1.800	1.9	*LM25	1.9	UGG
				03-SS-01	08/12/1991	03SS0101NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1242	03-SA-02	08/12/1991	03SA0201NR	1.000	1.9	*LM25	1.9	UGG
				03-SA-03	08/13/1991	03SA0301NR	4.000	1.9	*LM25	1.9	UGG
				03-SA-04	08/12/1991	03SA0401NR	2.000	1.9	*LM25	1.9	UGG
				03-SA-05	08/13/1991	03SA0501NR	1.000	1.9	*LM25	1.9	UGG
				03-SA-08	08/13/1991	03SA0801NR	1.000	1.9	*LM25	1.9	UGG
				03-SA-09	08/13/1991	03SA0901NR	1.000	1.9	*LM25	1.9	UGG
						03SA0902NR	1.800	1.9	*LM25	1.9	UGG
				03-SS-01	08/12/1991	03SS0101NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1248	03-SA-02	08/12/1991	03SA0201NR	1.000	1.9	*LM25	1.9	UGG
				03-SA-03	08/13/1991	03SA0301NR	4.000	1.9	*LM25	1.9	UGG
				03-SA-04	08/12/1991	03SA0401NR	2.000	1.9	*LM25	1.9	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SA-05	08/13/1991	03SA0501NR	1.000	1.9	*LM25	1.9	UGG
				03-SA-08	08/13/1991	03SA0801NR	1.000	1.9	*LM25	1.9	UGG
				03-SA-09	08/13/1991	03SA0901NR	1.000	1.9	*LM25	1.9	UGG
						03SA0902NR	1.800	1.9	*LM25	1.9	UGG
				03-SS-01	08/12/1991	03SS0101NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1254	03-SA-02	08/12/1991	03SA0201NR	1.000	3.8	*LM25	3.8	UGG
				03-SA-03	08/13/1991	03SA0301NR	4.000	3.8	*LM25	3.8	UGG
				03-SA-04	08/12/1991	03SA0401NR	2.000	3.8	*LM25	3.8	UGG
				03-SA-05	08/13/1991	03SA0501NR	1.000	3.8	*LM25	3.8	UGG
				03-SA-08	08/13/1991	03SA0801NR	1.000	3.8	*LM25	3.8	UGG
				03-SA-09	08/13/1991	03SA0901NR	1.000	3.8	*LM25	3.8	UGG
						03SA0902NR	1.800	3.8	*LM25	3.8	UGG
				03-SS-01	08/12/1991	03SS0101NR	0.500	3.8	*LM25	3.8	UGG
			PCB 1260	03-SA-02	08/12/1991	03SA0201N	1.000	0.79	<LM25	0.79	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	0.79	<LM25	0.79	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	0.79	<LM25	0.79	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	0.79	<LM25	0.79	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	0.79	<LM25	0.79	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	0.79	<LM25	0.79	UGG
						03SA0902N	1.800	0.79	<LM25	0.79	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	0.79	<LM25	0.79	UGG
				03-SS-10	08/12/1991	03SS1001Y	0.500	0.048	<LH17	0.0479	UGG
			PCB 1262	03-SA-02	08/12/1991	03SA0201Y	1.000	6.3	<LM25	0.3	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	6.3	<LM25	0.3	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	6.3	<LM25	0.3	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	6.3	<LM25	0.3	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	6.3	<LM25	0.3	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	6.3	<LM25	0.3	UGG
						03SA0902Y	1.800	6.3	<LM25	0.3	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	6.3	<LM25	0.3	UGG
			TOXAPHENE	03-SA-02	08/12/1991	03SA0201NR	1.000	12.0	*LM25	12.0	UGG
				03-SA-03	08/13/1991	03SA0301NR	4.000	12.0	*LM25	12.0	UGG
				03-SA-04	08/12/1991	03SA0401NR	2.000	12.0	*LM25	12.0	UGG
				03-SA-05	08/13/1991	03SA0501NR	1.000	12.0	*LM25	12.0	UGG
				03-SA-08	08/13/1991	03SA0801NR	1.000	12.0	*LM25	12.0	UGG
				03-SA-09	08/13/1991	03SA0901NR	1.000	12.0	*LM25	12.0	UGG
						03SA0902NR	1.800	12.0	*LM25	12.0	UGG
				03-SS-01	08/12/1991	03SS0101NR	0.500	12.0	*LM25	12.0	UGG
		RADIONUCLIDES	ALPHA GROSS	03-SS-10	08/12/1991	03SS1001N	0.500	2.1	=00	0.0	PCG
			BISMUTH 214	03-SS-10	08/12/1991	03SS1001N	0.500	1.51	=99	0.0	PCG
			CESIUM 137	03-SS-10	08/12/1991	03SS1001N	0.500	0.35	=99	0.0	PCG
			GROSS BETA	03-SS-10	08/12/1991	03SS1001N	0.500	13.2	=00	0.0	PCG
			LEAD 212	03-SS-10	08/12/1991	03SS1001N	0.500	0.58	=99	0.0	PCG
			LEAD 214	03-SS-10	08/12/1991	03SS1001N	0.500	0.6	=99	0.0	PCG
			RADIUM 226	03-SS-10	08/12/1991	03SS1001N	0.500	0.76	=99	0.0	PCG
			THALLIUM 208	03-SS-10	08/12/1991	03SS1001N	0.500	0.73	=99	0.0	PCG
		SEMIVOLATILES	1,2,3-TRICHLOROBENZENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.032	<LM25	0.032	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.032	<LM25	0.032	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.032	<LM25	0.032	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.032	<LM25	0.032	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.032	<LM25	0.032	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.032	<LM25	0.032	UGG
						03SA0902Y	1.800	0.032	<LM25	0.032	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.032	<LM25	0.032	UGG
			1,2,4-TRICHLOROBENZENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.22	<LM25	0.22	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.22	<LM25	0.22	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.22	<LM25	0.22	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.22	<LM25	0.22	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.22	<LM25	0.22	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.22	<LM25	0.22	UGG
						03SA0902Y	1.800	0.22	<LM25	0.22	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.22	<LM25	0.22	UGG
			1,2-DICHLOROBENZENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.042	<LM25	0.042	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.042	<LM25	0.042	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.042	<LM25	0.042	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.042	<LM25	0.042	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.042	<LM25	0.042	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.042	<LM25	0.042	UGG
						03SA0902Y	1.800	0.042	<LM25	0.042	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.042	<LM25	0.042	UGG
			1,2-DIPHENYLHYDRAZINE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.52	<LM25	0.52	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.52	<LM25	0.52	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.52	<LM25	0.52	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.52	<LM25	0.52	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.52	<LM25	0.52	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.52	<LM25	0.52	UGG
						03SA0902Y	1.800	0.52	<LM25	0.52	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.52	<LM25	0.52	UGG
			1,4-DICHLOROBENZENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.034	<LM25	0.034	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.034	<LM25	0.034	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.034	<LM25	0.034	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.034	<LM25	0.034	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.034	<LM25	0.034	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.034	<LM25	0.034	UGG
						03SA0902Y	1.800	0.034	<LM25	0.034	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.034	<LM25	0.034	UGG
			1,4-OXATHIANE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.075	<LM25	0.075	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.075	<LM25	0.075	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.075	<LM25	0.075	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.075	<LM25	0.075	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.075	<LM25	0.075	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.075	<LM25	0.075	UGG
						03SA0902Y	1.800	0.075	<LM25	0.075	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.075	<LM25	0.075	UGG
			2,3,6-TCP	03-SA-02	08/12/1991	03SA0201Y	1.000	0.62	<LM25	0.62	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.62	<LM25	0.62	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.62	<LM25	0.62	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.62	<LM25	0.62	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.62	<LM25	0.62	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.62	<LM25	0.62	UGG
						03SA0902Y	1.800	0.62	<LM25	0.62	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.62	<LM25	0.62	UGG
			2,4,5-TRICHLOROPHENOL	03-SA-02	08/12/1991	03SA0201Y	1.000	0.49	<LM25	0.49	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.49	<LM25	0.49	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.49	<LM25	0.49	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.49	<LM25	0.49	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.49	<LM25	0.49	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.49	<LM25	0.49	UGG
						03SA0902Y	1.800	0.49	<LM25	0.49	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.49	<LM25	0.49	UGG
			2,4,6-TRICHLOROPHENOL	03-SA-02	08/12/1991	03SA0201Y	1.000	0.061	<LM25	0.061	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.061	<LM25	0.061	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.061	<LM25	0.061	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.061	<LM25	0.061	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.061	<LM25	0.061	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.061	<LM25	0.061	UGG
						03SA0902Y	1.800	0.061	<LM25	0.061	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.061	<LM25	0.061	UGG
			2,4-DICHLOROPHENOL	03-SA-02	08/12/1991	03SA0201Y	1.000	0.065	<LM25	0.065	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.065	<LM25	0.065	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.065	<LM25	0.065	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.065	<LM25	0.065	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.065	<LM25	0.065	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.065	<LM25	0.065	UGG
						03SA0902Y	1.800	0.065	<LM25	0.065	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.065	<LM25	0.065	UGG
			2,4-DIMETHYLPHENOL	03-SA-02	08/12/1991	03SA0201Y	1.000	3.0	<LM25	3.0	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	3.0	<LM25	3.0	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	3.0	<LM25	3.0	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	3.0	<LM25	3.0	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	3.0	<LM25	3.0	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	3.0	<LM25	3.0	UGG
						03SA0902Y	1.800	3.0	<LM25	3.0	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	3.0	<LM25	3.0	UGG
			2,4-DINITROPHENOL	03-SA-02	08/12/1991	03SA0201Y	1.000	4.7	<LM25	4.7	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	4.7	<LM25	4.7	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	4.7	<LM25	4.7	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	4.7	<LM25	4.7	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	4.7	<LM25	4.7	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	4.7	<LM25	4.7	UGG
						03SA0902Y	1.800	4.7	<LM25	4.7	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	4.7	<LM25	4.7	UGG
			2,6-DINITROANILINE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.57	<LM25	0.57	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.57	<LM25	0.57	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.57	<LM25	0.57	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.57	<LM25	0.57	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.57	<LM25	0.57	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.57	<LM25	0.57	UGG
						03SA0902Y	1.800	0.57	<LM25	0.57	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.57	<LM25	0.57	UGG
			2-CHLORONAPHTHALENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.24	<LM25	0.24	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.24	<LM25	0.24	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.24	<LM25	0.24	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.24	<LM25	0.24	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.24	<LM25	0.24	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.24	<LM25	0.24	UGG
						03SA0902Y	1.800	0.24	<LM25	0.24	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.24	<LM25	0.24	UGG
			2-CHLOROPHENOL	03-SA-02	08/12/1991	03SA0201Y	1.000	0.055	<LM25	0.055	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.055	<LM25	0.055	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.055	<LM25	0.055	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.055	<LM25	0.055	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.055	<LM25	0.055	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.055	<LM25	0.055	UGG
						03SA0902Y	1.800	0.055	<LM25	0.055	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.055	<LM25	0.055	UGG
			2-METHYL-4,6-DINITROPHENOL/4,6	03-SA-02	08/12/1991	03SA0201Y	1.000	0.8	<LM25	0.8	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.8	<LM25	0.8	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.8	<LM25	0.8	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.8	<LM25	0.8	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.8	<LM25	0.8	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.8	<LM25	0.8	UGG
						03SA0902Y	1.800	0.8	<LM25	0.8	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.8	<LM25	0.8	UGG
			2-METHYLNAPHTHALENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.032	<LM25	0.032	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.032	<LM25	0.032	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.032	<LM25	0.032	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.032	<LM25	0.032	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.032	<LM25	0.032	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.032	<LM25	0.032	UGG
						03SA0902Y	1.800	0.472	=LM25	0.032	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.032	<LM25	0.032	UGG
			2-METHYLPHENOL/2-CRESOL	03-SA-02	08/12/1991	03SA0201Y	1.000	0.098	<LM25	0.098	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.098	<LM25	0.098	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.098	<LM25	0.098	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.098	<LM25	0.098	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.098	<LM25	0.098	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.098	<LM25	0.098	UGG
						03SA0902Y	1.800	0.098	<LM25	0.098	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.098	<LM25	0.098	UGG
			2-NITROANILINE	03-SA-02	08/12/1991	03SA0201NR	1.000	3.1	*LM25	3.1	UGG
				03-SA-03	08/13/1991	03SA0301NR	4.000	3.1	*LM25	3.1	UGG
				03-SA-04	08/12/1991	03SA0401NR	2.000	3.1	*LM25	3.1	UGG
				03-SA-05	08/13/1991	03SA0501NR	1.000	3.1	*LM25	3.1	UGG
				03-SA-08	08/13/1991	03SA0801NR	1.000	3.1	*LM25	3.1	UGG
				03-SA-09	08/13/1991	03SA0901NR	1.000	3.1	*LM25	3.1	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						03SA0902NR	1.800	3.1	*LM25	3.1	UGG
				03-SS-01	08/12/1991	03SS0101NR	0.500	3.1	*LM25	3.1	UGG
			2-NITROPHENOL	03-SA-02	08/12/1991	03SA0201Y	1.000	1.1	<LM25	1.1	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	1.1	<LM25	1.1	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	1.1	<LM25	1.1	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	1.1	<LM25	1.1	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	1.1	<LM25	1.1	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	1.1	<LM25	1.1	UGG
						03SA0902Y	1.800	1.1	<LM25	1.1	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	1.1	<LM25	1.1	UGG
			3,3'-DICHLOROBENZIDINE	03-SA-02	08/12/1991	03SA0201Y	1.000	1.6	<LM25	1.6	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	1.6	<LM25	1.6	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	1.6	<LM25	1.6	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	1.6	<LM25	1.6	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	1.6	<LM25	1.6	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	1.6	<LM25	1.6	UGG
						03SA0902Y	1.800	1.6	<LM25	1.6	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	1.6	<LM25	1.6	UGG
			3,5-DINITROANILINE	03-SA-02	08/12/1991	03SA0201Y	1.000	1.6	<LM25	1.6	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	1.6	<LM25	1.6	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	1.6	<LM25	1.6	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	1.6	<LM25	1.6	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	1.6	<LM25	1.6	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	1.6	<LM25	1.6	UGG
						03SA0902Y	1.800	1.6	<LM25	1.6	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	1.6	<LM25	1.6	UGG
			3-METHYL-4-CHLOROPHENOL/4-CHLO	03-SA-02	08/12/1991	03SA0201Y	1.000	0.93	<LM25	0.93	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.93	<LM25	0.93	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.93	<LM25	0.93	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.93	<LM25	0.93	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.93	<LM25	0.93	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.93	<LM25	0.93	UGG
						03SA0902Y	1.800	0.93	<LM25	0.93	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.93	<LM25	0.93	UGG
			3-NITROANILINE	03-SA-02	08/12/1991	03SA0201Y	1.000	3.0	<LM25	3.0	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	3.0	<LM25	3.0	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	3.0	<LM25	3.0	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	3.0	<LM25	3.0	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	3.0	<LM25	3.0	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	3.0	<LM25	3.0	UGG
						03SA0902Y	1.800	3.0	<LM25	3.0	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	3.0	<LM25	3.0	UGG
			3-NITROTOLUENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.34	<LM25	0.34	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.34	<LM25	0.34	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.34	<LM25	0.34	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.34	<LM25	0.34	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.34	<LM25	0.34	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.34	<LM25	0.34	UGG
						03SA0902Y	1.800	0.34	<LM25	0.34	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.34	<LM25	0.34	UGG
			4-BROMOPHENYLPHENYL ETHER	03-SA-02	08/12/1991	03SA0201Y	1.000	0.041	<LM25	0.041	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.041	<LM25	0.041	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.041	<LM25	0.041	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.041	<LM25	0.041	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.041	<LM25	0.041	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.041	<LM25	0.041	UGG
						03SA0902Y	1.800	0.041	<LM25	0.041	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.041	<LM25	0.041	UGG
			4-CHLOROANILINE	03-SA-02	08/12/1991	03SA0201NR	1.000	0.63	*LM25	0.63	UGG
				03-SA-03	08/13/1991	03SA0301NR	4.000	0.63	*LM25	0.63	UGG
				03-SA-04	08/12/1991	03SA0401NR	2.000	0.63	*LM25	0.63	UGG
				03-SA-05	08/13/1991	03SA0501NR	1.000	0.63	*LM25	0.63	UGG
				03-SA-08	08/13/1991	03SA0801NR	1.000	0.63	*LM25	0.63	UGG
				03-SA-09	08/13/1991	03SA0901NR	1.000	0.63	*LM25	0.63	UGG
						03SA0902NR	1.800	0.63	*LM25	0.63	UGG
				03-SS-01	08/12/1991	03SS0101NR	0.500	0.63	*LM25	0.63	UGG
			4-CHLOROPHENYLPHENYL ETHER	03-SA-02	08/12/1991	03SA0201Y	1.000	0.17	<LM25	0.17	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.17	<LM25	0.17	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.17	<LM25	0.17	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.17	<LM25	0.17	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.17	<LM25	0.17	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.17	<LM25	0.17	UGG
						03SA0902Y	1.800	0.17	<LM25	0.17	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.17	<LM25	0.17	UGG
			4-METHYLPHENOL/4-CRESOL	03-SA-02	08/12/1991	03SA0201Y	1.000	0.24	<LM25	0.24	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.24	<LM25	0.24	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.24	<LM25	0.24	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.24	<LM25	0.24	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.24	<LM25	0.24	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.24	<LM25	0.24	UGG
						03SA0902Y	1.800	0.24	<LM25	0.24	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.24	<LM25	0.24	UGG
			4-NITROANILINE	03-SA-02	08/12/1991	03SA0201NR	1.000	3.1	*LM25	3.1	UGG
				03-SA-03	08/13/1991	03SA0301NR	4.000	3.1	*LM25	3.1	UGG
				03-SA-04	08/12/1991	03SA0401NR	2.000	3.1	*LM25	3.1	UGG
				03-SA-05	08/13/1991	03SA0501NR	1.000	3.1	*LM25	3.1	UGG
				03-SA-08	08/13/1991	03SA0801NR	1.000	3.1	*LM25	3.1	UGG
				03-SA-09	08/13/1991	03SA0901NR	1.000	3.1	*LM25	3.1	UGG
						03SA0902NR	1.800	3.1	*LM25	3.1	UGG
				03-SS-01	08/12/1991	03SS0101NR	0.500	3.1	*LM25	3.1	UGG
			4-NITROPHENOL	03-SA-02	08/12/1991	03SA0201Y	1.000	3.3	<LM25	3.3	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	3.3	<LM25	3.3	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	3.3	<LM25	3.3	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	3.3	<LM25	3.3	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	3.3	<LM25	3.3	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	3.3	<LM25	3.3	UGG
						03SA0902Y	1.800	3.3	<LM25	3.3	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	3.3	<LM25	3.3	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			ACENAPHTHENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.041	<LM25	0.041	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.041	<LM25	0.041	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.041	<LM25	0.041	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.041	<LM25	0.041	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.041	<LM25	0.041	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.315	=LM25	0.041	UGG
						03SA0902Y	1.800	5.09	=LM25	0.041	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.041	<LM25	0.041	UGG
			ACENAPHTHYLENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.033	<LM25	0.033	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.033	<LM25	0.033	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.033	<LM25	0.033	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.033	<LM25	0.033	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.033	<LM25	0.033	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.033	<LM25	0.033	UGG
						03SA0902Y	1.800	0.12	=LM25	0.033	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.033	<LM25	0.033	UGG
			ANTHRACENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.71	<LM25	0.71	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.71	<LM25	0.71	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.71	<LM25	0.71	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.71	<LM25	0.71	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.71	<LM25	0.71	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.71	<LM25	0.71	UGG
						03SA0902Y	1.800	11.0	=LM25	0.71	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.71	<LM25	0.71	UGG
			ATRAZINE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.065	<LM25	0.065	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.065	<LM25	0.065	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.065	<LM25	0.065	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.065	<LM25	0.065	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.065	<LM25	0.065	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.065	<LM25	0.065	UGG
						03SA0902Y	1.800	0.065	<LM25	0.065	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.065	<LM25	0.065	UGG
			BENZO(A)ANTHRACENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.041	<LM25	0.48	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.041	<LM25	0.48	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.041	<LM25	0.48	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.041	<LM25	0.48	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.041	<LM25	0.48	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	2.54	=LM25	0.48	UGG
						03SA0902Y	1.800	12.0	>LM25	0.48	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.041	<LM25	0.48	UGG
			BENZO(A)PYRENE	03-SA-02	08/12/1991	03SA0201Y	1.000	1.2	<LM25	1.2	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	1.2	<LM25	1.2	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	1.2	<LM25	1.2	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	1.2	<LM25	1.2	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	1.2	<LM25	1.2	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	2.64	=LM25	1.2	UGG
						03SA0902Y	1.800	6.2	>LM25	1.2	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	1.2	<LM25	1.2	UGG
			BENZO(B)FLUORANTHENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.31	<LM25	0.31	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.31	<LM25	0.31	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.31	<LM25	0.31	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.31	<LM25	0.31	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.31	<LM25	0.31	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	2.76	=LM25	0.31	UGG
						03SA0902Y	1.800	12.0	>LM25	0.31	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.31	<LM25	0.31	UGG
			BENZO(G,H,I)PERYLENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.18	<LM25	0.18	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.18	<LM25	0.18	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.18	<LM25	0.18	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.18	<LM25	0.18	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.18	<LM25	0.18	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	2.19	=LM25	0.18	UGG
						03SA0902Y	1.800	21.4	=LM25	0.18	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.18	<LM25	0.18	UGG
			BENZO(K)FLUORANTHENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.13	<LM25	0.13	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.13	<LM25	0.13	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.13	<LM25	0.13	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.13	<LM25	0.13	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.13	<LM25	0.13	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	2.3	=LM25	0.13	UGG
						03SA0902Y	1.800	20.5	=LM25	0.13	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.13	<LM25	0.13	UGG
			BENZOIC ACID	03-SA-02	08/12/1991	03SA0201NR	1.000	3.1	*LM25	3.1	UGG
				03-SA-03	08/13/1991	03SA0301NR	4.000	3.1	*LM25	3.1	UGG
				03-SA-04	08/12/1991	03SA0401NR	2.000	3.1	*LM25	3.1	UGG
				03-SA-05	08/13/1991	03SA0501NR	1.000	3.1	*LM25	3.1	UGG
				03-SA-08	08/13/1991	03SA0801NR	1.000	3.1	*LM25	3.1	UGG
				03-SA-09	08/13/1991	03SA0901NR	1.000	3.1	*LM25	3.1	UGG
						03SA0902NR	1.800	3.1	*LM25	3.1	UGG
				03-SS-01	08/12/1991	03SS0101NR	0.500	3.1	*LM25	3.1	UGG
			BENZYL ALCOHOL	03-SA-02	08/12/1991	03SA0201Y	1.000	0.032	<LM25	0.032	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.032	<LM25	0.032	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.032	<LM25	0.032	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.032	<LM25	0.032	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.032	<LM25	0.032	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.032	<LM25	0.032	UGG
						03SA0902Y	1.800	0.032	<LM25	0.032	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.032	<LM25	0.032	UGG
			BIS (2-CHLOROETHOXY) METHANE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.19	<LM25	0.19	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.19	<LM25	0.19	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.19	<LM25	0.19	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.19	<LM25	0.19	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.19	<LM25	0.19	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.19	<LM25	0.19	UGG
						03SA0902Y	1.800	0.19	<LM25	0.19	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.19	<LM25	0.19	UGG
			BIS (2-CHLOROETHYL) ETHER	03-SA-02	08/12/1991	03SA0201Y	1.000	0.36	<LM25	0.36	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.36	<LM25	0.36	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.36	<LM25	0.36	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.36	<LM25	0.36	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.36	<LM25	0.36	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.36	<LM25	0.36	UGG
						03SA0902Y	1.800	0.36	<LM25	0.36	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.36	<LM25	0.36	UGG
			BIS (2-CHLOROISOPROPYL) ETHER	03-SA-02	08/12/1991	03SA0201Y	1.000	0.44	<LM25	0.44	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.44	<LM25	0.44	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.44	<LM25	0.44	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.44	<LM25	0.44	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.44	<LM25	0.44	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.44	<LM25	0.44	UGG
						03SA0902Y	1.800	0.44	<LM25	0.44	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.44	<LM25	0.44	UGG
			BIS (2-ETHYLHEXYL) PHTHALATE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.48	<LM25	0.48	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.48	<LM25	0.48	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.48	<LM25	0.48	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.48	<LM25	0.48	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.48	<LM25	0.48	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.48	<LM25	0.48	UGG
						03SA0902Y	1.800	1.12	=LM25	0.48	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.48	<LM25	0.48	UGG
			BUTYLBENZYL PHTHALATE	03-SA-02	08/12/1991	03SA0201Y	1.000	1.8	<LM25	1.8	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	1.8	<LM25	1.8	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	1.8	<LM25	1.8	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	1.8	<LM25	1.8	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	1.8	<LM25	1.8	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	1.8	<LM25	1.8	UGG
						03SA0902Y	1.800	1.8	<LM25	1.8	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	1.8	<LM25	1.8	UGG
			CHRYSENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.032	<LM25	0.032	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.032	<LM25	0.032	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.032	<LM25	0.032	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.032	<LM25	0.032	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.032	<LM25	0.032	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	3.02	=LM25	0.032	UGG
						03SA0902Y	1.800	12.0	>LM25	0.032	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.032	<LM25	0.032	UGG
			DI-N-BUTYL PHTHALATE	03-SA-02	08/12/1991	03SA0201Y	1.000	3.28	=LM25	1.3	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	2.34	=LM25	1.3	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	1.91	=LM25	1.3	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	1.3	<LM25	1.3	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	1.3	<LM25	1.3	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	3.85	=LM25	1.3	UGG
						03SA0902Y	1.800	4.31	=LM25	1.3	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	1.3	<LM25	1.3	UGG
			DI-N-OCTYL PHTHALATE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.23	<LM25	0.23	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.23	<LM25	0.23	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.23	<LM25	0.23	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.23	<LM25	0.23	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.23	<LM25	0.23	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.23	<LM25	0.23	UGG
						03SA0902Y	1.800	0.23	<LM25	0.23	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.23	<LM25	0.23	UGG
			DIBENZ(A,H)ANTHRACENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.31	<LM25	0.31	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.31	<LM25	0.31	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.31	<LM25	0.31	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.31	<LM25	0.31	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.31	<LM25	0.31	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.31	<LM25	0.31	UGG
						03SA0902Y	1.800	3.82	=LM25	0.31	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.31	<LM25	0.31	UGG
			DIBENZOFURAN	03-SA-02	08/12/1991	03SA0201Y	1.000	0.038	<LM25	0.038	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.038	<LM25	0.038	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.038	<LM25	0.038	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.038	<LM25	0.038	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.038	<LM25	0.038	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.038	<LM25	0.038	UGG
						03SA0902Y	1.800	2.05	=LM25	0.038	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.038	<LM25	0.038	UGG
			DIBROMOCHLOROPROPANE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.071	<LM25	0.071	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.071	<LM25	0.071	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.071	<LM25	0.071	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.071	<LM25	0.071	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.071	<LM25	0.071	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.071	<LM25	0.071	UGG
						03SA0902Y	1.800	0.071	<LM25	0.071	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.071	<LM25	0.071	UGG
			DICYCLOPENTADIENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.57	<LM25	0.57	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.57	<LM25	0.57	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.57	<LM25	0.57	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.57	<LM25	0.57	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.57	<LM25	0.57	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.57	<LM25	0.57	UGG
						03SA0902Y	1.800	0.57	<LM25	0.57	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.57	<LM25	0.57	UGG
			DIETHYL PHTHALATE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.24	<LM25	0.24	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.24	<LM25	0.24	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.24	<LM25	0.24	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.24	<LM25	0.24	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.24	<LM25	0.24	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.24	<LM25	0.24	UGG
						03SA0902Y	1.800	0.24	<LM25	0.24	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.24	<LM25	0.24	UGG
			DIMETHYL PHTHALATE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.063	<LM25	0.063	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.063	<LM25	0.063	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.063	<LM25	0.063	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.063	<LM25	0.063	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.063	<LM25	0.063	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.063	<LM25	0.063	UGG
						03SA0902Y	1.800	0.063	<LM25	0.063	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.063	<LM25	0.063	UGG
			DITHIANE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.065	<LM25	0.065	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.065	<LM25	0.065	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.065	<LM25	0.065	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.065	<LM25	0.065	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.065	<LM25	0.065	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.065	<LM25	0.065	UGG
						03SA0902Y	1.800	0.065	<LM25	0.065	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.065	<LM25	0.065	UGG
			ENDOSULFAN SULFATE	03-SA-02	08/12/1991	03SA0201Y	1.000	1.2	<LM25	1.2	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	1.2	<LM25	1.2	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	1.2	<LM25	1.2	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	1.2	<LM25	1.2	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	1.2	<LM25	1.2	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	1.2	<LM25	1.2	UGG
						03SA0902Y	1.800	1.2	<LM25	1.2	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	1.2	<LM25	1.2	UGG
			ENDRIN ALDEHYDE	03-SA-02	08/12/1991	03SA0201Y	1.000	1.8	<LM25	1.8	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	1.8	<LM25	1.8	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	1.8	<LM25	1.8	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	1.8	<LM25	1.8	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	1.8	<LM25	1.8	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	1.8	<LM25	1.8	UGG
						03SA0902Y	1.800	1.8	<LM25	1.8	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	1.8	<LM25	1.8	UGG
			ENDRIN KETONE	03-SA-02	08/12/1991	03SA0201NR	1.000	0.28	*LM25	0.28	UGG
				03-SA-03	08/13/1991	03SA0301NR	4.000	0.28	*LM25	0.28	UGG
				03-SA-04	08/12/1991	03SA0401NR	2.000	0.28	*LM25	0.28	UGG
				03-SA-05	08/13/1991	03SA0501NR	1.000	0.28	*LM25	0.28	UGG
				03-SA-08	08/13/1991	03SA0801NR	1.000	0.28	*LM25	0.28	UGG
				03-SA-09	08/13/1991	03SA0901NR	1.000	0.28	*LM25	0.28	UGG
						03SA0902NR	1.800	0.28	*LM25	0.28	UGG
				03-SS-01	08/12/1991	03SS0101NR	0.500	0.28	*LM25	0.28	UGG
			FLUORANTHENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.032	<LM25	0.032	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.032	<LM25	0.032	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.032	<LM25	0.032	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.032	<LM25	0.032	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.032	<LM25	0.032	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	3.92	=LM25	0.032	UGG
						03SA0902Y	1.800	6.2	>LM25	0.032	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.032	<LM25	0.032	UGG
			FLUORENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.065	<LM25	0.065	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.065	<LM25	0.065	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.065	<LM25	0.065	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.065	<LM25	0.065	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.065	<LM25	0.065	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.406	=LM25	0.065	UGG
						03SA0902Y	1.800	6.34	=LM25	0.065	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.065	<LM25	0.065	UGG
			HEXACHLOROBENZENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.08	<LM25	0.08	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.08	<LM25	0.08	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.08	<LM25	0.08	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.08	<LM25	0.08	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.08	<LM25	0.08	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.08	<LM25	0.08	UGG
						03SA0902Y	1.800	0.08	<LM25	0.08	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.08	<LM25	0.08	UGG
			HEXACHLOROBUTADIENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.97	<LM25	0.97	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.97	<LM25	0.97	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.97	<LM25	0.97	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.97	<LM25	0.97	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.97	<LM25	0.97	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.97	<LM25	0.97	UGG
						03SA0902Y	1.800	0.97	<LM25	0.97	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.97	<LM25	0.97	UGG
			HEXACHLOROCYCLOPENTADIENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.52	<LM25	0.52	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.52	<LM25	0.52	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.52	<LM25	0.52	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.52	<LM25	0.52	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.52	<LM25	0.52	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.52	<LM25	0.52	UGG
						03SA0902Y	1.800	0.52	<LM25	0.52	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.52	<LM25	0.52	UGG
			HEXACHLOROETHANE	03-SA-02	08/12/1991	03SA0201Y	1.000	1.8	<LM25	1.8	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	1.8	<LM25	1.8	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	1.8	<LM25	1.8	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	1.8	<LM25	1.8	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	1.8	<LM25	1.8	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	1.8	<LM25	1.8	UGG
						03SA0902Y	1.800	1.8	<LM25	1.8	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	1.8	<LM25	1.8	UGG
			INDENO(1,2,3-C,D)PYRENE	03-SA-02	08/12/1991	03SA0201Y	1.000	2.4	<LM25	2.4	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	2.4	<LM25	2.4	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	2.4	<LM25	2.4	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	2.4	<LM25	2.4	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	2.4	<LM25	2.4	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	2.4	<LM25	2.4	UGG
						03SA0902Y	1.800	12.5	=LM25	2.4	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	2.4	<LM25	2.4	UGG
			ISOPHORONE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.39	<LM25	0.39	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.39	<LM25	0.39	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.39	<LM25	0.39	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.39	<LM25	0.39	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.39	<LM25	0.39	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.39	<LM25	0.39	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						03SA0902Y	1.800	0.39	<LM25	0.39	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.39	<LM25	0.39	UGG
			MALATHION	03-SA-02	08/12/1991	03SA0201Y	1.000	0.18	<LM25	0.18	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.18	<LM25	0.18	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.18	<LM25	0.18	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.18	<LM25	0.18	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.18	<LM25	0.18	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.18	<LM25	0.18	UGG
						03SA0902Y	1.800	0.18	<LM25	0.18	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.18	<LM25	0.18	UGG
			MIREX	03-SA-02	08/12/1991	03SA0201Y	1.000	0.14	<LM25	0.14	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.14	<LM25	0.14	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.14	<LM25	0.14	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.14	<LM25	0.14	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.14	<LM25	0.14	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.14	<LM25	0.14	UGG
						03SA0902Y	1.800	0.14	<LM25	0.14	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.14	<LM25	0.14	UGG
			N-NITROSODI-N-PROPYLAMINE	03-SA-02	08/12/1991	03SA0201Y	1.000	1.1	<LM25	1.1	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	1.1	<LM25	1.1	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	1.1	<LM25	1.1	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	1.1	<LM25	1.1	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	1.1	<LM25	1.1	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	1.1	<LM25	1.1	UGG
						03SA0902Y	1.800	1.1	<LM25	1.1	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	1.1	<LM25	1.1	UGG
			N-NITROSODIMETHYLAMINE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.46	<LM25	0.46	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.46	<LM25	0.46	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.46	<LM25	0.46	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.46	<LM25	0.46	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.46	<LM25	0.46	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.46	<LM25	0.46	UGG
						03SA0902Y	1.800	0.46	<LM25	0.46	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.46	<LM25	0.46	UGG
			N-NITROSODIPHENYLAMINE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.29	<LM25	0.29	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.29	<LM25	0.29	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.29	<LM25	0.29	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.29	<LM25	0.29	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.29	<LM25	0.29	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.29	<LM25	0.29	UGG
						03SA0902Y	1.800	0.29	<LM25	0.29	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.29	<LM25	0.29	UGG
			NAPHTHALENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.74	<LM25	0.74	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.74	<LM25	0.74	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.74	<LM25	0.74	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.74	<LM25	0.74	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.74	<LM25	0.74	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.74	<LM25	0.74	UGG
						03SA0902Y	1.800	2.57	=LM25	0.74	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.74	<LM25	0.74	UGG
			P-CHLOROPHENYLMETHYL SULFIDE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.097	<LM25	0.097	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.097	<LM25	0.097	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.097	<LM25	0.097	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.097	<LM25	0.097	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.097	<LM25	0.097	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.097	<LM25	0.097	UGG
						03SA0902Y	1.800	0.097	<LM25	0.097	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.097	<LM25	0.097	UGG
			P-CHLOROPHENYLMETHYL SULFONE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.066	<LM25	0.066	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.066	<LM25	0.066	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.066	<LM25	0.066	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.066	<LM25	0.066	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.066	<LM25	0.066	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.066	<LM25	0.066	UGG
						03SA0902Y	1.800	0.066	<LM25	0.066	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.066	<LM25	0.066	UGG
			P-CHLOROPHENYLMETHYL SULFOXIDE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.32	<LM25	0.32	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.32	<LM25	0.32	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.32	<LM25	0.32	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.32	<LM25	0.32	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.32	<LM25	0.32	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.32	<LM25	0.32	UGG
						03SA0902Y	1.800	0.32	<LM25	0.32	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.32	<LM25	0.32	UGG
			PARATHION	03-SA-02	08/12/1991	03SA0201Y	1.000	1.7	<LM25	1.7	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	1.7	<LM25	1.7	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	1.7	<LM25	1.7	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	1.7	<LM25	1.7	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	1.7	<LM25	1.7	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	1.7	<LM25	1.7	UGG
						03SA0902Y	1.800	1.7	<LM25	1.7	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	1.7	<LM25	1.7	UGG
			PENTACHLOROPHENOL	03-SA-02	08/12/1991	03SA0201Y	1.000	0.76	<LM25	0.76	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.76	<LM25	0.76	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.76	<LM25	0.76	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.76	<LM25	0.76	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.76	<LM25	0.76	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.76	<LM25	0.76	UGG
						03SA0902Y	1.800	0.76	<LM25	0.76	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.76	<LM25	0.76	UGG
			PHENANTHRENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.032	<LM25	0.032	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.032	<LM25	0.032	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.032	<LM25	0.032	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.032	<LM25	0.032	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.032	<LM25	0.032	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	5.7	=LM25	0.032	UGG
						03SA0902Y	1.800	12.0	>LM25	0.032	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.032	<LM25	0.032	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			PHENOL	03-SA-02	08/12/1991	03SA0201Y	1.000	0.052	<LM25	0.052	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.052	<LM25	0.052	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.052	<LM25	0.052	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.052	<LM25	0.052	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.052	<LM25	0.052	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.052	<LM25	0.052	UGG
						03SA0902Y	1.800	0.052	<LM25	0.052	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.052	<LM25	0.052	UGG
			PYRENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.083	<LM25	0.083	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.083	<LM25	0.083	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.083	<LM25	0.083	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.083	<LM25	0.083	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.083	<LM25	0.083	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	5.96	=LM25	0.083	UGG
						03SA0902Y	1.800	6.2	>LM25	0.083	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.083	<LM25	0.083	UGG
			SUPONA/2-CHLORO-1-(2,4-DICHLOR	03-SA-02	08/12/1991	03SA0201Y	1.000	0.92	<LM25	0.92	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.92	<LM25	0.92	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.92	<LM25	0.92	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.92	<LM25	0.92	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.92	<LM25	0.92	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.92	<LM25	0.92	UGG
						03SA0902Y	1.800	0.92	<LM25	0.92	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.92	<LM25	0.92	UGG
			VAPONA	03-SA-02	08/12/1991	03SA0201Y	1.000	0.068	<LM25	0.068	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.068	<LM25	0.068	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.068	<LM25	0.068	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.068	<LM25	0.068	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.068	<LM25	0.068	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.068	<LM25	0.068	UGG
						03SA0902Y	1.800	0.068	<LM25	0.068	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.068	<LM25	0.068	UGG
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	03-SA-02	08/12/1991	03SA0201Y	1.000	0.5	<LM23	0.5	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.5	<LM23	0.5	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.5	<LM23	0.5	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.5	<LM23	0.5	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.5	<LM23	0.5	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.5	<LM23	0.5	UGG
						03SA0902Y	1.800	0.5	<LM23	0.5	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.5	<LM23	0.5	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.5	<LM23	0.5	UGG
			1,1,1-TRICHLOROETHANE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.2	<LM23	0.2	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.2	<LM23	0.2	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.2	<LM23	0.2	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.2	<LM23	0.2	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.2	<LM23	0.2	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.2	<LM23	0.2	UGG
						03SA0902Y	1.800	0.2	<LM23	0.2	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.2	<LM23	0.2	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2,2-TETRACHLOROETHANE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.2	<LM23	0.2	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.2	<LM23	0.2	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.2	<LM23	0.2	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.2	<LM23	0.2	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.2	<LM23	0.2	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.2	<LM23	0.2	UGG
						03SA0902Y	1.800	0.2	<LM23	0.2	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.2	<LM23	0.2	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2-TRICHLOROETHANE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.33	<LM23	0.33	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.33	<LM23	0.33	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.33	<LM23	0.33	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.33	<LM23	0.33	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.33	<LM23	0.33	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.33	<LM23	0.33	UGG
						03SA0902Y	1.800	0.33	<LM23	0.33	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.33	<LM23	0.33	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.33	<LM23	0.33	UGG
			1,1-DICHLOROETHANE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.49	<LM23	0.49	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.49	<LM23	0.49	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.49	<LM23	0.49	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.49	<LM23	0.49	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.49	<LM23	0.49	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.49	<LM23	0.49	UGG
						03SA0902Y	1.800	0.49	<LM23	0.49	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.49	<LM23	0.49	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.49	<LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	03-SA-02	08/12/1991	03SA0201Y	1.000	0.27	<LM23	0.27	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.27	<LM23	0.27	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.27	<LM23	0.27	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.27	<LM23	0.27	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.27	<LM23	0.27	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.27	<LM23	0.27	UGG
						03SA0902Y	1.800	0.27	<LM23	0.27	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.27	<LM23	0.27	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.27	<LM23	0.27	UGG
			1,2-DICHLOROETHANE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.32	<LM23	0.32	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.32	<LM23	0.32	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.32	<LM23	0.32	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.32	<LM23	0.32	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.32	<LM23	0.32	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.32	<LM23	0.32	UGG
						03SA0902Y	1.800	0.32	<LM23	0.32	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.32	<LM23	0.32	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	03-SA-02	08/12/1991	03SA0201Y	1.000	0.32	<LM23	0.32	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.32	<LM23	0.32	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.32	<LM23	0.32	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.32	<LM23	0.32	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.32	<LM23	0.32	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.32	<LM23	0.32	UGG
						03SA0902Y	1.800	0.32	<LM23	0.32	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.32	<LM23	0.32	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROPROPANE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.53	<LM23	0.53	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.53	<LM23	0.53	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.53	<LM23	0.53	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.53	<LM23	0.53	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.53	<LM23	0.53	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.53	<LM23	0.53	UGG
						03SA0902Y	1.800	0.53	<LM23	0.53	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.53	<LM23	0.53	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.53	<LM23	0.53	UGG
			1,3-DICHLOROBENZENE	03-SA-02	08/12/1991	03SA0201N	1.000	0.042	<LM25	0.042	UGG
						03SA0201Y	1.000	0.14	<LM23	0.14	UGG
				03-SA-03	08/13/1991	03SA0301N	4.000	0.042	<LM25	0.042	UGG
						03SA0301Y	4.000	0.14	<LM23	0.14	UGG
				03-SA-04	08/12/1991	03SA0401N	2.000	0.042	<LM25	0.042	UGG
						03SA0401Y	2.000	0.14	<LM23	0.14	UGG
				03-SA-05	08/13/1991	03SA0501N	1.000	0.042	<LM25	0.042	UGG
						03SA0501Y	1.000	0.14	<LM23	0.14	UGG
				03-SA-08	08/13/1991	03SA0801N	1.000	0.042	<LM25	0.042	UGG
						03SA0801Y	1.000	0.14	<LM23	0.14	UGG
				03-SA-09	08/13/1991	03SA0901N	1.000	0.042	<LM25	0.042	UGG
						03SA0901Y	1.000	0.14	<LM23	0.14	UGG
						03SA0902N	1.800	0.042	<LM25	0.042	UGG
						03SA0902Y	1.800	0.14	<LM23	0.14	UGG
				03-SS-01	08/12/1991	03SS0101N	0.500	0.042	<LM25	0.042	UGG
						03SS0101Y	0.500	0.14	<LM23	0.14	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.14	<LM23	0.14	UGG
			1,3-DICLOROPROPANE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.2	<LM23	0.2	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.2	<LM23	0.2	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.2	<LM23	0.2	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.2	<LM23	0.2	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.2	<LM23	0.2	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.2	<LM23	0.2	UGG
						03SA0902Y	1.800	0.2	<LM23	0.2	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.2	<LM23	0.2	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.2	<LM23	0.2	UGG
			1,3-DIMETHYLBENZENE/M-XYLENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.23	<LM23	0.23	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.23	<LM23	0.23	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.23	<LM23	0.23	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.23	<LM23	0.23	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.23	<LM23	0.23	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.23	<LM23	0.23	UGG
						03SA0902Y	1.800	0.23	<LM23	0.23	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.23	<LM23	0.23	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.23	<LM23	0.23	UGG
			ACETIC ACID, VINYL ESTER/VINYL	03-SA-02	08/12/1991	03SA0201NR	1.000	1.0	*LM23	1.0	UGG
				03-SA-03	08/13/1991	03SA0301NR	4.000	1.0	*LM23	1.0	UGG
				03-SA-04	08/12/1991	03SA0401NR	2.000	1.0	*LM23	1.0	UGG
				03-SA-05	08/13/1991	03SA0501NR	1.000	1.0	*LM23	1.0	UGG
				03-SA-08	08/13/1991	03SA0801NR	1.000	1.0	*LM23	1.0	UGG
				03-SA-09	08/13/1991	03SA0901NR	1.000	1.0	*LM23	1.0	UGG
						03SA0902NR	1.800	1.0	*LM23	1.0	UGG
				03-SS-01	08/12/1991	03SS0101NR	0.500	1.0	*LM23	1.0	UGG
				03-SS-06	08/13/1991	03SS0601NR	0.500	1.0	*LM23	1.0	UGG
			ACETONE	03-SA-02	08/12/1991	03SA0201Y	1.000	3.3	<LM23	3.3	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	3.3	<LM23	3.3	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	3.3	<LM23	3.3	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	3.3	<LM23	3.3	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	3.3	<LM23	3.3	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	3.3	<LM23	3.3	UGG
						03SA0902Y	1.800	3.3	<LM23	3.3	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	3.3	<LM23	3.3	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	3.3	<LM23	3.3	UGG
			ACRYLONITRILE	03-SA-02	08/12/1991	03SA0201Y	1.000	2.0	<LM23	2.0	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	2.0	<LM23	2.0	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	2.0	<LM23	2.0	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	2.0	<LM23	2.0	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	2.0	<LM23	2.0	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	2.0	<LM23	2.0	UGG
						03SA0902Y	1.800	2.0	<LM23	2.0	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	2.0	<LM23	2.0	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	2.0	<LM23	2.0	UGG
			BENZENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.1	<LM23	0.1	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.1	<LM23	0.1	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.1	<LM23	0.1	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.1	<LM23	0.1	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.1	<LM23	0.1	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.1	<LM23	0.1	UGG
						03SA0902Y	1.800	0.1	<LM23	0.1	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.1	<LM23	0.1	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.1	<LM23	0.1	UGG
			BROMODICHLOROMETHANE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.2	<LM23	0.2	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.2	<LM23	0.2	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.2	<LM23	0.2	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.2	<LM23	0.2	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.2	<LM23	0.2	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.2	<LM23	0.2	UGG
						03SA0902Y	1.800	0.2	<LM23	0.2	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.2	<LM23	0.2	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.2	<LM23	0.2	UGG
			BROMOFORM	03-SA-02	08/12/1991	03SA0201Y	1.000	0.2	<LM23	0.2	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.2	<LM23	0.2	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.2	<LM23	0.2	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.2	<LM23	0.2	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.2	<LM23	0.2	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.2	<LM23	0.2	UGG
						03SA0902Y	1.800	0.2	<LM23	0.2	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.2	<LM23	0.2	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.2	<LM23	0.2	UGG
			BROMOMETHANE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.26	<LM23	0.26	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.26	<LM23	0.26	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.26	<LM23	0.26	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.26	<LM23	0.26	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.26	<LM23	0.26	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.26	<LM23	0.26	UGG
						03SA0902Y	1.800	0.26	<LM23	0.26	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.26	<LM23	0.26	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.26	<LM23	0.26	UGG
			CARBON DISULFIDE	03-SA-02	08/12/1991	03SA0201NR	1.000	0.6	*LM23	0.6	UGG
				03-SA-03	08/13/1991	03SA0301NR	4.000	0.6	*LM23	0.6	UGG
				03-SA-04	08/12/1991	03SA0401NR	2.000	0.6	*LM23	0.6	UGG
				03-SA-05	08/13/1991	03SA0501NR	1.000	0.6	*LM23	0.6	UGG
				03-SA-08	08/13/1991	03SA0801NR	1.000	0.6	*LM23	0.6	UGG
				03-SA-09	08/13/1991	03SA0901NR	1.000	0.6	*LM23	0.6	UGG
						03SA0902NR	1.800	0.6	*LM23	0.6	UGG
				03-SS-01	08/12/1991	03SS0101NR	0.500	0.6	*LM23	0.6	UGG
				03-SS-06	08/13/1991	03SS0601NR	0.500	0.6	*LM23	0.6	UGG
			CARBON TETRACHLORIDE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.31	<LM23	0.31	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.31	<LM23	0.31	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.31	<LM23	0.31	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.31	<LM23	0.31	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.31	<LM23	0.31	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.31	<LM23	0.31	UGG
						03SA0902Y	1.800	0.31	<LM23	0.31	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.31	<LM23	0.31	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.31	<LM23	0.31	UGG
			CHLORFORM	03-SA-02	08/12/1991	03SA0201Y	1.000	0.24	<LM23	0.24	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.24	<LM23	0.24	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.24	<LM23	0.24	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.24	<LM23	0.24	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.24	<LM23	0.24	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.24	<LM23	0.24	UGG
						03SA0902Y	1.800	0.24	<LM23	0.24	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.24	<LM23	0.24	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.24	<LM23	0.24	UGG
			CHLOROBENZENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.1	<LM23	0.1	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.1	<LM23	0.1	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.1	<LM23	0.1	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.1	<LM23	0.1	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.1	<LM23	0.1	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.1	<LM23	0.1	UGG
						03SA0902Y	1.800	0.1	<LM23	0.1	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.1	<LM23	0.1	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.1	<LM23	0.1	UGG
			CHLOROETHANE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.64	<LM23	0.64	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.64	<LM23	0.64	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.64	<LM23	0.64	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.64	<LM23	0.64	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.64	<LM23	0.64	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.64	<LM23	0.64	UGG
						03SA0902Y	1.800	0.64	<LM23	0.64	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.64	<LM23	0.64	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.64	<LM23	0.64	UGG
			CHLOROETHANE/VINYL CHLORIDE	03-SA-02	08/12/1991	03SA0201Y	1.000	1.8	<LM23	1.8	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	1.8	<LM23	1.8	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	1.8	<LM23	1.8	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	1.8	<LM23	1.8	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	1.8	<LM23	1.8	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	1.8	<LM23	1.8	UGG
						03SA0902Y	1.800	1.8	<LM23	1.8	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	1.8	<LM23	1.8	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	1.8	<LM23	1.8	UGG
			CHLOROMETHANE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.96	<LM23	0.96	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.96	<LM23	0.96	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.96	<LM23	0.96	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.96	<LM23	0.96	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.96	<LM23	0.96	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.96	<LM23	0.96	UGG
						03SA0902Y	1.800	0.96	<LM23	0.96	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.96	<LM23	0.96	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.96	<LM23	0.96	UGG
			CIS-1,3-DICHLOROPROPYLENE/CIS-	03-SA-02	08/12/1991	03SA0201NR	1.000	0.6	*LM23	0.6	UGG
				03-SA-03	08/13/1991	03SA0301NR	4.000	0.6	*LM23	0.6	UGG
				03-SA-04	08/12/1991	03SA0401NR	2.000	0.6	*LM23	0.6	UGG
				03-SA-05	08/13/1991	03SA0501NR	1.000	0.6	*LM23	0.6	UGG
				03-SA-08	08/13/1991	03SA0801NR	1.000	0.6	*LM23	0.6	UGG
				03-SA-09	08/13/1991	03SA0901NR	1.000	0.6	*LM23	0.6	UGG
						03SA0902NR	1.800	0.6	*LM23	0.6	UGG
				03-SS-01	08/12/1991	03SS0101NR	0.500	0.6	*LM23	0.6	UGG
				03-SS-06	08/13/1991	03SS0601NR	0.500	0.6	*LM23	0.6	UGG
			DIBROMOCHLOROMETHANE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.25	<LM23	0.25	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.25	<LM23	0.25	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.25	<LM23	0.25	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.25	<LM23	0.25	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.25	<LM23	0.25	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.25	<LM23	0.25	UGG
						03SA0902Y	1.800	0.25	<LM23	0.25	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.25	<LM23	0.25	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.25	<LM23	0.25	UGG
			DICHLOROBENZENE - NONSPECIFIC	03-SA-02	08/12/1991	03SA0201Y	1.000	0.2	<LM23	0.2	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.2	<LM23	0.2	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.2	<LM23	0.2	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.2	<LM23	0.2	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.2	<LM23	0.2	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.2	<LM23	0.2	UGG
						03SA0902Y	1.800	0.2	<LM23	0.2	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.2	<LM23	0.2	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.2	<LM23	0.2	UGG
			ETHYLBENZENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.19	<LM23	0.19	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.19	<LM23	0.19	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.19	<LM23	0.19	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.19	<LM23	0.19	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.19	<LM23	0.19	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.19	<LM23	0.19	UGG
						03SA0902Y	1.800	0.19	<LM23	0.19	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.19	<LM23	0.19	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.19	<LM23	0.19	UGG
			METHYL-N-BUTYL KETONE/2-HEXANO	03-SA-02	08/12/1991	03SA0201NR	1.000	1.0	*LM23	1.0	UGG
				03-SA-03	08/13/1991	03SA0301NR	4.000	1.0	*LM23	1.0	UGG
				03-SA-04	08/12/1991	03SA0401NR	2.000	1.0	*LM23	1.0	UGG
				03-SA-05	08/13/1991	03SA0501NR	1.000	1.0	*LM23	1.0	UGG
				03-SA-08	08/13/1991	03SA0801NR	1.000	1.0	*LM23	1.0	UGG
				03-SA-09	08/13/1991	03SA0901NR	1.000	1.0	*LM23	1.0	UGG
						03SA0902NR	1.800	1.0	*LM23	1.0	UGG
				03-SS-01	08/12/1991	03SS0101NR	0.500	1.0	*LM23	1.0	UGG
				03-SS-06	08/13/1991	03SS0601NR	0.500	1.0	*LM23	1.0	UGG
			METHYLENE CHLORIDE	03-SA-02	08/12/1991	03SA0201Y	1.000	4.4	<LM23	4.4	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	4.4	<LM23	4.4	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	4.4	<LM23	4.4	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	4.4	<LM23	4.4	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	4.4	<LM23	4.4	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	4.4	<LM23	4.4	UGG
						03SA0902Y	1.800	4.4	<LM23	4.4	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	4.4	<LM23	4.4	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	4.4	<LM23	4.4	UGG
			METHYLETHYL PHENOL/METHYLETHYL	03-SA-02	08/12/1991	03SA0201Y	1.000	4.3	<LM23	4.3	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	4.3	<LM23	4.3	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	4.3	<LM23	4.3	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	4.3	<LM23	4.3	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	4.3	<LM23	4.3	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	4.3	<LM23	4.3	UGG
						03SA0902Y	1.800	4.3	<LM23	4.3	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	4.3	<LM23	4.3	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	4.3	<LM23	4.3	UGG
			METHYLISOBUTYL KETONE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.63	<LM23	0.63	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.63	<LM23	0.63	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.63	<LM23	0.63	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.63	<LM23	0.63	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.63	<LM23	0.63	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.63	<LM23	0.63	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						03SA0902Y	1.800	0.63	<LM23	0.63	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.63	<LM23	0.63	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.63	<LM23	0.63	UGG
			STYRENE	03-SA-02	08/12/1991	03SA0201NR	1.000	0.6	*LM23	0.6	UGG
				03-SA-03	08/13/1991	03SA0301NR	4.000	0.6	*LM23	0.6	UGG
				03-SA-04	08/12/1991	03SA0401NR	2.000	0.6	*LM23	0.6	UGG
				03-SA-05	08/13/1991	03SA0501NR	1.000	0.6	*LM23	0.6	UGG
				03-SA-08	08/13/1991	03SA0801NR	1.000	0.6	*LM23	0.6	UGG
				03-SA-09	08/13/1991	03SA0901NR	1.000	0.6	*LM23	0.6	UGG
						03SA0902NR	1.800	0.6	*LM23	0.6	UGG
				03-SS-01	08/12/1991	03SS0101NR	0.500	0.6	*LM23	0.6	UGG
				03-SS-06	08/13/1991	03SS0601NR	0.500	0.6	*LM23	0.6	UGG
			TETRACHLOROETHYLENE/TETRACHLOR	03-SA-02	08/12/1991	03SA0201Y	1.000	0.16	<LM23	0.16	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.16	<LM23	0.16	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.16	<LM23	0.16	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.16	<LM23	0.16	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.16	<LM23	0.16	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.16	<LM23	0.16	UGG
						03SA0902Y	1.800	0.16	<LM23	0.16	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.16	<LM23	0.16	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.16	<LM23	0.16	UGG
			TOLUENE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.1	<LM23	0.1	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.1	<LM23	0.1	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.1	<LM23	0.1	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.1	<LM23	0.1	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.1	<LM23	0.1	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.1	<LM23	0.1	UGG
						03SA0902Y	1.800	0.1	<LM23	0.1	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.1	<LM23	0.1	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.1	<LM23	0.1	UGG
			TRANS-1,3-DICHLOROPROPENE	03-SA-02	08/12/1991	03SA0201NR	1.000	0.6	*LM23	0.6	UGG
				03-SA-03	08/13/1991	03SA0301NR	4.000	0.6	*LM23	0.6	UGG
				03-SA-04	08/12/1991	03SA0401NR	2.000	0.6	*LM23	0.6	UGG
				03-SA-05	08/13/1991	03SA0501NR	1.000	0.6	*LM23	0.6	UGG
				03-SA-08	08/13/1991	03SA0801NR	1.000	0.6	*LM23	0.6	UGG
				03-SA-09	08/13/1991	03SA0901NR	1.000	0.6	*LM23	0.6	UGG
						03SA0902NR	1.800	0.6	*LM23	0.6	UGG
				03-SS-01	08/12/1991	03SS0101NR	0.500	0.6	*LM23	0.6	UGG
				03-SS-06	08/13/1991	03SS0601NR	0.500	0.6	*LM23	0.6	UGG
			TRICHLOROETHYLENE/TRICHLOROETH	03-SA-02	08/12/1991	03SA0201Y	1.000	0.23	<LM23	0.23	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.23	<LM23	0.23	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.23	<LM23	0.23	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.23	<LM23	0.23	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.23	<LM23	0.23	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.23	<LM23	0.23	UGG
						03SA0902Y	1.800	0.23	<LM23	0.23	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.23	<LM23	0.23	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.23	<LM23	0.23	UGG
			TRICHLOROFLUOROMETHANE	03-SA-02	08/12/1991	03SA0201Y	1.000	0.23	<LM23	0.23	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.23	<LM23	0.23	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.23	<LM23	0.23	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.23	<LM23	0.23	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.23	<LM23	0.23	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.23	<LM23	0.23	UGG
						03SA0902Y	1.800	0.23	<LM23	0.23	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.23	<LM23	0.23	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.23	<LM23	0.23	UGG
			XYLENES	03-SA-02	08/12/1991	03SA0201Y	1.000	0.78	<LM23	0.78	UGG
				03-SA-03	08/13/1991	03SA0301Y	4.000	0.78	<LM23	0.78	UGG
				03-SA-04	08/12/1991	03SA0401Y	2.000	0.78	<LM23	0.78	UGG
				03-SA-05	08/13/1991	03SA0501Y	1.000	0.78	<LM23	0.78	UGG
				03-SA-08	08/13/1991	03SA0801Y	1.000	0.78	<LM23	0.78	UGG
				03-SA-09	08/13/1991	03SA0901Y	1.000	0.78	<LM23	0.78	UGG
						03SA0902Y	1.800	0.78	<LM23	0.78	UGG
				03-SS-01	08/12/1991	03SS0101Y	0.500	0.78	<LM23	0.78	UGG
				03-SS-06	08/13/1991	03SS0601Y	0.500	0.78	<LM23	0.78	UGG
	SW	EXPLOSIVES	1,3,5-TRINITROBENZENE	03-SW-07	08/14/1991	03SW0701Y	0.000	0.56	<UW01	0.56	UGL
			1,3-DINITROBENZENE	03-SW-07	08/14/1991	03SW0701Y	0.000	0.61	<UW01	0.61	UGL
			2,4,6-TNT	03-SW-07	08/14/1991	03SW0701Y	0.000	0.78	<UW01	0.78	UGL
			2,4-DINITROTOLUENE	03-SW-07	08/14/1991	03SW0701N	0.000	5.8	<UM25	5.8	UGL
						03SW0701Y	0.000	0.6	<UW01	0.6	UGL
			2,6-DINITROTOLUENE	03-SW-07	08/14/1991	03SW0701N	0.000	6.7	<UM25	6.7	UGL
						03SW0701Y	0.000	0.55	<UW01	0.55	UGL
			HMX	03-SW-07	08/14/1991	03SW0701Y	0.000	4.0	=UW01	1.3	UGL
			NITROBENZENE	03-SW-07	08/14/1991	03SW0701N	0.000	3.7	<UM25	3.7	UGL
						03SW0701Y	0.000	1.1	<UW01	1.13	UGL
			RDX	03-SW-07	08/14/1991	03SW0701Y	0.000	15.0	=UW01	0.63	UGL
			TETRYL	03-SW-07	08/14/1991	03SW0701Y	0.000	5.7	=UW01	0.66	UGL
		METALS	ANTIMONY	03-SW-07	08/14/1991	03SW0701Y	0.000	60.0	<SS12	60.0	UGL
			ARSENIC	03-SW-07	08/14/1991	03SW0701Y	0.000	4.19	=AX8	2.35	UGL
			BARIUM	03-SW-07	08/14/1991	03SW0701Y	0.000	73.7	=SS12	2.82	UGL
			BERYLLIUM	03-SW-07	08/14/1991	03SW0701Y	0.000	1.12	<SS12	1.12	UGL
			CADMIUM	03-SW-07	08/14/1991	03SW0701Y	0.000	6.78	<SS12	6.78	UGL
			CHROMIUM	03-SW-07	08/14/1991	03SW0701Y	0.000	16.8	<SS12	16.8	UGL
			COPPER	03-SW-07	08/14/1991	03SW0701Y	0.000	18.8	<SS12	18.8	UGL
			LEAD	03-SW-07	08/14/1991	03SW0701Y	0.000	4.47	<SD18	4.47	UGL
			MERCURY	03-SW-07	08/14/1991	03SW0701Y	0.000	0.1	<CC8	0.1	UGL
			NICKEL	03-SW-07	08/14/1991	03SW0701Y	0.000	32.1	<SS12	32.1	UGL
			SELENIUM	03-SW-07	08/14/1991	03SW0701Y	0.000	2.53	<SD25	2.53	UGL
			SILVER	03-SW-07	08/14/1991	03SW0701Y	0.000	10.0	<SS12	10.0	UGL
			THALLIUM	03-SW-07	08/14/1991	03SW0701Y	0.000	125.0	<SS12	125.0	UGL
			ZINC	03-SW-07	08/14/1991	03SW0701Y	0.000	176.0	=SS12	18.0	UGL
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	03-SW-07	08/14/1991	03SW0701N	0.000	14.0	<UM25	14.0	UGL
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	03-SW-07	08/14/1991	03SW0701N	0.000	18.0	<UM25	18.0	UGL
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	03-SW-07	08/14/1991	03SW0701N	0.000	18.0	<UM25	18.0	UGL
			ALDRIN	03-SW-07	08/14/1991	03SW0701N	0.000	13.0	<UM25	13.0	UGL
			ALPHA-BENZENEHEXACHLORIDE	03-SW-07	08/14/1991	03SW0701N	0.000	5.3	<UM25	5.3	UGL
			ALPHA-ENDOSULFAN/ENDOSULFAN I	03-SW-07	08/14/1991	03SW0701N	0.000	23.0	<UM25	23.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			BETA-BENZENEHEXACHLORIDE	03-SW-07	08/14/1991	03SW0701N	0.000	17.0	<UM25	17.0	UGL
			BETA-ENDOSULFAN/ENDOSULFAN II	03-SW-07	08/14/1991	03SW0701N	0.000	42.0	<UM25	42.0	UGL
			CHLORDANE	03-SW-07	08/14/1991	03SW0701NR	0.000	37.0	*UM25	37.0	UGL
			DELTA-BENZENEHEXACHLORIDE	03-SW-07	08/14/1991	03SW0701NR	0.000	3.0	*UM25	3.0	UGL
			DIELDRIN	03-SW-07	08/14/1991	03SW0701N	0.000	26.0	<UM25	26.0	UGL
			ENDRIN	03-SW-07	08/14/1991	03SW0701N	0.000	18.0	<UM25	18.0	UGL
			HEPTACHLOR	03-SW-07	08/14/1991	03SW0701N	0.000	38.0	<UM25	38.0	UGL
			HEPTACHLOR EPOXIDE	03-SW-07	08/14/1991	03SW0701N	0.000	28.0	<UM25	0.28	UGL
			ISODRIN	03-SW-07	08/14/1991	03SW0701N	0.000	7.8	<UM25	7.8	UGL
			LINDANE	03-SW-07	08/14/1991	03SW0701N	0.000	7.2	<UM25	7.2	UGL
			METHOXYCHLOR	03-SW-07	08/14/1991	03SW0701N	0.000	11.0	<UM25	11.0	UGL
			PCB 1016	03-SW-07	08/14/1991	03SW0701NR	0.000	9.1	*UM25	9.1	UGL
			PCB 1221	03-SW-07	08/14/1991	03SW0701NR	0.000	7.2	*UM25	7.2	UGL
			PCB 1232	03-SW-07	08/14/1991	03SW0701NR	0.000	9.9	*UM25	9.9	UGL
			PCB 1242	03-SW-07	08/14/1991	03SW0701NR	0.000	5.2	*UM25	5.2	UGL
			PCB 1248	03-SW-07	08/14/1991	03SW0701NR	0.000	38.0	*UM25	38.0	UGL
			PCB 1254	03-SW-07	08/14/1991	03SW0701NR	0.000	33.0	*UM25	33.0	UGL
			PCB 1260	03-SW-07	08/14/1991	03SW0701NR	0.000	13.0	*UM25	13.0	UGL
			TOXAPHENE	03-SW-07	08/14/1991	03SW0701NR	0.000	17.0	*UM25	17.0	UGL
		SEMIVOLATILES	1,2,3-TRICHLOROBENZENE	03-SW-07	08/14/1991	03SW0701Y	0.000	5.8	<UM25	5.8	UGL
			1,2,4-TRICHLOROBENZENE	03-SW-07	08/14/1991	03SW0701Y	0.000	2.4	<UM25	2.4	UGL
			1,2-DICHLOROBENZENE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.2	<UM25	1.2	UGL
			1,2-DIPHENYLHYDRAZINE	03-SW-07	08/14/1991	03SW0701Y	0.000	13.0	<UM25	13.0	UGL
			1,4-DICHLOROBENZENE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.5	<UM25	1.5	UGL
			1,4-OXATHIANE	03-SW-07	08/14/1991	03SW0701Y	0.000	27.0	<UM25	27.0	UGL
			2,3,6-TCP	03-SW-07	08/14/1991	03SW0701Y	0.000	1.7	<UM25	1.7	UGL
			2,4,5-TRICHLOROPHENOL	03-SW-07	08/14/1991	03SW0701Y	0.000	2.8	<UM25	2.8	UGL
			2,4,6-TRICHLOROPHENOL	03-SW-07	08/14/1991	03SW0701Y	0.000	3.6	<UM25	3.6	UGL
			2,4-DICHLOROPHENOL	03-SW-07	08/14/1991	03SW0701Y	0.000	8.4	<UM25	8.4	UGL
			2,4-DIMETHYLPHENOL	03-SW-07	08/14/1991	03SW0701Y	0.000	4.4	<UM25	4.4	UGL
			2,4-DINITROPHENOL	03-SW-07	08/14/1991	03SW0701Y	0.000	176.0	<UM25	176.0	UGL
			2,6-DINITROANILINE	03-SW-07	08/14/1991	03SW0701Y	0.000	8.8	<UM25	8.8	UGL
			2-CHLORONAPHTHALENE	03-SW-07	08/14/1991	03SW0701Y	0.000	2.6	<UM25	2.6	UGL
			2-CHLOROPHENOL	03-SW-07	08/14/1991	03SW0701Y	0.000	2.8	<UM25	2.8	UGL
			2-METHYL-4,6-DINITROPHENOL/4,6	03-SW-07	08/14/1991	03SW0701NR	0.000	50.0	*UM25	50.0	UGL
			2-METHYLNAPHTHALENE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.3	<UM25	1.3	UGL
			2-METHYLPHENOL/2-CRESOL	03-SW-07	08/14/1991	03SW0701Y	0.000	3.6	<UM25	3.6	UGL
			2-NITROANILINE	03-SW-07	08/14/1991	03SW0701NR	0.000	31.0	*UM25	31.0	UGL
			2-NITROPHENOL	03-SW-07	08/14/1991	03SW0701Y	0.000	8.2	<UM25	8.2	UGL
			3,3'-DICHLOROBENZIDINE	03-SW-07	08/14/1991	03SW0701Y	0.000	5.0	<UM25	5.0	UGL
			3,5-DINITROANILINE	03-SW-07	08/14/1991	03SW0701Y	0.000	21.0	<UM25	21.0	UGL
			3-METHYL-4-CHLOROPHENOL/4-CHLO	03-SW-07	08/14/1991	03SW0701Y	0.000	8.5	<UM25	8.5	UGL
			3-NITROANILINE	03-SW-07	08/14/1991	03SW0701Y	0.000	15.0	<UM25	15.0	UGL
			3-NITROTOLUENE	03-SW-07	08/14/1991	03SW0701Y	0.000	2.9	<UM25	2.9	UGL
			4-BROMOPHENYLPHENYL ETHER	03-SW-07	08/14/1991	03SW0701Y	0.000	22.0	<UM25	22.0	UGL
			4-CHLOROANILINE	03-SW-07	08/14/1991	03SW0701NR	0.000	1.0	*UM25	1.0	UGL
			4-CHLOROPHENYLPHENYL ETHER	03-SW-07	08/14/1991	03SW0701Y	0.000	23.0	<UM25	23.0	UGL
			4-METHYLPHENOL/4-CRESOL	03-SW-07	08/14/1991	03SW0701Y	0.000	2.8	<UM25	2.8	UGL
			4-NITROANILINE	03-SW-07	08/14/1991	03SW0701NR	0.000	31.0	*UM25	31.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			4-NITROPHENOL	03-SW-07	08/14/1991	03SW0701Y	0.000	96.0	<UM25	96.0	UGL
			ACENAPHTHENE	03-SW-07	08/14/1991	03SW0701Y	0.000	5.8	<UM25	5.8	UGL
			ACENAPHTHYLENE	03-SW-07	08/14/1991	03SW0701Y	0.000	5.1	<UM25	5.1	UGL
			ANTHRACENE	03-SW-07	08/14/1991	03SW0701Y	0.000	5.2	<UM25	5.2	UGL
			ATRAZINE	03-SW-07	08/14/1991	03SW0701Y	0.000	5.9	<UM25	5.9	UGL
			BENZO(A)ANTHRACENE	03-SW-07	08/14/1991	03SW0701Y	0.000	9.8	<UM25	9.8	UGL
			BENZO(A)PYRENE	03-SW-07	08/14/1991	03SW0701Y	0.000	14.0	<UM25	14.0	UGL
			BENZO(B)FLUORANTHENE	03-SW-07	08/14/1991	03SW0701Y	0.000	10.0	<UM25	10.0	UGL
			BENZO(G,H,I)PERYLENE	03-SW-07	08/14/1991	03SW0701Y	0.000	15.0	<UM25	15.0	UGL
			BENZO(K)FLUORANTHENE	03-SW-07	08/14/1991	03SW0701Y	0.000	10.0	<UM25	10.0	UGL
			BENZOIC ACID	03-SW-07	08/14/1991	03SW0701NR	0.000	3.1	*UM25	3.1	UGL
			BENZYL ALCOHOL	03-SW-07	08/14/1991	03SW0701Y	0.000	4.0	<UM25	4.0	UGL
			BIS (2-CHLOROETHOXY) METHANE	03-SW-07	08/14/1991	03SW0701Y	0.000	6.8	<UM25	6.8	UGL
			BIS (2-CHLOROETHYL) ETHER	03-SW-07	08/14/1991	03SW0701Y	0.000	0.68	<UM25	0.68	UGL
			BIS (2-CHLOROISOPROPYL) ETHER	03-SW-07	08/14/1991	03SW0701Y	0.000	5.0	<UM25	5.0	UGL
			BIS (2-ETHYLHEXYL) PHTHALATE	03-SW-07	08/14/1991	03SW0701Y	0.000	7.7	<UM25	0.48	UGL
			BROMACIL	03-SW-07	08/14/1991	03SW0701Y	0.000	2.9	<UM25	2.9	UGL
			BUTYLBENZYL PHTHALATE	03-SW-07	08/14/1991	03SW0701Y	0.000	28.0	<UM25	28.0	UGL
			CHRYSENE	03-SW-07	08/14/1991	03SW0701Y	0.000	7.4	<UM25	7.4	UGL
			DI-N-BUTYL PHTHALATE	03-SW-07	08/14/1991	03SW0701Y	0.000	33.0	<UM25	33.0	UGL
			DI-N-OCTYL PHTHALATE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.5	<UM25	1.5	UGL
			DIBENZ(A,H)ANTHRACENE	03-SW-07	08/14/1991	03SW0701Y	0.000	12.0	<UM25	12.0	UGL
			DIBENZOFURAN	03-SW-07	08/14/1991	03SW0701Y	0.000	5.1	<UM25	5.1	UGL
			DIBROMOCHLOROPROPANE	03-SW-07	08/14/1991	03SW0701Y	0.000	12.0	<UM25	12.0	UGL
			DICYCLOPENTADIENE	03-SW-07	08/14/1991	03SW0701Y	0.000	5.5	<UM25	5.5	UGL
			DIETHYL PHTHALATE	03-SW-07	08/14/1991	03SW0701Y	0.000	5.9	<UM25	5.9	UGL
			DIISOPROPYL METHYLPHOSPHONATE	03-SW-07	08/14/1991	03SW0701Y	0.000	21.0	<UM25	21.0	UGL
			DIMETHYL METHYLPHOSPHATE	03-SW-07	08/14/1991	03SW0701Y	0.000	130.0	<UM25	130.0	UGL
			DIMETHYL PHTHALATE	03-SW-07	08/14/1991	03SW0701Y	0.000	2.2	<UM25	2.2	UGL
			DITHIANE	03-SW-07	08/14/1991	03SW0701Y	0.000	3.3	<UM25	3.3	UGL
			ENDOSULFAN SULFATE	03-SW-07	08/14/1991	03SW0701Y	0.000	50.0	<UM25	50.0	UGL
			ENDRIN ALDEHYDE	03-SW-07	08/14/1991	03SW0701N	0.000	5.0	<UM25	5.0	UGL
			ENDRIN KETONE	03-SW-07	08/14/1991	03SW0701NR	0.000	6.0	*UM25	6.0	UGL
			FLUORANTHENE	03-SW-07	08/14/1991	03SW0701Y	0.000	24.0	<UM25	24.0	UGL
			FLUORENE	03-SW-07	08/14/1991	03SW0701Y	0.000	9.2	<UM25	9.2	UGL
			HEXACHLOROBENZENE	03-SW-07	08/14/1991	03SW0701Y	0.000	12.0	<UM25	12.0	UGL
			HEXACHLOROBUTADIENE	03-SW-07	08/14/1991	03SW0701Y	0.000	8.7	<UM25	8.7	UGL
			HEXACHLOROCYCLOPENTADIENE	03-SW-07	08/14/1991	03SW0701Y	0.000	54.0	<UM25	54.0	UGL
			HEXACHLOROETHANE	03-SW-07	08/14/1991	03SW0701Y	0.000	8.3	<UM25	8.3	UGL
			INDENO(1,2,3-C,D)PYRENE	03-SW-07	08/14/1991	03SW0701Y	0.000	21.0	<UM25	0.21	UGL
			ISOPHORONE	03-SW-07	08/14/1991	03SW0701Y	0.000	2.4	<UM25	2.4	UGL
			MALATHION	03-SW-07	08/14/1991	03SW0701Y	0.000	21.0	<UM25	21.0	UGL
			MIREX	03-SW-07	08/14/1991	03SW0701Y	0.000	24.0	<UM25	24.0	UGL
			N-NITROSODI-N-PROPYLAMINE	03-SW-07	08/14/1991	03SW0701Y	0.000	6.8	<UM25	6.8	UGL
			N-NITROSODIMETHYLAMINE	03-SW-07	08/14/1991	03SW0701Y	0.000	9.7	<UM25	9.7	UGL
			N-NITROSODIPHENYLAMINE	03-SW-07	08/14/1991	03SW0701Y	0.000	3.7	<UM25	3.7	UGL
			NAPHTHALENE	03-SW-07	08/14/1991	03SW0701Y	0.000	0.5	<UM25	0.5	UGL
			P-CHLOROPHENYLMETHYL SULFIDE	03-SW-07	08/14/1991	03SW0701Y	0.000	10.0	<UM25	10.0	UGL
			P-CHLOROPHENYLMETHYL SULFONE	03-SW-07	08/14/1991	03SW0701Y	0.000	5.3	<UM25	5.3	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			P-CHLOROPHENYLMETHYL SULFOXIDE	03-SW-07	08/14/1991	03SW0701Y	0.000	15.0	<UM25	15.0	UGL
			PARATHION	03-SW-07	08/14/1991	03SW0701Y	0.000	37.0	<UM25	37.0	UGL
			PENTACHLOROPHENOL	03-SW-07	08/14/1991	03SW0701Y	0.000	9.1	<UM25	9.1	UGL
			PHENANTHRENE	03-SW-07	08/14/1991	03SW0701Y	0.000	9.9	<UM25	9.9	UGL
			PHENOL	03-SW-07	08/14/1991	03SW0701Y	0.000	2.2	<UM25	2.2	UGL
			PYRENE	03-SW-07	08/14/1991	03SW0701Y	0.000	17.0	<UM25	17.0	UGL
			SUPONA/2-CHLORO-1-(2,4-DICHLOR	03-SW-07	08/14/1991	03SW0701Y	0.000	19.0	<UM25	19.0	UGL
			VAPONA	03-SW-07	08/14/1991	03SW0701Y	0.000	8.5	<UM25	8.5	UGL
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	03-SW-07	08/14/1991	03SW0701Y	0.000	3.5	<UM21	3.5	UGL
			1,1,1-TRICHLOROETHANE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			1,1,2,2-TETRACHLOROETHANE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.5	<UM21	1.5	UGL
			1,1,2-TRICHLOROETHANE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			1,1-DICHLOROETHANE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			1,1-DICHLOROETHYLENE/1,1-DICHL	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			1,2-DICHLOROETHANE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			1,2-DICHLOROETHENES/1,2-DICHLO	03-SW-07	08/14/1991	03SW0701Y	0.000	5.0	<UM21	5.0	UGL
			1,2-DICHLOROPROPANE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			1,3-DICHLOROBENZENE	03-SW-07	08/14/1991	03SW0701N	0.000	3.4	<UM25	3.4	UGL
						03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			1,3-DICLOROPROPANE	03-SW-07	08/14/1991	03SW0701Y	0.000	4.8	<UM21	4.8	UGL
			1,3-DIMETHYLBENZENE/M-XYLENE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			ACETIC ACID, VINYL ESTER/VINYL	03-SW-07	08/14/1991	03SW0701NR	0.000	10.0	*UM21	10.0	UGL
			ACETONE	03-SW-07	08/14/1991	03SW0701Y	0.000	8.0	<UM21	8.0	UGL
			ACRYLONITRILE	03-SW-07	08/14/1991	03SW0701Y	0.000	8.4	<UM21	8.4	UGL
			BENZENE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			BROMODICHLOROMETHANE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			BROMOFORM	03-SW-07	08/14/1991	03SW0701Y	0.000	11.0	<UM21	11.0	UGL
			BROMOMETHANE	03-SW-07	08/14/1991	03SW0701Y	0.000	14.0	<UM21	14.0	UGL
			CARBON DISULFIDE	03-SW-07	08/14/1991	03SW0701NR	0.000	5.0	*UM21	5.0	UGL
			CARBON TETRACHLORIDE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			CHLORFORM	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			CHLOROBENZENE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			CHLOROETHANE	03-SW-07	08/14/1991	03SW0701Y	0.000	8.0	<UM21	8.0	UGL
			CHLOROETHANE/VINYL CHLORIDE	03-SW-07	08/14/1991	03SW0701Y	0.000	12.0	<UM21	12.0	UGL
			CHLOROMETHANE	03-SW-07	08/14/1991	03SW0701Y	0.000	3.07	=UM21	1.2	UGL
			CIS-1,3-DICHLOROPROPYLENE/CIS-	03-SW-07	08/14/1991	03SW0701NR	0.000	5.0	*UM21	5.0	UGL
			DIBROMOCHLOROMETHANE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			DICHLOROBENZENE - NONSPECIFIC	03-SW-07	08/14/1991	03SW0701Y	0.000	2.0	<UM21	2.0	UGL
			ETHYLBENZENE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			METHYL-N-BUTYL KETONE/2-HEXANO	03-SW-07	08/14/1991	03SW0701NR	0.000	10.0	*UM21	10.0	UGL
			METHYLENE CHLORIDE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			METHYLETHYL PHENOL/METHYLETHYL	03-SW-07	08/14/1991	03SW0701Y	0.000	10.0	<UM21	10.0	UGL
			METHYLISOBUTYL KETONE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.4	<UM21	1.4	UGL
			STYRENE	03-SW-07	08/14/1991	03SW0701NR	0.000	5.0	*UM21	5.0	UGL
			TETRACHLOROETHYLENE/TETRACHLOR	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			TOLUENE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			TRANS-1,3-DICHLOROPROPENE	03-SW-07	08/14/1991	03SW0701NR	0.000	5.0	*UM21	5.0	UGL
			TRICHLOROETHYLENE/TRICHLOROETH	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL
			TRICHLOROFLUOROMETHANE	03-SW-07	08/14/1991	03SW0701Y	0.000	1.0	<UM21	1.0	UGL

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			XYLENES	03-SW-07	08/14/1991	03SW0701Y	0.000	2.0	<UM21	2.0	UGL

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP04	SD	EXPLOSIVES	1,3,5-TRINITROBENZENE	04-SD-01	08/06/1991	04SD0101Y	0.500	2.9	=LW02	2.09	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	04-SD-01	08/06/1991	04SD0101YP	0.500	0.8	=LW02	0.59	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	0.59	<LW02	0.59	UGG
			2,4,6-TNT	04-SD-01	08/06/1991	04SD0101Y	0.500	1.9	<LW02	1.92	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	04-SD-01	08/06/1991	04SD0101Y	0.500	0.42	<LW02	0.42	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	04-SD-01	08/06/1991	04SD0101Y	0.500	0.4	<LW02	0.4	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	0.4	<LW02	0.4	UGG
			HMX	04-SD-01	08/06/1991	04SD0101Y	0.500	71.0	=LW02	1.27	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	1.3	<LW02	1.27	UGG
			NITROBENZENE	04-SD-01	08/06/1991	04SD0101Y	0.500	0.42	<LW02	0.42	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	0.42	<LW02	0.42	UGG
			RDX	04-SD-01	08/06/1991	04SD0101Y	0.500	120.0	=LW02	0.98	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	0.98	<LW02	0.98	UGG
			TETRYL	04-SD-01	08/06/1991	04SD0101Y	0.500	0.25	<LW02	0.25	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	04-SD-01	08/06/1991	04SD0101Y	0.500	19.6	<JS12	19.6	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	04-SD-01	08/06/1991	04SD0101Y	0.500	6.39	=B9	2.5	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	6.58	=B9	2.5	UGG
			BARIUM	04-SD-01	08/06/1991	04SD0101Y	0.500	211.0	=JS12	3.29	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	165.0	=JS12	3.29	UGG
			BERYLLIUM	04-SD-01	08/06/1991	04SD0101Y	0.500	0.427	<JS12	0.427	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	1.03	=JS12	0.427	UGG
			CADMIUM	04-SD-01	08/06/1991	04SD0101Y	0.500	1.2	<JS12	1.2	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	1.2	<JS12	1.2	UGG
			CHROMIUM	04-SD-01	08/06/1991	04SD0101Y	0.500	71.4	=JS12	1.04	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	49.9	=JS12	1.04	UGG
			COPPER	04-SD-01	08/06/1991	04SD0101Y	0.500	96.0	=JS12	2.84	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	93.2	=JS12	2.84	UGG
			LEAD	04-SD-01	08/06/1991	04SD0101Y	0.500	34.0	=JD21	0.467	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	380.0	=JD21	0.467	UGG
			MERCURY	04-SD-01	08/06/1991	04SD0101Y	0.500	0.699	=Y9	0.05	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	0.129	=Y9	0.05	UGG
			NICKEL	04-SD-01	08/06/1991	04SD0101Y	0.500	18.1	=JS12	2.74	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	23.7	=JS12	2.74	UGG
			SELENIUM	04-SD-01	08/06/1991	04SD0101Y	0.500	0.588	=JD20	0.449	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	0.449	<JD20	0.449	UGG
			SILVER	04-SD-01	08/06/1991	04SD0101Y	0.500	2.12	=JS12	0.803	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	1.05	=JS12	0.803	UGG
			THALLIUM	04-SD-01	08/06/1991	04SD0101Y	0.500	34.3	<JS12	34.3	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	34.3	<JS12	34.3	UGG
			ZINC	04-SD-01	08/06/1991	04SD0101Y	0.500	185.0	=JS12	2.34	UGG
				04-SD-13	08/06/1991	04SD1301Y	0.500	285.0	=JS12	2.34	UGG
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	04-SD-13	08/06/1991	04SD1301Y	0.500	0.5	<LM23	0.5	UGG
			1,1,1-TRICHLOROETHANE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2,2-TETRACHLOROETHANE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.2	<LM23	0.2	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			1,1,2-TRICHLOROETHANE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.33	<LM23	0.33	UGG
			1,1-DICHLOROETHANE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.49	<LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	04-SD-13	08/06/1991	04SD1301Y	0.500	0.27	<LM23	0.27	UGG
			1,2-DICHLOROETHANE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	04-SD-13	08/06/1991	04SD1301Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROPROPANE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.53	<LM23	0.53	UGG
			1,3-DICHLOROBENZENE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.14	<LM23	0.14	UGG
			1,3-DICLOROPROPANE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.2	<LM23	0.2	UGG
			1,3-DIMETHYLBENZENE/M-XYLENE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.23	<LM23	0.23	UGG
			ACETIC ACID, VINYL ESTER/VINYL	04-SD-13	08/06/1991	04SD1301NR	0.500	1.0	*LM23	1.0	UGG
			ACETONE	04-SD-13	08/06/1991	04SD1301Y	0.500	3.3	<LM23	3.3	UGG
			ACRYLONITRILE	04-SD-13	08/06/1991	04SD1301Y	0.500	2.0	<LM23	2.0	UGG
			BENZENE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.1	<LM23	0.1	UGG
			BROMODICHLOROMETHANE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.2	<LM23	0.2	UGG
			BROMOFORM	04-SD-13	08/06/1991	04SD1301Y	0.500	0.2	<LM23	0.2	UGG
			BROMOMETHANE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.26	<LM23	0.26	UGG
			CARBON DISULFIDE	04-SD-13	08/06/1991	04SD1301NR	0.500	0.6	*LM23	0.6	UGG
			CARBON TETRACHLORIDE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.31	<LM23	0.31	UGG
			CHLORFORM	04-SD-13	08/06/1991	04SD1301Y	0.500	0.24	<LM23	0.24	UGG
			CHLOROBENZENE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.1	<LM23	0.1	UGG
			CHLOROETHANE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.64	<LM23	0.64	UGG
			CHLOROETHANE/VINYL CHLORIDE	04-SD-13	08/06/1991	04SD1301Y	0.500	1.8	<LM23	1.8	UGG
			CHLOROMETHANE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.96	<LM23	0.96	UGG
			CIS-1,3-DICHLOROPROPYLENE/CIS-	04-SD-13	08/06/1991	04SD1301NR	0.500	0.6	*LM23	0.6	UGG
			DIBROMOCHLOROMETHANE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.25	<LM23	0.25	UGG
			DICHLOROBENZENE - NONSPECIFIC	04-SD-13	08/06/1991	04SD1301Y	0.500	0.2	<LM23	0.2	UGG
			ETHYLBENZENE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.19	<LM23	0.19	UGG
			METHYL-N-BUTYL KETONE/2-HEXANO	04-SD-13	08/06/1991	04SD1301NR	0.500	1.0	*LM23	1.0	UGG
			METHYLENE CHLORIDE	04-SD-13	08/06/1991	04SD1301Y	0.500	4.4	<LM23	4.4	UGG
			METHYLETHYL PHENOL/METHYLETHYL	04-SD-13	08/06/1991	04SD1301Y	0.500	4.3	<LM23	4.3	UGG
			METHYLISOBUTYL KETONE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.63	<LM23	0.63	UGG
			STYRENE	04-SD-13	08/06/1991	04SD1301NR	0.500	0.6	*LM23	0.6	UGG
			TETRACHLOROETHYLENE/TETRACHLOR	04-SD-13	08/06/1991	04SD1301Y	0.500	0.16	<LM23	0.16	UGG
			TOLUENE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.1	<LM23	0.1	UGG
			TRANS-1,3-DICHLOROPROPENE	04-SD-13	08/06/1991	04SD1301NR	0.500	0.6	*LM23	0.6	UGG
			TRICHLOROETHYLENE/TRICHLOROETH	04-SD-13	08/06/1991	04SD1301Y	0.500	0.23	<LM23	0.23	UGG
			TRICHLOROFLUOROMETHANE	04-SD-13	08/06/1991	04SD1301Y	0.500	0.23	<LM23	0.23	UGG
			XYLENES	04-SD-13	08/06/1991	04SD1301Y	0.500	0.78	<LM23	0.78	UGG
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	04-SS-02	08/06/1991	04SS0201Y	0.500	2.1	<LW02	2.09	UGG
				04-SS-04	08/06/1991	04SS0401YP	0.500	0.59	=LW02	2.09	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	2.1	<LW02	2.09	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	2.1	<LW02	2.09	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	5.1	=LW02	2.09	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	2.1	<LW02	2.09	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	04-SS-02	08/06/1991	04SS0201Y	0.500	0.59	<LW02	0.59	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	0.59	<LW02	0.59	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	0.59	<LW02	0.59	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	0.59	<LW02	0.59	UGG

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				04-SS-09	08/07/1991	04SS0901YP	0.500	0.33	=LW02	0.59	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	0.59	<LW02	0.59	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	0.59	<LW02	0.59	UGG
			2,4,6-TNT	04-SS-02	08/06/1991	04SS0201Y	0.500	1.9	<LW02	1.92	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	910.0	=LW02	1.92	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	1.9	<LW02	1.92	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	1.9	<LW02	1.92	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	6,600.0	=LW02	1.92	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	22.0	=LW02	1.92	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	04-SS-02	08/06/1991	04SS0201Y	0.500	0.42	<LW02	0.42	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	0.95	=LW02	0.42	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	1.4	<LM25	1.4	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	0.42	<LW02	0.42	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	0.42	<LW02	0.42	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	6.9	=LW02	0.42	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	0.42	<LW02	0.42	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	0.42	<LW02	0.42	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	1.4	<LM25	1.4	UGG
			2,6-DINITROTOLUENE	04-SS-02	08/06/1991	04SS0201Y	0.500	0.4	<LW02	0.4	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	0.4	<LW02	0.4	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	0.32	<LM25	0.32	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	0.4	<LW02	0.4	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	0.4	<LW02	0.4	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	0.4	<LW02	0.4	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	0.4	<LW02	0.4	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	0.4	<LW02	0.4	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	0.32	<LM25	0.32	UGG
			HMX	04-SS-02	08/06/1991	04SS0201YP	0.500	0.87	=LW02	1.27	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	650.0	=LW02	1.27	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	14.0	=LW02	1.27	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	1.3	<LW02	1.27	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	1.3	<LW02	1.27	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	2.0	=LW02	1.27	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	52.0	=LW02	1.27	UGG
			NITROBENZENE	04-SS-02	08/06/1991	04SS0201Y	0.500	0.42	<LW02	0.42	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	0.42	<LW02	0.42	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	1.8	<LM25	1.8	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	0.68	=LW02	0.42	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	0.42	<LW02	0.42	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	0.42	<LW02	0.42	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	0.42	<LW02	0.42	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	0.42	<LW02	0.42	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	1.8	<LM25	1.8	UGG
			RDX	04-SS-02	08/06/1991	04SS0201YP	0.500	0.65	=LW02	0.98	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	210.0	=LW02	0.98	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	92.0	=LW02	0.98	UGG
				04-SS-08	08/06/1991	04SS0801YP	0.500	0.51	=LW02	0.98	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	1.3	=LW02	0.98	UGG

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				04-SS-10	08/07/1991	04SS1001Y	0.500	16.0	=LW02	0.98	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	97.0	=LW02	0.98	UGG
			TETRYL	04-SS-02	08/06/1991	04SS0201Y	0.500	0.25	<LW02	0.25	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	0.25	<LW02	0.25	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	0.25	<LW02	0.25	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	0.25	<LW02	0.25	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	0.25	<LW02	0.25	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	0.25	<LW02	0.25	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	04-SS-02	08/06/1991	04SS0201Y	0.500	19.6	<JS12	19.6	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	19.6	<JS12	19.6	UGG
						04SS0302YD	0.500	19.6	<JS12	19.6	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	19.6	<JS12	19.6	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	19.6	<JS12	19.6	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	19.6	<JS12	19.6	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	19.6	<JS12	19.6	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	19.6	<JS12	19.6	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	04-SS-02	08/06/1991	04SS0201Y	0.500	7.15	=B9	2.5	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	3.7	=B9	2.5	UGG
						04SS0302YD	0.500	3.24	=B9	2.5	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	2.5	<B9	2.5	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	4.97	=B9	2.5	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	7.54	=B9	2.5	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	4.35	=B9	2.5	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	5.39	=B9	2.5	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	5.4	=B9	2.5	UGG
			BARIUM	04-SS-02	08/06/1991	04SS0201Y	0.500	269.0	=JS12	3.29	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	71.3	=JS12	3.29	UGG
						04SS0302YD	0.500	15.7	=JS12	3.29	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	19.8	=JS12	3.29	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	229.0	=JS12	3.29	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	89.8	=JS12	3.29	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	71.2	=JS12	3.29	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	218.0	=JS12	3.29	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	75.6	=JS12	3.29	UGG
			BERYLLIUM	04-SS-02	08/06/1991	04SS0201Y	0.500	0.667	=JS12	0.427	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	1.89	=JS12	0.427	UGG
						04SS0302YD	0.500	1.62	=JS12	0.427	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	1.72	=JS12	0.427	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	0.91	=JS12	0.427	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	1.99	=JS12	0.427	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	1.94	=JS12	0.427	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	1.0	=JS12	0.427	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	2.27	=JS12	0.427	UGG
			CADMIUM	04-SS-02	08/06/1991	04SS0201Y	0.500	1.2	<JS12	1.2	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	8.42	=JS12	1.2	UGG
						04SS0302YD	0.500	1.2	<JS12	1.2	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	1.71	=JS12	1.2	UGG

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				04-SS-07	08/06/1991	04SS0701Y	0.500	1.2	<JS12	1.2	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	1.81	=JS12	1.2	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	1.2	<JS12	1.2	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	1.2	<JS12	1.2	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	1.2	<JS12	1.2	UGG
			CHROMIUM	04-SS-02	08/06/1991	04SS0201Y	0.500	17.0	=JS12	1.04	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	21.2	=JS12	1.04	UGG
						04SS0302YD	0.500	11.7	=JS12	1.04	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	71.4	=JS12	1.04	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	23.1	=JS12	1.04	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	23.7	=JS12	1.04	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	16.2	=JS12	1.04	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	34.3	=JS12	1.04	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	26.0	=JS12	1.04	UGG
			COPPER	04-SS-02	08/06/1991	04SS0201Y	0.500	12.3	=JS12	2.84	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	133.0	=JS12	2.84	UGG
						04SS0302YD	0.500	33.4	=JS12	2.84	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	38.2	=JS12	2.84	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	67.8	=JS12	2.84	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	35.7	=JS12	2.84	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	9.39	=JS12	2.84	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	19.2	=JS12	2.84	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	32.0	=JS12	2.84	UGG
			LEAD	04-SS-02	08/06/1991	04SS0201Y	0.500	25.0	=JD21	0.467	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	15.0	=JD21	0.467	UGG
						04SS0302YD	0.500	18.0	=JD21	0.467	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	240.0	=JD21	0.467	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	44.0	=JD21	0.467	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	400.0	=JD21	0.467	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	28.0	=JD21	0.467	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	49.0	=JD21	0.467	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	280.0	=JD21	0.467	UGG
			MERCURY	04-SS-02	08/06/1991	04SS0201Y	0.500	0.057	=Y9	0.05	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	0.05	<Y9	0.05	UGG
						04SS0302YD	0.500	0.05	<Y9	0.05	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	0.553	=Y9	0.05	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	0.05	<Y9	0.05	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	0.05	<Y9	0.05	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	0.05	<Y9	0.05	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	0.05	<Y9	0.05	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	0.139	=Y9	0.05	UGG
			NICKEL	04-SS-02	08/06/1991	04SS0201Y	0.500	15.1	=JS12	2.74	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	19.0	=JS12	2.74	UGG
						04SS0302YD	0.500	20.2	=JS12	2.74	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	6.88	=JS12	2.74	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	16.9	=JS12	2.74	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	16.8	=JS12	2.74	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	14.9	=JS12	2.74	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	19.7	=JS12	2.74	UGG

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				04-SS-11	08/07/1991	04SS1101Y	0.500	18.0	=JS12	2.74	UGG
			SELENIUM	04-SS-02	08/06/1991	04SS0201Y	0.500	0.449	<JD20	0.449	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	0.449	<JD20	0.449	UGG
						04SS0302YD	0.500	0.449	<JD20	0.449	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	0.449	<JD20	0.449	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	0.449	<JD20	0.449	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	0.449	<JD20	0.449	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	0.449	<JD20	0.449	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	0.449	<JD20	0.449	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	0.449	<JD20	0.449	UGG
			SILVER	04-SS-02	08/06/1991	04SS0201Y	0.500	0.803	<JS12	0.803	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	0.803	<JS12	0.803	UGG
						04SS0302YD	0.500	0.803	<JS12	0.803	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	0.803	<JS12	0.803	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	0.803	<JS12	0.803	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	0.803	<JS12	0.803	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	0.803	<JS12	0.803	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	0.803	<JS12	0.803	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	0.803	<JS12	0.803	UGG
			THALLIUM	04-SS-02	08/06/1991	04SS0201Y	0.500	34.3	<JS12	34.3	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	34.3	<JS12	34.3	UGG
						04SS0302YD	0.500	34.3	<JS12	34.3	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	34.3	<JS12	34.3	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	34.3	<JS12	34.3	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	34.3	<JS12	34.3	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	34.3	<JS12	34.3	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	34.3	<JS12	34.3	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	34.3	<JS12	34.3	UGG
			ZINC	04-SS-02	08/06/1991	04SS0201Y	0.500	57.8	=JS12	2.34	UGG
				04-SS-03	08/06/1991	04SS0301Y	0.500	332.0	=JS12	2.34	UGG
						04SS0302YD	0.500	118.0	=JS12	2.34	UGG
				04-SS-04	08/06/1991	04SS0401Y	0.500	186.0	=JS12	2.34	UGG
				04-SS-07	08/06/1991	04SS0701Y	0.500	128.0	=JS12	2.34	UGG
				04-SS-08	08/06/1991	04SS0801Y	0.500	250.0	=JS12	2.34	UGG
				04-SS-09	08/07/1991	04SS0901Y	0.500	68.6	=JS12	2.34	UGG
				04-SS-10	08/07/1991	04SS1001Y	0.500	76.1	=JS12	2.34	UGG
				04-SS-11	08/07/1991	04SS1101Y	0.500	180.0	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	04-SS-03	08/06/1991	04SS0301Y	0.500	0.003	<LH17	0.0027	UGG
						04SS0302YD	0.500	0.003	<LH17	0.0027	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	0.068	<LM25	0.068	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	0.068	<LM25	0.068	UGG
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	04-SS-03	08/06/1991	04SS0301YC	0.500	0.01	=LH17	0.0034	UGG
						04SS0302YD	0.500	0.008	=LH17	0.0034	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	0.1	<LM25	0.1	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	0.1	<LM25	0.1	UGG
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	04-SS-03	08/06/1991	04SS0301Y	0.500	0.003	<LH17	0.0027	UGG
						04SS0302YD	0.500	0.003	<LH17	0.0027	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	0.064	<LM25	0.064	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	0.064	<LM25	0.064	UGG

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			ALDRIN	04-SS-03	08/06/1991	04SS0301Y	0.500	0.001	<LH17	0.0014	UGG
						04SS0302YD	0.500	0.001	<LH17	0.0014	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	1.3	<LM25	1.3	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	1.3	<LM25	1.3	UGG
			ALPHA-BENZENEHEXACHLORIDE	04-SS-03	08/06/1991	04SS0301Y	0.500	0.003	<LH17	0.0028	UGG
						04SS0302YD	0.500	0.003	<LH17	0.0028	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	1.3	<LM25	1.3	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	1.3	<LM25	1.3	UGG
			ALPHA-ENDOSULFAN/ENDOSULFAN I	04-SS-03	08/06/1991	04SS0301Y	0.500	0.001	<LH17	0.001	UGG
						04SS0302YD	0.500	0.001	<LH17	0.001	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	0.4	<LM25	0.4	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	0.4	<LM25	0.4	UGG
			BETA-BENZENEHEXACHLORIDE	04-SS-03	08/06/1991	04SS0301Y	0.500	0.008	<LH17	0.0077	UGG
						04SS0302YD	0.500	0.008	<LH17	0.0077	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	1.3	<LM25	1.3	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	1.3	<LM25	1.3	UGG
			BETA-ENDOSULFAN/ENDOSULFAN II	04-SS-03	08/06/1991	04SS0301Y	0.500	0.001	<LH17	0.0007	UGG
						04SS0302YU	0.500	0.015	=LH17	0.0007	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	2.4	<LM25	2.4	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	2.4	<LM25	2.4	UGG
			CHLORDANE	04-SS-03	08/06/1991	04SS0301Y	0.500	0.068	<LH17	0.0684	UGG
						04SS0302YD	0.500	0.068	<LH17	0.0684	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	0.68	<LM25	0.68	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	0.68	<LM25	0.68	UGG
			DELTA-BENZENEHEXACHLORIDE	04-SS-03	08/06/1991	04SS0301Y	0.500	0.008	<LH17	0.0085	UGG
						04SS0302YD	0.500	0.008	<LH17	0.0085	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	0.21	<LM25	0.21	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	0.21	<LM25	0.21	UGG
			DIELDRIN	04-SS-03	08/06/1991	04SS0301Y	0.500	0.002	<LH17	0.0016	UGG
						04SS0302YU	0.500	0.104	=LH17	0.0016	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	0.079	<LM25	0.079	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	0.079	<LM25	0.079	UGG
			ENDRIN	04-SS-03	08/06/1991	04SS0301Y	0.500	0.007	<LH17	0.0065	UGG
						04SS0302YD	0.500	0.007	<LH17	0.0065	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	1.3	<LM25	1.3	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	1.3	<LM25	1.3	UGG
			HEPTACHLOR	04-SS-03	08/06/1991	04SS0301Y	0.500	0.002	<LH17	0.0022	UGG
						04SS0302YD	0.500	0.002	<LH17	0.0022	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	0.24	<LM25	0.24	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	0.24	<LM25	0.24	UGG
			HEPTACHLOR EPOXIDE	04-SS-03	08/06/1991	04SS0301Y	0.500	0.001	<LH17	0.0013	UGG
						04SS0302YD	0.500	0.001	<LH17	0.0013	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	0.48	<LM25	0.48	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	0.48	<LM25	0.48	UGG
			ISODRIN	04-SS-03	08/06/1991	04SS0301Y	0.500	0.003	<LH17	0.003	UGG
						04SS0302YD	0.500	0.003	<LH17	0.003	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	0.48	<LM25	0.48	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	0.48	<LM25	0.48	UGG
			LINDANE	04-SS-03	08/06/1991	04SS0301Y	0.500	0.001	<LH17	0.001	UGG

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						04SS0302YD	0.500	0.001	<LH17	0.001	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	0.1	<LM25	0.1	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	0.1	<LM25	0.1	UGG
			METHOXYCHLOR	04-SS-03	08/06/1991	04SS0301Y	0.500	0.036	<LH17	0.0359	UGG
						04SS0302YD	0.500	0.036	<LH17	0.0359	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	0.26	<LM25	0.26	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	0.26	<LM25	0.26	UGG
			PCB 1016	04-SS-03	08/06/1991	04SS0301Y	0.500	0.1	<LH17	0.1	UGG
						04SS0302YD	0.500	0.1	<LH17	0.1	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	0.32	<LM25	0.32	UGG
			PCB 1221	04-SS-03	08/06/1991	04SS0301NR	0.500	0.1	*LH17	0.1	UGG
						04SS0302NR	0.500	0.1	*LH17	0.1	UGG
				04-SS-06	08/06/1991	04SS0601NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1232	04-SS-03	08/06/1991	04SS0301NR	0.500	0.1	*LH17	0.1	UGG
						04SS0302NR	0.500	0.1	*LH17	0.1	UGG
				04-SS-06	08/06/1991	04SS0601NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1242	04-SS-03	08/06/1991	04SS0301NR	0.500	0.1	*LH17	0.1	UGG
						04SS0302NR	0.500	0.1	*LH17	0.1	UGG
				04-SS-06	08/06/1991	04SS0601NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1248	04-SS-03	08/06/1991	04SS0301NR	0.500	0.1	*LH17	0.1	UGG
						04SS0302NR	0.500	0.1	*LH17	0.1	UGG
				04-SS-06	08/06/1991	04SS0601NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1254	04-SS-03	08/06/1991	04SS0301NR	0.500	0.048	*LH17	0.048	UGG
						04SS0302NR	0.500	0.048	*LH17	0.048	UGG
				04-SS-06	08/06/1991	04SS0601NR	0.500	3.8	*LM25	3.8	UGG
			PCB 1260	04-SS-03	08/06/1991	04SS0301Y	0.500	0.048	<LH17	0.0479	UGG
						04SS0302YD	0.500	0.048	<LH17	0.0479	UGG
				04-SS-06	08/06/1991	04SS0601N	0.500	0.79	<LM25	0.79	UGG
			PCB 1262	04-SS-06	08/06/1991	04SS0601Y	0.500	6.3	<LM25	0.3	UGG
			TOTAL PCBs	04-SS-12	08/07/1991	04SS1201NS	0.500	4.59	=LM25	0.0	UGG
			TOXAPHENE	04-SS-06	08/06/1991	04SS0601NR	0.500	12.0	*LM25	12.0	UGG
				04-SS-12	08/07/1991	04SS1201NR	0.500	12.0	*LM25	12.0	UGG
		SEMIVOLATILES	1,2,3-TRICHLOROBENZENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.032	<LM25	0.032	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.032	<LM25	0.032	UGG
			1,2,4-TRICHLOROBENZENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.22	<LM25	0.22	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.22	<LM25	0.22	UGG
			1,2-DICHLOROBENZENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.042	<LM25	0.042	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.042	<LM25	0.042	UGG
			1,2-DIPHENYLHYDRAZINE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.52	<LM25	0.52	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.52	<LM25	0.52	UGG
			1,4-DICHLOROBENZENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.034	<LM25	0.034	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.034	<LM25	0.034	UGG
			1,4-OXATHIANE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.075	<LM25	0.075	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.075	<LM25	0.075	UGG
			2,3,6-TCP	04-SS-06	08/06/1991	04SS0601Y	0.500	0.62	<LM25	0.62	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.62	<LM25	0.62	UGG
			2,4,5-TRICHLOROPHENOL	04-SS-06	08/06/1991	04SS0601Y	0.500	0.49	<LM25	0.49	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.49	<LM25	0.49	UGG
			2,4,6-TRICHLOROPHENOL	04-SS-06	08/06/1991	04SS0601Y	0.500	0.061	<LM25	0.061	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.061	<LM25	0.061	UGG
			2,4-DICHLOROPHENOL	04-SS-06	08/06/1991	04SS0601Y	0.500	0.065	<LM25	0.065	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.065	<LM25	0.065	UGG
			2,4-DIMETHYLPHENOL	04-SS-06	08/06/1991	04SS0601Y	0.500	3.0	<LM25	3.0	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	3.0	<LM25	3.0	UGG
			2,4-DINITROPHENOL	04-SS-06	08/06/1991	04SS0601Y	0.500	4.7	<LM25	4.7	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	4.7	<LM25	4.7	UGG
			2,6-DINITROANILINE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.57	<LM25	0.57	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.57	<LM25	0.57	UGG
			2-CHLORONAPHTHALENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.24	<LM25	0.24	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.24	<LM25	0.24	UGG
			2-CHLOROPHENOL	04-SS-06	08/06/1991	04SS0601Y	0.500	0.055	<LM25	0.055	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.055	<LM25	0.055	UGG
			2-METHYL-4,6-DINITROPHENOL/4,6	04-SS-06	08/06/1991	04SS0601Y	0.500	0.8	<LM25	0.8	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.8	<LM25	0.8	UGG
			2-METHYLNAPHTHALENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.032	<LM25	0.032	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.032	<LM25	0.032	UGG
			2-METHYLPHENOL/2-CRESOL	04-SS-06	08/06/1991	04SS0601Y	0.500	0.098	<LM25	0.098	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.098	<LM25	0.098	UGG
			2-NITROANILINE	04-SS-06	08/06/1991	04SS0601NR	0.500	3.1	*LM25	3.1	UGG
				04-SS-12	08/07/1991	04SS1201NR	0.500	3.1	*LM25	3.1	UGG
			2-NITROPHENOL	04-SS-06	08/06/1991	04SS0601Y	0.500	1.1	<LM25	1.1	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	1.1	<LM25	1.1	UGG
			3,3'-DICHLOROBENZIDINE	04-SS-06	08/06/1991	04SS0601Y	0.500	1.6	<LM25	1.6	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	1.6	<LM25	1.6	UGG
			3,5-DINITROANILINE	04-SS-06	08/06/1991	04SS0601Y	0.500	1.6	<LM25	1.6	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	1.6	<LM25	1.6	UGG
			3-METHYL-4-CHLOROPHENOL/4-CHLO	04-SS-06	08/06/1991	04SS0601Y	0.500	0.93	<LM25	0.93	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.93	<LM25	0.93	UGG
			3-NITROANILINE	04-SS-06	08/06/1991	04SS0601Y	0.500	3.0	<LM25	3.0	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	3.0	<LM25	3.0	UGG
			3-NITROTOLUENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.34	<LM25	0.34	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.34	<LM25	0.34	UGG
			4-BROMOPHENYLPHENYL ETHER	04-SS-06	08/06/1991	04SS0601Y	0.500	0.041	<LM25	0.041	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.041	<LM25	0.041	UGG
			4-CHLOROANILINE	04-SS-06	08/06/1991	04SS0601NR	0.500	0.63	*LM25	0.63	UGG
				04-SS-12	08/07/1991	04SS1201NR	0.500	0.63	*LM25	0.63	UGG
			4-CHLOROPHENYLPHENYL ETHER	04-SS-06	08/06/1991	04SS0601Y	0.500	0.17	<LM25	0.17	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.17	<LM25	0.17	UGG
			4-METHYLPHENOL/4-CRESOL	04-SS-06	08/06/1991	04SS0601Y	0.500	0.24	<LM25	0.24	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.24	<LM25	0.24	UGG
			4-NITROANILINE	04-SS-06	08/06/1991	04SS0601NR	0.500	3.1	*LM25	3.1	UGG
				04-SS-12	08/07/1991	04SS1201NR	0.500	3.1	*LM25	3.1	UGG
			4-NITROPHENOL	04-SS-06	08/06/1991	04SS0601Y	0.500	3.3	<LM25	3.3	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	3.3	<LM25	3.3	UGG
			ACENAPHTHENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.041	<LM25	0.041	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.041	<LM25	0.041	UGG
			ACENAPHTHYLENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.033	<LM25	0.033	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.033	<LM25	0.033	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			ANTHRACENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.71	<LM25	0.71	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.71	<LM25	0.71	UGG
			ATRAZINE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.065	<LM25	0.065	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.065	<LM25	0.065	UGG
			BENZO(A)ANTHRACENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.041	<LM25	0.48	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.041	<LM25	0.48	UGG
			BENZO(A)PYRENE	04-SS-06	08/06/1991	04SS0601Y	0.500	1.2	<LM25	1.2	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	1.2	<LM25	1.2	UGG
			BENZO(B)FLUORANTHENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.31	<LM25	0.31	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.31	<LM25	0.31	UGG
			BENZO(G,H,I)PERYLENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.18	<LM25	0.18	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.18	<LM25	0.18	UGG
			BENZO(K)FLUORANTHENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.13	<LM25	0.13	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.13	<LM25	0.13	UGG
			BENZOIC ACID	04-SS-06	08/06/1991	04SS0601NR	0.500	3.1	*LM25	3.1	UGG
				04-SS-12	08/07/1991	04SS1201NR	0.500	3.1	*LM25	3.1	UGG
			BENZYL ALCOHOL	04-SS-06	08/06/1991	04SS0601Y	0.500	0.032	<LM25	0.032	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.032	<LM25	0.032	UGG
			BIS (2-CHLOROETHOXY) METHANE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.19	<LM25	0.19	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.19	<LM25	0.19	UGG
			BIS (2-CHLOROETHYL) ETHER	04-SS-06	08/06/1991	04SS0601Y	0.500	0.36	<LM25	0.36	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.36	<LM25	0.36	UGG
			BIS (2-CHLOROISOPROPYL) ETHER	04-SS-06	08/06/1991	04SS0601Y	0.500	0.44	<LM25	0.44	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.44	<LM25	0.44	UGG
			BIS (2-ETHYLHEXYL) PHTHALATE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.48	<LM25	0.48	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	6.2	>LM25	0.48	UGG
			BUTYLBENZYL PHTHALATE	04-SS-06	08/06/1991	04SS0601Y	0.500	1.8	<LM25	1.8	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	1.8	<LM25	1.8	UGG
			CHRYSENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.032	<LM25	0.032	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.032	<LM25	0.032	UGG
			DI-N-BUTYL PHTHALATE	04-SS-06	08/06/1991	04SS0601Y	0.500	1.3	<LM25	1.3	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	1.3	<LM25	1.3	UGG
			DI-N-OCTYL PHTHALATE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.23	<LM25	0.23	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.23	<LM25	0.23	UGG
			DIBENZ(A,H)ANTHRACENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.31	<LM25	0.31	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.31	<LM25	0.31	UGG
			DIBENZOFURAN	04-SS-06	08/06/1991	04SS0601Y	0.500	0.038	<LM25	0.038	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.038	<LM25	0.038	UGG
			DIBROMOCHLOROPROPANE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.071	<LM25	0.071	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.071	<LM25	0.071	UGG
			DICYCLOPENTADIENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.57	<LM25	0.57	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.57	<LM25	0.57	UGG
			DIETHYL PHTHALATE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.24	<LM25	0.24	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.24	<LM25	0.24	UGG
			DIMETHYL PHTHALATE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.063	<LM25	0.063	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.063	<LM25	0.063	UGG
			DITHIANE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.065	<LM25	0.065	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.065	<LM25	0.065	UGG
			ENDOSULFAN SULFATE	04-SS-06	08/06/1991	04SS0601Y	0.500	1.2	<LM25	1.2	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				04-SS-12	08/07/1991	04SS1201Y	0.500	1.2	<LM25	1.2	UGG
			ENDRIN ALDEHYDE	04-SS-06	08/06/1991	04SS0601Y	0.500	1.8	<LM25	1.8	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	1.8	<LM25	1.8	UGG
			ENDRIN KETONE	04-SS-06	08/06/1991	04SS0601NR	0.500	0.28	*LM25	0.28	UGG
				04-SS-12	08/07/1991	04SS1201NR	0.500	0.28	*LM25	0.28	UGG
			FLUORANTHENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.032	<LM25	0.032	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.032	<LM25	0.032	UGG
			FLUORENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.065	<LM25	0.065	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.065	<LM25	0.065	UGG
			HEXACHLOROBENZENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.08	<LM25	0.08	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.08	<LM25	0.08	UGG
			HEXACHLOROBUTADIENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.97	<LM25	0.97	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.97	<LM25	0.97	UGG
			HEXACHLOROCYCLOPENTADIENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.52	<LM25	0.52	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.52	<LM25	0.52	UGG
			HEXACHLOROETHANE	04-SS-06	08/06/1991	04SS0601Y	0.500	1.8	<LM25	1.8	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	1.8	<LM25	1.8	UGG
			INDENO(1,2,3-C,D)PYRENE	04-SS-06	08/06/1991	04SS0601Y	0.500	2.4	<LM25	2.4	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	2.4	<LM25	2.4	UGG
			ISOPHORONE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.39	<LM25	0.39	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.39	<LM25	0.39	UGG
			MALATHION	04-SS-06	08/06/1991	04SS0601Y	0.500	0.18	<LM25	0.18	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.18	<LM25	0.18	UGG
			MIREX	04-SS-06	08/06/1991	04SS0601Y	0.500	0.14	<LM25	0.14	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.14	<LM25	0.14	UGG
			N-NITROSODI-N-PROPYLAMINE	04-SS-06	08/06/1991	04SS0601Y	0.500	1.1	<LM25	1.1	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	1.1	<LM25	1.1	UGG
			N-NITROSODIMETHYLAMINE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.46	<LM25	0.46	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.46	<LM25	0.46	UGG
			N-NITROSODIPHENYLAMINE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.29	<LM25	0.29	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.29	<LM25	0.29	UGG
			NAPHTHALENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.74	<LM25	0.74	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.74	<LM25	0.74	UGG
			P-CHLOROPHENYLMETHYL SULFIDE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.097	<LM25	0.097	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.097	<LM25	0.097	UGG
			P-CHLOROPHENYLMETHYL SULFONE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.066	<LM25	0.066	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.066	<LM25	0.066	UGG
			P-CHLOROPHENYLMETHYL SULFOXIDE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.32	<LM25	0.32	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.32	<LM25	0.32	UGG
			PARATHION	04-SS-06	08/06/1991	04SS0601Y	0.500	1.7	<LM25	1.7	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	1.7	<LM25	1.7	UGG
			PENTACHLOROPHENOL	04-SS-06	08/06/1991	04SS0601Y	0.500	0.76	<LM25	0.76	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.76	<LM25	0.76	UGG
			PHENANTHRENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.032	<LM25	0.032	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.032	<LM25	0.032	UGG
			PHENOL	04-SS-06	08/06/1991	04SS0601Y	0.500	0.052	<LM25	0.052	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.052	<LM25	0.052	UGG
			PYRENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.083	<LM25	0.083	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.083	<LM25	0.083	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			SUPONA/2-CHLORO-1-(2,4-DICHLOR	04-SS-06	08/06/1991	04SS0601Y	0.500	0.92	<LM25	0.92	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.92	<LM25	0.92	UGG
			VAPONA	04-SS-06	08/06/1991	04SS0601Y	0.500	0.068	<LM25	0.068	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.068	<LM25	0.068	UGG
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	04-SS-06	08/06/1991	04SS0601Y	0.500	0.5	<LM23	0.5	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.5	<LM23	0.5	UGG
			1,1,1-TRICHLOROETHANE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.2	<LM23	0.2	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2,2-TETRACHLOROETHANE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.2	<LM23	0.2	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2-TRICHLOROETHANE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.33	<LM23	0.33	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.33	<LM23	0.33	UGG
			1,1-DICHLOROETHANE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.49	<LM23	0.49	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.49	<LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	04-SS-06	08/06/1991	04SS0601Y	0.500	0.27	<LM23	0.27	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.27	<LM23	0.27	UGG
			1,2-DICHLOROETHANE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.32	<LM23	0.32	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	04-SS-06	08/06/1991	04SS0601Y	0.500	0.32	<LM23	0.32	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROPROPANE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.53	<LM23	0.53	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.53	<LM23	0.53	UGG
			1,3-DICHLOROBENZENE	04-SS-06	08/06/1991	04SS0601N	0.500	0.042	<LM25	0.042	UGG
						04SS0601Y	0.500	0.14	<LM23	0.14	UGG
				04-SS-12	08/07/1991	04SS1201N	0.500	0.042	<LM25	0.042	UGG
						04SS1201Y	0.500	0.14	<LM23	0.14	UGG
			1,3-DICLOROPROPANE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.2	<LM23	0.2	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.2	<LM23	0.2	UGG
			1,3-DIMETHYLBENZENE/M-XYLENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.23	<LM23	0.23	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.23	<LM23	0.23	UGG
			ACETIC ACID, VINYL ESTER/VINYL	04-SS-06	08/06/1991	04SS0601NR	0.500	1.0	*LM23	1.0	UGG
				04-SS-12	08/07/1991	04SS1201NR	0.500	1.0	*LM23	1.0	UGG
			ACETONE	04-SS-06	08/06/1991	04SS0601Y	0.500	3.3	<LM23	3.3	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	3.3	<LM23	3.3	UGG
			ACRYLONITRILE	04-SS-06	08/06/1991	04SS0601Y	0.500	2.0	<LM23	2.0	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	2.0	<LM23	2.0	UGG
			BENZENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.1	<LM23	0.1	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.1	<LM23	0.1	UGG
			BROMODICHLOROMETHANE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.2	<LM23	0.2	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.2	<LM23	0.2	UGG
			BROMOFORM	04-SS-06	08/06/1991	04SS0601Y	0.500	0.2	<LM23	0.2	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.2	<LM23	0.2	UGG
			BROMOMETHANE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.26	<LM23	0.26	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.26	<LM23	0.26	UGG
			CARBON DISULFIDE	04-SS-06	08/06/1991	04SS0601NR	0.500	0.6	*LM23	0.6	UGG
				04-SS-12	08/07/1991	04SS1201NR	0.500	0.6	*LM23	0.6	UGG
			CARBON TETRACHLORIDE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.31	<LM23	0.31	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.31	<LM23	0.31	UGG
			CHLORFORM	04-SS-06	08/06/1991	04SS0601Y	0.500	0.24	<LM23	0.24	UGG

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SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.24	<LM23	0.24	UGG
			CHLOROBENZENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.1	<LM23	0.1	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.1	<LM23	0.1	UGG
			CHLOROETHANE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.64	<LM23	0.64	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.64	<LM23	0.64	UGG
			CHLOROETHANE/VINYL CHLORIDE	04-SS-06	08/06/1991	04SS0601Y	0.500	1.8	<LM23	1.8	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	1.8	<LM23	1.8	UGG
			CHLOROMETHANE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.96	<LM23	0.96	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.96	<LM23	0.96	UGG
			CIS-1,3-DICHLOROPROPYLENE/CIS-	04-SS-06	08/06/1991	04SS0601NR	0.500	0.6	*LM23	0.6	UGG
				04-SS-12	08/07/1991	04SS1201NR	0.500	0.6	*LM23	0.6	UGG
			DIBROMOCHLOROMETHANE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.25	<LM23	0.25	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.25	<LM23	0.25	UGG
			DICHLOROBENZENE - NONSPECIFIC	04-SS-06	08/06/1991	04SS0601Y	0.500	0.2	<LM23	0.2	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.2	<LM23	0.2	UGG
			ETHYLBENZENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.19	<LM23	0.19	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.19	<LM23	0.19	UGG
			METHYL-N-BUTYL KETONE/2-HEXANO	04-SS-06	08/06/1991	04SS0601NR	0.500	1.0	*LM23	1.0	UGG
				04-SS-12	08/07/1991	04SS1201NR	0.500	1.0	*LM23	1.0	UGG
			METHYLENE CHLORIDE	04-SS-06	08/06/1991	04SS0601Y	0.500	4.4	<LM23	4.4	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	4.4	<LM23	4.4	UGG
			METHYLETHYL PHENOL/METHYLETHYL	04-SS-06	08/06/1991	04SS0601Y	0.500	4.3	<LM23	4.3	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	4.3	<LM23	4.3	UGG
			METHYLISOBUTYL KETONE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.63	<LM23	0.63	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.63	<LM23	0.63	UGG
			STYRENE	04-SS-06	08/06/1991	04SS0601NR	0.500	0.6	*LM23	0.6	UGG
				04-SS-12	08/07/1991	04SS1201NR	0.500	0.6	*LM23	0.6	UGG
			TETRACHLOROETHYLENE/TETRACHLOR	04-SS-06	08/06/1991	04SS0601Y	0.500	0.16	<LM23	0.16	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.16	<LM23	0.16	UGG
			TOLUENE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.1	<LM23	0.1	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.1	<LM23	0.1	UGG
			TRANS-1,3-DICHLOROPROPENE	04-SS-06	08/06/1991	04SS0601NR	0.500	0.6	*LM23	0.6	UGG
				04-SS-12	08/07/1991	04SS1201NR	0.500	0.6	*LM23	0.6	UGG
			TRICHLOROETHYLENE/TRICHLOROETH	04-SS-06	08/06/1991	04SS0601Y	0.500	0.23	<LM23	0.23	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.23	<LM23	0.23	UGG
			TRICHLOROFLUOROMETHANE	04-SS-06	08/06/1991	04SS0601Y	0.500	0.23	<LM23	0.23	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.23	<LM23	0.23	UGG
			XYLENES	04-SS-06	08/06/1991	04SS0601Y	0.500	0.78	<LM23	0.78	UGG
				04-SS-12	08/07/1991	04SS1201Y	0.500	0.78	<LM23	0.78	UGG
	SW	EXPLOSIVES	1,3,5-TRINITROBENZENE	04-SW-14	08/06/1991	04SW1401Y	0.500	0.56	<UW01	0.56	UGL
			1,3-DINITROBENZENE	04-SW-14	08/06/1991	04SW1401Y	0.500	0.61	<UW01	0.61	UGL
			2,4,6-TNT	04-SW-14	08/06/1991	04SW1401Y	0.500	0.78	<UW01	0.78	UGL
			2,4-DINITROTOLUENE	04-SW-14	08/06/1991	04SW1401Y	0.500	0.78	=UW01	0.6	UGL
			2,6-DINITROTOLUENE	04-SW-14	08/06/1991	04SW1401Y	0.500	1.1	=UW01	0.55	UGL
			HMX	04-SW-14	08/06/1991	04SW1401Y	0.500	1.3	<UW01	1.3	UGL
			NITROBENZENE	04-SW-14	08/06/1991	04SW1401Y	0.500	1.1	<UW01	1.13	UGL
			RDX	04-SW-14	08/06/1991	04SW1401Y	0.500	0.63	<UW01	0.63	UGL
			TETRYL	04-SW-14	08/06/1991	04SW1401Y	0.500	0.66	<UW01	0.66	UGL

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SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP05	SD	EXPLOSIVES	1,3,5-TRINITROBENZENE	05-SD-10	08/07/1991	05SD1001Y	0.800	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	05-SD-10	08/07/1991	05SD1001Y	0.800	0.59	<LW02	0.59	UGG
			2,4,6-TNT	05-SD-10	08/07/1991	05SD1001Y	0.800	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	05-SD-10	08/07/1991	05SD1001Y	0.800	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	05-SD-10	08/07/1991	05SD1001Y	0.800	0.4	<LW02	0.4	UGG
			HMX	05-SD-10	08/07/1991	05SD1001Y	0.800	1.3	<LW02	1.27	UGG
			NITROBENZENE	05-SD-10	08/07/1991	05SD1001Y	0.800	0.42	<LW02	0.42	UGG
			RDX	05-SD-10	08/07/1991	05SD1001Y	0.800	0.98	<LW02	0.98	UGG
			TETRYL	05-SD-10	08/07/1991	05SD1001Y	0.800	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	05-SD-10	08/07/1991	05SD1001Y	0.800	19.6	<JS12	19.6	UGG
			ARSENIC	05-SD-10	08/07/1991	05SD1001Y	0.800	6.42	=B9	2.5	UGG
			BARIUM	05-SD-10	08/07/1991	05SD1001Y	0.800	179.0	=JS12	3.29	UGG
			BERYLLIUM	05-SD-10	08/07/1991	05SD1001Y	0.800	0.759	=JS12	0.427	UGG
			CADMIUM	05-SD-10	08/07/1991	05SD1001Y	0.800	1.2	<JS12	1.2	UGG
			CHROMIUM	05-SD-10	08/07/1991	05SD1001Y	0.800	22.7	=JS12	1.04	UGG
			COPPER	05-SD-10	08/07/1991	05SD1001Y	0.800	40.9	=JS12	2.84	UGG
			LEAD	05-SD-10	08/07/1991	05SD1001Y	0.800	300.0	=JD21	0.467	UGG
			MERCURY	05-SD-10	08/07/1991	05SD1001Y	0.800	0.754	=Y9	0.05	UGG
			NICKEL	05-SD-10	08/07/1991	05SD1001Y	0.800	19.8	=JS12	2.74	UGG
			SELENIUM	05-SD-10	08/07/1991	05SD1001Y	0.800	0.449	<JD20	0.449	UGG
			SILVER	05-SD-10	08/07/1991	05SD1001Y	0.800	0.803	<JS12	0.803	UGG
			THALLIUM	05-SD-10	08/07/1991	05SD1001Y	0.800	34.3	<JS12	34.3	UGG
			ZINC	05-SD-10	08/07/1991	05SD1001Y	0.800	80.3	=JS12	2.34	UGG
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	05-SA-01	08/06/1991	05SA0101Y	1.500	2.1	<LW02	2.09	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	2.1	<LW02	2.09	UGG
						05SA0202YD	2.000	2.1	<LW02	2.09	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	2.1	<LW02	2.09	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	2.1	<LW02	2.09	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	2.1	<LW02	2.09	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	2.1	<LW02	2.09	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	2.1	<LW02	2.09	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	2.1	<LW02	2.09	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	2.1	<LW02	2.09	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	2.1	<LW02	2.09	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	2.1	<LW02	2.09	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	2.1	<LW02	2.09	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	2.1	<LW02	2.09	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	05-SA-01	08/06/1991	05SA0101Y	1.500	0.59	<LW02	0.59	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	0.59	<LW02	0.59	UGG
						05SA0202YD	2.000	0.59	<LW02	0.59	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	0.59	<LW02	0.59	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	0.59	<LW02	0.59	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	0.59	<LW02	0.59	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	0.59	<LW02	0.59	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	0.59	<LW02	0.59	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	0.59	<LW02	0.59	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	0.59	<LW02	0.59	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	0.59	<LW02	0.59	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				05-SA-12	08/07/1991	05SA1201Y	0.500	0.59	<LW02	0.59	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	0.59	<LW02	0.59	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	0.59	<LW02	0.59	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	0.59	<LW02	0.59	UGG
			2,4,6-TNT	05-SA-01	08/06/1991	05SA0101Y	1.500	1.9	<LW02	1.92	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	1.9	<LW02	1.92	UGG
						05SA0202YD	2.000	1.9	<LW02	1.92	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	1.9	<LW02	1.92	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	1.9	<LW02	1.92	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	1.9	<LW02	1.92	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	1.9	<LW02	1.92	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	1.9	<LW02	1.92	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	1.9	<LW02	1.92	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	1.9	<LW02	1.92	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	1.9	<LW02	1.92	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	1.9	<LW02	1.92	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	1.9	<LW02	1.92	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	1.9	<LW02	1.92	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	05-SA-01	08/06/1991	05SA0101Y	1.500	0.42	<LW02	0.42	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	0.42	<LW02	0.42	UGG
						05SA0202YD	2.000	0.42	<LW02	0.42	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	0.42	<LW02	0.42	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	0.42	<LW02	0.42	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	0.42	<LW02	0.42	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	0.42	<LW02	0.42	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	0.42	<LW02	0.42	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	0.42	<LW02	0.42	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	0.42	<LW02	0.42	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	0.42	<LW02	0.42	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	0.42	<LW02	0.42	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	0.42	<LW02	0.42	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	0.42	<LW02	0.42	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	05-SA-01	08/06/1991	05SA0101Y	1.500	0.4	<LW02	0.4	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	0.4	<LW02	0.4	UGG
						05SA0202YD	2.000	0.4	<LW02	0.4	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	0.4	<LW02	0.4	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	0.4	<LW02	0.4	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	0.4	<LW02	0.4	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	0.4	<LW02	0.4	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	0.4	<LW02	0.4	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	0.4	<LW02	0.4	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	0.4	<LW02	0.4	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	0.4	<LW02	0.4	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	0.4	<LW02	0.4	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	0.4	<LW02	0.4	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	0.4	<LW02	0.4	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	0.4	<LW02	0.4	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			HMX	05-SA-01	08/06/1991	05SA0101Y	1.500	1.3	<LW02	1.27	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	1.3	<LW02	1.27	UGG
						05SA0202YD	2.000	1.3	<LW02	1.27	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	1.3	<LW02	1.27	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	1.3	<LW02	1.27	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	1.3	<LW02	1.27	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	1.3	<LW02	1.27	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	1.3	<LW02	1.27	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	1.3	<LW02	1.27	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	1.3	<LW02	1.27	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	1.3	<LW02	1.27	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	1.3	<LW02	1.27	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	1.3	<LW02	1.27	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	1.3	<LW02	1.27	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	1.3	<LW02	1.27	UGG
			NITROBENZENE	05-SA-01	08/06/1991	05SA0101Y	1.500	0.42	<LW02	0.42	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	0.42	<LW02	0.42	UGG
						05SA0202YD	2.000	0.42	<LW02	0.42	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	0.42	<LW02	0.42	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	0.42	<LW02	0.42	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	0.42	<LW02	0.42	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	0.42	<LW02	0.42	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	0.42	<LW02	0.42	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	0.42	<LW02	0.42	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	0.42	<LW02	0.42	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	0.42	<LW02	0.42	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	0.42	<LW02	0.42	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	0.42	<LW02	0.42	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	0.42	<LW02	0.42	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	0.42	<LW02	0.42	UGG
			RDX	05-SA-01	08/06/1991	05SA0101Y	1.500	0.98	<LW02	0.98	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	0.98	<LW02	0.98	UGG
						05SA0202YD	2.000	0.98	<LW02	0.98	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	0.98	<LW02	0.98	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	0.98	<LW02	0.98	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	0.98	<LW02	0.98	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	0.98	<LW02	0.98	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	0.98	<LW02	0.98	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	0.98	<LW02	0.98	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	0.98	<LW02	0.98	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	0.98	<LW02	0.98	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	0.98	<LW02	0.98	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	0.98	<LW02	0.98	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	0.98	<LW02	0.98	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	0.98	<LW02	0.98	UGG
			TETRYL	05-SA-01	08/06/1991	05SA0101Y	1.500	0.25	<LW02	0.25	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	0.25	<LW02	0.25	UGG
						05SA0202YD	2.000	0.25	<LW02	0.25	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	0.25	<LW02	0.25	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				05-SA-04	08/06/1991	05SA0401Y	1.000	0.25	<LW02	0.25	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	0.25	<LW02	0.25	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	0.25	<LW02	0.25	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	0.25	<LW02	0.25	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	0.25	<LW02	0.25	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	0.25	<LW02	0.25	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	0.25	<LW02	0.25	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	0.25	<LW02	0.25	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	0.25	<LW02	0.25	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	0.25	<LW02	0.25	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	05-SA-01	08/06/1991	05SA0101Y	1.500	19.6	<JS12	19.6	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	19.6	<JS12	19.6	UGG
						05SA0202YD	2.000	19.6	<JS12	19.6	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	19.6	<JS12	19.6	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	19.6	<JS12	19.6	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	19.6	<JS12	19.6	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	19.6	<JS12	19.6	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	19.6	<JS12	19.6	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	19.6	<JS12	19.6	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	19.6	<JS12	19.6	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	19.6	<JS12	19.6	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	19.6	<JS12	19.6	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	19.6	<JS12	19.6	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	19.6	<JS12	19.6	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	19.6	<JS12	19.6	UGG
			ARSENIC	05-SA-01	08/06/1991	05SA0101Y	1.500	4.25	=B9	2.5	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	5.71	=B9	2.5	UGG
						05SA0202YD	2.000	9.41	=B9	2.5	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	6.14	=B9	2.5	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	9.09	=B9	2.5	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	4.5	=B9	2.5	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	9.48	=B9	2.5	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	5.96	=B9	2.5	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	7.93	=B9	2.5	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	8.15	=B9	2.5	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	6.7	=B9	2.5	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	3.84	=B9	2.5	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	6.49	=B9	2.5	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	6.38	=B9	2.5	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	3.93	=B9	2.5	UGG
			BARIUM	05-SA-01	08/06/1991	05SA0101Y	1.500	221.0	=JS12	3.29	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	250.0	=JS12	3.29	UGG
						05SA0202YD	2.000	252.0	=JS12	3.29	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	122.0	=JS12	3.29	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	262.0	=JS12	3.29	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	232.0	=JS12	3.29	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	275.0	=JS12	3.29	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	210.0	=JS12	3.29	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				05-SA-08	08/07/1991	05SA0801Y	4.000	196.0	=JS12	3.29	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	249.0	=JS12	3.29	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	192.0	=JS12	3.29	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	275.0	=JS12	3.29	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	168.0	=JS12	3.29	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	229.0	=JS12	3.29	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	202.0	=JS12	3.29	UGG
			BERYLLIUM	05-SA-01	08/06/1991	05SA0101Y	1.500	0.716	=JS12	0.427	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	0.809	=JS12	0.427	UGG
						05SA0202YD	2.000	0.897	=JS12	0.427	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	0.63	=JS12	0.427	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	1.15	=JS12	0.427	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	0.842	=JS12	0.427	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	1.19	=JS12	0.427	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	0.67	=JS12	0.427	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	0.924	=JS12	0.427	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	1.17	=JS12	0.427	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	1.07	=JS12	0.427	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	1.22	=JS12	0.427	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	0.953	=JS12	0.427	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	1.14	=JS12	0.427	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	1.2	=JS12	0.427	UGG
			CADMIUM	05-SA-01	08/06/1991	05SA0101Y	1.500	1.2	<JS12	1.2	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	1.2	<JS12	1.2	UGG
						05SA0202YD	2.000	1.2	<JS12	1.2	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	1.2	<JS12	1.2	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	1.2	<JS12	1.2	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	1.2	<JS12	1.2	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	1.2	<JS12	1.2	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	1.2	<JS12	1.2	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	1.2	<JS12	1.2	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	1.2	<JS12	1.2	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	1.2	<JS12	1.2	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	1.2	<JS12	1.2	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	1.2	<JS12	1.2	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	1.2	<JS12	1.2	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	1.2	<JS12	1.2	UGG
			CHROMIUM	05-SA-01	08/06/1991	05SA0101Y	1.500	22.6	=JS12	1.04	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	25.0	=JS12	1.04	UGG
						05SA0202YD	2.000	25.0	=JS12	1.04	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	24.3	=JS12	1.04	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	32.9	=JS12	1.04	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	27.0	=JS12	1.04	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	23.0	=JS12	1.04	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	20.8	=JS12	1.04	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	20.9	=JS12	1.04	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	35.6	=JS12	1.04	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	31.6	=JS12	1.04	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	39.8	=JS12	1.04	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				05-SA-13	08/07/1991	05SA1301Y	1.500	31.2	=JS12	1.04	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	34.9	=JS12	1.04	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	39.1	=JS12	1.04	UGG
			COPPER	05-SA-01	08/06/1991	05SA0101Y	1.500	19.3	=JS12	2.84	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	17.3	=JS12	2.84	UGG
						05SA0202YD	2.000	18.0	=JS12	2.84	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	32.3	=JS12	2.84	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	26.5	=JS12	2.84	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	29.6	=JS12	2.84	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	31.2	=JS12	2.84	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	14.8	=JS12	2.84	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	16.1	=JS12	2.84	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	21.0	=JS12	2.84	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	16.9	=JS12	2.84	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	24.0	=JS12	2.84	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	15.7	=JS12	2.84	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	20.3	=JS12	2.84	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	16.7	=JS12	2.84	UGG
			LEAD	05-SA-01	08/06/1991	05SA0101Y	1.500	30.0	=JD21	0.467	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	12.0	=JD21	0.467	UGG
						05SA0202YD	2.000	28.0	=JD21	0.467	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	22.0	=JD21	0.467	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	52.0	=JD21	0.467	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	29.0	=JD21	0.467	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	20.0	=JD21	0.467	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	14.0	=JD21	0.467	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	14.0	=JD21	0.467	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	29.0	=JD21	0.467	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	15.0	=JD21	0.467	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	17.0	=JD21	0.467	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	13.0	=JD21	0.467	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	14.0	=JD21	0.467	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	12.0	=JD21	0.467	UGG
			MERCURY	05-SA-01	08/06/1991	05SA0101Y	1.500	0.16	=Y9	0.05	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	0.081	=Y9	0.05	UGG
						05SA0202YD	2.000	0.083	=Y9	0.05	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	0.12	=Y9	0.05	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	0.091	=Y9	0.05	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	0.184	=Y9	0.05	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	0.05	<Y9	0.05	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	0.05	<Y9	0.05	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	0.05	<Y9	0.05	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	0.05	<Y9	0.05	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	0.05	<Y9	0.05	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	0.05	<Y9	0.05	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	0.05	<Y9	0.05	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	0.05	<Y9	0.05	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	0.087	=Y9	0.05	UGG
			NICKEL	05-SA-01	08/06/1991	05SA0101Y	1.500	15.6	=JS12	2.74	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				05-SA-02	08/06/1991	05SA0201Y	2.000	21.3	=JS12	2.74	UGG
						05SA0202YD	2.000	26.1	=JS12	2.74	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	14.2	=JS12	2.74	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	31.8	=JS12	2.74	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	20.6	=JS12	2.74	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	34.1	=JS12	2.74	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	23.1	=JS12	2.74	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	18.0	=JS12	2.74	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	22.6	=JS12	2.74	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	19.8	=JS12	2.74	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	31.8	=JS12	2.74	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	15.4	=JS12	2.74	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	21.4	=JS12	2.74	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	17.2	=JS12	2.74	UGG
			SELENIUM	05-SA-01	08/06/1991	05SA0101Y	1.500	0.449	<JD20	0.449	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	0.449	<JD20	0.449	UGG
						05SA0202YD	2.000	0.449	<JD20	0.449	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	0.449	<JD20	0.449	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	0.449	<JD20	0.449	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	0.449	<JD20	0.449	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	0.449	<JD20	0.449	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	0.449	<JD20	0.449	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	0.449	<JD20	0.449	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	0.449	<JD20	0.449	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	0.449	<JD20	0.449	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	0.449	<JD20	0.449	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	0.449	<JD20	0.449	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	0.449	<JD20	0.449	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	0.449	<JD20	0.449	UGG
			SILVER	05-SA-01	08/06/1991	05SA0101Y	1.500	0.803	<JS12	0.803	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	0.803	<JS12	0.803	UGG
						05SA0202YD	2.000	0.803	<JS12	0.803	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	0.803	<JS12	0.803	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	0.803	<JS12	0.803	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	0.803	<JS12	0.803	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	0.803	<JS12	0.803	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	0.803	<JS12	0.803	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	0.803	<JS12	0.803	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	0.803	<JS12	0.803	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	0.803	<JS12	0.803	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	0.803	<JS12	0.803	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	0.803	<JS12	0.803	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	0.803	<JS12	0.803	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	0.803	<JS12	0.803	UGG
			THALLIUM	05-SA-01	08/06/1991	05SA0101Y	1.500	34.3	<JS12	34.3	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	34.3	<JS12	34.3	UGG
						05SA0202YD	2.000	34.3	<JS12	34.3	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	34.3	<JS12	34.3	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	34.3	<JS12	34.3	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				05-SA-05	08/07/1991	05SA0501Y	1.000	34.3	<JS12	34.3	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	34.3	<JS12	34.3	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	34.3	<JS12	34.3	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	34.3	<JS12	34.3	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	34.3	<JS12	34.3	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	34.3	<JS12	34.3	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	34.3	<JS12	34.3	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	34.3	<JS12	34.3	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	34.3	<JS12	34.3	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	34.3	<JS12	34.3	UGG
			ZINC	05-SA-01	08/06/1991	05SA0101Y	1.500	358.0	=JS12	2.34	UGG
				05-SA-02	08/06/1991	05SA0201Y	2.000	456.0	=JS12	2.34	UGG
						05SA0202YD	2.000	357.0	=JS12	2.34	UGG
				05-SA-03	08/06/1991	05SA0301Y	2.000	290.0	=JS12	2.34	UGG
				05-SA-04	08/06/1991	05SA0401Y	1.000	113.0	=JS12	2.34	UGG
				05-SA-05	08/07/1991	05SA0501Y	1.000	221.0	=JS12	2.34	UGG
				05-SA-06	08/07/1991	05SA0601Y	4.000	76.5	=JS12	2.34	UGG
				05-SA-07	08/07/1991	05SA0701Y	4.000	57.2	=JS12	2.34	UGG
				05-SA-08	08/07/1991	05SA0801Y	4.000	55.2	=JS12	2.34	UGG
				05-SA-09	08/07/1991	05SA0901Y	1.700	64.9	=JS12	2.34	UGG
				05-SA-11	08/07/1991	05SA1101Y	2.000	55.1	=JS12	2.34	UGG
				05-SA-12	08/07/1991	05SA1201Y	0.500	73.7	=JS12	2.34	UGG
				05-SA-13	08/07/1991	05SA1301Y	1.500	50.0	=JS12	2.34	UGG
				05-SA-14	08/07/1991	05SA1401Y	4.000	68.6	=JS12	2.34	UGG
				05-SA-15	08/07/1991	05SA1501Y	1.000	44.3	=JS12	2.34	UGG
	SW	EXPLOSIVES	1,3,5-TRINITROBENZENE	05-SW-07	08/07/1991	05SW0700Y	0.500	0.56	<UW01	0.56	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	0.56	<UW01	0.56	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	0.56	<UW01	0.56	UGL
			1,3-DINITROBENZENE	05-SW-07	08/07/1991	05SW0700Y	0.500	0.61	<UW01	0.61	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	0.61	<UW01	0.61	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	0.61	<UW01	0.61	UGL
			2,4,6-TNT	05-SW-07	08/07/1991	05SW0700Y	0.500	0.78	<UW01	0.78	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	0.78	<UW01	0.78	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	0.78	<UW01	0.78	UGL
			2,4-DINITROTOLUENE	05-SW-07	08/07/1991	05SW0700Y	0.500	0.6	<UW01	0.6	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	0.6	<UW01	0.6	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	0.6	<UW01	0.6	UGL
			2,6-DINITROTOLUENE	05-SW-07	08/07/1991	05SW0700Y	0.500	0.55	<UW01	0.55	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	0.55	<UW01	0.55	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	0.55	<UW01	0.55	UGL
			HMX	05-SW-07	08/07/1991	05SW0700Y	0.500	1.3	<UW01	1.3	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	4.1	=UW01	1.3	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	91.0	=UW01	1.3	UGL
			NITROBENZENE	05-SW-07	08/07/1991	05SW0700Y	0.500	7.7	=UW01	1.13	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.1	<UW01	1.13	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.1	<UW01	1.13	UGL
			RDX	05-SW-07	08/07/1991	05SW0700Y	0.500	0.63	<UW01	0.63	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	4.0	=UW01	0.63	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	9.3	=UW01	0.63	UGL

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			TETRYL	05-SW-07	08/07/1991	05SW0700Y	0.500	0.66	<UW01	0.66	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	0.66	<UW01	0.66	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	0.66	<UW01	0.66	UGL
		METALS	ANTIMONY	05-SW-07	08/07/1991	05SW0702N	0.500	60.0	<99	60.0	UGL
				05-SW-08	08/08/1991	05SW0801N	0.500	60.0	<99	60.0	UGL
				05-SW-09	08/08/1991	05SW0901N	0.500	60.0	<99	60.0	UGL
			ARSENIC	05-SW-07	08/07/1991	05SW0702Y	0.500	2.35	<AX8	2.35	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	2.35	<AX8	2.35	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	2.35	<AX8	2.35	UGL
			BARIUM	05-SW-07	08/07/1991	05SW0702N	0.500	103.0	=99	0.0	UGL
				05-SW-08	08/08/1991	05SW0801N	0.500	23.4	=99	0.0	UGL
				05-SW-09	08/08/1991	05SW0901N	0.500	43.2	=99	0.0	UGL
			BERYLLIUM	05-SW-07	08/07/1991	05SW0702N	0.500	1.12	<99	1.12	UGL
				05-SW-08	08/08/1991	05SW0801N	0.500	1.12	<99	1.12	UGL
				05-SW-09	08/08/1991	05SW0901N	0.500	1.12	<99	1.12	UGL
			CADMIUM	05-SW-07	08/07/1991	05SW0702N	0.500	6.78	<99	6.78	UGL
				05-SW-08	08/08/1991	05SW0801N	0.500	6.78	<99	6.78	UGL
				05-SW-09	08/08/1991	05SW0901N	0.500	6.78	<99	6.78	UGL
			CHROMIUM	05-SW-07	08/07/1991	05SW0702N	0.500	16.8	<99	16.8	UGL
				05-SW-08	08/08/1991	05SW0801N	0.500	16.8	<99	16.8	UGL
				05-SW-09	08/08/1991	05SW0901N	0.500	16.8	<99	16.8	UGL
			COPPER	05-SW-07	08/07/1991	05SW0702N	0.500	20.1	=99	0.0	UGL
				05-SW-08	08/08/1991	05SW0801N	0.500	18.8	<99	18.8	UGL
				05-SW-09	08/08/1991	05SW0901N	0.500	18.8	<99	18.8	UGL
			LEAD	05-SW-07	08/07/1991	05SW0702Y	0.500	39.7	=SD18	4.47	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	8.68	=SD18	4.47	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	10.9	=SD18	4.47	UGL
			MERCURY	05-SW-07	08/07/1991	05SW0702Y	0.500	0.1	<CC8	0.1	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	0.1	<CC8	0.1	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	0.1	<CC8	0.1	UGL
			NICKEL	05-SW-07	08/07/1991	05SW0702N	0.500	32.1	<99	32.1	UGL
				05-SW-08	08/08/1991	05SW0801N	0.500	32.1	<99	32.1	UGL
				05-SW-09	08/08/1991	05SW0901N	0.500	32.1	<99	32.1	UGL
			SELENIUM	05-SW-07	08/07/1991	05SW0702Y	0.500	2.53	<SD25	2.53	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	2.53	<SD25	2.53	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	2.53	<SD25	2.53	UGL
			SILVER	05-SW-07	08/07/1991	05SW0702N	0.500	10.0	<99	10.0	UGL
				05-SW-08	08/08/1991	05SW0801N	0.500	10.0	<99	10.0	UGL
				05-SW-09	08/08/1991	05SW0901N	0.500	10.0	<99	10.0	UGL
			THALLIUM	05-SW-07	08/07/1991	05SW0702N	0.500	125.0	<99	125.0	UGL
				05-SW-08	08/08/1991	05SW0801N	0.500	125.0	<99	125.0	UGL
				05-SW-09	08/08/1991	05SW0901N	0.500	125.0	<99	125.0	UGL
			ZINC	05-SW-07	08/07/1991	05SW0702N	0.500	58.8	=99	0.0	UGL
				05-SW-08	08/08/1991	05SW0801N	0.500	30.8	=99	0.0	UGL
				05-SW-09	08/08/1991	05SW0901N	0.500	95.0	=99	0.0	UGL
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	05-SW-07	08/07/1991	05SW0702Y	0.500	3.5	<UM21	3.5	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	3.5	<UM21	3.5	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	3.5	<UM21	3.5	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	3.5	<UM21	3.5	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			1,1,1-TRICHLOROETHANE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			1,1,2,2-TETRACHLOROETHANE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.5	<UM21	1.5	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.5	<UM21	1.5	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.5	<UM21	1.5	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.5	<UM21	1.5	UGL
			1,1,2-TRICHLOROETHANE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			1,1-DICHLOROETHANE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			1,1-DICHLOROETHYLENE/1,1-DICHL	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			1,2-DICHLOROETHANE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			1,2-DICHLOROETHENES/1,2-DICHLO	05-SW-07	08/07/1991	05SW0702Y	0.500	5.0	<UM21	5.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	5.0	<UM21	5.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	5.0	<UM21	5.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	5.0	<UM21	5.0	UGL
			1,2-DICHLOROPROPANE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			1,3-DICHLOROBENZENE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			1,3-DICLOROPROPANE	05-SW-07	08/07/1991	05SW0702Y	0.500	4.8	<UM21	4.8	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	4.8	<UM21	4.8	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	4.8	<UM21	4.8	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	4.8	<UM21	4.8	UGL
			1,3-DIMETHYLBENZENE/M-XYLENE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			ACETIC ACID, VINYL ESTER/VINYL	05-SW-07	08/07/1991	05SW0702NR	0.500	10.0	*UM21	10.0	UGL
				05-SW-08	08/08/1991	05SW0801NR	0.500	10.0	*UM21	10.0	UGL
				05-SW-09	08/08/1991	05SW0901NR	0.500	10.0	*UM21	10.0	UGL
				05-SW-17	08/08/1991	05SW1701NR	0.500	10.0	*UM21	10.0	UGL
			ACETONE	05-SW-07	08/07/1991	05SW0702Y	0.500	8.0	<UM21	8.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				05-SW-08	08/08/1991	05SW0801Y	0.500	8.0	<UM21	8.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	8.0	<UM21	8.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	8.0	<UM21	8.0	UGL
			ACRYLONITRILE	05-SW-07	08/07/1991	05SW0702Y	0.500	8.4	<UM21	8.4	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	8.4	<UM21	8.4	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	8.4	<UM21	8.4	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	8.4	<UM21	8.4	UGL
			BENZENE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			BROMODICHLOROMETHANE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			BROMOFORM	05-SW-07	08/07/1991	05SW0702Y	0.500	11.0	<UM21	11.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	11.0	<UM21	11.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	11.0	<UM21	11.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	11.0	<UM21	11.0	UGL
			BROMOMETHANE	05-SW-07	08/07/1991	05SW0702Y	0.500	14.0	<UM21	14.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	14.0	<UM21	14.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	14.0	<UM21	14.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	14.0	<UM21	14.0	UGL
			CARBON DISULFIDE	05-SW-07	08/07/1991	05SW0702NR	0.500	5.0	*UM21	5.0	UGL
				05-SW-08	08/08/1991	05SW0801NR	0.500	5.0	*UM21	5.0	UGL
				05-SW-09	08/08/1991	05SW0901NR	0.500	5.0	*UM21	5.0	UGL
				05-SW-17	08/08/1991	05SW1701NR	0.500	5.0	*UM21	5.0	UGL
			CARBON TETRACHLORIDE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.65	=UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			CHLORFORM	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			CHLOROBENZENE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			CHLOROETHANE	05-SW-07	08/07/1991	05SW0702Y	0.500	8.0	<UM21	8.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	8.0	<UM21	8.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	8.0	<UM21	8.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	8.0	<UM21	8.0	UGL
			CHLOROETHANE/VINYL CHLORIDE	05-SW-07	08/07/1991	05SW0702Y	0.500	12.0	<UM21	12.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	12.0	<UM21	12.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	12.0	<UM21	12.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	12.0	<UM21	12.0	UGL
			CHLOROMETHANE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.2	<UM21	1.2	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.2	<UM21	1.2	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.2	<UM21	1.2	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.2	<UM21	1.2	UGL
			CIS-1,3-DICHLOROPROPYLENE/CIS-	05-SW-07	08/07/1991	05SW0702NR	0.500	5.0	*UM21	5.0	UGL
				05-SW-08	08/08/1991	05SW0801NR	0.500	5.0	*UM21	5.0	UGL
				05-SW-09	08/08/1991	05SW0901NR	0.500	5.0	*UM21	5.0	UGL
				05-SW-17	08/08/1991	05SW1701NR	0.500	5.0	*UM21	5.0	UGL
			DIBROMOCHLOROMETHANE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			DICHLOROBENZENE - NONSPECIFIC	05-SW-07	08/07/1991	05SW0702Y	0.500	2.0	<UM21	2.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	2.0	<UM21	2.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	2.0	<UM21	2.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	2.0	<UM21	2.0	UGL
			ETHYLBENZENE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			METHYL-N-BUTYL KETONE/2-HEXANO	05-SW-07	08/07/1991	05SW0702NR	0.500	10.0	*UM21	10.0	UGL
				05-SW-08	08/08/1991	05SW0801NR	0.500	10.0	*UM21	10.0	UGL
				05-SW-09	08/08/1991	05SW0901NR	0.500	10.0	*UM21	10.0	UGL
				05-SW-17	08/08/1991	05SW1701NR	0.500	10.0	*UM21	10.0	UGL
			METHYLENE CHLORIDE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			METHYLETHYL PHENOL/METHYLETHYL	05-SW-07	08/07/1991	05SW0702Y	0.500	10.0	<UM21	10.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	10.0	<UM21	10.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	10.0	<UM21	10.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	10.0	<UM21	10.0	UGL
			METHYLISOBUTYL KETONE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.4	<UM21	1.4	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.4	<UM21	1.4	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.4	<UM21	1.4	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.4	<UM21	1.4	UGL
			STYRENE	05-SW-07	08/07/1991	05SW0702NR	0.500	5.0	*UM21	5.0	UGL
				05-SW-08	08/08/1991	05SW0801NR	0.500	5.0	*UM21	5.0	UGL
				05-SW-09	08/08/1991	05SW0901NR	0.500	5.0	*UM21	5.0	UGL
				05-SW-17	08/08/1991	05SW1701NR	0.500	5.0	*UM21	5.0	UGL
			TETRACHLOROETHYLENE/TETRACHLOR	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			TOLUENE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			TRANS-1,3-DICHLOROPROPENE	05-SW-07	08/07/1991	05SW0702NR	0.500	5.0	*UM21	5.0	UGL
				05-SW-08	08/08/1991	05SW0801NR	0.500	5.0	*UM21	5.0	UGL
				05-SW-09	08/08/1991	05SW0901NR	0.500	5.0	*UM21	5.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				05-SW-17	08/08/1991	05SW1701NR	0.500	5.0	*UM21	5.0	UGL
			TRICHLOROETHYLENE/TRICHLOROETH	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			TRICHLOROFLUOROMETHANE	05-SW-07	08/07/1991	05SW0702Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	1.0	<UM21	1.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	1.0	<UM21	1.0	UGL
			XYLENES	05-SW-07	08/07/1991	05SW0702Y	0.500	2.0	<UM21	2.0	UGL
				05-SW-08	08/08/1991	05SW0801Y	0.500	2.0	<UM21	2.0	UGL
				05-SW-09	08/08/1991	05SW0901Y	0.500	2.0	<UM21	2.0	UGL
				05-SW-17	08/08/1991	05SW1701Y	0.500	2.0	<UM21	2.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP06	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	06-SA-01	08/12/1991	06SA0101Y	0.500	2.1	<LW02	2.09	UGG
				06-SA-02	08/08/1991	06SA0201YP	1.000	0.36	=LW02	2.09	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	2.1	<LW02	2.09	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	2.1	<LW02	2.09	UGG
				06-SA-05	08/12/1991	06SA0501YP	1.000	0.46	=LW02	2.09	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	2.1	<LW02	2.09	UGG
						06SA0602Y	3.000	2.1	<LW02	2.09	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	2.1	<LW02	2.09	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	2.1	<LW02	2.09	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	2.1	<LW02	2.09	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	2.1	<LW02	2.09	UGG
						06SA1002Y	1.000	2.1	<LW02	2.09	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	2.1	<LW02	2.09	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	2.1	<LW02	2.09	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	2.1	<LW02	2.09	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	2.1	<LW02	2.09	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	2.1	<LW02	2.09	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	2.1	<LW02	2.09	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	2.1	<LW02	2.09	UGG
				06-SA-19	08/12/1991	06SA1901YP	1.000	1.5	=LW02	2.09	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.59	<LW02	0.59	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	0.59	<LW02	0.59	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	0.59	<LW02	0.59	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	0.59	<LW02	0.59	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.59	<LW02	0.59	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	0.59	<LW02	0.59	UGG
						06SA0602Y	3.000	0.59	<LW02	0.59	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	0.59	<LW02	0.59	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	0.59	<LW02	0.59	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	0.59	<LW02	0.59	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	0.59	<LW02	0.59	UGG
						06SA1002Y	1.000	0.59	<LW02	0.59	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.59	<LW02	0.59	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	0.59	<LW02	0.59	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	0.59	<LW02	0.59	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	0.59	<LW02	0.59	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	0.59	<LW02	0.59	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	0.59	<LW02	0.59	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.59	<LW02	0.59	UGG
				06-SA-19	08/12/1991	06SA1901YP	1.000	0.35	=LW02	0.59	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.59	<LW02	0.59	UGG
			2,4,6-TNT	06-SA-01	08/12/1991	06SA0101Y	0.500	6.4	=LW02	1.92	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	1,700.0	=LW02	1.92	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	3.1	=LW02	1.92	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	1.9	<LW02	1.92	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	13.0	=LW02	1.92	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	1.9	<LW02	1.92	UGG
						06SA0602Y	3.000	1.9	<LW02	1.92	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				06-SA-07	08/12/1991	06SA0701Y	1.000	1.9	<LW02	1.92	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	1.9	<LW02	1.92	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	1.9	<LW02	1.92	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	1.9	<LW02	1.92	UGG
						06SA1002Y	1.000	1.9	<LW02	1.92	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	1.9	<LW02	1.92	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	1.9	<LW02	1.92	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	1.9	<LW02	1.92	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	1.9	<LW02	1.92	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	1.9	<LW02	1.92	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	1.9	<LW02	1.92	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	1.9	<LW02	1.92	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	2,500.0	=LW02	1.92	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	370.0	=LW02	1.92	UGG
			2,4-DINITROTOLUENE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.42	<LW02	0.42	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	1.7	=LW02	0.42	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	0.42	<LW02	0.42	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	0.42	<LW02	0.42	UGG
						06SA0602Y	3.000	0.42	<LW02	0.42	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	0.42	<LW02	0.42	UGG
						06SA1002Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	0.42	<LW02	0.42	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	1.5	=LW02	0.42	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.4	<LW02	0.4	UGG
				06-SA-02	08/08/1991	06SA0201YG	1.000	3.7	<LW02	0.4	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	0.4	<LW02	0.4	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	0.4	<LW02	0.4	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.4	<LW02	0.4	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	0.4	<LW02	0.4	UGG
						06SA0602Y	3.000	0.4	<LW02	0.4	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	0.4	<LW02	0.4	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	0.4	<LW02	0.4	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	0.4	<LW02	0.4	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	0.4	<LW02	0.4	UGG
						06SA1002Y	1.000	0.4	<LW02	0.4	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.4	<LW02	0.4	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	0.4	<LW02	0.4	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				06-SA-13	08/08/1991	06SA1301Y	1.000	0.4	<LW02	0.4	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	0.4	<LW02	0.4	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	0.4	<LW02	0.4	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	0.4	<LW02	0.4	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.4	<LW02	0.4	UGG
				06-SA-19	08/12/1991	06SA1901YG	1.000	3.3	<LW02	0.4	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.4	<LW02	0.4	UGG
			HMX	06-SA-01	08/12/1991	06SA0101Y	0.500	1.3	<LW02	1.27	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	1.3	<LW02	1.27	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	1.3	<LW02	1.27	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	1.3	<LW02	1.27	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	1.3	<LW02	1.27	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	1.3	<LW02	1.27	UGG
						06SA0602Y	3.000	1.3	<LW02	1.27	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	1.3	<LW02	1.27	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	1.3	<LW02	1.27	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	120.0	=LW02	1.27	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	17.0	=LW02	1.27	UGG
						06SA1002Y	1.000	29.0	=LW02	1.27	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	1.3	<LW02	1.27	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	1.3	<LW02	1.27	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	1.3	<LW02	1.27	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	1.3	<LW02	1.27	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	1.3	<LW02	1.27	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	1.3	<LW02	1.27	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	1.3	<LW02	1.27	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	1.5	=LW02	1.27	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	1.3	<LW02	1.27	UGG
			NITROBENZENE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.42	<LW02	0.42	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	0.42	<LW02	0.42	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	0.42	<LW02	0.42	UGG
						06SA0602Y	3.000	0.42	<LW02	0.42	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	0.42	<LW02	0.42	UGG
						06SA1002Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	0.42	<LW02	0.42	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.42	<LW02	0.42	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	3.5	=LW02	0.42	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.42	<LW02	0.42	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			RDX	06-SA-01	08/12/1991	06SA0101Y	0.500	0.98	<LW02	0.98	UGG
				06-SA-02	08/08/1991	06SA0201YP	1.000	0.68	=LW02	0.98	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	0.98	<LW02	0.98	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	0.98	<LW02	0.98	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.98	<LW02	0.98	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	0.98	<LW02	0.98	UGG
						06SA0602Y	3.000	0.98	<LW02	0.98	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	0.98	<LW02	0.98	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	0.98	<LW02	0.98	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	1.6	=LW02	0.98	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	4.8	=LW02	0.98	UGG
						06SA1002Y	1.000	5.3	=LW02	0.98	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.98	<LW02	0.98	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	0.98	<LW02	0.98	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	0.98	<LW02	0.98	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	0.98	<LW02	0.98	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	0.98	<LW02	0.98	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	0.98	<LW02	0.98	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.98	<LW02	0.98	UGG
				06-SA-19	08/12/1991	06SA1901YP	1.000	0.59	=LW02	0.98	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.98	<LW02	0.98	UGG
			TETRYL	06-SA-01	08/12/1991	06SA0101Y	0.500	0.25	<LW02	0.25	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	0.25	<LW02	0.25	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	0.25	<LW02	0.25	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	0.25	<LW02	0.25	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.25	<LW02	0.25	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	0.25	<LW02	0.25	UGG
						06SA0602Y	3.000	0.25	<LW02	0.25	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	0.25	<LW02	0.25	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	0.25	<LW02	0.25	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	0.25	<LW02	0.25	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	0.25	<LW02	0.25	UGG
						06SA1002Y	1.000	0.25	<LW02	0.25	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.25	<LW02	0.25	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	0.25	<LW02	0.25	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	0.25	<LW02	0.25	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	0.25	<LW02	0.25	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	0.25	<LW02	0.25	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	0.25	<LW02	0.25	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.25	<LW02	0.25	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	0.25	<LW02	0.25	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	06-SA-01	08/12/1991	06SA0101Y	0.500	19.6	<JS12	19.6	UGG
				06-SA-02	08/08/1991	06SA0201N	1.000	19.6	<99	19.6	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	19.6	<JS12	19.6	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	19.6	<JS12	19.6	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	19.6	<JS12	19.6	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	19.6	<JS12	19.6	UGG
						06SA0602Y	3.000	19.6	<JS12	19.6	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				06-SA-07	08/12/1991	06SA0701Y	1.000	19.6	<JS12	19.6	UGG
				06-SA-08	08/08/1991	06SA0801N	1.000	19.6	<99	19.6	UGG
				06-SA-09	08/08/1991	06SA0901N	1.000	19.6	<99	19.6	UGG
				06-SA-10	08/08/1991	06SA1001N	1.000	19.6	<99	19.6	UGG
						06SA1002N	1.000	19.6	<99	19.6	UGG
				06-SA-11	08/08/1991	06SA1101N	1.000	19.6	<99	19.6	UGG
				06-SA-12	08/08/1991	06SA1201N	1.000	19.6	<99	19.6	UGG
				06-SA-13	08/08/1991	06SA1301N	1.000	19.6	<99	19.6	UGG
				06-SA-14	08/08/1991	06SA1401N	1.000	19.6	<99	19.6	UGG
				06-SA-15	08/08/1991	06SA1501N	0.600	19.6	<99	19.6	UGG
				06-SA-16	08/08/1991	06SA1601N	1.000	19.6	<99	19.6	UGG
				06-SA-17	08/08/1991	06SA1701N	1.000	19.6	<99	19.6	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	19.6	<JS12	19.6	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	06-SA-01	08/12/1991	06SA0101Y	0.500	3.2	=B9	2.5	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	6.06	=B9	2.5	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	3.63	=B9	2.5	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	12.3	=B9	2.5	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	3.31	=B9	2.5	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	6.19	=B9	2.5	UGG
						06SA0602Y	3.000	9.29	=B9	2.5	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	5.42	=B9	2.5	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	5.9	=B9	2.5	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	6.44	=B9	2.5	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	3.69	=B9	2.5	UGG
						06SA1002YD	1.000	3.43	=B9	2.5	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	3.88	=B9	2.5	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	5.27	=B9	2.5	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	4.89	=B9	2.5	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	5.39	=B9	2.5	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	6.04	=B9	2.5	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	2.5	<B9	2.5	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	10.6	=B9	2.5	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	4.85	=B9	2.5	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	7.95	=B9	2.5	UGG
			BARIUM	06-SA-01	08/12/1991	06SA0101Y	0.500	418.0	=JS12	3.29	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	276.0	=JS12	3.29	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	338.0	=JS12	3.29	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	356.0	=JS12	3.29	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	224.0	=JS12	3.29	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	171.0	=JS12	3.29	UGG
						06SA0602Y	3.000	263.0	=JS12	3.29	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	347.0	=JS12	3.29	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	345.0	=JS12	3.29	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	402.0	=JS12	3.29	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	309.0	=JS12	3.29	UGG
						06SA1002Y	1.000	373.0	=JS12	3.29	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	300.0	=JS12	3.29	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	216.0	=JS12	3.29	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				06-SA-13	08/08/1991	06SA1301Y	1.000	294.0	=JS12	3.29	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	261.0	=JS12	3.29	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	151.0	=JS12	3.29	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	197.0	=JS12	3.29	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	317.0	=JS12	3.29	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	422.0	=JS12	3.29	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	271.0	=JS12	3.29	UGG
			BERYLLIUM	06-SA-01	08/12/1991	06SA0101Y	0.500	2.6	=JS12	0.427	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	0.762	=JS12	0.427	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	0.762	=JS12	0.427	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	1.42	=JS12	0.427	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	2.09	=JS12	0.427	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	0.762	=JS12	0.427	UGG
						06SA0602Y	3.000	1.16	=JS12	0.427	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	0.969	=JS12	0.427	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	0.932	=JS12	0.427	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	0.9	=JS12	0.427	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	0.961	=JS12	0.427	UGG
						06SA1002Y	1.000	0.924	=JS12	0.427	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.887	=JS12	0.427	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	0.784	=JS12	0.427	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	1.04	=JS12	0.427	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	0.985	=JS12	0.427	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	0.932	=JS12	0.427	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	1.05	=JS12	0.427	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.889	=JS12	0.427	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	0.901	=JS12	0.427	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	1.15	=JS12	0.427	UGG
			CADMIUM	06-SA-01	08/12/1991	06SA0101Y	0.500	1.2	<JS12	1.2	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	1.2	<JS12	1.2	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	1.2	<JS12	1.2	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	1.2	<JS12	1.2	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	2.32	=JS12	1.2	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	3.78	=JS12	1.2	UGG
						06SA0602Y	3.000	1.2	<JS12	1.2	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	1.2	<JS12	1.2	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	1.2	<JS12	1.2	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	1.2	<JS12	1.2	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	1.2	<JS12	1.2	UGG
						06SA1002Y	1.000	1.2	<JS12	1.2	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	1.2	<JS12	1.2	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	1.2	<JS12	1.2	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	32.1	=JS12	1.2	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	1.2	<JS12	1.2	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	6.53	=JS12	1.2	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	2.28	=JS12	1.2	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	1.2	<JS12	1.2	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	1.2	<JS12	1.2	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	1.2	<JS12	1.2	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			CHROMIUM	06-SA-01	08/12/1991	06SA0101Y	0.500	22.5	=JS12	1.04	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	25.4	=JS12	1.04	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	20.4	=JS12	1.04	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	34.7	=JS12	1.04	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	18.6	=JS12	1.04	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	25.7	=JS12	1.04	UGG
						06SA0602Y	3.000	21.8	=JS12	1.04	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	26.5	=JS12	1.04	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	33.6	=JS12	1.04	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	34.6	=JS12	1.04	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	33.9	=JS12	1.04	UGG
						06SA1002Y	1.000	33.0	=JS12	1.04	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	34.8	=JS12	1.04	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	36.0	=JS12	1.04	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	48.5	=JS12	1.04	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	35.0	=JS12	1.04	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	44.0	=JS12	1.04	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	44.9	=JS12	1.04	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	31.4	=JS12	1.04	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	23.6	=JS12	1.04	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	31.5	=JS12	1.04	UGG
			COPPER	06-SA-01	08/12/1991	06SA0101Y	0.500	13.5	=JS12	2.84	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	12.2	=JS12	2.84	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	20.9	=JS12	2.84	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	21.3	=JS12	2.84	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	15.7	=JS12	2.84	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	65.7	=JS12	2.84	UGG
						06SA0602Y	3.000	16.2	=JS12	2.84	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	22.1	=JS12	2.84	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	23.3	=JS12	2.84	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	20.4	=JS12	2.84	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	18.5	=JS12	2.84	UGG
						06SA1002Y	1.000	21.6	=JS12	2.84	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	19.2	=JS12	2.84	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	25.0	=JS12	2.84	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	40.1	=JS12	2.84	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	21.8	=JS12	2.84	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	53.0	=JS12	2.84	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	32.1	=JS12	2.84	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	19.3	=JS12	2.84	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	18.7	=JS12	2.84	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	18.8	=JS12	2.84	UGG
			LEAD	06-SA-01	08/12/1991	06SA0101Y	0.500	27.0	=JD21	0.467	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	17.0	=JD21	0.467	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	68.0	=JD21	0.467	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	25.0	=JD21	0.467	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	23.0	=JD21	0.467	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	370.0	=JD21	0.467	UGG
						06SA0602Y	3.000	32.0	=JD21	0.467	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				06-SA-07	08/12/1991	06SA0701Y	1.000	30.0	=JD21	0.467	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	18.0	=JD21	0.467	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	51.0	=JD21	0.467	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	15.0	=JD21	0.467	UGG
						06SA1002YD	1.000	32.0	=JD21	0.467	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	11.0	=JD21	0.467	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	16.0	=JD21	0.467	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	220.0	=JD21	0.467	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	83.0	=JD21	0.467	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	320.0	=JD21	0.467	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	4.7	<JD21	0.467	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	28.0	=JD21	0.467	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	45.0	=JD21	0.467	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	32.0	=JD21	0.467	UGG
			MERCURY	06-SA-01	08/12/1991	06SA0101Y	0.500	0.05	<Y9	0.05	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	0.05	<Y9	0.05	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	0.103	=Y9	0.05	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	0.077	=Y9	0.05	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.058	=Y9	0.05	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	0.751	=Y9	0.05	UGG
						06SA0602Y	3.000	0.063	=Y9	0.05	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	0.074	=Y9	0.05	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	0.05	<Y9	0.05	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	0.072	=Y9	0.05	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	0.05	<Y9	0.05	UGG
						06SA1002YD	1.000	0.061	=Y9	0.05	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.05	<Y9	0.05	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	0.05	<Y9	0.05	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	0.155	=Y9	0.05	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	0.067	=Y9	0.05	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	0.173	=Y9	0.05	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	0.108	=Y9	0.05	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.05	<Y9	0.05	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	0.061	=Y9	0.05	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.05	<Y9	0.05	UGG
			NICKEL	06-SA-01	08/12/1991	06SA0101Y	0.500	38.1	=JS12	2.74	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	12.8	=JS12	2.74	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	21.7	=JS12	2.74	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	34.8	=JS12	2.74	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	9.91	=JS12	2.74	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	17.1	=JS12	2.74	UGG
						06SA0602Y	3.000	20.6	=JS12	2.74	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	16.9	=JS12	2.74	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	21.7	=JS12	2.74	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	31.9	=JS12	2.74	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	15.7	=JS12	2.74	UGG
						06SA1002Y	1.000	15.6	=JS12	2.74	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	13.1	=JS12	2.74	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	26.4	=JS12	2.74	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				06-SA-13	08/08/1991	06SA1301Y	1.000	23.3	=JS12	2.74	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	18.2	=JS12	2.74	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	26.4	=JS12	2.74	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	21.2	=JS12	2.74	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	18.0	=JS12	2.74	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	18.5	=JS12	2.74	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	20.8	=JS12	2.74	UGG
			SELENIUM	06-SA-01	08/12/1991	06SA0101Y	0.500	0.762	=JD20	0.449	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	0.801	=JD20	0.449	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	0.449	<JD20	0.449	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	0.449	<JD20	0.449	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.449	<JD20	0.449	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	0.62	=JD20	0.449	UGG
						06SA0602Y	3.000	1.06	=JD20	0.449	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	0.449	<JD20	0.449	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	0.449	<JD20	0.449	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	0.449	<JD20	0.449	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	0.669	=JD20	0.449	UGG
						06SA1002YD	1.000	0.756	=JD20	0.449	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.449	<JD20	0.449	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	0.449	<JD20	0.449	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	0.449	<JD20	0.449	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	0.449	<JD20	0.449	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	0.449	<JD20	0.449	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	0.449	<JD20	0.449	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.449	<JD20	0.449	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	0.449	<JD20	0.449	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.449	<JD20	0.449	UGG
			SILVER	06-SA-01	08/12/1991	06SA0101Y	0.500	0.803	<JS12	0.803	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	0.803	<JS12	0.803	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	0.803	<JS12	0.803	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	0.803	<JS12	0.803	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.803	<JS12	0.803	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	0.803	<JS12	0.803	UGG
						06SA0602Y	3.000	0.803	<JS12	0.803	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	0.803	<JS12	0.803	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	0.803	<JS12	0.803	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	0.803	<JS12	0.803	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	0.803	<JS12	0.803	UGG
						06SA1002Y	1.000	0.803	<JS12	0.803	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.803	<JS12	0.803	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	0.803	<JS12	0.803	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	0.803	<JS12	0.803	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	0.803	<JS12	0.803	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	0.803	<JS12	0.803	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	0.803	<JS12	0.803	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.803	<JS12	0.803	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	0.803	<JS12	0.803	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.803	<JS12	0.803	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			THALLIUM	06-SA-01	08/12/1991	06SA0101Y	0.500	34.3	<JS12	34.3	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	34.3	<JS12	34.3	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	34.3	<JS12	34.3	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	34.3	<JS12	34.3	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	34.3	<JS12	34.3	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	34.3	<JS12	34.3	UGG
						06SA0602Y	3.000	34.3	<JS12	34.3	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	34.3	<JS12	34.3	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	34.3	<JS12	34.3	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	34.3	<JS12	34.3	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	34.3	<JS12	34.3	UGG
						06SA1002Y	1.000	34.3	<JS12	34.3	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	34.3	<JS12	34.3	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	34.3	<JS12	34.3	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	34.3	<JS12	34.3	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	34.3	<JS12	34.3	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	34.3	<JS12	34.3	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	34.3	<JS12	34.3	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	34.3	<JS12	34.3	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	34.3	<JS12	34.3	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	34.3	<JS12	34.3	UGG
			ZINC	06-SA-01	08/12/1991	06SA0101Y	0.500	60.2	=JS12	2.34	UGG
				06-SA-02	08/08/1991	06SA0201Y	1.000	51.1	=JS12	2.34	UGG
				06-SA-03	08/12/1991	06SA0301Y	1.000	169.0	=JS12	2.34	UGG
				06-SA-04	08/12/1991	06SA0401Y	1.500	118.0	=JS12	2.34	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	217.0	=JS12	2.34	UGG
				06-SA-06	08/12/1991	06SA0601Y	0.500	783.0	=JS12	2.34	UGG
						06SA0602Y	3.000	64.0	=JS12	2.34	UGG
				06-SA-07	08/12/1991	06SA0701Y	1.000	187.0	=JS12	2.34	UGG
				06-SA-08	08/08/1991	06SA0801Y	1.000	76.6	=JS12	2.34	UGG
				06-SA-09	08/08/1991	06SA0901Y	1.000	92.9	=JS12	2.34	UGG
				06-SA-10	08/08/1991	06SA1001Y	1.000	75.0	=JS12	2.34	UGG
						06SA1002Y	1.000	102.0	=JS12	2.34	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	71.1	=JS12	2.34	UGG
				06-SA-12	08/08/1991	06SA1201Y	1.000	80.6	=JS12	2.34	UGG
				06-SA-13	08/08/1991	06SA1301Y	1.000	391.0	=JS12	2.34	UGG
				06-SA-14	08/08/1991	06SA1401Y	1.000	276.0	=JS12	2.34	UGG
				06-SA-15	08/08/1991	06SA1501Y	0.600	1,360.0	=JS12	2.34	UGG
				06-SA-16	08/08/1991	06SA1601Y	1.000	588.0	=JS12	2.34	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	69.7	=JS12	2.34	UGG
				06-SA-19	08/12/1991	06SA1901Y	1.000	88.8	=JS12	2.34	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	74.9	=JS12	2.34	UGG
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	06-SA-01	08/12/1991	06SA0101Y	0.500	0.5	<LM23	0.5	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.5	<LM23	0.5	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.5	<LM23	0.5	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.5	<LM23	0.5	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.5	<LM23	0.5	UGG
			1,1,1-TRICHLOROETHANE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.2	<LM23	0.2	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.2	<LM23	0.2	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.2	<LM23	0.2	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.2	<LM23	0.2	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2,2-TETRACHLOROETHANE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.2	<LM23	0.2	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.2	<LM23	0.2	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.2	<LM23	0.2	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.2	<LM23	0.2	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2-TRICHLOROETHANE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.33	<LM23	0.33	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.33	<LM23	0.33	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.33	<LM23	0.33	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.33	<LM23	0.33	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.33	<LM23	0.33	UGG
			1,1-DICHLOROETHANE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.49	<LM23	0.49	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.49	<LM23	0.49	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.49	<LM23	0.49	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.49	<LM23	0.49	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.49	<LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	06-SA-01	08/12/1991	06SA0101Y	0.500	0.27	<LM23	0.27	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.27	<LM23	0.27	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.27	<LM23	0.27	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.27	<LM23	0.27	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.27	<LM23	0.27	UGG
			1,2-DICHLOROETHANE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.32	<LM23	0.32	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.32	<LM23	0.32	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.32	<LM23	0.32	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.32	<LM23	0.32	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	06-SA-01	08/12/1991	06SA0101Y	0.500	0.32	<LM23	0.32	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.32	<LM23	0.32	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.32	<LM23	0.32	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.32	<LM23	0.32	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROPROPANE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.53	<LM23	0.53	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.53	<LM23	0.53	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.53	<LM23	0.53	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.53	<LM23	0.53	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.53	<LM23	0.53	UGG
			1,3-DICHLOROBENZENE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.14	<LM23	0.14	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.14	<LM23	0.14	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.14	<LM23	0.14	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.14	<LM23	0.14	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.14	<LM23	0.14	UGG
			1,3-DICLOROPROPANE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.2	<LM23	0.2	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.2	<LM23	0.2	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.2	<LM23	0.2	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.2	<LM23	0.2	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.2	<LM23	0.2	UGG
			1,3-DIMETHYLBENZENE/M-XYLENE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.23	<LM23	0.23	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.23	<LM23	0.23	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.23	<LM23	0.23	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.23	<LM23	0.23	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.23	<LM23	0.23	UGG
			ACETIC ACID, VINYL ESTER/VINYL	06-SA-01	08/12/1991	06SA0101NR	0.500	1.0	*LM23	1.0	UGG
				06-SA-05	08/12/1991	06SA0501NR	1.000	1.0	*LM23	1.0	UGG
				06-SA-11	08/08/1991	06SA1101NR	1.000	1.0	*LM23	1.0	UGG
				06-SA-17	08/08/1991	06SA1701NR	1.000	1.0	*LM23	1.0	UGG
				06-SS-18	08/12/1991	06SS1801NR	0.500	1.0	*LM23	1.0	UGG
			ACETONE	06-SA-01	08/12/1991	06SA0101Y	0.500	3.3	<LM23	3.3	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	3.3	<LM23	3.3	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	3.3	<LM23	3.3	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	3.3	<LM23	3.3	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	3.3	<LM23	3.3	UGG
			ACRYLONITRILE	06-SA-01	08/12/1991	06SA0101Y	0.500	2.0	<LM23	2.0	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	2.0	<LM23	2.0	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	2.0	<LM23	2.0	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	2.0	<LM23	2.0	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	2.0	<LM23	2.0	UGG
			BENZENE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.1	<LM23	0.1	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.1	<LM23	0.1	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.1	<LM23	0.1	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.1	<LM23	0.1	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.1	<LM23	0.1	UGG
			BROMODICHLOROMETHANE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.2	<LM23	0.2	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.2	<LM23	0.2	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.2	<LM23	0.2	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.2	<LM23	0.2	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.2	<LM23	0.2	UGG
			BROMOFORM	06-SA-01	08/12/1991	06SA0101Y	0.500	0.2	<LM23	0.2	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.2	<LM23	0.2	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.2	<LM23	0.2	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.2	<LM23	0.2	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.2	<LM23	0.2	UGG
			BROMOMETHANE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.26	<LM23	0.26	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.26	<LM23	0.26	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.26	<LM23	0.26	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.26	<LM23	0.26	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.26	<LM23	0.26	UGG
			CARBON DISULFIDE	06-SA-01	08/12/1991	06SA0101NR	0.500	0.6	*LM23	0.6	UGG
				06-SA-05	08/12/1991	06SA0501NR	1.000	0.6	*LM23	0.6	UGG
				06-SA-11	08/08/1991	06SA1101NR	1.000	0.6	*LM23	0.6	UGG
				06-SA-17	08/08/1991	06SA1701NR	1.000	0.6	*LM23	0.6	UGG
				06-SS-18	08/12/1991	06SS1801NR	0.500	0.6	*LM23	0.6	UGG
			CARBON TETRACHLORIDE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.31	<LM23	0.31	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.31	<LM23	0.31	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.31	<LM23	0.31	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.31	<LM23	0.31	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.31	<LM23	0.31	UGG

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			CHLORFORM	06-SA-01	08/12/1991	06SA0101Y	0.500	0.24	<LM23	0.24	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.24	<LM23	0.24	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.24	<LM23	0.24	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.24	<LM23	0.24	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.24	<LM23	0.24	UGG
			CHLOROBENZENE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.1	<LM23	0.1	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.1	<LM23	0.1	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.1	<LM23	0.1	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.1	<LM23	0.1	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.1	<LM23	0.1	UGG
			CHLOROETHANE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.64	<LM23	0.64	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.64	<LM23	0.64	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.64	<LM23	0.64	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.64	<LM23	0.64	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.64	<LM23	0.64	UGG
			CHLOROETHANE/VINYL CHLORIDE	06-SA-01	08/12/1991	06SA0101Y	0.500	1.8	<LM23	1.8	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	1.8	<LM23	1.8	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	1.8	<LM23	1.8	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	1.8	<LM23	1.8	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	1.8	<LM23	1.8	UGG
			CHLOROMETHANE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.96	<LM23	0.96	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.96	<LM23	0.96	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.96	<LM23	0.96	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.96	<LM23	0.96	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.96	<LM23	0.96	UGG
			CIS-1,3-DICHLOROPROPYLENE/CIS-	06-SA-01	08/12/1991	06SA0101NR	0.500	0.6	*LM23	0.6	UGG
				06-SA-05	08/12/1991	06SA0501NR	1.000	0.6	*LM23	0.6	UGG
				06-SA-11	08/08/1991	06SA1101NR	1.000	0.6	*LM23	0.6	UGG
				06-SA-17	08/08/1991	06SA1701NR	1.000	0.6	*LM23	0.6	UGG
				06-SS-18	08/12/1991	06SS1801NR	0.500	0.6	*LM23	0.6	UGG
			DIBROMOCHLOROMETHANE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.25	<LM23	0.25	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.25	<LM23	0.25	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.25	<LM23	0.25	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.25	<LM23	0.25	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.25	<LM23	0.25	UGG
			DICHLOROBENZENE - NONSPECIFIC	06-SA-01	08/12/1991	06SA0101Y	0.500	0.2	<LM23	0.2	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.2	<LM23	0.2	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.2	<LM23	0.2	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.2	<LM23	0.2	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.2	<LM23	0.2	UGG
			ETHYLBENZENE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.19	<LM23	0.19	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.19	<LM23	0.19	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.19	<LM23	0.19	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.19	<LM23	0.19	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.19	<LM23	0.19	UGG
			METHYL-N-BUTYL KETONE/2-HEXANO	06-SA-01	08/12/1991	06SA0101NR	0.500	1.0	*LM23	1.0	UGG
				06-SA-05	08/12/1991	06SA0501NR	1.000	1.0	*LM23	1.0	UGG
				06-SA-11	08/08/1991	06SA1101NR	1.000	1.0	*LM23	1.0	UGG
				06-SA-17	08/08/1991	06SA1701NR	1.000	1.0	*LM23	1.0	UGG

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				06-SS-18	08/12/1991	06SS1801NR	0.500	1.0	*LM23	1.0	UGG
			METHYLENE CHLORIDE	06-SA-01	08/12/1991	06SA0101Y	0.500	4.4	<LM23	4.4	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	4.4	<LM23	4.4	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	4.4	<LM23	4.4	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	4.4	<LM23	4.4	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	4.4	<LM23	4.4	UGG
			METHYLETHYL PHENOL/METHYLETHYL	06-SA-01	08/12/1991	06SA0101Y	0.500	4.3	<LM23	4.3	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	4.3	<LM23	4.3	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	4.3	<LM23	4.3	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	4.3	<LM23	4.3	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	4.3	<LM23	4.3	UGG
			METHYLISOBUTYL KETONE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.63	<LM23	0.63	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.63	<LM23	0.63	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.63	<LM23	0.63	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.63	<LM23	0.63	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.63	<LM23	0.63	UGG
			STYRENE	06-SA-01	08/12/1991	06SA0101NR	0.500	0.6	*LM23	0.6	UGG
				06-SA-05	08/12/1991	06SA0501NR	1.000	0.6	*LM23	0.6	UGG
				06-SA-11	08/08/1991	06SA1101NR	1.000	0.6	*LM23	0.6	UGG
				06-SA-17	08/08/1991	06SA1701NR	1.000	0.6	*LM23	0.6	UGG
				06-SS-18	08/12/1991	06SS1801NR	0.500	0.6	*LM23	0.6	UGG
			TETRACHLOROETHYLENE/TETRACHLOR	06-SA-01	08/12/1991	06SA0101Y	0.500	0.16	<LM23	0.16	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.16	<LM23	0.16	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.16	<LM23	0.16	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.16	<LM23	0.16	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.16	<LM23	0.16	UGG
			TOLUENE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.1	<LM23	0.1	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.1	<LM23	0.1	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.1	<LM23	0.1	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.1	<LM23	0.1	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.1	<LM23	0.1	UGG
			TRANS-1,3-DICHLOROPROPENE	06-SA-01	08/12/1991	06SA0101NR	0.500	0.6	*LM23	0.6	UGG
				06-SA-05	08/12/1991	06SA0501NR	1.000	0.6	*LM23	0.6	UGG
				06-SA-11	08/08/1991	06SA1101NR	1.000	0.6	*LM23	0.6	UGG
				06-SA-17	08/08/1991	06SA1701NR	1.000	0.6	*LM23	0.6	UGG
				06-SS-18	08/12/1991	06SS1801NR	0.500	0.6	*LM23	0.6	UGG
			TRICHLOROETHYLENE/TRICHLOROETH	06-SA-01	08/12/1991	06SA0101Y	0.500	0.23	<LM23	0.23	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.23	<LM23	0.23	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.23	<LM23	0.23	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.23	<LM23	0.23	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.23	<LM23	0.23	UGG
			TRICHLOROFLUOROMETHANE	06-SA-01	08/12/1991	06SA0101Y	0.500	0.23	<LM23	0.23	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.23	<LM23	0.23	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.23	<LM23	0.23	UGG
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.23	<LM23	0.23	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.23	<LM23	0.23	UGG
			XYLENES	06-SA-01	08/12/1991	06SA0101Y	0.500	0.78	<LM23	0.78	UGG
				06-SA-05	08/12/1991	06SA0501Y	1.000	0.78	<LM23	0.78	UGG
				06-SA-11	08/08/1991	06SA1101Y	1.000	0.78	<LM23	0.78	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				06-SA-17	08/08/1991	06SA1701Y	1.000	0.78	<LM23	0.78	UGG
				06-SS-18	08/12/1991	06SS1801Y	0.500	0.78	<LM23	0.78	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP07	GW	CYANIDE	CYANIDE	T-30	08/23/1991	07GW1401N	134.300	5.0	<TF34	5.0	UGL
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	07-SA-01	08/13/1991	07SA0101Y	0.800	2.1	<LW02	2.09	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	2.1	<LW02	2.09	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	2.1	<LW02	2.09	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	2.1	<LW02	2.09	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	2.1	<LW02	2.09	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	2.1	<LW02	2.09	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	2.1	<LW02	2.09	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	2.1	<LW02	2.09	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	2.1	<LW02	2.09	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	2.1	<LW02	2.09	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	2.1	<LW02	2.09	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	07-SA-01	08/13/1991	07SA0101Y	0.800	0.59	<LW02	0.59	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	0.59	<LW02	0.59	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	0.59	<LW02	0.59	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	0.59	<LW02	0.59	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	0.59	<LW02	0.59	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	0.59	<LW02	0.59	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	0.59	<LW02	0.59	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	0.59	<LW02	0.59	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	0.59	<LW02	0.59	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	0.59	<LW02	0.59	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	0.59	<LW02	0.59	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	0.59	<LW02	0.59	UGG
			2,4,6-TNT	07-SA-01	08/13/1991	07SA0101Y	0.800	1.9	<LW02	1.92	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	1.9	<LW02	1.92	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	1.9	<LW02	1.92	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	1.9	<LW02	1.92	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	1.9	<LW02	1.92	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	1.9	<LW02	1.92	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	1.9	<LW02	1.92	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	1.9	<LW02	1.92	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	1.9	<LW02	1.92	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	1.9	<LW02	1.92	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	1.9	<LW02	1.92	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	07-SA-01	08/13/1991	07SA0101Y	0.800	0.42	<LW02	0.42	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	0.42	<LW02	0.42	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	0.42	<LW02	0.42	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	0.42	<LW02	0.42	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	0.42	<LW02	0.42	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	0.42	<LW02	0.42	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	0.42	<LW02	0.42	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	0.42	<LW02	0.42	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	0.42	<LW02	0.42	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	0.42	<LW02	0.42	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	0.42	<LW02	0.42	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	0.42	<LW02	0.42	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			2,6-DINITROTOLUENE	07-SA-01	08/13/1991	07SA0101Y	0.800	0.4	<LW02	0.4	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	0.4	<LW02	0.4	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	0.4	<LW02	0.4	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	0.4	<LW02	0.4	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	0.4	<LW02	0.4	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	0.4	<LW02	0.4	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	0.4	<LW02	0.4	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	0.4	<LW02	0.4	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	0.4	<LW02	0.4	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	0.4	<LW02	0.4	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	0.4	<LW02	0.4	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	0.4	<LW02	0.4	UGG
			HMX	07-SA-01	08/13/1991	07SA0101Y	0.800	1.3	<LW02	1.27	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	1.3	<LW02	1.27	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	1.3	<LW02	1.27	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	1.3	<LW02	1.27	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	1.3	<LW02	1.27	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	1.3	<LW02	1.27	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	1.3	<LW02	1.27	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	1.3	<LW02	1.27	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	1.3	<LW02	1.27	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	1.3	<LW02	1.27	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	1.3	<LW02	1.27	UGG
				07-SA-12	08/12/1991	07SA1201YP	1.000	0.77	=LW02	1.27	UGG
			NITROBENZENE	07-SA-01	08/13/1991	07SA0101Y	0.800	0.42	<LW02	0.42	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	0.42	<LW02	0.42	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	0.42	<LW02	0.42	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	0.42	<LW02	0.42	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	0.42	<LW02	0.42	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	0.42	<LW02	0.42	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	0.42	<LW02	0.42	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	0.42	<LW02	0.42	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	0.42	<LW02	0.42	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	0.42	<LW02	0.42	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	0.42	<LW02	0.42	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	0.42	<LW02	0.42	UGG
			RDX	07-SA-01	08/13/1991	07SA0101Y	0.800	0.98	<LW02	0.98	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	0.98	<LW02	0.98	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	0.98	<LW02	0.98	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	0.98	<LW02	0.98	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	0.98	<LW02	0.98	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	0.98	<LW02	0.98	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	0.98	<LW02	0.98	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	0.98	<LW02	0.98	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	0.98	<LW02	0.98	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	0.98	<LW02	0.98	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	0.98	<LW02	0.98	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	0.98	<LW02	0.98	UGG
			TETRYL	07-SA-01	08/13/1991	07SA0101Y	0.800	0.25	<LW02	0.25	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				07-SA-02	08/13/1991	07SA0201Y	1.000	0.25	<LW02	0.25	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	0.25	<LW02	0.25	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	0.25	<LW02	0.25	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	0.25	<LW02	0.25	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	0.25	<LW02	0.25	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	0.25	<LW02	0.25	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	0.25	<LW02	0.25	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	0.25	<LW02	0.25	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	0.25	<LW02	0.25	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	0.25	<LW02	0.25	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	07-SA-01	08/13/1991	07SA0101Y	0.800	19.6	<JS12	19.6	UGG
						07SA0102YD	0.800	19.6	<JS12	19.6	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	19.6	<JS12	19.6	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	19.6	<JS12	19.6	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	19.6	<JS12	19.6	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	19.6	<JS12	19.6	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	19.6	<JS12	19.6	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	19.6	<JS12	19.6	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	19.6	<JS12	19.6	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	19.6	<JS12	19.6	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	19.6	<JS12	19.6	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	19.6	<JS12	19.6	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	19.6	<JS12	19.6	UGG
			ARSENIC	07-SA-01	08/13/1991	07SA0101Y	0.800	16.9	=B9	2.5	UGG
						07SA0102YD	0.800	5.09	=B9	2.5	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	3.84	=B9	2.5	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	7.78	=B9	2.5	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	6.51	=B9	2.5	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	5.2	=B9	2.5	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	4.26	=B9	2.5	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	4.23	=B9	2.5	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	4.21	=B9	2.5	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	6.08	=B9	2.5	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	7.51	=B9	2.5	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	2.5	<B9	2.5	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	3.29	=B9	2.5	UGG
			BARIUM	07-SA-01	08/13/1991	07SA0101Y	0.800	860.0	=JS12	3.29	UGG
						07SA0102YD	0.800	1,600.0	=JS12	3.29	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	347.0	=JS12	3.29	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	203.0	=JS12	3.29	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	207.0	=JS12	3.29	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	245.0	=JS12	3.29	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	244.0	=JS12	3.29	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	146.0	=JS12	3.29	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	217.0	=JS12	3.29	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	252.0	=JS12	3.29	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	208.0	=JS12	3.29	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	283.0	=JS12	3.29	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				07-SA-12	08/12/1991	07SA1201Y	1.000	272.0	=JS12	3.29	UGG
			BERYLLIUM	07-SA-01	08/13/1991	07SA0101Y	0.800	0.95	=JS12	0.427	UGG
						07SA0102YD	0.800	0.929	=JS12	0.427	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	0.966	=JS12	0.427	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	0.87	=JS12	0.427	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	0.848	=JS12	0.427	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	1.04	=JS12	0.427	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	0.999	=JS12	0.427	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	2.91	=JS12	0.427	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	1.03	=JS12	0.427	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	0.937	=JS12	0.427	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	0.941	=JS12	0.427	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	0.906	=JS12	0.427	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	1.06	=JS12	0.427	UGG
			CADMIUM	07-SA-01	08/13/1991	07SA0101Y	0.800	1.2	<JS12	1.2	UGG
						07SA0102YD	0.800	1.2	<JS12	1.2	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	1.2	<JS12	1.2	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	1.2	<JS12	1.2	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	1.2	<JS12	1.2	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	1.2	<JS12	1.2	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	1.2	<JS12	1.2	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	1.2	<JS12	1.2	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	1.2	<JS12	1.2	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	1.2	<JS12	1.2	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	1.2	<JS12	1.2	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	1.2	<JS12	1.2	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	1.2	<JS12	1.2	UGG
			CHROMIUM	07-SA-01	08/13/1991	07SA0101Y	0.800	214.0	=JS12	1.04	UGG
						07SA0102YD	0.800	466.0	=JS12	1.04	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	37.5	=JS12	1.04	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	27.0	=JS12	1.04	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	23.9	=JS12	1.04	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	28.4	=JS12	1.04	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	28.7	=JS12	1.04	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	30.2	=JS12	1.04	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	31.4	=JS12	1.04	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	39.0	=JS12	1.04	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	32.4	=JS12	1.04	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	30.6	=JS12	1.04	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	29.3	=JS12	1.04	UGG
			COPPER	07-SA-01	08/13/1991	07SA0101Y	0.800	24.2	=JS12	2.84	UGG
						07SA0102YD	0.800	25.4	=JS12	2.84	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	22.1	=JS12	2.84	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	14.4	=JS12	2.84	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	18.6	=JS12	2.84	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	16.3	=JS12	2.84	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	41.0	=JS12	2.84	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	121.0	=JS12	2.84	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	29.8	=JS12	2.84	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				07-SA-09	08/13/1991	07SA0901Y	1.000	98.3	=JS12	2.84	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	20.3	=JS12	2.84	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	19.7	=JS12	2.84	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	17.2	=JS12	2.84	UGG
			LEAD	07-SA-01	08/13/1991	07SA0101Y	0.800	170.0	=JD21	0.467	UGG
						07SA0102YD	0.800	250.0	=JD21	0.467	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	20.0	=JD21	0.467	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	20.0	=JD21	0.467	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	93.0	=JD21	0.467	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	47.0	=JD21	0.467	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	16.0	=JD21	0.467	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	820.0	=JD21	0.467	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	39.0	=JD21	0.467	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	230.0	=JD21	0.467	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	13.0	=JD21	0.467	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	140.0	=JD21	0.467	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	28.0	=JD21	0.467	UGG
			MERCURY	07-SA-01	08/13/1991	07SA0101Y	0.800	2.1	=Y9	0.05	UGG
						07SA0102YD	0.800	2.0	=Y9	0.05	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	0.071	=Y9	0.05	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	0.072	=Y9	0.05	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	0.138	=Y9	0.05	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	9.2	=Y9	0.05	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	0.247	=Y9	0.05	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	0.087	=Y9	0.05	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	0.783	=Y9	0.05	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	130.0	=Y9	0.05	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	0.05	<Y9	0.05	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	0.083	=Y9	0.05	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	0.076	=Y9	0.05	UGG
			NICKEL	07-SA-01	08/13/1991	07SA0101Y	0.800	128.0	=JS12	2.74	UGG
						07SA0102YD	0.800	328.0	=JS12	2.74	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	23.5	=JS12	2.74	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	19.4	=JS12	2.74	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	26.0	=JS12	2.74	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	14.5	=JS12	2.74	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	17.7	=JS12	2.74	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	7.7	=JS12	2.74	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	20.3	=JS12	2.74	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	25.1	=JS12	2.74	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	17.0	=JS12	2.74	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	14.6	=JS12	2.74	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	15.8	=JS12	2.74	UGG
			SELENIUM	07-SA-01	08/13/1991	07SA0101Y	0.800	0.449	<JD20	0.449	UGG
						07SA0102YD	0.800	0.449	<JD20	0.449	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	0.449	<JD20	0.449	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	0.449	<JD20	0.449	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	0.449	<JD20	0.449	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	0.449	<JD20	0.449	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				07-SA-06	08/12/1991	07SA0601Y	0.500	0.449	<JD20	0.449	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	0.449	<JD20	0.449	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	0.449	<JD20	0.449	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	0.449	<JD20	0.449	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	0.449	<JD20	0.449	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	0.449	<JD20	0.449	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	0.657	=JD20	0.449	UGG
			SILVER	07-SA-01	08/13/1991	07SA0101Y	0.800	0.803	<JS12	0.803	UGG
						07SA0102YD	0.800	1.93	=JS12	0.803	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	0.803	<JS12	0.803	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	137.0	=JS12	0.803	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	0.803	<JS12	0.803	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	0.803	<JS12	0.803	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	0.803	<JS12	0.803	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	0.803	<JS12	0.803	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	0.803	<JS12	0.803	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	0.803	<JS12	0.803	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	0.803	<JS12	0.803	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	0.803	<JS12	0.803	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	0.803	<JS12	0.803	UGG
			THALLIUM	07-SA-01	08/13/1991	07SA0101Y	0.800	34.3	<JS12	34.3	UGG
						07SA0102YD	0.800	34.3	<JS12	34.3	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	34.3	<JS12	34.3	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	34.3	<JS12	34.3	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	34.3	<JS12	34.3	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	34.3	<JS12	34.3	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	34.3	<JS12	34.3	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	34.3	<JS12	34.3	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	34.3	<JS12	34.3	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	34.3	<JS12	34.3	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	34.3	<JS12	34.3	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	34.3	<JS12	34.3	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	34.3	<JS12	34.3	UGG
			ZINC	07-SA-01	08/13/1991	07SA0101Y	0.800	94.8	=JS12	2.34	UGG
						07SA0102YD	0.800	114.0	=JS12	2.34	UGG
				07-SA-02	08/13/1991	07SA0201Y	1.000	91.7	=JS12	2.34	UGG
				07-SA-03	08/12/1991	07SA0301Y	1.000	53.0	=JS12	2.34	UGG
				07-SA-04	08/12/1991	07SA0401Y	1.000	60.8	=JS12	2.34	UGG
				07-SA-05	08/12/1991	07SA0501Y	0.500	71.8	=JS12	2.34	UGG
				07-SA-06	08/12/1991	07SA0601Y	0.500	124.0	=JS12	2.34	UGG
				07-SA-07	08/13/1991	07SA0701Y	0.500	50.1	=JS12	2.34	UGG
				07-SA-08	08/12/1991	07SA0801Y	1.000	157.0	=JS12	2.34	UGG
				07-SA-09	08/13/1991	07SA0901Y	1.000	397.0	=JS12	2.34	UGG
				07-SA-10	08/13/1991	07SA1001Y	1.000	66.1	=JS12	2.34	UGG
				07-SA-11	08/13/1991	07SA1101Y	1.000	71.0	=JS12	2.34	UGG
				07-SA-12	08/12/1991	07SA1201Y	1.000	77.1	=JS12	2.34	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP08	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	08-SA-01	08/15/1991	08SA0101Y	1.000	2.1	<LW02	2.09	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	2.1	<LW02	2.09	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	2.1	<LW02	2.09	UGG
						08SA0302YD	1.000	2.1	<LW02	2.09	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	2.1	<LW02	2.09	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	2.1	<LW02	2.09	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	2.1	<LW02	2.09	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	2.1	<LW02	2.09	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	2.1	<LW02	2.09	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	2.1	<LW02	2.09	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	2.1	<LW02	2.09	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	2.1	<LW02	2.09	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	2.1	<LW02	2.09	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.59	<LW02	0.59	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.59	<LW02	0.59	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.59	<LW02	0.59	UGG
						08SA0302YD	1.000	0.59	<LW02	0.59	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.59	<LW02	0.59	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.59	<LW02	0.59	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.59	<LW02	0.59	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.59	<LW02	0.59	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.59	<LW02	0.59	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.59	<LW02	0.59	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.59	<LW02	0.59	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.59	<LW02	0.59	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.59	<LW02	0.59	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.59	<LW02	0.59	UGG
			2,4,6-TNT	08-SA-01	08/15/1991	08SA0101Y	1.000	1.9	<LW02	1.92	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	1.9	<LW02	1.92	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	1.9	<LW02	1.92	UGG
						08SA0302YD	1.000	1.9	<LW02	1.92	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	1.9	<LW02	1.92	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	1.9	<LW02	1.92	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	1.9	<LW02	1.92	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	1.9	<LW02	1.92	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	1.9	<LW02	1.92	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	1.9	<LW02	1.92	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	1.9	<LW02	1.92	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	1.9	<LW02	1.92	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	1.9	<LW02	1.92	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	08-SA-01	08/15/1991	08SA0101N	1.000	1.4	<LM25	1.4	UGG
						08SA0101Y	1.000	0.42	<LW02	0.42	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	1.4	<LM25	1.4	UGG
						08SA0201Y	1.000	0.42	<LW02	0.42	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	1.4	<LM25	1.4	UGG
						08SA0301Y	1.000	0.42	<LW02	0.42	UGG
						08SA0302ND	1.000	1.4	<LM25	1.4	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						08SA0302YD	1.000	0.42	<LW02	0.42	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	1.4	<LM25	1.4	UGG
						08SA0401Y	1.000	0.42	<LW02	0.42	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	1.4	<LM25	1.4	UGG
						08SA0501Y	1.000	0.42	<LW02	0.42	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	1.4	<LM25	1.4	UGG
						08SA0601Y	1.000	0.42	<LW02	0.42	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	1.4	<LM25	1.4	UGG
						08SA0701Y	1.000	0.42	<LW02	0.42	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	1.4	<LM25	1.4	UGG
						08SA0801Y	1.300	0.42	<LW02	0.42	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	1.4	<LM25	1.4	UGG
						08SA0901Y	1.000	0.42	<LW02	0.42	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	1.4	<LM25	1.4	UGG
						08SA1001Y	1.000	0.42	<LW02	0.42	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	1.4	<LM25	1.4	UGG
						08SA1101Y	1.000	0.42	<LW02	0.42	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	1.4	<LM25	1.4	UGG
						08SS0401Y	0.500	0.42	<LW02	0.42	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	1.4	<LM25	1.4	UGG
						08SS1201Y	0.500	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	08-SA-01	08/15/1991	08SA0101N	1.000	0.32	<LM25	0.32	UGG
						08SA0101Y	1.000	0.4	<LW02	0.4	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	0.32	<LM25	0.32	UGG
						08SA0201Y	1.000	0.4	<LW02	0.4	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	0.32	<LM25	0.32	UGG
						08SA0301Y	1.000	0.4	<LW02	0.4	UGG
						08SA0302ND	1.000	0.32	<LM25	0.32	UGG
						08SA0302YD	1.000	0.4	<LW02	0.4	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	0.32	<LM25	0.32	UGG
						08SA0401Y	1.000	0.4	<LW02	0.4	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	0.32	<LM25	0.32	UGG
						08SA0501Y	1.000	0.4	<LW02	0.4	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	0.32	<LM25	0.32	UGG
						08SA0601Y	1.000	0.4	<LW02	0.4	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	0.32	<LM25	0.32	UGG
						08SA0701Y	1.000	0.4	<LW02	0.4	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	0.32	<LM25	0.32	UGG
						08SA0801Y	1.300	0.4	<LW02	0.4	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	0.32	<LM25	0.32	UGG
						08SA0901Y	1.000	0.4	<LW02	0.4	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	0.32	<LM25	0.32	UGG
						08SA1001Y	1.000	0.4	<LW02	0.4	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	0.32	<LM25	0.32	UGG
						08SA1101Y	1.000	0.4	<LW02	0.4	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	0.32	<LM25	0.32	UGG
						08SS0401Y	0.500	0.4	<LW02	0.4	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	0.32	<LM25	0.32	UGG
						08SS1201Y	0.500	0.4	<LW02	0.4	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			HMX	08-SA-01	08/15/1991	08SA0101Y	1.000	1.3	<LW02	1.27	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	1.3	<LW02	1.27	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	1.3	<LW02	1.27	UGG
						08SA0302YD	1.000	1.3	<LW02	1.27	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	1.3	<LW02	1.27	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	1.3	<LW02	1.27	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	1.3	<LW02	1.27	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	1.3	<LW02	1.27	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	1.3	<LW02	1.27	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	1.3	<LW02	1.27	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	1.3	<LW02	1.27	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	1.3	<LW02	1.27	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	1.3	<LW02	1.27	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	1.3	<LW02	1.27	UGG
			NITROBENZENE	08-SA-01	08/15/1991	08SA0101N	1.000	1.8	<LM25	1.8	UGG
						08SA0101Y	1.000	0.42	<LW02	0.42	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	1.8	<LM25	1.8	UGG
						08SA0201Y	1.000	0.42	<LW02	0.42	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	1.8	<LM25	1.8	UGG
						08SA0301Y	1.000	0.42	<LW02	0.42	UGG
						08SA0302ND	1.000	1.8	<LM25	1.8	UGG
						08SA0302YD	1.000	0.42	<LW02	0.42	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	1.8	<LM25	1.8	UGG
						08SA0401Y	1.000	0.42	<LW02	0.42	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	1.8	<LM25	1.8	UGG
						08SA0501Y	1.000	0.42	<LW02	0.42	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	1.8	<LM25	1.8	UGG
						08SA0601Y	1.000	0.42	<LW02	0.42	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	1.8	<LM25	1.8	UGG
						08SA0701Y	1.000	0.42	<LW02	0.42	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	1.8	<LM25	1.8	UGG
						08SA0801Y	1.300	0.42	<LW02	0.42	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	1.8	<LM25	1.8	UGG
						08SA0901Y	1.000	0.42	<LW02	0.42	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	1.8	<LM25	1.8	UGG
						08SA1001Y	1.000	0.42	<LW02	0.42	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	1.8	<LM25	1.8	UGG
						08SA1101Y	1.000	0.42	<LW02	0.42	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	1.8	<LM25	1.8	UGG
						08SS0401Y	0.500	0.42	<LW02	0.42	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	1.8	<LM25	1.8	UGG
						08SS1201Y	0.500	0.42	<LW02	0.42	UGG
			RDX	08-SA-01	08/15/1991	08SA0101Y	1.000	0.98	<LW02	0.98	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.98	<LW02	0.98	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.98	<LW02	0.98	UGG
						08SA0302YD	1.000	0.98	<LW02	0.98	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.98	<LW02	0.98	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.98	<LW02	0.98	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.98	<LW02	0.98	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.98	<LW02	0.98	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.98	<LW02	0.98	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.98	<LW02	0.98	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.98	<LW02	0.98	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.98	<LW02	0.98	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.98	<LW02	0.98	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.98	<LW02	0.98	UGG
			TETRYL	08-SA-01	08/15/1991	08SA0101Y	1.000	0.25	<LW02	0.25	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.25	<LW02	0.25	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.25	<LW02	0.25	UGG
						08SA0302YD	1.000	0.25	<LW02	0.25	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.25	<LW02	0.25	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.25	<LW02	0.25	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.25	<LW02	0.25	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.25	<LW02	0.25	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.25	<LW02	0.25	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.25	<LW02	0.25	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.25	<LW02	0.25	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.25	<LW02	0.25	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.25	<LW02	0.25	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	08-SA-01	08/15/1991	08SA0101Y	1.000	19.6	<JS12	19.6	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	19.6	<JS12	19.6	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	19.6	<JS12	19.6	UGG
						08SA0302YD	1.000	19.6	<JS12	19.6	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	19.6	<JS12	19.6	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	19.6	<JS12	19.6	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	19.6	<JS12	19.6	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	19.6	<JS12	19.6	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	19.6	<JS12	19.6	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	19.6	<JS12	19.6	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	19.6	<JS12	19.6	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	19.6	<JS12	19.6	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	19.6	<JS12	19.6	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	08-SA-01	08/15/1991	08SA0101Y	1.000	2.5	<B9	2.5	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	2.5	<B9	2.5	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	4.62	=B9	2.5	UGG
						08SA0302YD	1.000	2.5	<B9	2.5	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	3.37	=B9	2.5	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	4.67	=B9	2.5	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	5.42	=B9	2.5	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	8.78	=B9	2.5	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	7.08	=B9	2.5	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	6.35	=B9	2.5	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	5.38	=B9	2.5	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	2.5	<B9	2.5	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	6.72	=B9	2.5	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	5.65	=B9	2.5	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			BARIUM	08-SA-01	08/15/1991	08SA0101Y	1.000	17.7	=JS12	3.29	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	83.8	=JS12	3.29	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	160.0	=JS12	3.29	UGG
						08SA0302YD	1.000	133.0	=JS12	3.29	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	94.8	=JS12	3.29	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	212.0	=JS12	3.29	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	233.0	=JS12	3.29	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	192.0	=JS12	3.29	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	239.0	=JS12	3.29	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	231.0	=JS12	3.29	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	220.0	=JS12	3.29	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	97.1	=JS12	3.29	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	148.0	=JS12	3.29	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	171.0	=JS12	3.29	UGG
			BERYLLIUM	08-SA-01	08/15/1991	08SA0101Y	1.000	0.427	<JS12	0.427	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.427	<JS12	0.427	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.427	<JS12	0.427	UGG
						08SA0302YD	1.000	0.682	=JS12	0.427	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.595	=JS12	0.427	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.725	=JS12	0.427	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.884	=JS12	0.427	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	1.15	=JS12	0.427	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.822	=JS12	0.427	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	1.0	=JS12	0.427	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.837	=JS12	0.427	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.427	<JS12	0.427	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.605	=JS12	0.427	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.427	<JS12	0.427	UGG
			CADMIUM	08-SA-01	08/15/1991	08SA0101Y	1.000	1.2	<JS12	1.2	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	1.2	<JS12	1.2	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	1.2	<JS12	1.2	UGG
						08SA0302YD	1.000	1.2	<JS12	1.2	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	1.2	<JS12	1.2	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	1.2	<JS12	1.2	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	1.2	<JS12	1.2	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	1.2	<JS12	1.2	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	1.2	<JS12	1.2	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	1.2	<JS12	1.2	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	1.2	<JS12	1.2	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	1.2	<JS12	1.2	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	1.2	<JS12	1.2	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	1.2	<JS12	1.2	UGG
			CHROMIUM	08-SA-01	08/15/1991	08SA0101Y	1.000	4.85	=JS12	1.04	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	16.0	=JS12	1.04	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	22.7	=JS12	1.04	UGG
						08SA0302YD	1.000	28.9	=JS12	1.04	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	14.2	=JS12	1.04	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	29.3	=JS12	1.04	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	46.0	=JS12	1.04	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-07	08/14/1991	08SA0701Y	1.000	499.0	=JS12	1.04	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	28.6	=JS12	1.04	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	30.3	=JS12	1.04	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	29.8	=JS12	1.04	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	14.5	=JS12	1.04	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	18.9	=JS12	1.04	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	19.0	=JS12	1.04	UGG
			COPPER	08-SA-01	08/15/1991	08SA0101Y	1.000	2.84	<JS12	2.84	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	7.42	=JS12	2.84	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	15.0	=JS12	2.84	UGG
						08SA0302YD	1.000	22.4	=JS12	2.84	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	8.14	=JS12	2.84	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	66.6	=JS12	2.84	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	37.0	=JS12	2.84	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	332.0	=JS12	2.84	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	16.8	=JS12	2.84	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	20.1	=JS12	2.84	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	16.1	=JS12	2.84	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	9.93	=JS12	2.84	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	27.7	=JS12	2.84	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	21.2	=JS12	2.84	UGG
			LEAD	08-SA-01	08/15/1991	08SA0101Y	1.000	3.4	=JD21	0.467	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	5.43	=JD21	0.467	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	11.3	=JD21	0.467	UGG
						08SA0302YD	1.000	10.2	=JD21	0.467	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	9.1	=JD21	0.467	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	69.0	=JD21	0.467	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	21.0	=JD21	0.467	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	31.0	=JD21	0.467	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	14.3	=JD21	0.467	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	16.0	=JD21	0.467	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	19.0	=JD21	0.467	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	7.45	=JD21	0.467	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	38.0	=JD21	0.467	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	38.0	=JD21	0.467	UGG
			MERCURY	08-SA-01	08/15/1991	08SA0101Y	1.000	0.05	<Y9	0.05	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.05	<Y9	0.05	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.05	<Y9	0.05	UGG
						08SA0302YD	1.000	0.05	<Y9	0.05	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.05	<Y9	0.05	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.226	=Y9	0.05	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.112	=Y9	0.05	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	2.3	=Y9	0.05	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.074	=Y9	0.05	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.05	<Y9	0.05	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.05	<Y9	0.05	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.05	<Y9	0.05	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.05	<Y9	0.05	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.05	<Y9	0.05	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			NICKEL	08-SA-01	08/15/1991	08SA0101Y	1.000	6.93	=JS12	2.74	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	9.78	=JS12	2.74	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	13.9	=JS12	2.74	UGG
						08SA0302YD	1.000	15.4	=JS12	2.74	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	9.11	=JS12	2.74	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	19.0	=JS12	2.74	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	18.5	=JS12	2.74	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	14.6	=JS12	2.74	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	17.8	=JS12	2.74	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	18.8	=JS12	2.74	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	18.8	=JS12	2.74	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	9.76	=JS12	2.74	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	14.5	=JS12	2.74	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	15.8	=JS12	2.74	UGG
			SELENIUM	08-SA-01	08/15/1991	08SA0101Y	1.000	0.449	<JD20	0.449	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.449	<JD20	0.449	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.449	<JD20	0.449	UGG
						08SA0302YD	1.000	0.449	<JD20	0.449	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.449	<JD20	0.449	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.694	=JD20	0.449	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.449	<JD20	0.449	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.449	<JD20	0.449	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.449	<JD20	0.449	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.449	<JD20	0.449	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.449	<JD20	0.449	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.449	<JD20	0.449	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.449	<JD20	0.449	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.449	<JD20	0.449	UGG
			SILVER	08-SA-01	08/15/1991	08SA0101Y	1.000	0.803	<JS12	0.803	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.803	<JS12	0.803	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.803	<JS12	0.803	UGG
						08SA0302YD	1.000	0.803	<JS12	0.803	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.803	<JS12	0.803	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.803	<JS12	0.803	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.803	<JS12	0.803	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.803	<JS12	0.803	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.803	<JS12	0.803	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.803	<JS12	0.803	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.803	<JS12	0.803	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.803	<JS12	0.803	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.803	<JS12	0.803	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.803	<JS12	0.803	UGG
			THALLIUM	08-SA-01	08/15/1991	08SA0101Y	1.000	34.3	<JS12	34.3	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	34.3	<JS12	34.3	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	34.3	<JS12	34.3	UGG
						08SA0302YD	1.000	34.3	<JS12	34.3	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	34.3	<JS12	34.3	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	34.3	<JS12	34.3	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	34.3	<JS12	34.3	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-07	08/14/1991	08SA0701Y	1.000	34.3	<JS12	34.3	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	34.3	<JS12	34.3	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	34.3	<JS12	34.3	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	34.3	<JS12	34.3	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	34.3	<JS12	34.3	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	34.3	<JS12	34.3	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	34.3	<JS12	34.3	UGG
			ZINC	08-SA-01	08/15/1991	08SA0101Y	1.000	24.7	=JS12	2.34	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	29.5	=JS12	2.34	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	52.1	=JS12	2.34	UGG
						08SA0302YD	1.000	75.3	=JS12	2.34	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	51.6	=JS12	2.34	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	276.0	=JS12	2.34	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	343.0	=JS12	2.34	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	155.0	=JS12	2.34	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	63.3	=JS12	2.34	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	57.5	=JS12	2.34	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	355.0	=JS12	2.34	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	29.1	=JS12	2.34	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	148.0	=JS12	2.34	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	59.6	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	08-SA-01	08/15/1991	08SA0101N	1.000	0.068	<LM25	0.068	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	0.068	<LM25	0.068	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	0.068	<LM25	0.068	UGG
						08SA0302ND	1.000	0.068	<LM25	0.068	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	0.068	<LM25	0.068	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	0.068	<LM25	0.068	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	0.068	<LM25	0.068	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	0.068	<LM25	0.068	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	0.068	<LM25	0.068	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	0.068	<LM25	0.068	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	0.068	<LM25	0.068	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	0.068	<LM25	0.068	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	0.068	<LM25	0.068	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	0.068	<LM25	0.068	UGG
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	08-SA-01	08/15/1991	08SA0101N	1.000	0.1	<LM25	0.1	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	0.1	<LM25	0.1	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	0.1	<LM25	0.1	UGG
						08SA0302ND	1.000	0.1	<LM25	0.1	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	0.1	<LM25	0.1	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	0.1	<LM25	0.1	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	0.1	<LM25	0.1	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	0.1	<LM25	0.1	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	0.1	<LM25	0.1	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	0.1	<LM25	0.1	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	0.1	<LM25	0.1	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	0.1	<LM25	0.1	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	0.1	<LM25	0.1	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	0.1	<LM25	0.1	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SS-13	08/15/1991	08SS1301Y	0.500	0.1	>LH17	0.0034	UGG
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	08-SA-01	08/15/1991	08SA0101N	1.000	0.064	<LM25	0.064	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	0.064	<LM25	0.064	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	0.064	<LM25	0.064	UGG
						08SA0302ND	1.000	0.064	<LM25	0.064	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	0.064	<LM25	0.064	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	1.9	=LM25	0.064	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	0.064	<LM25	0.064	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	1.46	=LM25	0.064	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	0.064	<LM25	0.064	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	0.064	<LM25	0.064	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	0.064	<LM25	0.064	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	0.064	<LM25	0.064	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	0.064	<LM25	0.064	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	0.064	<LM25	0.064	UGG
			ALDRIN	08-SA-01	08/15/1991	08SA0101N	1.000	1.3	<LM25	1.3	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	1.3	<LM25	1.3	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	1.3	<LM25	1.3	UGG
						08SA0302ND	1.000	1.3	<LM25	1.3	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	1.3	<LM25	1.3	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	1.3	<LM25	1.3	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	1.3	<LM25	1.3	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	1.3	<LM25	1.3	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	1.3	<LM25	1.3	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	1.3	<LM25	1.3	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	1.3	<LM25	1.3	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	1.3	<LM25	1.3	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	1.3	<LM25	1.3	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	1.3	<LM25	1.3	UGG
				08-SS-13	08/15/1991	08SS1301YU	0.500	0.011	=LH17	0.0014	UGG
			ALPHA-BENZENEHEXACHLORIDE	08-SA-01	08/15/1991	08SA0101N	1.000	1.3	<LM25	1.3	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	1.3	<LM25	1.3	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	1.3	<LM25	1.3	UGG
						08SA0302ND	1.000	1.3	<LM25	1.3	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	1.3	<LM25	1.3	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	1.3	<LM25	1.3	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	1.3	<LM25	1.3	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	1.3	<LM25	1.3	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	1.3	<LM25	1.3	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	1.3	<LM25	1.3	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	1.3	<LM25	1.3	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	1.3	<LM25	1.3	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	1.3	<LM25	1.3	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	1.3	<LM25	1.3	UGG
				08-SS-13	08/15/1991	08SS1301Y	0.500	0.003	<LH17	0.0028	UGG
			ALPHA-ENDOSULFAN/ENDOSULFAN I	08-SA-01	08/15/1991	08SA0101N	1.000	0.4	<LM25	0.4	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	0.4	<LM25	0.4	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	0.4	<LM25	0.4	UGG
						08SA0302ND	1.000	0.4	<LM25	0.4	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-04	08/15/1991	08SA0401N	1.000	0.4	<LM25	0.4	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	0.4	<LM25	0.4	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	0.4	<LM25	0.4	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	0.4	<LM25	0.4	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	0.4	<LM25	0.4	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	0.4	<LM25	0.4	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	0.4	<LM25	0.4	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	0.4	<LM25	0.4	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	0.4	<LM25	0.4	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	0.4	<LM25	0.4	UGG
			BETA-BENZENEHEXACHLORIDE	08-SA-01	08/15/1991	08SA0101N	1.000	1.3	<LM25	1.3	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	1.3	<LM25	1.3	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	1.3	<LM25	1.3	UGG
						08SA0302ND	1.000	1.3	<LM25	1.3	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	1.3	<LM25	1.3	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	1.3	<LM25	1.3	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	1.3	<LM25	1.3	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	1.3	<LM25	1.3	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	1.3	<LM25	1.3	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	1.3	<LM25	1.3	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	1.3	<LM25	1.3	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	1.3	<LM25	1.3	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	1.3	<LM25	1.3	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	1.3	<LM25	1.3	UGG
			BETA-ENDOSULFAN/ENDOSULFAN II	08-SA-01	08/15/1991	08SA0101N	1.000	2.4	<LM25	2.4	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	2.4	<LM25	2.4	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	2.4	<LM25	2.4	UGG
						08SA0302ND	1.000	2.4	<LM25	2.4	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	2.4	<LM25	2.4	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	2.4	<LM25	2.4	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	2.4	<LM25	2.4	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	2.4	<LM25	2.4	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	2.4	<LM25	2.4	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	2.4	<LM25	2.4	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	2.4	<LM25	2.4	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	2.4	<LM25	2.4	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	2.4	<LM25	2.4	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	2.4	<LM25	2.4	UGG
			CHLORDANE	08-SA-01	08/15/1991	08SA0101N	1.000	0.68	<LM25	0.68	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	0.68	<LM25	0.68	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	0.68	<LM25	0.68	UGG
						08SA0302ND	1.000	0.68	<LM25	0.68	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	0.68	<LM25	0.68	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	0.68	<LM25	0.68	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	0.68	<LM25	0.68	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	0.68	<LM25	0.68	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	0.68	<LM25	0.68	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	0.68	<LM25	0.68	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	0.68	<LM25	0.68	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-11	08/14/1991	08SA1101N	1.000	0.68	<LM25	0.68	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	0.68	<LM25	0.68	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	0.68	<LM25	0.68	UGG
				08-SS-13	08/15/1991	08SS1301Y	0.500	0.068	<LH17	0.0684	UGG
			DELTA-BENZENEHEXACHLORIDE	08-SA-01	08/15/1991	08SA0101N	1.000	0.21	<LM25	0.21	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	0.21	<LM25	0.21	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	0.21	<LM25	0.21	UGG
						08SA0302ND	1.000	0.21	<LM25	0.21	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	0.21	<LM25	0.21	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	0.21	<LM25	0.21	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	0.21	<LM25	0.21	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	0.21	<LM25	0.21	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	0.21	<LM25	0.21	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	0.21	<LM25	0.21	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	0.21	<LM25	0.21	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	0.21	<LM25	0.21	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	0.21	<LM25	0.21	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	0.21	<LM25	0.21	UGG
				08-SS-13	08/15/1991	08SS1301Y	0.500	0.008	<LH17	0.0085	UGG
			DIELDRIN	08-SA-01	08/15/1991	08SA0101N	1.000	0.079	<LM25	0.079	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	0.079	<LM25	0.079	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	0.079	<LM25	0.079	UGG
						08SA0302ND	1.000	0.079	<LM25	0.079	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	0.079	<LM25	0.079	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	0.079	<LM25	0.079	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	0.079	<LM25	0.079	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	0.079	<LM25	0.079	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	0.079	<LM25	0.079	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	0.079	<LM25	0.079	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	0.079	<LM25	0.079	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	0.079	<LM25	0.079	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	0.079	<LM25	0.079	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	0.079	<LM25	0.079	UGG
				08-SS-13	08/15/1991	08SS1301YU	0.500	0.045	=LH17	0.0016	UGG
			ENDRIN	08-SA-01	08/15/1991	08SA0101N	1.000	1.3	<LM25	1.3	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	1.3	<LM25	1.3	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	1.3	<LM25	1.3	UGG
						08SA0302ND	1.000	1.3	<LM25	1.3	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	1.3	<LM25	1.3	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	1.3	<LM25	1.3	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	1.3	<LM25	1.3	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	1.3	<LM25	1.3	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	1.3	<LM25	1.3	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	1.3	<LM25	1.3	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	1.3	<LM25	1.3	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	1.3	<LM25	1.3	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	1.3	<LM25	1.3	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	1.3	<LM25	1.3	UGG
				08-SS-13	08/15/1991	08SS1301Y	0.500	0.007	<LH17	0.0065	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			HEPTACHLOR	08-SA-01	08/15/1991	08SA0101N	1.000	0.24	<LM25	0.24	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	0.24	<LM25	0.24	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	0.24	<LM25	0.24	UGG
						08SA0302ND	1.000	0.24	<LM25	0.24	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	0.24	<LM25	0.24	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	0.24	<LM25	0.24	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	0.24	<LM25	0.24	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	0.24	<LM25	0.24	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	0.24	<LM25	0.24	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	0.24	<LM25	0.24	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	0.24	<LM25	0.24	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	0.24	<LM25	0.24	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	0.24	<LM25	0.24	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	0.24	<LM25	0.24	UGG
				08-SS-13	08/15/1991	08SS1301Y	0.500	0.002	<LH17	0.0022	UGG
			HEPTACHLOR EPOXIDE	08-SA-01	08/15/1991	08SA0101N	1.000	0.48	<LM25	0.48	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	0.48	<LM25	0.48	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	0.48	<LM25	0.48	UGG
						08SA0302ND	1.000	0.48	<LM25	0.48	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	0.48	<LM25	0.48	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	0.48	<LM25	0.48	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	0.48	<LM25	0.48	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	0.48	<LM25	0.48	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	0.48	<LM25	0.48	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	0.48	<LM25	0.48	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	0.48	<LM25	0.48	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	0.48	<LM25	0.48	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	0.48	<LM25	0.48	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	0.48	<LM25	0.48	UGG
			ISODRIN	08-SA-01	08/15/1991	08SA0101N	1.000	0.48	<LM25	0.48	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	0.48	<LM25	0.48	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	0.48	<LM25	0.48	UGG
						08SA0302ND	1.000	0.48	<LM25	0.48	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	0.48	<LM25	0.48	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	0.48	<LM25	0.48	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	0.48	<LM25	0.48	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	0.48	<LM25	0.48	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	0.48	<LM25	0.48	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	0.48	<LM25	0.48	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	0.48	<LM25	0.48	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	0.48	<LM25	0.48	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	0.48	<LM25	0.48	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	0.48	<LM25	0.48	UGG
				08-SS-13	08/15/1991	08SS1301Y	0.500	0.003	<LH17	0.003	UGG
			LINDANE	08-SA-01	08/15/1991	08SA0101N	1.000	0.1	<LM25	0.1	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	0.1	<LM25	0.1	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	0.1	<LM25	0.1	UGG
						08SA0302ND	1.000	0.1	<LM25	0.1	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	0.1	<LM25	0.1	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-05	08/15/1991	08SA0501N	1.000	0.1	<LM25	0.1	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	0.1	<LM25	0.1	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	0.1	<LM25	0.1	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	0.1	<LM25	0.1	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	0.1	<LM25	0.1	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	0.1	<LM25	0.1	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	0.1	<LM25	0.1	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	0.1	<LM25	0.1	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	0.1	<LM25	0.1	UGG
				08-SS-13	08/15/1991	08SS1301Y	0.500	0.001	<LH17	0.001	UGG
			METHOXYCHLOR	08-SA-01	08/15/1991	08SA0101N	1.000	0.26	<LM25	0.26	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	0.26	<LM25	0.26	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	0.26	<LM25	0.26	UGG
						08SA0302ND	1.000	0.26	<LM25	0.26	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	0.26	<LM25	0.26	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	0.26	<LM25	0.26	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	0.26	<LM25	0.26	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	0.26	<LM25	0.26	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	0.26	<LM25	0.26	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	0.26	<LM25	0.26	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	0.26	<LM25	0.26	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	0.26	<LM25	0.26	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	0.26	<LM25	0.26	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	0.26	<LM25	0.26	UGG
			PCB 1016	08-SA-01	08/15/1991	08SA0101N	1.000	0.32	<LM25	0.32	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	0.32	<LM25	0.32	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	0.32	<LM25	0.32	UGG
						08SA0302ND	1.000	0.32	<LM25	0.32	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	0.32	<LM25	0.32	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	0.32	<LM25	0.32	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	0.32	<LM25	0.32	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	0.32	<LM25	0.32	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	0.32	<LM25	0.32	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	0.32	<LM25	0.32	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	0.32	<LM25	0.32	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	0.32	<LM25	0.32	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	0.32	<LM25	0.32	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	0.32	<LM25	0.32	UGG
				08-SS-13	08/15/1991	08SS1301Y	0.500	0.1	<LH17	0.1	UGG
			PCB 1221	08-SA-01	08/15/1991	08SA0101NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-02	08/14/1991	08SA0201NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-03	08/14/1991	08SA0301NR	1.000	1.9	*LM25	1.9	UGG
						08SA0302NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-04	08/15/1991	08SA0401NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-05	08/15/1991	08SA0501NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-06	08/14/1991	08SA0601NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-07	08/14/1991	08SA0701NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-08	08/14/1991	08SA0801NR	1.300	1.9	*LM25	1.9	UGG
				08-SA-09	08/14/1991	08SA0901NR	1.000	1.9	*LM25	1.9	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-10	08/14/1991	08SA1001NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-11	08/14/1991	08SA1101NR	1.000	1.9	*LM25	1.9	UGG
				08-SS-04	08/15/1991	08SS0401NR	0.500	1.9	*LM25	1.9	UGG
				08-SS-12	08/14/1991	08SS1201NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1232	08-SA-01	08/15/1991	08SA0101NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-02	08/14/1991	08SA0201NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-03	08/14/1991	08SA0301NR	1.000	1.9	*LM25	1.9	UGG
						08SA0302NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-04	08/15/1991	08SA0401NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-05	08/15/1991	08SA0501NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-06	08/14/1991	08SA0601NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-07	08/14/1991	08SA0701NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-08	08/14/1991	08SA0801NR	1.300	1.9	*LM25	1.9	UGG
				08-SA-09	08/14/1991	08SA0901NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-10	08/14/1991	08SA1001NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-11	08/14/1991	08SA1101NR	1.000	1.9	*LM25	1.9	UGG
				08-SS-04	08/15/1991	08SS0401NR	0.500	1.9	*LM25	1.9	UGG
				08-SS-12	08/14/1991	08SS1201NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1242	08-SA-01	08/15/1991	08SA0101NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-02	08/14/1991	08SA0201NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-03	08/14/1991	08SA0301NR	1.000	1.9	*LM25	1.9	UGG
						08SA0302NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-04	08/15/1991	08SA0401NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-05	08/15/1991	08SA0501NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-06	08/14/1991	08SA0601NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-07	08/14/1991	08SA0701NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-08	08/14/1991	08SA0801NR	1.300	1.9	*LM25	1.9	UGG
				08-SA-09	08/14/1991	08SA0901NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-10	08/14/1991	08SA1001NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-11	08/14/1991	08SA1101NR	1.000	1.9	*LM25	1.9	UGG
				08-SS-04	08/15/1991	08SS0401NR	0.500	1.9	*LM25	1.9	UGG
				08-SS-12	08/14/1991	08SS1201NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1248	08-SA-01	08/15/1991	08SA0101NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-02	08/14/1991	08SA0201NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-03	08/14/1991	08SA0301NR	1.000	1.9	*LM25	1.9	UGG
						08SA0302NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-04	08/15/1991	08SA0401NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-05	08/15/1991	08SA0501NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-06	08/14/1991	08SA0601NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-07	08/14/1991	08SA0701NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-08	08/14/1991	08SA0801NR	1.300	1.9	*LM25	1.9	UGG
				08-SA-09	08/14/1991	08SA0901NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-10	08/14/1991	08SA1001NR	1.000	1.9	*LM25	1.9	UGG
				08-SA-11	08/14/1991	08SA1101NR	1.000	1.9	*LM25	1.9	UGG
				08-SS-04	08/15/1991	08SS0401NR	0.500	1.9	*LM25	1.9	UGG
				08-SS-12	08/14/1991	08SS1201NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1254	08-SA-01	08/15/1991	08SA0101NR	1.000	3.8	*LM25	3.8	UGG
				08-SA-02	08/14/1991	08SA0201NR	1.000	3.8	*LM25	3.8	UGG
				08-SA-03	08/14/1991	08SA0301NR	1.000	3.8	*LM25	3.8	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						08SA0302NR	1.000	3.8	*LM25	3.8	UGG
				08-SA-04	08/15/1991	08SA0401NR	1.000	3.8	*LM25	3.8	UGG
				08-SA-05	08/15/1991	08SA0501NR	1.000	3.8	*LM25	3.8	UGG
				08-SA-06	08/14/1991	08SA0601NR	1.000	3.8	*LM25	3.8	UGG
				08-SA-07	08/14/1991	08SA0701NR	1.000	3.8	*LM25	3.8	UGG
				08-SA-08	08/14/1991	08SA0801NR	1.300	3.8	*LM25	3.8	UGG
				08-SA-09	08/14/1991	08SA0901NR	1.000	3.8	*LM25	3.8	UGG
				08-SA-10	08/14/1991	08SA1001NR	1.000	3.8	*LM25	3.8	UGG
				08-SA-11	08/14/1991	08SA1101NR	1.000	3.8	*LM25	3.8	UGG
				08-SS-04	08/15/1991	08SS0401NR	0.500	3.8	*LM25	3.8	UGG
				08-SS-12	08/14/1991	08SS1201NR	0.500	3.8	*LM25	3.8	UGG
			PCB 1260	08-SA-01	08/15/1991	08SA0101N	1.000	0.79	<LM25	0.79	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	0.79	<LM25	0.79	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	0.79	<LM25	0.79	UGG
						08SA0302ND	1.000	0.79	<LM25	0.79	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	0.79	<LM25	0.79	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	0.79	<LM25	0.79	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	0.79	<LM25	0.79	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	0.79	<LM25	0.79	UGG
				08-SA-08	08/14/1991	08SA0801N	1.300	0.79	<LM25	0.79	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	0.79	<LM25	0.79	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	0.79	<LM25	0.79	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	0.79	<LM25	0.79	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	0.79	<LM25	0.79	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	0.79	<LM25	0.79	UGG
				08-SS-13	08/15/1991	08SS1301YC	0.500	2.06	=LH17	0.0479	UGG
			PCB 1262	08-SA-01	08/15/1991	08SA0101Y	1.000	6.3	<LM25	0.3	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	6.3	<LM25	0.3	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	6.3	<LM25	0.3	UGG
						08SA0302YD	1.000	6.3	<LM25	0.3	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	6.3	<LM25	0.3	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	6.3	<LM25	0.3	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	6.3	<LM25	0.3	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	6.3	<LM25	0.3	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	6.3	<LM25	0.3	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	6.3	<LM25	0.3	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	6.3	<LM25	0.3	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	6.3	<LM25	0.3	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	6.3	<LM25	0.3	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	6.3	<LM25	0.3	UGG
			TOXAPHENE	08-SA-01	08/15/1991	08SA0101NR	1.000	12.0	*LM25	12.0	UGG
				08-SA-02	08/14/1991	08SA0201NR	1.000	12.0	*LM25	12.0	UGG
				08-SA-03	08/14/1991	08SA0301NR	1.000	12.0	*LM25	12.0	UGG
						08SA0302NR	1.000	12.0	*LM25	12.0	UGG
				08-SA-04	08/15/1991	08SA0401NR	1.000	12.0	*LM25	12.0	UGG
				08-SA-05	08/15/1991	08SA0501NR	1.000	12.0	*LM25	12.0	UGG
				08-SA-06	08/14/1991	08SA0601NR	1.000	12.0	*LM25	12.0	UGG
				08-SA-07	08/14/1991	08SA0701NR	1.000	12.0	*LM25	12.0	UGG
				08-SA-08	08/14/1991	08SA0801NR	1.300	12.0	*LM25	12.0	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901NR	1.000	12.0	*LM25	12.0	UGG
				08-SA-10	08/14/1991	08SA1001NR	1.000	12.0	*LM25	12.0	UGG
				08-SA-11	08/14/1991	08SA1101NR	1.000	12.0	*LM25	12.0	UGG
				08-SS-04	08/15/1991	08SS0401NR	0.500	12.0	*LM25	12.0	UGG
				08-SS-12	08/14/1991	08SS1201NR	0.500	12.0	*LM25	12.0	UGG
		SEMIVOLATILES	1,2,3-TRICHLOROBENZENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.032	<LM25	0.032	UGG
						08SA0302YD	1.000	0.032	<LM25	0.032	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.032	<LM25	0.032	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.032	<LM25	0.032	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.032	<LM25	0.032	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.032	<LM25	0.032	UGG
			1,2,4-TRICHLOROBENZENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.22	<LM25	0.22	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.22	<LM25	0.22	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.22	<LM25	0.22	UGG
						08SA0302YD	1.000	0.22	<LM25	0.22	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.22	<LM25	0.22	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.22	<LM25	0.22	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.22	<LM25	0.22	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.22	<LM25	0.22	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.22	<LM25	0.22	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.22	<LM25	0.22	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.22	<LM25	0.22	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.22	<LM25	0.22	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.22	<LM25	0.22	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.22	<LM25	0.22	UGG
			1,2-DICHLOROBENZENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.042	<LM25	0.042	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.042	<LM25	0.042	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.042	<LM25	0.042	UGG
						08SA0302YD	1.000	0.042	<LM25	0.042	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.042	<LM25	0.042	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.042	<LM25	0.042	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.042	<LM25	0.042	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.042	<LM25	0.042	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.042	<LM25	0.042	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.042	<LM25	0.042	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.042	<LM25	0.042	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.042	<LM25	0.042	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.042	<LM25	0.042	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.042	<LM25	0.042	UGG
			1,2-DIPHENYLHYDRAZINE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.52	<LM25	0.52	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.52	<LM25	0.52	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.52	<LM25	0.52	UGG
						08SA0302YD	1.000	0.52	<LM25	0.52	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.52	<LM25	0.52	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.52	<LM25	0.52	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.52	<LM25	0.52	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.52	<LM25	0.52	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.52	<LM25	0.52	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.52	<LM25	0.52	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.52	<LM25	0.52	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.52	<LM25	0.52	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.52	<LM25	0.52	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.52	<LM25	0.52	UGG
			1,4-DICHLOROBENZENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.034	<LM25	0.034	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.034	<LM25	0.034	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.034	<LM25	0.034	UGG
						08SA0302YD	1.000	0.034	<LM25	0.034	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.034	<LM25	0.034	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.034	<LM25	0.034	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.034	<LM25	0.034	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.034	<LM25	0.034	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.034	<LM25	0.034	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.034	<LM25	0.034	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.034	<LM25	0.034	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.034	<LM25	0.034	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.034	<LM25	0.034	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.034	<LM25	0.034	UGG
			1,4-OXATHIANE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.075	<LM25	0.075	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.075	<LM25	0.075	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.075	<LM25	0.075	UGG
						08SA0302YD	1.000	0.075	<LM25	0.075	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.075	<LM25	0.075	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.075	<LM25	0.075	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.075	<LM25	0.075	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.075	<LM25	0.075	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.075	<LM25	0.075	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.075	<LM25	0.075	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.075	<LM25	0.075	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.075	<LM25	0.075	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.075	<LM25	0.075	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.075	<LM25	0.075	UGG
			2,3,6-TCP	08-SA-01	08/15/1991	08SA0101Y	1.000	0.62	<LM25	0.62	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.62	<LM25	0.62	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.62	<LM25	0.62	UGG
						08SA0302YD	1.000	0.62	<LM25	0.62	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.62	<LM25	0.62	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.62	<LM25	0.62	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.62	<LM25	0.62	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.62	<LM25	0.62	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.62	<LM25	0.62	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.62	<LM25	0.62	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.62	<LM25	0.62	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.62	<LM25	0.62	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.62	<LM25	0.62	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.62	<LM25	0.62	UGG
			2,4,5-TRICHLOROPHENOL	08-SA-01	08/15/1991	08SA0101Y	1.000	0.49	<LM25	0.49	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.49	<LM25	0.49	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.49	<LM25	0.49	UGG
						08SA0302YD	1.000	0.49	<LM25	0.49	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.49	<LM25	0.49	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.49	<LM25	0.49	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.49	<LM25	0.49	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.49	<LM25	0.49	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.49	<LM25	0.49	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.49	<LM25	0.49	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.49	<LM25	0.49	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.49	<LM25	0.49	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.49	<LM25	0.49	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.49	<LM25	0.49	UGG
			2,4,6-TRICHLOROPHENOL	08-SA-01	08/15/1991	08SA0101Y	1.000	0.061	<LM25	0.061	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.061	<LM25	0.061	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.061	<LM25	0.061	UGG
						08SA0302YD	1.000	0.061	<LM25	0.061	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.061	<LM25	0.061	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.061	<LM25	0.061	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.061	<LM25	0.061	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.061	<LM25	0.061	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.061	<LM25	0.061	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.061	<LM25	0.061	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.061	<LM25	0.061	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.061	<LM25	0.061	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.061	<LM25	0.061	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.061	<LM25	0.061	UGG
			2,4-DICHLOROPHENOL	08-SA-01	08/15/1991	08SA0101Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.065	<LM25	0.065	UGG
						08SA0302YD	1.000	0.065	<LM25	0.065	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.065	<LM25	0.065	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.065	<LM25	0.065	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.065	<LM25	0.065	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.065	<LM25	0.065	UGG
			2,4-DIMETHYLPHENOL	08-SA-01	08/15/1991	08SA0101Y	1.000	3.0	<LM25	3.0	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	3.0	<LM25	3.0	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-03	08/14/1991	08SA0301Y	1.000	3.0	<LM25	3.0	UGG
						08SA0302YD	1.000	3.0	<LM25	3.0	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	3.0	<LM25	3.0	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	3.0	<LM25	3.0	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	3.0	<LM25	3.0	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	3.0	<LM25	3.0	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	3.0	<LM25	3.0	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	3.0	<LM25	3.0	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	3.0	<LM25	3.0	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	3.0	<LM25	3.0	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	3.0	<LM25	3.0	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	3.0	<LM25	3.0	UGG
			2,4-DINITROPHENOL	08-SA-01	08/15/1991	08SA0101Y	1.000	4.7	<LM25	4.7	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	4.7	<LM25	4.7	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	4.7	<LM25	4.7	UGG
						08SA0302YD	1.000	4.7	<LM25	4.7	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	4.7	<LM25	4.7	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	4.7	<LM25	4.7	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	4.7	<LM25	4.7	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	4.7	<LM25	4.7	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	4.7	<LM25	4.7	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	4.7	<LM25	4.7	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	4.7	<LM25	4.7	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	4.7	<LM25	4.7	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	4.7	<LM25	4.7	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	4.7	<LM25	4.7	UGG
			2,6-DINITROANILINE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.57	<LM25	0.57	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.57	<LM25	0.57	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.57	<LM25	0.57	UGG
						08SA0302YD	1.000	0.57	<LM25	0.57	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.57	<LM25	0.57	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.57	<LM25	0.57	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.57	<LM25	0.57	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.57	<LM25	0.57	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.57	<LM25	0.57	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.57	<LM25	0.57	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.57	<LM25	0.57	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.57	<LM25	0.57	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.57	<LM25	0.57	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.57	<LM25	0.57	UGG
			2-CHLORONAPHTHALENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.24	<LM25	0.24	UGG
						08SA0302YD	1.000	0.24	<LM25	0.24	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.24	<LM25	0.24	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.24	<LM25	0.24	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.24	<LM25	0.24	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.24	<LM25	0.24	UGG
			2-CHLOROPHENOL	08-SA-01	08/15/1991	08SA0101Y	1.000	0.055	<LM25	0.055	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.055	<LM25	0.055	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.055	<LM25	0.055	UGG
						08SA0302YD	1.000	0.055	<LM25	0.055	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.055	<LM25	0.055	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.055	<LM25	0.055	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.055	<LM25	0.055	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.055	<LM25	0.055	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.055	<LM25	0.055	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.055	<LM25	0.055	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.055	<LM25	0.055	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.055	<LM25	0.055	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.055	<LM25	0.055	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.055	<LM25	0.055	UGG
			2-METHYL-4,6-DINITROPHENOL/4,6	08-SA-01	08/15/1991	08SA0101Y	1.000	0.8	<LM25	0.8	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.8	<LM25	0.8	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.8	<LM25	0.8	UGG
						08SA0302YD	1.000	0.8	<LM25	0.8	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.8	<LM25	0.8	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.8	<LM25	0.8	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.8	<LM25	0.8	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.8	<LM25	0.8	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.8	<LM25	0.8	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.8	<LM25	0.8	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.8	<LM25	0.8	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.8	<LM25	0.8	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.8	<LM25	0.8	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.8	<LM25	0.8	UGG
			2-METHYLNAPHTHALENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.032	<LM25	0.032	UGG
						08SA0302YD	1.000	0.032	<LM25	0.032	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.459	=LM25	0.032	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.032	<LM25	0.032	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.032	<LM25	0.032	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.032	<LM25	0.032	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.032	<LM25	0.032	UGG
			2-METHYLPHENOL/2-CRESOL	08-SA-01	08/15/1991	08SA0101Y	1.000	0.098	<LM25	0.098	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.098	<LM25	0.098	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.098	<LM25	0.098	UGG
						08SA0302YD	1.000	0.098	<LM25	0.098	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.098	<LM25	0.098	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.098	<LM25	0.098	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.098	<LM25	0.098	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.098	<LM25	0.098	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.098	<LM25	0.098	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.098	<LM25	0.098	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.098	<LM25	0.098	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.098	<LM25	0.098	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.098	<LM25	0.098	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.098	<LM25	0.098	UGG
			2-NITROANILINE	08-SA-01	08/15/1991	08SA0101NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-02	08/14/1991	08SA0201NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-03	08/14/1991	08SA0301NR	1.000	3.1	*LM25	3.1	UGG
						08SA0302NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-04	08/15/1991	08SA0401NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-05	08/15/1991	08SA0501NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-06	08/14/1991	08SA0601NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-07	08/14/1991	08SA0701NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-08	08/14/1991	08SA0801NR	1.300	3.1	*LM25	3.1	UGG
				08-SA-09	08/14/1991	08SA0901NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-10	08/14/1991	08SA1001NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-11	08/14/1991	08SA1101NR	1.000	3.1	*LM25	3.1	UGG
				08-SS-04	08/15/1991	08SS0401NR	0.500	3.1	*LM25	3.1	UGG
				08-SS-12	08/14/1991	08SS1201NR	0.500	3.1	*LM25	3.1	UGG
			2-NITROPHENOL	08-SA-01	08/15/1991	08SA0101Y	1.000	1.1	<LM25	1.1	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	1.1	<LM25	1.1	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	1.1	<LM25	1.1	UGG
						08SA0302YD	1.000	1.1	<LM25	1.1	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	1.1	<LM25	1.1	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	1.1	<LM25	1.1	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	1.1	<LM25	1.1	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	1.1	<LM25	1.1	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	1.1	<LM25	1.1	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	1.1	<LM25	1.1	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	1.1	<LM25	1.1	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	1.1	<LM25	1.1	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	1.1	<LM25	1.1	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	1.1	<LM25	1.1	UGG
			3,3'-DICHLOROBENZIDINE	08-SA-01	08/15/1991	08SA0101Y	1.000	1.6	<LM25	1.6	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	1.6	<LM25	1.6	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	1.6	<LM25	1.6	UGG
						08SA0302YD	1.000	1.6	<LM25	1.6	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	1.6	<LM25	1.6	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	1.6	<LM25	1.6	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	1.6	<LM25	1.6	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	1.6	<LM25	1.6	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	1.6	<LM25	1.6	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901Y	1.000	1.6	<LM25	1.6	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	1.6	<LM25	1.6	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	1.6	<LM25	1.6	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	1.6	<LM25	1.6	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	1.6	<LM25	1.6	UGG
			3,5-DINITROANILINE	08-SA-01	08/15/1991	08SA0101Y	1.000	1.6	<LM25	1.6	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	1.6	<LM25	1.6	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	1.6	<LM25	1.6	UGG
						08SA0302YD	1.000	1.6	<LM25	1.6	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	1.6	<LM25	1.6	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	1.6	<LM25	1.6	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	1.6	<LM25	1.6	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	1.6	<LM25	1.6	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	1.6	<LM25	1.6	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	1.6	<LM25	1.6	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	1.6	<LM25	1.6	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	1.6	<LM25	1.6	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	1.6	<LM25	1.6	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	1.6	<LM25	1.6	UGG
			3-METHYL-4-CHLOROPHENOL/4-CHLO	08-SA-01	08/15/1991	08SA0101Y	1.000	0.93	<LM25	0.93	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.93	<LM25	0.93	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.93	<LM25	0.93	UGG
						08SA0302YD	1.000	0.93	<LM25	0.93	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.93	<LM25	0.93	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.93	<LM25	0.93	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.93	<LM25	0.93	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.93	<LM25	0.93	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.93	<LM25	0.93	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.93	<LM25	0.93	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.93	<LM25	0.93	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.93	<LM25	0.93	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.93	<LM25	0.93	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.93	<LM25	0.93	UGG
			3-NITROANILINE	08-SA-01	08/15/1991	08SA0101Y	1.000	3.0	<LM25	3.0	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	3.0	<LM25	3.0	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	3.0	<LM25	3.0	UGG
						08SA0302YD	1.000	3.0	<LM25	3.0	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	3.0	<LM25	3.0	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	3.0	<LM25	3.0	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	3.0	<LM25	3.0	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	3.0	<LM25	3.0	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	3.0	<LM25	3.0	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	3.0	<LM25	3.0	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	3.0	<LM25	3.0	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	3.0	<LM25	3.0	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	3.0	<LM25	3.0	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	3.0	<LM25	3.0	UGG
			3-NITROTOLUENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.34	<LM25	0.34	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.34	<LM25	0.34	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.34	<LM25	0.34	UGG
						08SA0302YD	1.000	0.34	<LM25	0.34	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.34	<LM25	0.34	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.34	<LM25	0.34	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.34	<LM25	0.34	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.34	<LM25	0.34	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.34	<LM25	0.34	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.34	<LM25	0.34	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.34	<LM25	0.34	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.34	<LM25	0.34	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.34	<LM25	0.34	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.34	<LM25	0.34	UGG
			4-BROMOPHENYLPHENYL ETHER	08-SA-01	08/15/1991	08SA0101Y	1.000	0.041	<LM25	0.041	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.041	<LM25	0.041	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.041	<LM25	0.041	UGG
						08SA0302YD	1.000	0.041	<LM25	0.041	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.041	<LM25	0.041	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.041	<LM25	0.041	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.041	<LM25	0.041	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.041	<LM25	0.041	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.041	<LM25	0.041	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.041	<LM25	0.041	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.041	<LM25	0.041	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.041	<LM25	0.041	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.041	<LM25	0.041	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.041	<LM25	0.041	UGG
			4-CHLOROANILINE	08-SA-01	08/15/1991	08SA0101NR	1.000	0.63	*LM25	0.63	UGG
				08-SA-02	08/14/1991	08SA0201NR	1.000	0.63	*LM25	0.63	UGG
				08-SA-03	08/14/1991	08SA0301NR	1.000	0.63	*LM25	0.63	UGG
						08SA0302NR	1.000	0.63	*LM25	0.63	UGG
				08-SA-04	08/15/1991	08SA0401NR	1.000	0.63	*LM25	0.63	UGG
				08-SA-05	08/15/1991	08SA0501NR	1.000	0.63	*LM25	0.63	UGG
				08-SA-06	08/14/1991	08SA0601NR	1.000	0.63	*LM25	0.63	UGG
				08-SA-07	08/14/1991	08SA0701NR	1.000	0.63	*LM25	0.63	UGG
				08-SA-08	08/14/1991	08SA0801NR	1.300	0.63	*LM25	0.63	UGG
				08-SA-09	08/14/1991	08SA0901NR	1.000	0.63	*LM25	0.63	UGG
				08-SA-10	08/14/1991	08SA1001NR	1.000	0.63	*LM25	0.63	UGG
				08-SA-11	08/14/1991	08SA1101NR	1.000	0.63	*LM25	0.63	UGG
				08-SS-04	08/15/1991	08SS0401NR	0.500	0.63	*LM25	0.63	UGG
				08-SS-12	08/14/1991	08SS1201NR	0.500	0.63	*LM25	0.63	UGG
			4-CHLOROPHENYLPHENYL ETHER	08-SA-01	08/15/1991	08SA0101Y	1.000	0.17	<LM25	0.17	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.17	<LM25	0.17	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.17	<LM25	0.17	UGG
						08SA0302YD	1.000	0.17	<LM25	0.17	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.17	<LM25	0.17	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.17	<LM25	0.17	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.17	<LM25	0.17	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.17	<LM25	0.17	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.17	<LM25	0.17	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.17	<LM25	0.17	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.17	<LM25	0.17	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.17	<LM25	0.17	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.17	<LM25	0.17	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.17	<LM25	0.17	UGG
			4-METHYLPHENOL/4-CRESOL	08-SA-01	08/15/1991	08SA0101Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.24	<LM25	0.24	UGG
						08SA0302YD	1.000	0.24	<LM25	0.24	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.24	<LM25	0.24	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.24	<LM25	0.24	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.24	<LM25	0.24	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.24	<LM25	0.24	UGG
			4-NITROANILINE	08-SA-01	08/15/1991	08SA0101NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-02	08/14/1991	08SA0201NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-03	08/14/1991	08SA0301NR	1.000	3.1	*LM25	3.1	UGG
						08SA0302NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-04	08/15/1991	08SA0401NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-05	08/15/1991	08SA0501NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-06	08/14/1991	08SA0601NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-07	08/14/1991	08SA0701NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-08	08/14/1991	08SA0801NR	1.300	3.1	*LM25	3.1	UGG
				08-SA-09	08/14/1991	08SA0901NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-10	08/14/1991	08SA1001NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-11	08/14/1991	08SA1101NR	1.000	3.1	*LM25	3.1	UGG
				08-SS-04	08/15/1991	08SS0401NR	0.500	3.1	*LM25	3.1	UGG
				08-SS-12	08/14/1991	08SS1201NR	0.500	3.1	*LM25	3.1	UGG
			4-NITROPHENOL	08-SA-01	08/15/1991	08SA0101Y	1.000	3.3	<LM25	3.3	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	3.3	<LM25	3.3	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	3.3	<LM25	3.3	UGG
						08SA0302YD	1.000	3.3	<LM25	3.3	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	3.3	<LM25	3.3	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	3.3	<LM25	3.3	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	3.3	<LM25	3.3	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	3.3	<LM25	3.3	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	3.3	<LM25	3.3	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	3.3	<LM25	3.3	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	3.3	<LM25	3.3	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	3.3	<LM25	3.3	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	3.3	<LM25	3.3	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	3.3	<LM25	3.3	UGG
			ACENAPHTHENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.041	<LM25	0.041	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.041	<LM25	0.041	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.041	<LM25	0.041	UGG
						08SA0302YD	1.000	0.041	<LM25	0.041	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.041	<LM25	0.041	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.041	<LM25	0.041	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.041	<LM25	0.041	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.041	<LM25	0.041	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.041	<LM25	0.041	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.041	<LM25	0.041	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.041	<LM25	0.041	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.041	<LM25	0.041	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.041	<LM25	0.041	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.041	<LM25	0.041	UGG
			ACENAPHTHYLENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.033	<LM25	0.033	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.033	<LM25	0.033	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.033	<LM25	0.033	UGG
						08SA0302YD	1.000	0.033	<LM25	0.033	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.033	<LM25	0.033	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.033	<LM25	0.033	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.033	<LM25	0.033	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.033	<LM25	0.033	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.033	<LM25	0.033	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.033	<LM25	0.033	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.033	<LM25	0.033	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.033	<LM25	0.033	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.033	<LM25	0.033	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.033	<LM25	0.033	UGG
			ANTHRACENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.71	<LM25	0.71	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.71	<LM25	0.71	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.71	<LM25	0.71	UGG
						08SA0302YD	1.000	0.71	<LM25	0.71	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.71	<LM25	0.71	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.71	<LM25	0.71	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.71	<LM25	0.71	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.71	<LM25	0.71	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.71	<LM25	0.71	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.71	<LM25	0.71	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.71	<LM25	0.71	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.71	<LM25	0.71	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.71	<LM25	0.71	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.71	<LM25	0.71	UGG
			ATRAZINE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.065	<LM25	0.065	UGG
						08SA0302YD	1.000	0.065	<LM25	0.065	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.065	<LM25	0.065	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.065	<LM25	0.065	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.065	<LM25	0.065	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.065	<LM25	0.065	UGG
			BENZO(A)ANTHRACENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.041	<LM25	0.48	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.041	<LM25	0.48	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.041	<LM25	0.48	UGG
						08SA0302YD	1.000	0.041	<LM25	0.48	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.041	<LM25	0.48	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.307	=LM25	0.48	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.041	<LM25	0.48	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.041	<LM25	0.48	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.041	<LM25	0.48	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.041	<LM25	0.48	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.172	=LM25	0.48	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.041	<LM25	0.48	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.041	<LM25	0.48	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.041	<LM25	0.48	UGG
			BENZO(A)PYRENE	08-SA-01	08/15/1991	08SA0101Y	1.000	1.2	<LM25	1.2	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	1.2	<LM25	1.2	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	1.2	<LM25	1.2	UGG
						08SA0302YD	1.000	1.2	<LM25	1.2	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	1.2	<LM25	1.2	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	1.2	<LM25	1.2	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	1.2	<LM25	1.2	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	1.2	<LM25	1.2	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	1.2	<LM25	1.2	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	1.2	<LM25	1.2	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	1.2	<LM25	1.2	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	1.2	<LM25	1.2	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	1.2	<LM25	1.2	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	1.2	<LM25	1.2	UGG
			BENZO(B)FLUORANTHENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.31	<LM25	0.31	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.31	<LM25	0.31	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.31	<LM25	0.31	UGG
						08SA0302YD	1.000	0.31	<LM25	0.31	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.31	<LM25	0.31	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.31	<LM25	0.31	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.31	<LM25	0.31	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.31	<LM25	0.31	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.31	<LM25	0.31	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.31	<LM25	0.31	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.31	<LM25	0.31	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.31	<LM25	0.31	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.31	<LM25	0.31	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.31	<LM25	0.31	UGG
			BENZO(G,H,I)PERYLENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.18	<LM25	0.18	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.18	<LM25	0.18	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.18	<LM25	0.18	UGG
						08SA0302YD	1.000	0.18	<LM25	0.18	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.18	<LM25	0.18	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.18	<LM25	0.18	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.18	<LM25	0.18	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.18	<LM25	0.18	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.18	<LM25	0.18	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.18	<LM25	0.18	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.18	<LM25	0.18	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.18	<LM25	0.18	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.18	<LM25	0.18	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.18	<LM25	0.18	UGG
			BENZO(K)FLUORANTHENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.13	<LM25	0.13	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.13	<LM25	0.13	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.13	<LM25	0.13	UGG
						08SA0302YD	1.000	0.13	<LM25	0.13	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.13	<LM25	0.13	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.13	<LM25	0.13	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.13	<LM25	0.13	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.13	<LM25	0.13	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.13	<LM25	0.13	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.13	<LM25	0.13	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.13	<LM25	0.13	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.13	<LM25	0.13	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.13	<LM25	0.13	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.13	<LM25	0.13	UGG
			BENZOIC ACID	08-SA-01	08/15/1991	08SA0101NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-02	08/14/1991	08SA0201NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-03	08/14/1991	08SA0301NR	1.000	3.1	*LM25	3.1	UGG
						08SA0302NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-04	08/15/1991	08SA0401NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-05	08/15/1991	08SA0501NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-06	08/14/1991	08SA0601NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-07	08/14/1991	08SA0701NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-08	08/14/1991	08SA0801NR	1.300	3.1	*LM25	3.1	UGG
				08-SA-09	08/14/1991	08SA0901NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-10	08/14/1991	08SA1001NR	1.000	3.1	*LM25	3.1	UGG
				08-SA-11	08/14/1991	08SA1101NR	1.000	3.1	*LM25	3.1	UGG
				08-SS-04	08/15/1991	08SS0401NR	0.500	3.1	*LM25	3.1	UGG
				08-SS-12	08/14/1991	08SS1201NR	0.500	3.1	*LM25	3.1	UGG
			BENZYL ALCOHOL	08-SA-01	08/15/1991	08SA0101Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.032	<LM25	0.032	UGG
						08SA0302YD	1.000	0.032	<LM25	0.032	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.032	<LM25	0.032	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.032	<LM25	0.032	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.032	<LM25	0.032	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.032	<LM25	0.032	UGG
			BIS (2-CHLOROETHOXY) METHANE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.19	<LM25	0.19	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.19	<LM25	0.19	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.19	<LM25	0.19	UGG
						08SA0302YD	1.000	0.19	<LM25	0.19	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.19	<LM25	0.19	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.19	<LM25	0.19	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.19	<LM25	0.19	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.19	<LM25	0.19	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.19	<LM25	0.19	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.19	<LM25	0.19	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.19	<LM25	0.19	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.19	<LM25	0.19	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.19	<LM25	0.19	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.19	<LM25	0.19	UGG
			BIS (2-CHLOROETHYL) ETHER	08-SA-01	08/15/1991	08SA0101Y	1.000	0.36	<LM25	0.36	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.36	<LM25	0.36	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.36	<LM25	0.36	UGG
						08SA0302YD	1.000	0.36	<LM25	0.36	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.36	<LM25	0.36	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.36	<LM25	0.36	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.36	<LM25	0.36	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.36	<LM25	0.36	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.36	<LM25	0.36	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.36	<LM25	0.36	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.36	<LM25	0.36	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.36	<LM25	0.36	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.36	<LM25	0.36	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.36	<LM25	0.36	UGG
			BIS (2-CHLOROISOPROPYL) ETHER	08-SA-01	08/15/1991	08SA0101Y	1.000	0.44	<LM25	0.44	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.44	<LM25	0.44	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.44	<LM25	0.44	UGG
						08SA0302YD	1.000	0.44	<LM25	0.44	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.44	<LM25	0.44	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.44	<LM25	0.44	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.44	<LM25	0.44	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.44	<LM25	0.44	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.44	<LM25	0.44	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.44	<LM25	0.44	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.44	<LM25	0.44	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.44	<LM25	0.44	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.44	<LM25	0.44	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.44	<LM25	0.44	UGG
			BIS (2-ETHYLHEXYL) PHTHALATE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.48	<LM25	0.48	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.48	<LM25	0.48	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.48	<LM25	0.48	UGG
						08SA0302YD	1.000	0.48	<LM25	0.48	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.48	<LM25	0.48	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.48	<LM25	0.48	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.48	<LM25	0.48	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.48	<LM25	0.48	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.48	<LM25	0.48	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.48	<LM25	0.48	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.48	<LM25	0.48	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.48	<LM25	0.48	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.48	<LM25	0.48	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.48	<LM25	0.48	UGG
			BUTYLBENZYL PHTHALATE	08-SA-01	08/15/1991	08SA0101Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	1.8	<LM25	1.8	UGG
						08SA0302YD	1.000	1.8	<LM25	1.8	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	1.8	<LM25	1.8	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	1.8	<LM25	1.8	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	1.8	<LM25	1.8	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	1.8	<LM25	1.8	UGG
			CHRYSENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.032	<LM25	0.032	UGG
						08SA0302YD	1.000	0.032	<LM25	0.032	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.479	=LM25	0.032	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.032	<LM25	0.032	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.032	<LM25	0.032	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.032	<LM25	0.032	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.032	<LM25	0.032	UGG
			DI-N-BUTYL PHTHALATE	08-SA-01	08/15/1991	08SA0101Y	1.000	1.3	<LM25	1.3	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	1.3	<LM25	1.3	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	1.3	<LM25	1.3	UGG
						08SA0302YD	1.000	1.3	<LM25	1.3	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	1.3	<LM25	1.3	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	1.3	<LM25	1.3	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	1.3	<LM25	1.3	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	1.3	<LM25	1.3	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	1.3	<LM25	1.3	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901Y	1.000	1.3	<LM25	1.3	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	2.57	=LM25	1.3	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	4.72	=LM25	1.3	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	1.3	<LM25	1.3	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	1.3	<LM25	1.3	UGG
			DI-N-OCTYL PHTHALATE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.23	<LM25	0.23	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.23	<LM25	0.23	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.23	<LM25	0.23	UGG
						08SA0302YD	1.000	0.23	<LM25	0.23	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.23	<LM25	0.23	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.23	<LM25	0.23	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.23	<LM25	0.23	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.23	<LM25	0.23	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.23	<LM25	0.23	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.23	<LM25	0.23	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.23	<LM25	0.23	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.23	<LM25	0.23	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.23	<LM25	0.23	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.23	<LM25	0.23	UGG
			DIBENZ(A,H)ANTHRACENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.31	<LM25	0.31	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.31	<LM25	0.31	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.31	<LM25	0.31	UGG
						08SA0302YD	1.000	0.31	<LM25	0.31	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.31	<LM25	0.31	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.31	<LM25	0.31	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.31	<LM25	0.31	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.31	<LM25	0.31	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.31	<LM25	0.31	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.31	<LM25	0.31	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.31	<LM25	0.31	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.31	<LM25	0.31	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.31	<LM25	0.31	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.31	<LM25	0.31	UGG
			DIBENZOFURAN	08-SA-01	08/15/1991	08SA0101Y	1.000	0.038	<LM25	0.038	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.038	<LM25	0.038	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.038	<LM25	0.038	UGG
						08SA0302YD	1.000	0.038	<LM25	0.038	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.038	<LM25	0.038	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.038	<LM25	0.038	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.038	<LM25	0.038	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.038	<LM25	0.038	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.038	<LM25	0.038	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.038	<LM25	0.038	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.038	<LM25	0.038	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.038	<LM25	0.038	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.038	<LM25	0.038	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.038	<LM25	0.038	UGG
			DIBROMOCHLOROPROPANE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.071	<LM25	0.071	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.071	<LM25	0.071	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.071	<LM25	0.071	UGG
						08SA0302YD	1.000	0.071	<LM25	0.071	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.071	<LM25	0.071	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.071	<LM25	0.071	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.071	<LM25	0.071	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.071	<LM25	0.071	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.071	<LM25	0.071	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.071	<LM25	0.071	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.071	<LM25	0.071	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.071	<LM25	0.071	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.071	<LM25	0.071	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.071	<LM25	0.071	UGG
			DICYCLOPENTADIENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.57	<LM25	0.57	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.57	<LM25	0.57	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.57	<LM25	0.57	UGG
						08SA0302YD	1.000	0.57	<LM25	0.57	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.57	<LM25	0.57	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.57	<LM25	0.57	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.57	<LM25	0.57	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.57	<LM25	0.57	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.57	<LM25	0.57	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.57	<LM25	0.57	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.57	<LM25	0.57	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.57	<LM25	0.57	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.57	<LM25	0.57	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.57	<LM25	0.57	UGG
			DIETHYL PHTHALATE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.24	<LM25	0.24	UGG
						08SA0302YD	1.000	0.24	<LM25	0.24	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.24	<LM25	0.24	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.24	<LM25	0.24	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.24	<LM25	0.24	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.24	<LM25	0.24	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.24	<LM25	0.24	UGG
			DIMETHYL PHTHALATE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.063	<LM25	0.063	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.063	<LM25	0.063	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.063	<LM25	0.063	UGG
						08SA0302YD	1.000	0.063	<LM25	0.063	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.063	<LM25	0.063	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.063	<LM25	0.063	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.063	<LM25	0.063	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.063	<LM25	0.063	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.063	<LM25	0.063	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.063	<LM25	0.063	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.063	<LM25	0.063	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.063	<LM25	0.063	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.063	<LM25	0.063	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.063	<LM25	0.063	UGG
			DITHIANE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.065	<LM25	0.065	UGG
						08SA0302YD	1.000	0.065	<LM25	0.065	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.065	<LM25	0.065	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.065	<LM25	0.065	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.065	<LM25	0.065	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.065	<LM25	0.065	UGG
			ENDOSULFAN SULFATE	08-SA-01	08/15/1991	08SA0101Y	1.000	1.2	<LM25	1.2	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	1.2	<LM25	1.2	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	1.2	<LM25	1.2	UGG
						08SA0302YD	1.000	1.2	<LM25	1.2	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	1.2	<LM25	1.2	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	1.2	<LM25	1.2	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	1.2	<LM25	1.2	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	1.2	<LM25	1.2	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	1.2	<LM25	1.2	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	1.2	<LM25	1.2	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	1.2	<LM25	1.2	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	1.2	<LM25	1.2	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	1.2	<LM25	1.2	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	1.2	<LM25	1.2	UGG
			ENDRIN ALDEHYDE	08-SA-01	08/15/1991	08SA0101Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	1.8	<LM25	1.8	UGG
						08SA0302YD	1.000	1.8	<LM25	1.8	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	1.8	<LM25	1.8	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	1.8	<LM25	1.8	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	1.8	<LM25	1.8	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	1.8	<LM25	1.8	UGG
			ENDRIN KETONE	08-SA-01	08/15/1991	08SA0101NR	1.000	0.28	*LM25	0.28	UGG
				08-SA-02	08/14/1991	08SA0201NR	1.000	0.28	*LM25	0.28	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-03	08/14/1991	08SA0301NR	1.000	0.28	*LM25	0.28	UGG
						08SA0302NR	1.000	0.28	*LM25	0.28	UGG
				08-SA-04	08/15/1991	08SA0401NR	1.000	0.28	*LM25	0.28	UGG
				08-SA-05	08/15/1991	08SA0501NR	1.000	0.28	*LM25	0.28	UGG
				08-SA-06	08/14/1991	08SA0601NR	1.000	0.28	*LM25	0.28	UGG
				08-SA-07	08/14/1991	08SA0701NR	1.000	0.28	*LM25	0.28	UGG
				08-SA-08	08/14/1991	08SA0801NR	1.300	0.28	*LM25	0.28	UGG
				08-SA-09	08/14/1991	08SA0901NR	1.000	0.28	*LM25	0.28	UGG
				08-SA-10	08/14/1991	08SA1001NR	1.000	0.28	*LM25	0.28	UGG
				08-SA-11	08/14/1991	08SA1101NR	1.000	0.28	*LM25	0.28	UGG
				08-SS-04	08/15/1991	08SS0401NR	0.500	0.28	*LM25	0.28	UGG
				08-SS-12	08/14/1991	08SS1201NR	0.500	0.28	*LM25	0.28	UGG
			FLUORANTHENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.032	<LM25	0.032	UGG
						08SA0302YD	1.000	0.032	<LM25	0.032	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.14	=LM25	0.032	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.032	<LM25	0.032	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.032	<LM25	0.032	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.032	<LM25	0.032	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.032	<LM25	0.032	UGG
			FLUORENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.065	<LM25	0.065	UGG
						08SA0302YD	1.000	0.065	<LM25	0.065	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.065	<LM25	0.065	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.065	<LM25	0.065	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.065	<LM25	0.065	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.065	<LM25	0.065	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.065	<LM25	0.065	UGG
			HEXACHLOROBENZENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.08	<LM25	0.08	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.08	<LM25	0.08	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.08	<LM25	0.08	UGG
						08SA0302YD	1.000	0.08	<LM25	0.08	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.08	<LM25	0.08	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.08	<LM25	0.08	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.08	<LM25	0.08	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.08	<LM25	0.08	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.08	<LM25	0.08	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.08	<LM25	0.08	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.08	<LM25	0.08	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.08	<LM25	0.08	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.08	<LM25	0.08	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.08	<LM25	0.08	UGG
			HEXACHLOROBUTADIENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.97	<LM25	0.97	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.97	<LM25	0.97	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.97	<LM25	0.97	UGG
						08SA0302YD	1.000	0.97	<LM25	0.97	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.97	<LM25	0.97	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.97	<LM25	0.97	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.97	<LM25	0.97	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.97	<LM25	0.97	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.97	<LM25	0.97	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.97	<LM25	0.97	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.97	<LM25	0.97	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.97	<LM25	0.97	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.97	<LM25	0.97	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.97	<LM25	0.97	UGG
			HEXACHLOROCYCLOPENTADIENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.52	<LM25	0.52	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.52	<LM25	0.52	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.52	<LM25	0.52	UGG
						08SA0302YD	1.000	0.52	<LM25	0.52	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.52	<LM25	0.52	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.52	<LM25	0.52	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.52	<LM25	0.52	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.52	<LM25	0.52	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.52	<LM25	0.52	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.52	<LM25	0.52	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.52	<LM25	0.52	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.52	<LM25	0.52	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.52	<LM25	0.52	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.52	<LM25	0.52	UGG
			HEXACHLOROETHANE	08-SA-01	08/15/1991	08SA0101Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	1.8	<LM25	1.8	UGG
						08SA0302YD	1.000	1.8	<LM25	1.8	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	1.8	<LM25	1.8	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	1.8	<LM25	1.8	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	1.8	<LM25	1.8	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	1.8	<LM25	1.8	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	1.8	<LM25	1.8	UGG
			INDENO(1,2,3-C,D)PYRENE	08-SA-01	08/15/1991	08SA0101Y	1.000	2.4	<LM25	2.4	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	2.4	<LM25	2.4	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-03	08/14/1991	08SA0301Y	1.000	2.4	<LM25	2.4	UGG
						08SA0302YD	1.000	2.4	<LM25	2.4	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	2.4	<LM25	2.4	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	2.4	<LM25	2.4	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	2.4	<LM25	2.4	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	2.4	<LM25	2.4	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	2.4	<LM25	2.4	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	2.4	<LM25	2.4	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	2.4	<LM25	2.4	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	2.4	<LM25	2.4	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	2.4	<LM25	2.4	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	2.4	<LM25	2.4	UGG
			ISOPHORONE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.39	<LM25	0.39	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.39	<LM25	0.39	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.39	<LM25	0.39	UGG
						08SA0302YD	1.000	0.39	<LM25	0.39	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.39	<LM25	0.39	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.39	<LM25	0.39	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.39	<LM25	0.39	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.39	<LM25	0.39	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.39	<LM25	0.39	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.39	<LM25	0.39	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.39	<LM25	0.39	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.39	<LM25	0.39	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.39	<LM25	0.39	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.39	<LM25	0.39	UGG
			MALATHION	08-SA-01	08/15/1991	08SA0101Y	1.000	0.18	<LM25	0.18	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.18	<LM25	0.18	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.18	<LM25	0.18	UGG
						08SA0302YD	1.000	0.18	<LM25	0.18	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.18	<LM25	0.18	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.18	<LM25	0.18	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.18	<LM25	0.18	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.18	<LM25	0.18	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.18	<LM25	0.18	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.18	<LM25	0.18	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.18	<LM25	0.18	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.18	<LM25	0.18	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.18	<LM25	0.18	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.18	<LM25	0.18	UGG
			MIREX	08-SA-01	08/15/1991	08SA0101Y	1.000	0.14	<LM25	0.14	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.14	<LM25	0.14	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.14	<LM25	0.14	UGG
						08SA0302YD	1.000	0.14	<LM25	0.14	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.14	<LM25	0.14	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.14	<LM25	0.14	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.14	<LM25	0.14	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.14	<LM25	0.14	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.14	<LM25	0.14	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.14	<LM25	0.14	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.14	<LM25	0.14	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.14	<LM25	0.14	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.14	<LM25	0.14	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.14	<LM25	0.14	UGG
			N-NITROSODI-N-PROPYLAMINE	08-SA-01	08/15/1991	08SA0101Y	1.000	1.1	<LM25	1.1	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	1.1	<LM25	1.1	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	1.1	<LM25	1.1	UGG
						08SA0302YD	1.000	1.1	<LM25	1.1	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	1.1	<LM25	1.1	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	1.1	<LM25	1.1	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	1.1	<LM25	1.1	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	1.1	<LM25	1.1	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	1.1	<LM25	1.1	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	1.1	<LM25	1.1	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	1.1	<LM25	1.1	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	1.1	<LM25	1.1	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	1.1	<LM25	1.1	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	1.1	<LM25	1.1	UGG
			N-NITROSODIMETHYLAMINE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.46	<LM25	0.46	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.46	<LM25	0.46	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.46	<LM25	0.46	UGG
						08SA0302YD	1.000	0.46	<LM25	0.46	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.46	<LM25	0.46	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.46	<LM25	0.46	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.46	<LM25	0.46	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.46	<LM25	0.46	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.46	<LM25	0.46	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.46	<LM25	0.46	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.46	<LM25	0.46	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.46	<LM25	0.46	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.46	<LM25	0.46	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.46	<LM25	0.46	UGG
			N-NITROSODIPHENYLAMINE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.29	<LM25	0.29	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.29	<LM25	0.29	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.29	<LM25	0.29	UGG
						08SA0302YD	1.000	0.29	<LM25	0.29	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.29	<LM25	0.29	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.29	<LM25	0.29	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.29	<LM25	0.29	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.29	<LM25	0.29	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.29	<LM25	0.29	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.29	<LM25	0.29	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.29	<LM25	0.29	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.29	<LM25	0.29	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.29	<LM25	0.29	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.29	<LM25	0.29	UGG
			NAPHTHALENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.74	<LM25	0.74	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.74	<LM25	0.74	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.74	<LM25	0.74	UGG
						08SA0302YD	1.000	0.74	<LM25	0.74	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.74	<LM25	0.74	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.74	<LM25	0.74	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.74	<LM25	0.74	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.74	<LM25	0.74	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.74	<LM25	0.74	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.74	<LM25	0.74	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.74	<LM25	0.74	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.74	<LM25	0.74	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.74	<LM25	0.74	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.74	<LM25	0.74	UGG
			P-CHLOROPHENYLMETHYL SULFIDE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.097	<LM25	0.097	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.097	<LM25	0.097	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.097	<LM25	0.097	UGG
						08SA0302YD	1.000	0.097	<LM25	0.097	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.097	<LM25	0.097	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.097	<LM25	0.097	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.097	<LM25	0.097	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.097	<LM25	0.097	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.097	<LM25	0.097	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.097	<LM25	0.097	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.097	<LM25	0.097	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.097	<LM25	0.097	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.097	<LM25	0.097	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.097	<LM25	0.097	UGG
			P-CHLOROPHENYLMETHYL SULFONE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.066	<LM25	0.066	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.066	<LM25	0.066	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.066	<LM25	0.066	UGG
						08SA0302YD	1.000	0.066	<LM25	0.066	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.066	<LM25	0.066	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.066	<LM25	0.066	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.066	<LM25	0.066	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.066	<LM25	0.066	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.066	<LM25	0.066	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.066	<LM25	0.066	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.066	<LM25	0.066	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.066	<LM25	0.066	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.066	<LM25	0.066	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.066	<LM25	0.066	UGG
			P-CHLOROPHENYLMETHYL SULFOXIDE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.32	<LM25	0.32	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.32	<LM25	0.32	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.32	<LM25	0.32	UGG
						08SA0302YD	1.000	0.32	<LM25	0.32	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.32	<LM25	0.32	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.32	<LM25	0.32	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.32	<LM25	0.32	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.32	<LM25	0.32	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.32	<LM25	0.32	UGG

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SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.32	<LM25	0.32	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.32	<LM25	0.32	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.32	<LM25	0.32	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.32	<LM25	0.32	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.32	<LM25	0.32	UGG
			PARATHION	08-SA-01	08/15/1991	08SA0101Y	1.000	1.7	<LM25	1.7	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	1.7	<LM25	1.7	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	1.7	<LM25	1.7	UGG
						08SA0302YD	1.000	1.7	<LM25	1.7	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	1.7	<LM25	1.7	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	1.7	<LM25	1.7	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	1.7	<LM25	1.7	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	1.7	<LM25	1.7	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	1.7	<LM25	1.7	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	1.7	<LM25	1.7	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	1.7	<LM25	1.7	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	1.7	<LM25	1.7	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	1.7	<LM25	1.7	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	1.7	<LM25	1.7	UGG
			PENTACHLOROPHENOL	08-SA-01	08/15/1991	08SA0101Y	1.000	0.76	<LM25	0.76	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.76	<LM25	0.76	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.76	<LM25	0.76	UGG
						08SA0302YD	1.000	0.76	<LM25	0.76	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.76	<LM25	0.76	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.76	<LM25	0.76	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.76	<LM25	0.76	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.76	<LM25	0.76	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.76	<LM25	0.76	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.76	<LM25	0.76	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.76	<LM25	0.76	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.76	<LM25	0.76	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.76	<LM25	0.76	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.76	<LM25	0.76	UGG
			PHENANTHRENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.032	<LM25	0.032	UGG
						08SA0302YD	1.000	0.032	<LM25	0.032	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.758	=LM25	0.032	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.032	<LM25	0.032	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.032	<LM25	0.032	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.032	<LM25	0.032	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.032	<LM25	0.032	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.032	<LM25	0.032	UGG
			PHENOL	08-SA-01	08/15/1991	08SA0101Y	1.000	0.052	<LM25	0.052	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.052	<LM25	0.052	UGG

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SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.052	<LM25	0.052	UGG
						08SA0302YD	1.000	0.052	<LM25	0.052	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.052	<LM25	0.052	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.052	<LM25	0.052	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.052	<LM25	0.052	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.052	<LM25	0.052	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.052	<LM25	0.052	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.052	<LM25	0.052	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.052	<LM25	0.052	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.052	<LM25	0.052	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.052	<LM25	0.052	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.052	<LM25	0.052	UGG
			PYRENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.083	<LM25	0.083	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.083	<LM25	0.083	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.083	<LM25	0.083	UGG
						08SA0302YD	1.000	0.083	<LM25	0.083	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.083	<LM25	0.083	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.279	=LM25	0.083	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.083	<LM25	0.083	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.083	<LM25	0.083	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.083	<LM25	0.083	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.083	<LM25	0.083	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.083	<LM25	0.083	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.083	<LM25	0.083	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.083	<LM25	0.083	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.083	<LM25	0.083	UGG
			SUPONA/2-CHLORO-1-(2,4-DICHLOR	08-SA-01	08/15/1991	08SA0101Y	1.000	0.92	<LM25	0.92	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.92	<LM25	0.92	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.92	<LM25	0.92	UGG
						08SA0302YD	1.000	0.92	<LM25	0.92	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.92	<LM25	0.92	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.92	<LM25	0.92	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.92	<LM25	0.92	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.92	<LM25	0.92	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.92	<LM25	0.92	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.92	<LM25	0.92	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.92	<LM25	0.92	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.92	<LM25	0.92	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.92	<LM25	0.92	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.92	<LM25	0.92	UGG
			VAPONA	08-SA-01	08/15/1991	08SA0101Y	1.000	0.068	<LM25	0.068	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.068	<LM25	0.068	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.068	<LM25	0.068	UGG
						08SA0302YD	1.000	0.068	<LM25	0.068	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.068	<LM25	0.068	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.068	<LM25	0.068	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.068	<LM25	0.068	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.068	<LM25	0.068	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.068	<LM25	0.068	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.068	<LM25	0.068	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.068	<LM25	0.068	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.068	<LM25	0.068	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.068	<LM25	0.068	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.068	<LM25	0.068	UGG
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	08-SA-01	08/15/1991	08SA0101Y	1.000	0.5	<LM23	0.5	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.5	<LM23	0.5	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.5	<LM23	0.5	UGG
						08SA0302YD	1.000	0.5	<LM23	0.5	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.5	<LM23	0.5	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.5	<LM23	0.5	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.5	<LM23	0.5	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.5	<LM23	0.5	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.5	<LM23	0.5	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.5	<LM23	0.5	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.5	<LM23	0.5	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.5	<LM23	0.5	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.5	<LM23	0.5	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.5	<LM23	0.5	UGG
			1,1,1-TRICHLOROETHANE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.2	<LM23	0.2	UGG
						08SA0302YD	1.000	0.2	<LM23	0.2	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.2	<LM23	0.2	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.2	<LM23	0.2	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.2	<LM23	0.2	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2,2-TETRACHLOROETHANE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.2	<LM23	0.2	UGG
						08SA0302YD	1.000	0.2	<LM23	0.2	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.2	<LM23	0.2	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.2	<LM23	0.2	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.2	<LM23	0.2	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2-TRICHLOROETHANE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.33	<LM23	0.33	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.33	<LM23	0.33	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.33	<LM23	0.33	UGG
						08SA0302YD	1.000	0.33	<LM23	0.33	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.33	<LM23	0.33	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.33	<LM23	0.33	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.33	<LM23	0.33	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.33	<LM23	0.33	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.33	<LM23	0.33	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.33	<LM23	0.33	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.33	<LM23	0.33	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.33	<LM23	0.33	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.33	<LM23	0.33	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.33	<LM23	0.33	UGG
			1,1-DICHLOROETHANE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.49	<LM23	0.49	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.49	<LM23	0.49	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.49	<LM23	0.49	UGG
						08SA0302YD	1.000	0.49	<LM23	0.49	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.49	<LM23	0.49	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.49	<LM23	0.49	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.49	<LM23	0.49	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.49	<LM23	0.49	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.49	<LM23	0.49	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.49	<LM23	0.49	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.49	<LM23	0.49	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.49	<LM23	0.49	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.49	<LM23	0.49	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.49	<LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	08-SA-01	08/15/1991	08SA0101Y	1.000	0.27	<LM23	0.27	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.27	<LM23	0.27	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.27	<LM23	0.27	UGG
						08SA0302YD	1.000	0.27	<LM23	0.27	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.27	<LM23	0.27	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.27	<LM23	0.27	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.27	<LM23	0.27	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.27	<LM23	0.27	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.27	<LM23	0.27	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.27	<LM23	0.27	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.27	<LM23	0.27	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.27	<LM23	0.27	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.27	<LM23	0.27	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.27	<LM23	0.27	UGG
			1,2-DICHLOROETHANE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.32	<LM23	0.32	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.32	<LM23	0.32	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.32	<LM23	0.32	UGG
						08SA0302YD	1.000	0.32	<LM23	0.32	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.32	<LM23	0.32	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.32	<LM23	0.32	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.32	<LM23	0.32	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.32	<LM23	0.32	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.32	<LM23	0.32	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.32	<LM23	0.32	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.32	<LM23	0.32	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.32	<LM23	0.32	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.32	<LM23	0.32	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	08-SA-01	08/15/1991	08SA0101Y	1.000	0.32	<LM23	0.32	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.32	<LM23	0.32	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.32	<LM23	0.32	UGG
						08SA0302YD	1.000	0.32	<LM23	0.32	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.32	<LM23	0.32	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.32	<LM23	0.32	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.32	<LM23	0.32	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.32	<LM23	0.32	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.32	<LM23	0.32	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.32	<LM23	0.32	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.32	<LM23	0.32	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.32	<LM23	0.32	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.32	<LM23	0.32	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROPROPANE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.53	<LM23	0.53	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.53	<LM23	0.53	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.53	<LM23	0.53	UGG
						08SA0302YD	1.000	0.53	<LM23	0.53	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.53	<LM23	0.53	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.53	<LM23	0.53	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.53	<LM23	0.53	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.53	<LM23	0.53	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.53	<LM23	0.53	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.53	<LM23	0.53	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.53	<LM23	0.53	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.53	<LM23	0.53	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.53	<LM23	0.53	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.53	<LM23	0.53	UGG
			1,3-DICHLOROBENZENE	08-SA-01	08/15/1991	08SA0101N	1.000	0.042	<LM25	0.042	UGG
						08SA0101Y	1.000	0.14	<LM23	0.14	UGG
				08-SA-02	08/14/1991	08SA0201N	1.000	0.042	<LM25	0.042	UGG
						08SA0201Y	1.000	0.14	<LM23	0.14	UGG
				08-SA-03	08/14/1991	08SA0301N	1.000	0.042	<LM25	0.042	UGG
						08SA0301Y	1.000	0.14	<LM23	0.14	UGG
						08SA0302ND	1.000	0.042	<LM25	0.042	UGG
						08SA0302YD	1.000	0.14	<LM23	0.14	UGG
				08-SA-04	08/15/1991	08SA0401N	1.000	0.042	<LM25	0.042	UGG
						08SA0401Y	1.000	0.14	<LM23	0.14	UGG
				08-SA-05	08/15/1991	08SA0501N	1.000	0.042	<LM25	0.042	UGG
						08SA0501Y	1.000	0.14	<LM23	0.14	UGG
				08-SA-06	08/14/1991	08SA0601N	1.000	0.042	<LM25	0.042	UGG
						08SA0601Y	1.000	0.14	<LM23	0.14	UGG
				08-SA-07	08/14/1991	08SA0701N	1.000	0.042	<LM25	0.042	UGG
						08SA0701Y	1.000	0.14	<LM23	0.14	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-08	08/14/1991	08SA0801N	1.300	0.042	<LM25	0.042	UGG
						08SA0801Y	1.300	0.14	<LM23	0.14	UGG
				08-SA-09	08/14/1991	08SA0901N	1.000	0.042	<LM25	0.042	UGG
						08SA0901Y	1.000	0.14	<LM23	0.14	UGG
				08-SA-10	08/14/1991	08SA1001N	1.000	0.042	<LM25	0.042	UGG
						08SA1001Y	1.000	0.14	<LM23	0.14	UGG
				08-SA-11	08/14/1991	08SA1101N	1.000	0.042	<LM25	0.042	UGG
						08SA1101Y	1.000	0.14	<LM23	0.14	UGG
				08-SS-04	08/15/1991	08SS0401N	0.500	0.042	<LM25	0.042	UGG
						08SS0401Y	0.500	0.14	<LM23	0.14	UGG
				08-SS-12	08/14/1991	08SS1201N	0.500	0.042	<LM25	0.042	UGG
						08SS1201Y	0.500	0.14	<LM23	0.14	UGG
			1,3-DICLOROPROPANE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.2	<LM23	0.2	UGG
						08SA0302YD	1.000	0.2	<LM23	0.2	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.2	<LM23	0.2	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.2	<LM23	0.2	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.2	<LM23	0.2	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.2	<LM23	0.2	UGG
			1,3-DIMETHYLBENZENE/M-XYLENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.23	<LM23	0.23	UGG
						08SA0302YD	1.000	0.23	<LM23	0.23	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.23	<LM23	0.23	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.23	<LM23	0.23	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.23	<LM23	0.23	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.23	<LM23	0.23	UGG
			ACETIC ACID, VINYL ESTER/VINYL	08-SA-01	08/15/1991	08SA0101NR	1.000	1.0	*LM23	1.0	UGG
				08-SA-02	08/14/1991	08SA0201NR	1.000	1.0	*LM23	1.0	UGG
				08-SA-03	08/14/1991	08SA0301NR	1.000	1.0	*LM23	1.0	UGG
						08SA0302NR	1.000	1.0	*LM23	1.0	UGG
				08-SA-04	08/15/1991	08SA0401NR	1.000	1.0	*LM23	1.0	UGG
				08-SA-05	08/15/1991	08SA0501NR	1.000	1.0	*LM23	1.0	UGG
				08-SA-06	08/14/1991	08SA0601NR	1.000	1.0	*LM23	1.0	UGG
				08-SA-07	08/14/1991	08SA0701NR	1.000	1.0	*LM23	1.0	UGG
				08-SA-08	08/14/1991	08SA0801NR	1.300	1.0	*LM23	1.0	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901NR	1.000	1.0	*LM23	1.0	UGG
				08-SA-10	08/14/1991	08SA1001NR	1.000	1.0	*LM23	1.0	UGG
				08-SA-11	08/14/1991	08SA1101NR	1.000	1.0	*LM23	1.0	UGG
				08-SS-04	08/15/1991	08SS0401NR	0.500	1.0	*LM23	1.0	UGG
				08-SS-12	08/14/1991	08SS1201NR	0.500	1.0	*LM23	1.0	UGG
			ACETONE	08-SA-01	08/15/1991	08SA0101Y	1.000	3.3	<LM23	3.3	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	3.3	<LM23	3.3	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	3.3	<LM23	3.3	UGG
						08SA0302YD	1.000	3.3	<LM23	3.3	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	3.3	<LM23	3.3	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	3.3	<LM23	3.3	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	3.3	<LM23	3.3	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	3.3	<LM23	3.3	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	3.3	<LM23	3.3	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	3.3	<LM23	3.3	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	3.3	<LM23	3.3	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	3.3	<LM23	3.3	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	3.3	<LM23	3.3	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	3.3	<LM23	3.3	UGG
			ACRYLONITRILE	08-SA-01	08/15/1991	08SA0101Y	1.000	2.0	<LM23	2.0	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	2.0	<LM23	2.0	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	2.0	<LM23	2.0	UGG
						08SA0302YD	1.000	2.0	<LM23	2.0	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	2.0	<LM23	2.0	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	2.0	<LM23	2.0	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	2.0	<LM23	2.0	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	2.0	<LM23	2.0	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	2.0	<LM23	2.0	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	2.0	<LM23	2.0	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	2.0	<LM23	2.0	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	2.0	<LM23	2.0	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	2.0	<LM23	2.0	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	2.0	<LM23	2.0	UGG
			BENZENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.1	<LM23	0.1	UGG
						08SA0302YD	1.000	0.1	<LM23	0.1	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.1	<LM23	0.1	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.1	<LM23	0.1	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.1	<LM23	0.1	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.1	<LM23	0.1	UGG
			BROMODICHLOROMETHANE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.2	<LM23	0.2	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.2	<LM23	0.2	UGG
						08SA0302YD	1.000	0.2	<LM23	0.2	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.2	<LM23	0.2	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.2	<LM23	0.2	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.2	<LM23	0.2	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.2	<LM23	0.2	UGG
			BROMOFORM	08-SA-01	08/15/1991	08SA0101Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.2	<LM23	0.2	UGG
						08SA0302YD	1.000	0.2	<LM23	0.2	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.2	<LM23	0.2	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.2	<LM23	0.2	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.2	<LM23	0.2	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.2	<LM23	0.2	UGG
			BROMOMETHANE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.26	<LM23	0.26	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.26	<LM23	0.26	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.26	<LM23	0.26	UGG
						08SA0302YD	1.000	0.26	<LM23	0.26	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.26	<LM23	0.26	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.26	<LM23	0.26	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.26	<LM23	0.26	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.26	<LM23	0.26	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.26	<LM23	0.26	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.26	<LM23	0.26	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.26	<LM23	0.26	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.26	<LM23	0.26	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.26	<LM23	0.26	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.26	<LM23	0.26	UGG
			CARBON DISULFIDE	08-SA-01	08/15/1991	08SA0101NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-02	08/14/1991	08SA0201NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-03	08/14/1991	08SA0301NR	1.000	0.6	*LM23	0.6	UGG
						08SA0302NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-04	08/15/1991	08SA0401NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-05	08/15/1991	08SA0501NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-06	08/14/1991	08SA0601NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-07	08/14/1991	08SA0701NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-08	08/14/1991	08SA0801NR	1.300	0.6	*LM23	0.6	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-10	08/14/1991	08SA1001NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-11	08/14/1991	08SA1101NR	1.000	0.6	*LM23	0.6	UGG
				08-SS-04	08/15/1991	08SS0401NR	0.500	0.6	*LM23	0.6	UGG
				08-SS-12	08/14/1991	08SS1201NR	0.500	0.6	*LM23	0.6	UGG
			CARBON TETRACHLORIDE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.31	<LM23	0.31	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.31	<LM23	0.31	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.31	<LM23	0.31	UGG
						08SA0302YD	1.000	0.31	<LM23	0.31	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.31	<LM23	0.31	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.31	<LM23	0.31	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.31	<LM23	0.31	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.31	<LM23	0.31	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.31	<LM23	0.31	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.31	<LM23	0.31	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.31	<LM23	0.31	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.31	<LM23	0.31	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.31	<LM23	0.31	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.31	<LM23	0.31	UGG
			CHLORFORM	08-SA-01	08/15/1991	08SA0101Y	1.000	0.24	<LM23	0.24	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.24	<LM23	0.24	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.24	<LM23	0.24	UGG
						08SA0302YD	1.000	0.24	<LM23	0.24	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.24	<LM23	0.24	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.24	<LM23	0.24	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.24	<LM23	0.24	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.24	<LM23	0.24	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.24	<LM23	0.24	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.24	<LM23	0.24	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.24	<LM23	0.24	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.24	<LM23	0.24	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.24	<LM23	0.24	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.24	<LM23	0.24	UGG
			CHLOROBENZENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.1	<LM23	0.1	UGG
						08SA0302YD	1.000	0.1	<LM23	0.1	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.1	<LM23	0.1	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.1	<LM23	0.1	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.1	<LM23	0.1	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.1	<LM23	0.1	UGG
			CHLOROETHANE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.64	<LM23	0.64	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.64	<LM23	0.64	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.64	<LM23	0.64	UGG
						08SA0302YD	1.000	0.64	<LM23	0.64	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.64	<LM23	0.64	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.64	<LM23	0.64	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.64	<LM23	0.64	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.64	<LM23	0.64	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.64	<LM23	0.64	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.64	<LM23	0.64	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.64	<LM23	0.64	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.64	<LM23	0.64	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.64	<LM23	0.64	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.64	<LM23	0.64	UGG
			CHLOROETHANE/VINYL CHLORIDE	08-SA-01	08/15/1991	08SA0101Y	1.000	1.8	<LM23	1.8	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	1.8	<LM23	1.8	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	1.8	<LM23	1.8	UGG
						08SA0302YD	1.000	1.8	<LM23	1.8	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	1.8	<LM23	1.8	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	1.8	<LM23	1.8	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	1.8	<LM23	1.8	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	1.8	<LM23	1.8	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	1.8	<LM23	1.8	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	1.8	<LM23	1.8	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	1.8	<LM23	1.8	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	1.8	<LM23	1.8	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	1.8	<LM23	1.8	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	1.8	<LM23	1.8	UGG
			CHLOROMETHANE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.96	<LM23	0.96	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.96	<LM23	0.96	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.96	<LM23	0.96	UGG
						08SA0302YD	1.000	0.96	<LM23	0.96	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.96	<LM23	0.96	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.96	<LM23	0.96	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.96	<LM23	0.96	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.96	<LM23	0.96	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.96	<LM23	0.96	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.96	<LM23	0.96	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.96	<LM23	0.96	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.96	<LM23	0.96	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.96	<LM23	0.96	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.96	<LM23	0.96	UGG
			CIS-1,3-DICHLOROPROPYLENE/CIS-	08-SA-01	08/15/1991	08SA0101NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-02	08/14/1991	08SA0201NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-03	08/14/1991	08SA0301NR	1.000	0.6	*LM23	0.6	UGG
						08SA0302NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-04	08/15/1991	08SA0401NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-05	08/15/1991	08SA0501NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-06	08/14/1991	08SA0601NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-07	08/14/1991	08SA0701NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-08	08/14/1991	08SA0801NR	1.300	0.6	*LM23	0.6	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-10	08/14/1991	08SA1001NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-11	08/14/1991	08SA1101NR	1.000	0.6	*LM23	0.6	UGG
				08-SS-04	08/15/1991	08SS0401NR	0.500	0.6	*LM23	0.6	UGG
				08-SS-12	08/14/1991	08SS1201NR	0.500	0.6	*LM23	0.6	UGG
			DIBROMOCHLOROMETHANE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.25	<LM23	0.25	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.25	<LM23	0.25	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.25	<LM23	0.25	UGG
						08SA0302YD	1.000	0.25	<LM23	0.25	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.25	<LM23	0.25	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.25	<LM23	0.25	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.25	<LM23	0.25	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.25	<LM23	0.25	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.25	<LM23	0.25	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.25	<LM23	0.25	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.25	<LM23	0.25	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.25	<LM23	0.25	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.25	<LM23	0.25	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.25	<LM23	0.25	UGG
			DICHLOROBENZENE - NONSPECIFIC	08-SA-01	08/15/1991	08SA0101Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.2	<LM23	0.2	UGG
						08SA0302YD	1.000	0.2	<LM23	0.2	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.2	<LM23	0.2	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.2	<LM23	0.2	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.2	<LM23	0.2	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.2	<LM23	0.2	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.2	<LM23	0.2	UGG
			ETHYLBENZENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.19	<LM23	0.19	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.19	<LM23	0.19	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.19	<LM23	0.19	UGG
						08SA0302YD	1.000	0.19	<LM23	0.19	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.19	<LM23	0.19	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.19	<LM23	0.19	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.19	<LM23	0.19	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.19	<LM23	0.19	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.19	<LM23	0.19	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.19	<LM23	0.19	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.19	<LM23	0.19	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.19	<LM23	0.19	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.19	<LM23	0.19	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.19	<LM23	0.19	UGG
			METHYL-N-BUTYL KETONE/2-HEXANO	08-SA-01	08/15/1991	08SA0101NR	1.000	1.0	*LM23	1.0	UGG
				08-SA-02	08/14/1991	08SA0201NR	1.000	1.0	*LM23	1.0	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-03	08/14/1991	08SA0301NR	1.000	1.0	*LM23	1.0	UGG
						08SA0302NR	1.000	1.0	*LM23	1.0	UGG
				08-SA-04	08/15/1991	08SA0401NR	1.000	1.0	*LM23	1.0	UGG
				08-SA-05	08/15/1991	08SA0501NR	1.000	1.0	*LM23	1.0	UGG
				08-SA-06	08/14/1991	08SA0601NR	1.000	1.0	*LM23	1.0	UGG
				08-SA-07	08/14/1991	08SA0701NR	1.000	1.0	*LM23	1.0	UGG
				08-SA-08	08/14/1991	08SA0801NR	1.300	1.0	*LM23	1.0	UGG
				08-SA-09	08/14/1991	08SA0901NR	1.000	1.0	*LM23	1.0	UGG
				08-SA-10	08/14/1991	08SA1001NR	1.000	1.0	*LM23	1.0	UGG
				08-SA-11	08/14/1991	08SA1101NR	1.000	1.0	*LM23	1.0	UGG
				08-SS-04	08/15/1991	08SS0401NR	0.500	1.0	*LM23	1.0	UGG
				08-SS-12	08/14/1991	08SS1201NR	0.500	1.0	*LM23	1.0	UGG
			METHYLENE CHLORIDE	08-SA-01	08/15/1991	08SA0101Y	1.000	4.4	<LM23	4.4	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	4.4	<LM23	4.4	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	4.4	<LM23	4.4	UGG
						08SA0302YD	1.000	4.4	<LM23	4.4	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	4.4	<LM23	4.4	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	4.4	<LM23	4.4	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	4.4	<LM23	4.4	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	4.4	<LM23	4.4	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	4.4	<LM23	4.4	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	4.4	<LM23	4.4	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	4.4	<LM23	4.4	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	4.4	<LM23	4.4	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	4.4	<LM23	4.4	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	4.4	<LM23	4.4	UGG
			METHYLETHYL PHENOL/METHYLETHYL	08-SA-01	08/15/1991	08SA0101Y	1.000	4.3	<LM23	4.3	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	4.3	<LM23	4.3	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	4.3	<LM23	4.3	UGG
						08SA0302YD	1.000	4.3	<LM23	4.3	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	4.3	<LM23	4.3	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	4.3	<LM23	4.3	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	4.3	<LM23	4.3	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	4.3	<LM23	4.3	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	4.3	<LM23	4.3	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	4.3	<LM23	4.3	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	4.3	<LM23	4.3	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	4.3	<LM23	4.3	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	4.3	<LM23	4.3	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	4.3	<LM23	4.3	UGG
			METHYLISOBUTYL KETONE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.63	<LM23	0.63	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.63	<LM23	0.63	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.63	<LM23	0.63	UGG
						08SA0302YD	1.000	0.63	<LM23	0.63	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.63	<LM23	0.63	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.63	<LM23	0.63	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.63	<LM23	0.63	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.63	<LM23	0.63	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.63	<LM23	0.63	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.63	<LM23	0.63	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.63	<LM23	0.63	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.63	<LM23	0.63	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.63	<LM23	0.63	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.63	<LM23	0.63	UGG
			STYRENE	08-SA-01	08/15/1991	08SA0101NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-02	08/14/1991	08SA0201NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-03	08/14/1991	08SA0301NR	1.000	0.6	*LM23	0.6	UGG
						08SA0302NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-04	08/15/1991	08SA0401NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-05	08/15/1991	08SA0501NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-06	08/14/1991	08SA0601NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-07	08/14/1991	08SA0701NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-08	08/14/1991	08SA0801NR	1.300	0.6	*LM23	0.6	UGG
				08-SA-09	08/14/1991	08SA0901NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-10	08/14/1991	08SA1001NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-11	08/14/1991	08SA1101NR	1.000	0.6	*LM23	0.6	UGG
				08-SS-04	08/15/1991	08SS0401NR	0.500	0.6	*LM23	0.6	UGG
				08-SS-12	08/14/1991	08SS1201NR	0.500	0.6	*LM23	0.6	UGG
			TETRACHLOROETHYLENE/TETRACHLOR	08-SA-01	08/15/1991	08SA0101Y	1.000	0.16	<LM23	0.16	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.16	<LM23	0.16	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.16	<LM23	0.16	UGG
						08SA0302YD	1.000	0.16	<LM23	0.16	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.16	<LM23	0.16	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.16	<LM23	0.16	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.16	<LM23	0.16	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.16	<LM23	0.16	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.16	<LM23	0.16	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.16	<LM23	0.16	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.16	<LM23	0.16	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.16	<LM23	0.16	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.16	<LM23	0.16	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.16	<LM23	0.16	UGG
			TOLUENE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.1	<LM23	0.1	UGG
						08SA0302YD	1.000	0.1	<LM23	0.1	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.491	=LM23	0.1	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.173	=LM23	0.1	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.1	<LM23	0.1	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.1	<LM23	0.1	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.1	<LM23	0.1	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.1	<LM23	0.1	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.1	<LM23	0.1	UGG
			TRANS-1,3-DICHLOROPROPENE	08-SA-01	08/15/1991	08SA0101NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-02	08/14/1991	08SA0201NR	1.000	0.6	*LM23	0.6	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-03	08/14/1991	08SA0301NR	1.000	0.6	*LM23	0.6	UGG
						08SA0302NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-04	08/15/1991	08SA0401NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-05	08/15/1991	08SA0501NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-06	08/14/1991	08SA0601NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-07	08/14/1991	08SA0701NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-08	08/14/1991	08SA0801NR	1.300	0.6	*LM23	0.6	UGG
				08-SA-09	08/14/1991	08SA0901NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-10	08/14/1991	08SA1001NR	1.000	0.6	*LM23	0.6	UGG
				08-SA-11	08/14/1991	08SA1101NR	1.000	0.6	*LM23	0.6	UGG
				08-SS-04	08/15/1991	08SS0401NR	0.500	0.6	*LM23	0.6	UGG
				08-SS-12	08/14/1991	08SS1201NR	0.500	0.6	*LM23	0.6	UGG
			TRICHLOROETHYLENE/TRICHLOROETH	08-SA-01	08/15/1991	08SA0101Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.23	<LM23	0.23	UGG
						08SA0302YD	1.000	0.23	<LM23	0.23	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.23	<LM23	0.23	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.23	<LM23	0.23	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.23	<LM23	0.23	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.23	<LM23	0.23	UGG
			TRICHLOROFLUOROMETHANE	08-SA-01	08/15/1991	08SA0101Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.23	<LM23	0.23	UGG
						08SA0302YD	1.000	0.23	<LM23	0.23	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.23	<LM23	0.23	UGG
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.23	<LM23	0.23	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.23	<LM23	0.23	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.23	<LM23	0.23	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.23	<LM23	0.23	UGG
			XYLENES	08-SA-01	08/15/1991	08SA0101Y	1.000	0.78	<LM23	0.78	UGG
				08-SA-02	08/14/1991	08SA0201Y	1.000	0.78	<LM23	0.78	UGG
				08-SA-03	08/14/1991	08SA0301Y	1.000	0.78	<LM23	0.78	UGG
						08SA0302YD	1.000	0.78	<LM23	0.78	UGG
				08-SA-04	08/15/1991	08SA0401Y	1.000	0.78	<LM23	0.78	UGG
				08-SA-05	08/15/1991	08SA0501Y	1.000	0.78	<LM23	0.78	UGG
				08-SA-06	08/14/1991	08SA0601Y	1.000	0.78	<LM23	0.78	UGG
				08-SA-07	08/14/1991	08SA0701Y	1.000	0.78	<LM23	0.78	UGG
				08-SA-08	08/14/1991	08SA0801Y	1.300	0.78	<LM23	0.78	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				08-SA-09	08/14/1991	08SA0901Y	1.000	0.78	<LM23	0.78	UGG
				08-SA-10	08/14/1991	08SA1001Y	1.000	0.78	<LM23	0.78	UGG
				08-SA-11	08/14/1991	08SA1101Y	1.000	0.78	<LM23	0.78	UGG
				08-SS-04	08/15/1991	08SS0401Y	0.500	0.78	<LM23	0.78	UGG
				08-SS-12	08/14/1991	08SS1201Y	0.500	0.78	<LM23	0.78	UGG
	SW	EXPLOSIVES	1,3,5-TRINITROBENZENE	08-SW-02	08/14/1991	08SW0201Y	0.000	0.56	<UW01	0.56	UGL
			1,3-DINITROBENZENE	08-SW-02	08/14/1991	08SW0201Y	0.000	0.61	<UW01	0.61	UGL
			2,4,6-TNT	08-SW-02	08/14/1991	08SW0201Y	0.000	0.78	<UW01	0.78	UGL
			2,4-DINITROTOLUENE	08-SW-02	08/14/1991	08SW0201N	0.000	5.8	<UM25	5.8	UGL
						08SW0201Y	0.000	0.6	<UW01	0.6	UGL
			2,6-DINITROTOLUENE	08-SW-02	08/14/1991	08SW0201N	0.000	6.7	<UM25	6.7	UGL
						08SW0201Y	0.000	0.55	<UW01	0.55	UGL
			HMX	08-SW-02	08/14/1991	08SW0201Y	0.000	1.3	<UW01	1.3	UGL
			NITROBENZENE	08-SW-02	08/14/1991	08SW0201N	0.000	3.7	<UM25	3.7	UGL
						08SW0201Y	0.000	1.1	<UW01	1.13	UGL
			RDX	08-SW-02	08/14/1991	08SW0201Y	0.000	0.63	<UW01	0.63	UGL
			TETRYL	08-SW-02	08/14/1991	08SW0201Y	0.000	8.8	=UW01	0.66	UGL
		METALS	ANTIMONY	08-SW-02	08/14/1991	08SW0201Y	0.000	60.0	<SS12	60.0	UGL
			ARSENIC	08-SW-02	08/14/1991	08SW0201Y	0.000	3.59	=AX8	2.35	UGL
			BARIUM	08-SW-02	08/14/1991	08SW0201Y	0.000	103.0	=SS12	2.82	UGL
			BERYLLIUM	08-SW-02	08/14/1991	08SW0201Y	0.000	1.12	<SS12	1.12	UGL
			CADMIUM	08-SW-02	08/14/1991	08SW0201Y	0.000	6.78	<SS12	6.78	UGL
			CHROMIUM	08-SW-02	08/14/1991	08SW0201Y	0.000	16.8	<SS12	16.8	UGL
			COPPER	08-SW-02	08/14/1991	08SW0201Y	0.000	18.8	<SS12	18.8	UGL
			LEAD	08-SW-02	08/14/1991	08SW0201Y	0.000	4.47	<SD18	4.47	UGL
			MERCURY	08-SW-02	08/14/1991	08SW0201Y	0.000	0.1	<CC8	0.1	UGL
			NICKEL	08-SW-02	08/14/1991	08SW0201Y	0.000	32.1	<SS12	32.1	UGL
			SELENIUM	08-SW-02	08/14/1991	08SW0201Y	0.000	2.53	<SD25	2.53	UGL
			SILVER	08-SW-02	08/14/1991	08SW0201Y	0.000	10.0	<SS12	10.0	UGL
			THALLIUM	08-SW-02	08/14/1991	08SW0201Y	0.000	125.0	<SS12	125.0	UGL
			ZINC	08-SW-02	08/14/1991	08SW0201Y	0.000	124.0	=SS12	18.0	UGL
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	08-SW-02	08/14/1991	08SW0201N	0.000	14.0	<UM25	14.0	UGL
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	08-SW-02	08/14/1991	08SW0201N	0.000	18.0	<UM25	18.0	UGL
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	08-SW-02	08/14/1991	08SW0201N	0.000	18.0	<UM25	18.0	UGL
			ALDRIN	08-SW-02	08/14/1991	08SW0201N	0.000	13.0	<UM25	13.0	UGL
			ALPHA-BENZENEHEXACHLORIDE	08-SW-02	08/14/1991	08SW0201N	0.000	5.3	<UM25	5.3	UGL
			ALPHA-ENDOSULFAN/ENDOSULFAN I	08-SW-02	08/14/1991	08SW0201N	0.000	23.0	<UM25	23.0	UGL
			BETA-BENZENEHEXACHLORIDE	08-SW-02	08/14/1991	08SW0201N	0.000	17.0	<UM25	17.0	UGL
			BETA-ENDOSULFAN/ENDOSULFAN II	08-SW-02	08/14/1991	08SW0201N	0.000	42.0	<UM25	42.0	UGL
			CHLORDANE	08-SW-02	08/14/1991	08SW0201NR	0.000	37.0	*UM25	37.0	UGL
			DELTA-BENZENEHEXACHLORIDE	08-SW-02	08/14/1991	08SW0201NR	0.000	3.0	*UM25	3.0	UGL
			DIELDRIN	08-SW-02	08/14/1991	08SW0201N	0.000	26.0	<UM25	26.0	UGL
			ENDRIN	08-SW-02	08/14/1991	08SW0201N	0.000	18.0	<UM25	18.0	UGL
			HEPTACHLOR	08-SW-02	08/14/1991	08SW0201N	0.000	38.0	<UM25	38.0	UGL
			HEPTACHLOR EPOXIDE	08-SW-02	08/14/1991	08SW0201N	0.000	28.0	<UM25	0.28	UGL
			ISODRIN	08-SW-02	08/14/1991	08SW0201N	0.000	7.8	<UM25	7.8	UGL
			LINDANE	08-SW-02	08/14/1991	08SW0201N	0.000	7.2	<UM25	7.2	UGL
			METHOXYCHLOR	08-SW-02	08/14/1991	08SW0201N	0.000	11.0	<UM25	11.0	UGL
			PCB 1016	08-SW-02	08/14/1991	08SW0201NR	0.000	9.1	*UM25	9.1	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			PCB 1221	08-SW-02	08/14/1991	08SW0201NR	0.000	7.2	*UM25	7.2	UGL
			PCB 1232	08-SW-02	08/14/1991	08SW0201NR	0.000	9.9	*UM25	9.9	UGL
			PCB 1242	08-SW-02	08/14/1991	08SW0201NR	0.000	5.2	*UM25	5.2	UGL
			PCB 1248	08-SW-02	08/14/1991	08SW0201NR	0.000	38.0	*UM25	38.0	UGL
			PCB 1254	08-SW-02	08/14/1991	08SW0201NR	0.000	33.0	*UM25	33.0	UGL
			PCB 1260	08-SW-02	08/14/1991	08SW0201NR	0.000	13.0	*UM25	13.0	UGL
			TOXAPHENE	08-SW-02	08/14/1991	08SW0201NR	0.000	17.0	*UM25	17.0	UGL
		SEMIVOLATILES	1,2,3-TRICHLOROBENZENE	08-SW-02	08/14/1991	08SW0201Y	0.000	5.8	<UM25	5.8	UGL
			1,2,4-TRICHLOROBENZENE	08-SW-02	08/14/1991	08SW0201Y	0.000	2.4	<UM25	2.4	UGL
			1,2-DICHLOROBENZENE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.2	<UM25	1.2	UGL
			1,2-DIPHENYLHYDRAZINE	08-SW-02	08/14/1991	08SW0201Y	0.000	13.0	<UM25	13.0	UGL
			1,4-DICHLOROBENZENE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.5	<UM25	1.5	UGL
			1,4-OXATHIANE	08-SW-02	08/14/1991	08SW0201Y	0.000	27.0	<UM25	27.0	UGL
			2,3,6-TCP	08-SW-02	08/14/1991	08SW0201Y	0.000	1.7	<UM25	1.7	UGL
			2,4,5-TRICHLOROPHENOL	08-SW-02	08/14/1991	08SW0201Y	0.000	2.8	<UM25	2.8	UGL
			2,4,6-TRICHLOROPHENOL	08-SW-02	08/14/1991	08SW0201Y	0.000	3.6	<UM25	3.6	UGL
			2,4-DICHLOROPHENOL	08-SW-02	08/14/1991	08SW0201Y	0.000	8.4	<UM25	8.4	UGL
			2,4-DIMETHYLPHENOL	08-SW-02	08/14/1991	08SW0201Y	0.000	4.4	<UM25	4.4	UGL
			2,4-DINITROPHENOL	08-SW-02	08/14/1991	08SW0201Y	0.000	176.0	<UM25	176.0	UGL
			2,6-DINITROANILINE	08-SW-02	08/14/1991	08SW0201Y	0.000	8.8	<UM25	8.8	UGL
			2-CHLORONAPHTHALENE	08-SW-02	08/14/1991	08SW0201Y	0.000	2.6	<UM25	2.6	UGL
			2-CHLOROPHENOL	08-SW-02	08/14/1991	08SW0201Y	0.000	2.8	<UM25	2.8	UGL
			2-METHYL-4,6-DINITROPHENOL/4,6	08-SW-02	08/14/1991	08SW0201NR	0.000	50.0	*UM25	50.0	UGL
			2-METHYLNAPHTHALENE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.3	<UM25	1.3	UGL
			2-METHYLPHENOL/2-CRESOL	08-SW-02	08/14/1991	08SW0201Y	0.000	3.6	<UM25	3.6	UGL
			2-NITROANILINE	08-SW-02	08/14/1991	08SW0201NR	0.000	31.0	*UM25	31.0	UGL
			2-NITROPHENOL	08-SW-02	08/14/1991	08SW0201Y	0.000	8.2	<UM25	8.2	UGL
			3,3'-DICHLOROBENZIDINE	08-SW-02	08/14/1991	08SW0201Y	0.000	5.0	<UM25	5.0	UGL
			3,5-DINITROANILINE	08-SW-02	08/14/1991	08SW0201Y	0.000	21.0	<UM25	21.0	UGL
			3-METHYL-4-CHLOROPHENOL/4-CHLO	08-SW-02	08/14/1991	08SW0201Y	0.000	8.5	<UM25	8.5	UGL
			3-NITROANILINE	08-SW-02	08/14/1991	08SW0201Y	0.000	15.0	<UM25	15.0	UGL
			3-NITROTOLUENE	08-SW-02	08/14/1991	08SW0201Y	0.000	2.9	<UM25	2.9	UGL
			4-BROMOPHENYLPHENYL ETHER	08-SW-02	08/14/1991	08SW0201Y	0.000	22.0	<UM25	22.0	UGL
			4-CHLOROANILINE	08-SW-02	08/14/1991	08SW0201NR	0.000	1.0	*UM25	1.0	UGL
			4-CHLOROPHENYLPHENYL ETHER	08-SW-02	08/14/1991	08SW0201Y	0.000	23.0	<UM25	23.0	UGL
			4-METHYLPHENOL/4-CRESOL	08-SW-02	08/14/1991	08SW0201Y	0.000	2.8	<UM25	2.8	UGL
			4-NITROANILINE	08-SW-02	08/14/1991	08SW0201NR	0.000	31.0	*UM25	31.0	UGL
			4-NITROPHENOL	08-SW-02	08/14/1991	08SW0201Y	0.000	96.0	<UM25	96.0	UGL
			ACENAPHTHENE	08-SW-02	08/14/1991	08SW0201Y	0.000	5.8	<UM25	5.8	UGL
			ACENAPHTHYLENE	08-SW-02	08/14/1991	08SW0201Y	0.000	5.1	<UM25	5.1	UGL
			ANTHRACENE	08-SW-02	08/14/1991	08SW0201Y	0.000	5.2	<UM25	5.2	UGL
			ATRAZINE	08-SW-02	08/14/1991	08SW0201Y	0.000	5.9	<UM25	5.9	UGL
			BENZO(A)ANTHRACENE	08-SW-02	08/14/1991	08SW0201Y	0.000	9.8	<UM25	9.8	UGL
			BENZO(A)PYRENE	08-SW-02	08/14/1991	08SW0201Y	0.000	14.0	<UM25	14.0	UGL
			BENZO(B)FLUORANTHENE	08-SW-02	08/14/1991	08SW0201Y	0.000	10.0	<UM25	10.0	UGL
			BENZO(G,H,I)PERYLENE	08-SW-02	08/14/1991	08SW0201Y	0.000	15.0	<UM25	15.0	UGL
			BENZO(K)FLUORANTHENE	08-SW-02	08/14/1991	08SW0201Y	0.000	10.0	<UM25	10.0	UGL
			BENZOIC ACID	08-SW-02	08/14/1991	08SW0201NR	0.000	3.1	*UM25	3.1	UGL
			BENZYL ALCOHOL	08-SW-02	08/14/1991	08SW0201Y	0.000	4.0	<UM25	4.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			BIS (2-CHLOROETHOXY) METHANE	08-SW-02	08/14/1991	08SW0201Y	0.000	6.8	<UM25	6.8	UGL
			BIS (2-CHLOROETHYL) ETHER	08-SW-02	08/14/1991	08SW0201Y	0.000	0.68	<UM25	0.68	UGL
			BIS (2-CHLOROISOPROPYL) ETHER	08-SW-02	08/14/1991	08SW0201Y	0.000	5.0	<UM25	5.0	UGL
			BIS (2-ETHYLHEXYL) PHTHALATE	08-SW-02	08/14/1991	08SW0201Y	0.000	7.7	<UM25	0.48	UGL
			BROMACIL	08-SW-02	08/14/1991	08SW0201Y	0.000	2.9	<UM25	2.9	UGL
			BUTYLBENZYL PHTHALATE	08-SW-02	08/14/1991	08SW0201Y	0.000	28.0	<UM25	28.0	UGL
			CHRYSENE	08-SW-02	08/14/1991	08SW0201Y	0.000	7.4	<UM25	7.4	UGL
			DI-N-BUTYL PHTHALATE	08-SW-02	08/14/1991	08SW0201Y	0.000	33.0	<UM25	33.0	UGL
			DI-N-OCTYL PHTHALATE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.5	<UM25	1.5	UGL
			DIBENZ(A,H)ANTHRACENE	08-SW-02	08/14/1991	08SW0201Y	0.000	12.0	<UM25	12.0	UGL
			DIBENZOFURAN	08-SW-02	08/14/1991	08SW0201Y	0.000	5.1	<UM25	5.1	UGL
			DIBROMOCHLOROPROPANE	08-SW-02	08/14/1991	08SW0201Y	0.000	12.0	<UM25	12.0	UGL
			DICYCLOPENTADIENE	08-SW-02	08/14/1991	08SW0201Y	0.000	5.5	<UM25	5.5	UGL
			DIETHYL PHTHALATE	08-SW-02	08/14/1991	08SW0201Y	0.000	5.9	<UM25	5.9	UGL
			DIISOPROPYL METHYLPHOSPHONATE	08-SW-02	08/14/1991	08SW0201Y	0.000	21.0	<UM25	21.0	UGL
			DIMETHYL METHYLPHOSPHATE	08-SW-02	08/14/1991	08SW0201Y	0.000	130.0	<UM25	130.0	UGL
			DIMETHYL PHTHALATE	08-SW-02	08/14/1991	08SW0201Y	0.000	2.2	<UM25	2.2	UGL
			DITHIANE	08-SW-02	08/14/1991	08SW0201Y	0.000	3.3	<UM25	3.3	UGL
			ENDOSULFAN SULFATE	08-SW-02	08/14/1991	08SW0201Y	0.000	50.0	<UM25	50.0	UGL
			ENDRIN ALDEHYDE	08-SW-02	08/14/1991	08SW0201N	0.000	5.0	<UM25	5.0	UGL
			ENDRIN KETONE	08-SW-02	08/14/1991	08SW0201NR	0.000	6.0	*UM25	6.0	UGL
			FLUORANTHENE	08-SW-02	08/14/1991	08SW0201Y	0.000	24.0	<UM25	24.0	UGL
			FLUORENE	08-SW-02	08/14/1991	08SW0201Y	0.000	9.2	<UM25	9.2	UGL
			HEXACHLOROBENZENE	08-SW-02	08/14/1991	08SW0201Y	0.000	12.0	<UM25	12.0	UGL
			HEXACHLOROBUTADIENE	08-SW-02	08/14/1991	08SW0201Y	0.000	8.7	<UM25	8.7	UGL
			HEXACHLOROCYCLOPENTADIENE	08-SW-02	08/14/1991	08SW0201Y	0.000	54.0	<UM25	54.0	UGL
			HEXACHLOROETHANE	08-SW-02	08/14/1991	08SW0201Y	0.000	8.3	<UM25	8.3	UGL
			INDENO(1,2,3-C,D)PYRENE	08-SW-02	08/14/1991	08SW0201Y	0.000	21.0	<UM25	0.21	UGL
			ISOPHORONE	08-SW-02	08/14/1991	08SW0201Y	0.000	2.4	<UM25	2.4	UGL
			MALATHION	08-SW-02	08/14/1991	08SW0201Y	0.000	21.0	<UM25	21.0	UGL
			MIREX	08-SW-02	08/14/1991	08SW0201Y	0.000	24.0	<UM25	24.0	UGL
			N-NITROSODI-N-PROPYLAMINE	08-SW-02	08/14/1991	08SW0201Y	0.000	6.8	<UM25	6.8	UGL
			N-NITROSODIMETHYLAMINE	08-SW-02	08/14/1991	08SW0201Y	0.000	9.7	<UM25	9.7	UGL
			N-NITROSODIPHENYLAMINE	08-SW-02	08/14/1991	08SW0201Y	0.000	3.7	<UM25	3.7	UGL
			NAPHTHALENE	08-SW-02	08/14/1991	08SW0201Y	0.000	0.5	<UM25	0.5	UGL
			P-CHLOROPHENYLMETHYL SULFIDE	08-SW-02	08/14/1991	08SW0201Y	0.000	10.0	<UM25	10.0	UGL
			P-CHLOROPHENYLMETHYL SULFONE	08-SW-02	08/14/1991	08SW0201Y	0.000	5.3	<UM25	5.3	UGL
			P-CHLOROPHENYLMETHYL SULFOXIDE	08-SW-02	08/14/1991	08SW0201Y	0.000	15.0	<UM25	15.0	UGL
			PARATHION	08-SW-02	08/14/1991	08SW0201Y	0.000	37.0	<UM25	37.0	UGL
			PENTACHLOROPHENOL	08-SW-02	08/14/1991	08SW0201Y	0.000	9.1	<UM25	9.1	UGL
			PHENANTHRENE	08-SW-02	08/14/1991	08SW0201Y	0.000	9.9	<UM25	9.9	UGL
			PHENOL	08-SW-02	08/14/1991	08SW0201Y	0.000	2.2	<UM25	2.2	UGL
			PYRENE	08-SW-02	08/14/1991	08SW0201Y	0.000	17.0	<UM25	17.0	UGL
			SUPONA/2-CHLORO-1-(2,4-DICHLOR	08-SW-02	08/14/1991	08SW0201Y	0.000	19.0	<UM25	19.0	UGL
			VAPONA	08-SW-02	08/14/1991	08SW0201Y	0.000	8.5	<UM25	8.5	UGL
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	08-SW-02	08/14/1991	08SW0201Y	0.000	3.5	<UM21	3.5	UGL
			1,1,1-TRICHLOROETHANE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			1,1,2,2-TETRACHLOROETHANE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.5	<UM21	1.5	UGL
			1,1,2-TRICHLOROETHANE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			1,1-DICHLOROETHANE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			1,1-DICHLOROETHYLENE/1,1-DICHL	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			1,2-DICHLOROETHANE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			1,2-DICHLOROETHENES/1,2-DICHLO	08-SW-02	08/14/1991	08SW0201Y	0.000	5.0	<UM21	5.0	UGL
			1,2-DICHLOROPROPANE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			1,3-DICHLOROBENZENE	08-SW-02	08/14/1991	08SW0201N	0.000	3.4	<UM25	3.4	UGL
						08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			1,3-DICLOROPROPANE	08-SW-02	08/14/1991	08SW0201Y	0.000	4.8	<UM21	4.8	UGL
			1,3-DIMETHYLBENZENE/M-XYLENE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			ACETIC ACID, VINYL ESTER/VINYL	08-SW-02	08/14/1991	08SW0201NR	0.000	10.0	*UM21	10.0	UGL
			ACETONE	08-SW-02	08/14/1991	08SW0201Y	0.000	8.0	<UM21	8.0	UGL
			ACRYLONITRILE	08-SW-02	08/14/1991	08SW0201Y	0.000	8.4	<UM21	8.4	UGL
			BENZENE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			BROMODICHLOROMETHANE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			BROMOFORM	08-SW-02	08/14/1991	08SW0201Y	0.000	11.0	<UM21	11.0	UGL
			BROMOMETHANE	08-SW-02	08/14/1991	08SW0201Y	0.000	14.0	<UM21	14.0	UGL
			CARBON DISULFIDE	08-SW-02	08/14/1991	08SW0201NR	0.000	5.0	*UM21	5.0	UGL
			CARBON TETRACHLORIDE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			CHLORFORM	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			CHLOROBENZENE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			CHLOROETHANE	08-SW-02	08/14/1991	08SW0201Y	0.000	8.0	<UM21	8.0	UGL
			CHLOROETHANE/VINYL CHLORIDE	08-SW-02	08/14/1991	08SW0201Y	0.000	12.0	<UM21	12.0	UGL
			CHLOROMETHANE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.2	<UM21	1.2	UGL
			CIS-1,3-DICHLOROPROPYLENE/CIS-	08-SW-02	08/14/1991	08SW0201NR	0.000	5.0	*UM21	5.0	UGL
			DIBROMOCHLOROMETHANE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			DICHLOROBENZENE - NONSPECIFIC	08-SW-02	08/14/1991	08SW0201Y	0.000	2.0	<UM21	2.0	UGL
			ETHYLBENZENE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			METHYL-N-BUTYL KETONE/2-HEXANO	08-SW-02	08/14/1991	08SW0201NR	0.000	10.0	*UM21	10.0	UGL
			METHYLENE CHLORIDE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			METHYLETHYL PHENOL/METHYLETHYL	08-SW-02	08/14/1991	08SW0201Y	0.000	10.0	<UM21	10.0	UGL
			METHYLISOBUTYL KETONE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.4	<UM21	1.4	UGL
			STYRENE	08-SW-02	08/14/1991	08SW0201NR	0.000	5.0	*UM21	5.0	UGL
			TETRACHLOROETHYLENE/TETRACHLOR	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			TOLUENE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			TRANS-1,3-DICHLOROPROPENE	08-SW-02	08/14/1991	08SW0201NR	0.000	5.0	*UM21	5.0	UGL
			TRICHLOROETHYLENE/TRICHLOROETH	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			TRICHLOROFLUOROMETHANE	08-SW-02	08/14/1991	08SW0201Y	0.000	1.0	<UM21	1.0	UGL
			XYLENES	08-SW-02	08/14/1991	08SW0201Y	0.000	2.0	<UM21	2.0	UGL

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP09	SD	ANIONS	NITRITE, NITRATE - NONSPECIFIC	09-SD-06	08/09/1991	09SD0601Y	0.500	5.36	=KF17	1.0	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	2.93	=KF17	1.0	UGG
			SULFATE	09-SD-06	08/09/1991	09SD0601Y	0.500	40.3	=KT07	5.0	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	13.5	=KT07	5.0	UGG
		EXPLOSIVES	1,3,5-TRINITROBENZENE	09-SD-06	08/09/1991	09SD0601Y	0.500	2.1	<LW02	2.09	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	09-SD-06	08/09/1991	09SD0601Y	0.500	0.59	<LW02	0.59	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	0.59	<LW02	0.59	UGG
			2,4,6-TNT	09-SD-06	08/09/1991	09SD0601Y	0.500	1.9	<LW02	1.92	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	09-SD-06	08/09/1991	09SD0601Y	0.500	0.42	<LW02	0.42	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	09-SD-06	08/09/1991	09SD0601Y	0.500	0.4	<LW02	0.4	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	0.4	<LW02	0.4	UGG
			HMX	09-SD-06	08/09/1991	09SD0601Y	0.500	1.3	<LW02	1.27	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	1.3	<LW02	1.27	UGG
			NITROBENZENE	09-SD-06	08/09/1991	09SD0601Y	0.500	0.42	<LW02	0.42	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	0.42	<LW02	0.42	UGG
			RDX	09-SD-06	08/09/1991	09SD0601Y	0.500	0.98	<LW02	0.98	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	0.98	<LW02	0.98	UGG
			TETRYL	09-SD-06	08/09/1991	09SD0601Y	0.500	0.25	<LW02	0.25	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	09-SD-06	08/09/1991	09SD0601Y	0.500	19.6	<JS12	19.6	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	09-SD-06	08/09/1991	09SD0601Y	0.500	32.1	=B9	2.5	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	18.0	=B9	2.5	UGG
			BARIUM	09-SD-06	08/09/1991	09SD0601Y	0.500	114.0	=JS12	3.29	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	187.0	=JS12	3.29	UGG
			BERYLLIUM	09-SD-06	08/09/1991	09SD0601Y	0.500	1.42	=JS12	0.427	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	0.72	=JS12	0.427	UGG
			CADMIUM	09-SD-06	08/09/1991	09SD0601Y	0.500	1.2	<JS12	1.2	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	1.2	<JS12	1.2	UGG
			CHROMIUM	09-SD-06	08/09/1991	09SD0601Y	0.500	16.2	=JS12	1.04	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	15.1	=JS12	1.04	UGG
			COPPER	09-SD-06	08/09/1991	09SD0601Y	0.500	16.1	=JS12	2.84	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	10.8	=JS12	2.84	UGG
			LEAD	09-SD-06	08/09/1991	09SD0601Y	0.500	23.0	=JD21	0.467	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	14.0	=JD21	0.467	UGG
			MERCURY	09-SD-06	08/09/1991	09SD0601Y	0.500	0.05	<Y9	0.05	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	0.082	=Y9	0.05	UGG
			NICKEL	09-SD-06	08/09/1991	09SD0601Y	0.500	29.4	=JS12	2.74	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	28.0	=JS12	2.74	UGG
			SELENIUM	09-SD-06	08/09/1991	09SD0601Y	0.500	0.449	<JD20	0.449	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	0.449	<JD20	0.449	UGG
			SILVER	09-SD-06	08/09/1991	09SD0601Y	0.500	0.803	<JS12	0.803	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	0.803	<JS12	0.803	UGG
			THALLIUM	09-SD-06	08/09/1991	09SD0601Y	0.500	34.3	<JS12	34.3	UGG
				09-SD-07	08/12/1991	09SD0701Y	0.500	34.3	<JS12	34.3	UGG
			ZINC	09-SD-06	08/09/1991	09SD0601Y	0.500	64.0	=JS12	2.34	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				09-SD-07	08/12/1991	09SD0701Y	0.500	69.8	=JS12	2.34	UGG
	SO	ANIONS	NITRITE, NITRATE - NONSPECIFIC	09-SA-01	08/12/1991	09SA0101Y	1.000	1.57	=KF17	1.0	UGG
						09SA0102YD	1.000	1.35	=KF17	1.0	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	2.6	=KF17	1.0	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	6.31	=KF17	1.0	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	1.59	=KF17	1.0	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	16.4	=KF17	1.0	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	2.13	=KF17	1.0	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	3.5	=KF17	1.0	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	6.69	=KF17	1.0	UGG
			SULFATE	09-SA-01	08/12/1991	09SA0101Y	1.000	51.3	=KT07	5.0	UGG
						09SA0102YD	1.000	52.2	=KT07	5.0	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	17.1	=KT07	5.0	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	34.7	=KT07	5.0	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	29.2	=KT07	5.0	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	71.7	=KT07	5.0	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	18.4	=KT07	5.0	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	116.0	=KT07	5.0	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	14.6	=KT07	5.0	UGG
		EXPLOSIVES	1,3,5-TRINITROBENZENE	09-SA-01	08/12/1991	09SA0101Y	1.000	2.1	<LW02	2.09	UGG
						09SA0102YD	1.000	2.1	<LW02	2.09	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	2.1	<LW02	2.09	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	2.1	<LW02	2.09	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	2.1	<LW02	2.09	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	2.1	<LW02	2.09	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	2.1	<LW02	2.09	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	2.1	<LW02	2.09	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	09-SA-01	08/12/1991	09SA0101Y	1.000	0.59	<LW02	0.59	UGG
						09SA0102YD	1.000	0.59	<LW02	0.59	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	0.59	<LW02	0.59	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	0.59	<LW02	0.59	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	0.59	<LW02	0.59	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	0.59	<LW02	0.59	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	0.59	<LW02	0.59	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	0.59	<LW02	0.59	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	0.59	<LW02	0.59	UGG
			2,4,6-TNT	09-SA-01	08/12/1991	09SA0101Y	1.000	1.9	<LW02	1.92	UGG
						09SA0102YD	1.000	1.9	<LW02	1.92	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	1.9	<LW02	1.92	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	1.9	<LW02	1.92	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	1.9	<LW02	1.92	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	1.9	<LW02	1.92	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	1.9	<LW02	1.92	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	1.9	<LW02	1.92	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	09-SA-01	08/12/1991	09SA0101Y	1.000	0.42	<LW02	0.42	UGG
						09SA0102YD	1.000	0.42	<LW02	0.42	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	0.42	<LW02	0.42	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				09-SA-03	08/09/1991	09SA0301Y	1.000	0.42	<LW02	0.42	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	0.42	<LW02	0.42	UGG
				09-SA-05	08/09/1991	09SA0501N	1.000	1.4	<LM25	1.4	UGG
						09SA0501Y	1.000	0.42	<LW02	0.42	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	0.42	<LW02	0.42	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	0.42	<LW02	0.42	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	09-SA-01	08/12/1991	09SA0101Y	1.000	0.4	<LW02	0.4	UGG
						09SA0102YD	1.000	0.4	<LW02	0.4	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	0.4	<LW02	0.4	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	0.4	<LW02	0.4	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	0.4	<LW02	0.4	UGG
				09-SA-05	08/09/1991	09SA0501N	1.000	0.32	<LM25	0.32	UGG
						09SA0501Y	1.000	0.4	<LW02	0.4	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	0.4	<LW02	0.4	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	0.4	<LW02	0.4	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	0.4	<LW02	0.4	UGG
			HMX	09-SA-01	08/12/1991	09SA0101Y	1.000	1.3	<LW02	1.27	UGG
						09SA0102YD	1.000	1.3	<LW02	1.27	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	1.3	<LW02	1.27	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	1.3	<LW02	1.27	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	1.3	<LW02	1.27	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	1.3	<LW02	1.27	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	1.3	<LW02	1.27	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	1.3	<LW02	1.27	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	1.3	<LW02	1.27	UGG
			NITROBENZENE	09-SA-01	08/12/1991	09SA0101Y	1.000	0.42	<LW02	0.42	UGG
						09SA0102YD	1.000	0.42	<LW02	0.42	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	0.42	<LW02	0.42	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	0.42	<LW02	0.42	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	0.42	<LW02	0.42	UGG
				09-SA-05	08/09/1991	09SA0501N	1.000	1.8	<LM25	1.8	UGG
						09SA0501Y	1.000	0.42	<LW02	0.42	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	0.42	<LW02	0.42	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	0.42	<LW02	0.42	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	0.42	<LW02	0.42	UGG
			RDX	09-SA-01	08/12/1991	09SA0101Y	1.000	0.98	<LW02	0.98	UGG
						09SA0102YD	1.000	0.98	<LW02	0.98	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	0.98	<LW02	0.98	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	0.98	<LW02	0.98	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	0.98	<LW02	0.98	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	0.98	<LW02	0.98	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	0.98	<LW02	0.98	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	0.98	<LW02	0.98	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	0.98	<LW02	0.98	UGG
			TETRYL	09-SA-01	08/12/1991	09SA0101Y	1.000	0.25	<LW02	0.25	UGG
						09SA0102YD	1.000	0.25	<LW02	0.25	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	0.25	<LW02	0.25	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	0.25	<LW02	0.25	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				09-SA-04	08/09/1991	09SA0401Y	1.000	0.25	<LW02	0.25	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	0.25	<LW02	0.25	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	0.25	<LW02	0.25	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	0.25	<LW02	0.25	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	09-SA-01	08/12/1991	09SA0101Y	1.000	19.6	<JS12	19.6	UGG
						09SA0102YD	1.000	19.6	<JS12	19.6	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	19.6	<JS12	19.6	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	19.6	<JS12	19.6	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	19.6	<JS12	19.6	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	19.6	<JS12	19.6	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	19.6	<JS12	19.6	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	19.6	<JS12	19.6	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	19.6	<JS12	19.6	UGG
			ARSENIC	09-SA-01	08/12/1991	09SA0101Y	1.000	4.42	=B9	2.5	UGG
						09SA0102YD	1.000	4.64	=B9	2.5	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	5.0	=B9	2.5	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	2.5	<B9	2.5	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	2.5	<B9	2.5	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	3.78	=B9	2.5	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	6.09	=B9	2.5	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	8.57	=B9	2.5	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	2.97	=B9	2.5	UGG
			BARIUM	09-SA-01	08/12/1991	09SA0101Y	1.000	74.7	=JS12	3.29	UGG
						09SA0102YD	1.000	99.5	=JS12	3.29	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	149.0	=JS12	3.29	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	86.2	=JS12	3.29	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	52.8	=JS12	3.29	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	68.8	=JS12	3.29	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	111.0	=JS12	3.29	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	100.0	=JS12	3.29	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	78.0	=JS12	3.29	UGG
			BERYLLIUM	09-SA-01	08/12/1991	09SA0101Y	1.000	0.941	=JS12	0.427	UGG
						09SA0102YD	1.000	0.995	=JS12	0.427	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	0.622	=JS12	0.427	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	0.427	<JS12	0.427	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	0.862	=JS12	0.427	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	0.427	<JS12	0.427	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	1.59	=JS12	0.427	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	1.18	=JS12	0.427	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	0.91	=JS12	0.427	UGG
			CADMIUM	09-SA-01	08/12/1991	09SA0101Y	1.000	1.2	<JS12	1.2	UGG
						09SA0102YD	1.000	1.2	<JS12	1.2	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	1.2	<JS12	1.2	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	5.19	=JS12	1.2	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	1.2	<JS12	1.2	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	1.2	<JS12	1.2	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	1.2	<JS12	1.2	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	1.2	<JS12	1.2	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				09-SA-10	08/09/1991	09SA1001Y	1.000	1.2	<JS12	1.2	UGG
			CHROMIUM	09-SA-01	08/12/1991	09SA0101Y	1.000	16.4	=JS12	1.04	UGG
						09SA0102YD	1.000	39.8	=JS12	1.04	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	22.9	=JS12	1.04	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	38.0	=JS12	1.04	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	17.7	=JS12	1.04	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	20.5	=JS12	1.04	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	19.3	=JS12	1.04	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	15.2	=JS12	1.04	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	11.0	=JS12	1.04	UGG
			COPPER	09-SA-01	08/12/1991	09SA0101Y	1.000	7.9	=JS12	2.84	UGG
						09SA0102YD	1.000	36.5	=JS12	2.84	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	14.3	=JS12	2.84	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	53.2	=JS12	2.84	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	8.38	=JS12	2.84	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	11.9	=JS12	2.84	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	43.6	=JS12	2.84	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	58.7	=JS12	2.84	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	17.8	=JS12	2.84	UGG
			LEAD	09-SA-01	08/12/1991	09SA0101Y	1.000	29.0	=JD21	0.467	UGG
						09SA0102YD	1.000	56.0	=JD21	0.467	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	13.0	=JD21	0.467	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	400.0	=JD21	0.467	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	26.0	=JD21	0.467	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	27.0	=JD21	0.467	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	35.0	=JD21	0.467	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	570.0	=JD21	0.467	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	18.0	=JD21	0.467	UGG
			MERCURY	09-SA-01	08/12/1991	09SA0101Y	1.000	0.057	=Y9	0.05	UGG
						09SA0102YD	1.000	0.068	=Y9	0.05	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	0.05	<Y9	0.05	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	0.191	=Y9	0.05	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	0.05	<Y9	0.05	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	0.05	<Y9	0.05	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	1.3	=Y9	0.05	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	0.336	=Y9	0.05	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	0.775	=Y9	0.05	UGG
			NICKEL	09-SA-01	08/12/1991	09SA0101Y	1.000	15.9	=JS12	2.74	UGG
						09SA0102YD	1.000	41.2	=JS12	2.74	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	15.3	=JS12	2.74	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	24.0	=JS12	2.74	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	13.2	=JS12	2.74	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	15.4	=JS12	2.74	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	25.2	=JS12	2.74	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	17.7	=JS12	2.74	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	15.0	=JS12	2.74	UGG
			SELENIUM	09-SA-01	08/12/1991	09SA0101Y	1.000	0.449	<JD20	0.449	UGG
						09SA0102YD	1.000	0.449	<JD20	0.449	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	0.449	<JD20	0.449	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				09-SA-03	08/09/1991	09SA0301Y	1.000	0.449	<JD20	0.449	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	0.449	<JD20	0.449	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	0.449	<JD20	0.449	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	0.449	<JD20	0.449	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	0.449	<JD20	0.449	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	0.449	<JD20	0.449	UGG
			SILVER	09-SA-01	08/12/1991	09SA0101Y	1.000	0.803	<JS12	0.803	UGG
						09SA0102YD	1.000	0.803	<JS12	0.803	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	0.803	<JS12	0.803	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	0.803	<JS12	0.803	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	0.803	<JS12	0.803	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	0.803	<JS12	0.803	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	0.803	<JS12	0.803	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	0.803	<JS12	0.803	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	0.803	<JS12	0.803	UGG
			THALLIUM	09-SA-01	08/12/1991	09SA0101Y	1.000	34.3	<JS12	34.3	UGG
						09SA0102YD	1.000	34.3	<JS12	34.3	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	34.3	<JS12	34.3	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	34.3	<JS12	34.3	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	34.3	<JS12	34.3	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	34.3	<JS12	34.3	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	34.3	<JS12	34.3	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	34.3	<JS12	34.3	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	34.3	<JS12	34.3	UGG
			ZINC	09-SA-01	08/12/1991	09SA0101Y	1.000	61.1	=JS12	2.34	UGG
						09SA0102YD	1.000	87.8	=JS12	2.34	UGG
				09-SA-02	08/09/1991	09SA0201Y	1.000	84.5	=JS12	2.34	UGG
				09-SA-03	08/09/1991	09SA0301Y	1.000	568.0	=JS12	2.34	UGG
				09-SA-04	08/09/1991	09SA0401Y	1.000	37.5	=JS12	2.34	UGG
				09-SA-05	08/09/1991	09SA0501Y	1.000	49.5	=JS12	2.34	UGG
				09-SA-08	08/12/1991	09SA0801Y	1.000	102.0	=JS12	2.34	UGG
				09-SA-09	08/09/1991	09SA0901Y	1.000	90.0	=JS12	2.34	UGG
				09-SA-10	08/09/1991	09SA1001Y	1.000	59.0	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	09-SA-05	08/09/1991	09SA0501N	1.000	0.068	<LM25	0.068	UGG
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	09-SA-05	08/09/1991	09SA0501N	1.000	0.1	<LM25	0.1	UGG
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	09-SA-05	08/09/1991	09SA0501N	1.000	0.064	<LM25	0.064	UGG
			ALDRIN	09-SA-05	08/09/1991	09SA0501N	1.000	1.3	<LM25	1.3	UGG
			ALPHA-BENZENEHEXACHLORIDE	09-SA-05	08/09/1991	09SA0501N	1.000	1.3	<LM25	1.3	UGG
			ALPHA-ENDOSULFAN/ENDOSULFAN I	09-SA-05	08/09/1991	09SA0501N	1.000	0.4	<LM25	0.4	UGG
			BETA-BENZENEHEXACHLORIDE	09-SA-05	08/09/1991	09SA0501N	1.000	1.3	<LM25	1.3	UGG
			BETA-ENDOSULFAN/ENDOSULFAN II	09-SA-05	08/09/1991	09SA0501N	1.000	2.4	<LM25	2.4	UGG
			CHLORDANE	09-SA-05	08/09/1991	09SA0501N	1.000	0.68	<LM25	0.68	UGG
			DELTA-BENZENEHEXACHLORIDE	09-SA-05	08/09/1991	09SA0501N	1.000	0.21	<LM25	0.21	UGG
			DIELDRIN	09-SA-05	08/09/1991	09SA0501N	1.000	0.079	<LM25	0.079	UGG
			ENDRIN	09-SA-05	08/09/1991	09SA0501N	1.000	1.3	<LM25	1.3	UGG
			HEPTACHLOR	09-SA-05	08/09/1991	09SA0501N	1.000	0.24	<LM25	0.24	UGG
			HEPTACHLOR EPOXIDE	09-SA-05	08/09/1991	09SA0501N	1.000	0.48	<LM25	0.48	UGG
			ISODRIN	09-SA-05	08/09/1991	09SA0501N	1.000	0.48	<LM25	0.48	UGG
			LINDANE	09-SA-05	08/09/1991	09SA0501N	1.000	0.1	<LM25	0.1	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			METHOXYCHLOR	09-SA-05	08/09/1991	09SA0501N	1.000	0.26	<LM25	0.26	UGG
			TOTAL PCBs	09-SA-05	08/09/1991	09SA0501NS	1.000	2.03	=LM25	0.0	UGG
			TOXAPHENE	09-SA-05	08/09/1991	09SA0501NR	1.000	12.0	*LM25	12.0	UGG
		SEMIVOLATILES	1,2,3-TRICHLOROBENZENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.032	<LM25	0.032	UGG
			1,2,4-TRICHLOROBENZENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.22	<LM25	0.22	UGG
			1,2-DICHLOROBENZENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.042	<LM25	0.042	UGG
			1,2-DIPHENYLHYDRAZINE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.52	<LM25	0.52	UGG
			1,4-DICHLOROBENZENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.034	<LM25	0.034	UGG
			1,4-OXATHIANE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.075	<LM25	0.075	UGG
			2,3,6-TCP	09-SA-05	08/09/1991	09SA0501Y	1.000	0.62	<LM25	0.62	UGG
			2,4,5-TRICHLOROPHENOL	09-SA-05	08/09/1991	09SA0501Y	1.000	0.49	<LM25	0.49	UGG
			2,4,6-TRICHLOROPHENOL	09-SA-05	08/09/1991	09SA0501Y	1.000	0.061	<LM25	0.061	UGG
			2,4-DICHLOROPHENOL	09-SA-05	08/09/1991	09SA0501Y	1.000	0.065	<LM25	0.065	UGG
			2,4-DIMETHYLPHENOL	09-SA-05	08/09/1991	09SA0501Y	1.000	3.0	<LM25	3.0	UGG
			2,4-DINITROPHENOL	09-SA-05	08/09/1991	09SA0501Y	1.000	4.7	<LM25	4.7	UGG
			2,6-DINITROANILINE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.57	<LM25	0.57	UGG
			2-CHLORONAPHTHALENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.24	<LM25	0.24	UGG
			2-CHLOROPHENOL	09-SA-05	08/09/1991	09SA0501Y	1.000	0.055	<LM25	0.055	UGG
			2-METHYL-4,6-DINITROPHENOL/4,6	09-SA-05	08/09/1991	09SA0501Y	1.000	0.8	<LM25	0.8	UGG
			2-METHYLNAPHTHALENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.032	<LM25	0.032	UGG
			2-METHYLPHENOL/2-CRESOL	09-SA-05	08/09/1991	09SA0501Y	1.000	0.098	<LM25	0.098	UGG
			2-NITROANILINE	09-SA-05	08/09/1991	09SA0501NR	1.000	3.1	*LM25	3.1	UGG
			2-NITROPHENOL	09-SA-05	08/09/1991	09SA0501Y	1.000	1.1	<LM25	1.1	UGG
			3,3'-DICHLOROBENZIDINE	09-SA-05	08/09/1991	09SA0501Y	1.000	1.6	<LM25	1.6	UGG
			3,5-DINITROANILINE	09-SA-05	08/09/1991	09SA0501Y	1.000	1.6	<LM25	1.6	UGG
			3-METHYL-4-CHLOROPHENOL/4-CHLO	09-SA-05	08/09/1991	09SA0501Y	1.000	0.93	<LM25	0.93	UGG
			3-NITROANILINE	09-SA-05	08/09/1991	09SA0501Y	1.000	3.0	<LM25	3.0	UGG
			3-NITROTOLUENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.34	<LM25	0.34	UGG
			4-BROMOPHENYLPHENYL ETHER	09-SA-05	08/09/1991	09SA0501Y	1.000	0.041	<LM25	0.041	UGG
			4-CHLOROANILINE	09-SA-05	08/09/1991	09SA0501NR	1.000	0.63	*LM25	0.63	UGG
			4-CHLOROPHENYLPHENYL ETHER	09-SA-05	08/09/1991	09SA0501Y	1.000	0.17	<LM25	0.17	UGG
			4-METHYLPHENOL/4-CRESOL	09-SA-05	08/09/1991	09SA0501Y	1.000	0.24	<LM25	0.24	UGG
			4-NITROANILINE	09-SA-05	08/09/1991	09SA0501NR	1.000	3.1	*LM25	3.1	UGG
			4-NITROPHENOL	09-SA-05	08/09/1991	09SA0501Y	1.000	3.3	<LM25	3.3	UGG
			ACENAPHTHENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.041	<LM25	0.041	UGG
			ACENAPHTHYLENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.033	<LM25	0.033	UGG
			ANTHRACENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.71	<LM25	0.71	UGG
			ATRAZINE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.065	<LM25	0.065	UGG
			BENZO(A)ANTHRACENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.041	<LM25	0.48	UGG
			BENZO(A)PYRENE	09-SA-05	08/09/1991	09SA0501Y	1.000	1.2	<LM25	1.2	UGG
			BENZO(B)FLUORANTHENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.31	<LM25	0.31	UGG
			BENZO(G,H,I)PERYLENE	09-SA-05	08/09/1991	09SA0501Y	1.000	1.97	=LM25	0.18	UGG
			BENZO(K)FLUORANTHENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.13	<LM25	0.13	UGG
			BENZOIC ACID	09-SA-05	08/09/1991	09SA0501NR	1.000	3.1	*LM25	3.1	UGG
			BENZYL ALCOHOL	09-SA-05	08/09/1991	09SA0501Y	1.000	0.032	<LM25	0.032	UGG
			BIS (2-CHLOROETHOXY) METHANE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.19	<LM25	0.19	UGG
			BIS (2-CHLOROETHYL) ETHER	09-SA-05	08/09/1991	09SA0501Y	1.000	0.36	<LM25	0.36	UGG
			BIS (2-CHLOROISOPROPYL) ETHER	09-SA-05	08/09/1991	09SA0501Y	1.000	0.44	<LM25	0.44	UGG
			BIS (2-ETHYLHEXYL) PHTHALATE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.48	<LM25	0.48	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			BUTYLBENZYL PHTHALATE	09-SA-05	08/09/1991	09SA0501Y	1.000	1.8	<LM25	1.8	UGG
			CHRYSENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.458	=LM25	0.032	UGG
			DI-N-BUTYL PHTHALATE	09-SA-05	08/09/1991	09SA0501Y	1.000	1.3	<LM25	1.3	UGG
			DI-N-OCTYL PHTHALATE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.23	<LM25	0.23	UGG
			DIBENZ(A,H)ANTHRACENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.31	<LM25	0.31	UGG
			DIBENZOFURAN	09-SA-05	08/09/1991	09SA0501Y	1.000	0.038	<LM25	0.038	UGG
			DIBROMOCHLOROPROPANE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.071	<LM25	0.071	UGG
			DICYCLOPENTADIENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.57	<LM25	0.57	UGG
			DIETHYL PHTHALATE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.24	<LM25	0.24	UGG
			DIMETHYL PHTHALATE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.063	<LM25	0.063	UGG
			DITHIANE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.065	<LM25	0.065	UGG
			ENDOSULFAN SULFATE	09-SA-05	08/09/1991	09SA0501Y	1.000	1.2	<LM25	1.2	UGG
			ENDRIN ALDEHYDE	09-SA-05	08/09/1991	09SA0501Y	1.000	1.8	<LM25	1.8	UGG
			ENDRIN KETONE	09-SA-05	08/09/1991	09SA0501NR	1.000	0.28	*LM25	0.28	UGG
			FLUORANTHENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.053	=LM25	0.032	UGG
			FLUORENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.065	<LM25	0.065	UGG
			HEXACHLOROBENZENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.08	<LM25	0.08	UGG
			HEXACHLOROBUTADIENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.97	<LM25	0.97	UGG
			HEXACHLOROCYCLOPENTADIENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.52	<LM25	0.52	UGG
			HEXACHLOROETHANE	09-SA-05	08/09/1991	09SA0501Y	1.000	1.8	<LM25	1.8	UGG
			INDENO(1,2,3-C,D)PYRENE	09-SA-05	08/09/1991	09SA0501Y	1.000	2.4	<LM25	2.4	UGG
			ISOPHORONE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.39	<LM25	0.39	UGG
			MALATHION	09-SA-05	08/09/1991	09SA0501Y	1.000	0.18	<LM25	0.18	UGG
			MIREX	09-SA-05	08/09/1991	09SA0501Y	1.000	0.14	<LM25	0.14	UGG
			N-NITROSODI-N-PROPYLAMINE	09-SA-05	08/09/1991	09SA0501Y	1.000	1.1	<LM25	1.1	UGG
			N-NITROSODIMETHYLAMINE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.46	<LM25	0.46	UGG
			N-NITROSODIPHENYLAMINE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.29	<LM25	0.29	UGG
			NAPHTHALENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.74	<LM25	0.74	UGG
			P-CHLOROPHENYLMETHYL SULFIDE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.097	<LM25	0.097	UGG
			P-CHLOROPHENYLMETHYL SULFONE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.066	<LM25	0.066	UGG
			P-CHLOROPHENYLMETHYL SULFOXIDE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.32	<LM25	0.32	UGG
			PARATHION	09-SA-05	08/09/1991	09SA0501Y	1.000	1.7	<LM25	1.7	UGG
			PENTACHLOROPHENOL	09-SA-05	08/09/1991	09SA0501Y	1.000	0.76	<LM25	0.76	UGG
			PHENANTHRENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.032	<LM25	0.032	UGG
			PHENOL	09-SA-05	08/09/1991	09SA0501Y	1.000	0.052	<LM25	0.052	UGG
			PYRENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.333	=LM25	0.083	UGG
			SUPONA/2-CHLORO-1-(2,4-DICHLOR	09-SA-05	08/09/1991	09SA0501Y	1.000	0.92	<LM25	0.92	UGG
			VAPONA	09-SA-05	08/09/1991	09SA0501Y	1.000	0.068	<LM25	0.068	UGG
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	09-SA-05	08/09/1991	09SA0501Y	1.000	0.5	<LM23	0.5	UGG
			1,1,1-TRICHLOROETHANE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.2	<LM23	0.2	UGG
			1,1,2,2-TETRACHLOROETHANE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.2	<LM23	0.2	UGG
			1,1,2-TRICHLOROETHANE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.33	<LM23	0.33	UGG
			1,1-DICHLOROETHANE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.49	<LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	09-SA-05	08/09/1991	09SA0501Y	1.000	0.27	<LM23	0.27	UGG
			1,2-DICHLOROETHANE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.32	<LM23	0.32	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	09-SA-05	08/09/1991	09SA0501Y	1.000	0.32	<LM23	0.32	UGG
			1,2-DICHLOROPROPANE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.53	<LM23	0.53	UGG
			1,3-DICHLOROBENZENE	09-SA-05	08/09/1991	09SA0501N	1.000	0.042	<LM25	0.042	UGG
						09SA0501Y	1.000	0.14	<LM23	0.14	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			1,3-DICLOROPROPANE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.2	<LM23	0.2	UGG
			1,3-DIMETHYLBENZENE/M-XYLENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.23	<LM23	0.23	UGG
			ACETIC ACID, VINYL ESTER/VINYL	09-SA-05	08/09/1991	09SA0501NR	1.000	1.0	*LM23	1.0	UGG
			ACETONE	09-SA-05	08/09/1991	09SA0501Y	1.000	3.3	<LM23	3.3	UGG
			ACRYLONITRILE	09-SA-05	08/09/1991	09SA0501Y	1.000	2.0	<LM23	2.0	UGG
			BENZENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.1	<LM23	0.1	UGG
			BROMODICHLOROMETHANE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.2	<LM23	0.2	UGG
			BROMOFORM	09-SA-05	08/09/1991	09SA0501Y	1.000	0.2	<LM23	0.2	UGG
			BROMOMETHANE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.26	<LM23	0.26	UGG
			CARBON DISULFIDE	09-SA-05	08/09/1991	09SA0501NR	1.000	0.6	*LM23	0.6	UGG
			CARBON TETRACHLORIDE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.31	<LM23	0.31	UGG
			CHLORFORM	09-SA-05	08/09/1991	09SA0501Y	1.000	0.24	<LM23	0.24	UGG
			CHLOROBENZENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.1	<LM23	0.1	UGG
			CHLOROETHANE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.64	<LM23	0.64	UGG
			CHLOROETHANE/VINYL CHLORIDE	09-SA-05	08/09/1991	09SA0501Y	1.000	1.8	<LM23	1.8	UGG
			CHLOROMETHANE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.96	<LM23	0.96	UGG
			CIS-1,3-DICHLOROPROPYLENE/CIS-	09-SA-05	08/09/1991	09SA0501NR	1.000	0.6	*LM23	0.6	UGG
			DIBROMOCHLOROMETHANE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.25	<LM23	0.25	UGG
			DICHLOROBENZENE - NONSPECIFIC	09-SA-05	08/09/1991	09SA0501Y	1.000	0.2	<LM23	0.2	UGG
			ETHYLBENZENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.19	<LM23	0.19	UGG
			METHYL-N-BUTYL KETONE/2-HEXANO	09-SA-05	08/09/1991	09SA0501NR	1.000	1.0	*LM23	1.0	UGG
			METHYLENE CHLORIDE	09-SA-05	08/09/1991	09SA0501Y	1.000	4.4	<LM23	4.4	UGG
			METHYLETHYL PHENOL/METHYLETHYL	09-SA-05	08/09/1991	09SA0501Y	1.000	4.3	<LM23	4.3	UGG
			METHYLISOBUTYL KETONE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.63	<LM23	0.63	UGG
			STYRENE	09-SA-05	08/09/1991	09SA0501NR	1.000	0.6	*LM23	0.6	UGG
			TETRACHLOROETHYLENE/TETRACHLOR	09-SA-05	08/09/1991	09SA0501Y	1.000	0.16	<LM23	0.16	UGG
			TOLUENE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.1	<LM23	0.1	UGG
			TRANS-1,3-DICHLOROPROPENE	09-SA-05	08/09/1991	09SA0501NR	1.000	0.6	*LM23	0.6	UGG
			TRICHLOROETHYLENE/TRICHLOROETH	09-SA-05	08/09/1991	09SA0501Y	1.000	0.23	<LM23	0.23	UGG
			TRICHLOROFLUOROMETHANE	09-SA-05	08/09/1991	09SA0501Y	1.000	0.23	<LM23	0.23	UGG
			XYLENES	09-SA-05	08/09/1991	09SA0501Y	1.000	0.78	<LM23	0.78	UGG
	SW	ANIONS	NITRITE, NITRATE - NONSPECIFIC	09-SW-06	08/09/1991	09SW0601Y	0.500	165.0	=LL8	10.0	UGL
			SULFATE	09-SW-06	08/09/1991	09SW0601Y	0.500	160,000.0	=TT09	175.0	UGL
		EXPLOSIVES	1,3,5-TRINITROBENZENE	09-SW-06	08/09/1991	09SW0601Y	0.500	0.56	<UW01	0.56	UGL
			1,3-DINITROBENZENE	09-SW-06	08/09/1991	09SW0601Y	0.500	0.61	<UW01	0.61	UGL
			2,4,6-TNT	09-SW-06	08/09/1991	09SW0601Y	0.500	0.78	<UW01	0.78	UGL
			2,4-DINITROTOLUENE	09-SW-06	08/09/1991	09SW0601Y	0.500	0.81	=UW01	0.6	UGL
			2,6-DINITROTOLUENE	09-SW-06	08/09/1991	09SW0601Y	0.500	1.4	=UW01	0.55	UGL
			HMX	09-SW-06	08/09/1991	09SW0601Y	0.500	1.3	<UW01	1.3	UGL
			NITROBENZENE	09-SW-06	08/09/1991	09SW0601Y	0.500	1.1	<UW01	1.13	UGL
			RDX	09-SW-06	08/09/1991	09SW0601Y	0.500	0.63	<UW01	0.63	UGL
			TETRYL	09-SW-06	08/09/1991	09SW0601Y	0.500	0.66	<UW01	0.66	UGL
		METALS	ANTIMONY	09-SW-06	08/09/1991	09SW0601N	0.500	60.0	<99	60.0	UGL
			ARSENIC	09-SW-06	08/09/1991	09SW0601Y	0.500	2.35	<AX8	2.35	UGL
			BARIUM	09-SW-06	08/09/1991	09SW0601N	0.500	55.7	=99	0.0	UGL
			BERYLLIUM	09-SW-06	08/09/1991	09SW0601N	0.500	1.12	<99	1.12	UGL
			CADMIUM	09-SW-06	08/09/1991	09SW0601N	0.500	6.78	<99	6.78	UGL
			CHROMIUM	09-SW-06	08/09/1991	09SW0601N	0.500	16.8	<99	16.8	UGL
			COPPER	09-SW-06	08/09/1991	09SW0601N	0.500	18.8	<99	18.8	UGL

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			LEAD	09-SW-06	08/09/1991	09SW0601Y	0.500	4.47	<SD18	4.47	UGL
			MERCURY	09-SW-06	08/09/1991	09SW0601Y	0.500	0.1	<CC8	0.1	UGL
			NICKEL	09-SW-06	08/09/1991	09SW0601N	0.500	32.1	<99	32.1	UGL
			SELENIUM	09-SW-06	08/09/1991	09SW0601Y	0.500	2.53	<SD25	2.53	UGL
			SILVER	09-SW-06	08/09/1991	09SW0601N	0.500	10.0	<99	10.0	UGL
			THALLIUM	09-SW-06	08/09/1991	09SW0601N	0.500	125.0	<99	125.0	UGL
			ZINC	09-SW-06	08/09/1991	09SW0601N	0.500	107.0	=99	0.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP10	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	10-SA-01	08/13/1991	10SA0101Y	4.000	2.1	<LW02	2.09	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	2.1	<LW02	2.09	UGG
						10SA0202Y	1.000	2.1	<LW02	2.09	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	2.1	<LW02	2.09	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	2.1	<LW02	2.09	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	2.1	<LW02	2.09	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	2.1	<LW02	2.09	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.59	<LW02	0.59	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	0.59	<LW02	0.59	UGG
						10SA0202Y	1.000	0.59	<LW02	0.59	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	0.59	<LW02	0.59	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	0.59	<LW02	0.59	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.59	<LW02	0.59	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	0.59	<LW02	0.59	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	0.59	<LW02	0.59	UGG
			2,4,6-TNT	10-SA-01	08/13/1991	10SA0101Y	4.000	1.9	<LW02	1.92	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	1.9	<LW02	1.92	UGG
						10SA0202Y	1.000	1.9	<LW02	1.92	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	1.9	<LW02	1.92	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	1.9	<LW02	1.92	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	1.9	<LW02	1.92	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	1.9	<LW02	1.92	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.42	<LW02	0.42	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	0.42	<LW02	0.42	UGG
						10SA0202Y	1.000	0.42	<LW02	0.42	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	0.42	<LW02	0.42	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	0.42	<LW02	0.42	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.42	<LW02	0.42	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	0.42	<LW02	0.42	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.4	<LW02	0.4	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	0.4	<LW02	0.4	UGG
						10SA0202Y	1.000	0.4	<LW02	0.4	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	0.4	<LW02	0.4	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	0.4	<LW02	0.4	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.4	<LW02	0.4	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	0.4	<LW02	0.4	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	0.4	<LW02	0.4	UGG
			HMX	10-SA-01	08/13/1991	10SA0101Y	4.000	1.3	<LW02	1.27	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	1.3	<LW02	1.27	UGG
						10SA0202Y	1.000	1.3	<LW02	1.27	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	1.3	<LW02	1.27	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	1.3	<LW02	1.27	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	1.3	<LW02	1.27	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	1.3	<LW02	1.27	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	1.3	<LW02	1.27	UGG
			NITROBENZENE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.42	<LW02	0.42	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				10-SA-02	08/13/1991	10SA0201Y	1.000	0.42	<LW02	0.42	UGG
						10SA0202Y	1.000	0.42	<LW02	0.42	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	0.42	<LW02	0.42	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	0.42	<LW02	0.42	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.42	<LW02	0.42	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	0.42	<LW02	0.42	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	0.42	<LW02	0.42	UGG
			RDX	10-SA-01	08/13/1991	10SA0101Y	4.000	0.98	<LW02	0.98	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	0.98	<LW02	0.98	UGG
						10SA0202Y	1.000	0.98	<LW02	0.98	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	0.98	<LW02	0.98	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	0.98	<LW02	0.98	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.98	<LW02	0.98	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	0.98	<LW02	0.98	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	0.98	<LW02	0.98	UGG
			TETRYL	10-SA-01	08/13/1991	10SA0101Y	4.000	0.25	<LW02	0.25	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	0.25	<LW02	0.25	UGG
						10SA0202Y	1.000	0.25	<LW02	0.25	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	0.25	<LW02	0.25	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	0.25	<LW02	0.25	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.25	<LW02	0.25	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	0.25	<LW02	0.25	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	10-SA-01	08/13/1991	10SA0101Y	4.000	19.6	<JS12	19.6	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	19.6	<JS12	19.6	UGG
						10SA0202Y	1.000	19.6	<JS12	19.6	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	19.6	<JS12	19.6	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	19.6	<JS12	19.6	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	19.6	<JS12	19.6	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	19.6	<JS12	19.6	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	19.6	<JS12	19.6	UGG
			ARSENIC	10-SA-01	08/13/1991	10SA0101Y	4.000	3.89	=B9	2.5	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	5.53	=B9	2.5	UGG
						10SA0202Y	1.000	5.44	=B9	2.5	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	20.3	=B9	2.5	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	2.5	<B9	2.5	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	2.5	<B9	2.5	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	3.97	=B9	2.5	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	7.03	=B9	2.5	UGG
			BARIUM	10-SA-01	08/13/1991	10SA0101Y	4.000	124.0	=JS12	3.29	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	215.0	=JS12	3.29	UGG
						10SA0202Y	1.000	201.0	=JS12	3.29	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	211.0	=JS12	3.29	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	311.0	=JS12	3.29	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	421.0	=JS12	3.29	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	205.0	=JS12	3.29	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	272.0	=JS12	3.29	UGG
			BERYLLIUM	10-SA-01	08/13/1991	10SA0101Y	4.000	0.427	<JS12	0.427	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	0.919	=JS12	0.427	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						10SA0202Y	1.000	0.837	=JS12	0.427	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	1.16	=JS12	0.427	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	0.427	<JS12	0.427	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	101.0	=JS12	0.427	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	1.02	=JS12	0.427	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	1.0	=JS12	0.427	UGG
			CADMIUM	10-SA-01	08/13/1991	10SA0101Y	4.000	1.2	<JS12	1.2	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	1.2	<JS12	1.2	UGG
						10SA0202Y	1.000	1.2	<JS12	1.2	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	1.2	<JS12	1.2	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	1.2	<JS12	1.2	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	1.2	<JS12	1.2	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	1.2	<JS12	1.2	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	1.2	<JS12	1.2	UGG
			CHROMIUM	10-SA-01	08/13/1991	10SA0101Y	4.000	21.0	=JS12	1.04	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	35.4	=JS12	1.04	UGG
						10SA0202Y	1.000	28.2	=JS12	1.04	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	37.7	=JS12	1.04	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	67.9	=JS12	1.04	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	47.8	=JS12	1.04	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	41.5	=JS12	1.04	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	35.0	=JS12	1.04	UGG
			COPPER	10-SA-01	08/13/1991	10SA0101Y	4.000	14.5	=JS12	2.84	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	24.1	=JS12	2.84	UGG
						10SA0202Y	1.000	25.8	=JS12	2.84	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	106.0	=JS12	2.84	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	32.8	=JS12	2.84	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	31.4	=JS12	2.84	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	16.9	=JS12	2.84	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	19.6	=JS12	2.84	UGG
			LEAD	10-SA-01	08/13/1991	10SA0101Y	4.000	9.11	=JD21	0.467	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	60.0	=JD21	0.467	UGG
						10SA0202Y	1.000	39.0	=JD21	0.467	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	25.3	=JD21	0.467	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	77.3	=JD21	0.467	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	570.0	=JD21	0.467	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	15.0	=JD21	0.467	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	17.3	=JD21	0.467	UGG
			MERCURY	10-SA-01	08/13/1991	10SA0101Y	4.000	0.378	=Y9	0.05	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	4.4	=Y9	0.05	UGG
						10SA0202Y	1.000	10.0	>Y9	0.05	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	3.2	=Y9	0.05	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	0.05	<Y9	0.05	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.148	=Y9	0.05	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	0.099	=Y9	0.05	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	0.075	=Y9	0.05	UGG
			NICKEL	10-SA-01	08/13/1991	10SA0101Y	4.000	16.0	=JS12	2.74	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	21.6	=JS12	2.74	UGG
						10SA0202Y	1.000	20.1	=JS12	2.74	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				10-SA-03	08/13/1991	10SA0301Y	1.000	37.2	=JS12	2.74	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	41.9	=JS12	2.74	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	31.1	=JS12	2.74	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	17.8	=JS12	2.74	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	17.9	=JS12	2.74	UGG
			SELENIUM	10-SA-01	08/13/1991	10SA0101Y	4.000	0.449	<JD20	0.449	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	0.449	<JD20	0.449	UGG
						10SA0202Y	1.000	0.449	<JD20	0.449	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	0.449	<JD20	0.449	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	0.449	<JD20	0.449	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.449	<JD20	0.449	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	0.449	<JD20	0.449	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	0.449	<JD20	0.449	UGG
			SILVER	10-SA-01	08/13/1991	10SA0101Y	4.000	0.803	<JS12	0.803	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	0.803	<JS12	0.803	UGG
						10SA0202Y	1.000	0.803	<JS12	0.803	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	0.803	<JS12	0.803	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	0.803	<JS12	0.803	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.803	<JS12	0.803	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	0.803	<JS12	0.803	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	0.803	<JS12	0.803	UGG
			THALLIUM	10-SA-01	08/13/1991	10SA0101Y	4.000	34.3	<JS12	34.3	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	34.3	<JS12	34.3	UGG
						10SA0202Y	1.000	34.3	<JS12	34.3	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	34.3	<JS12	34.3	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	34.3	<JS12	34.3	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	34.3	<JS12	34.3	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	34.3	<JS12	34.3	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	34.3	<JS12	34.3	UGG
			ZINC	10-SA-01	08/13/1991	10SA0101Y	4.000	58.7	=JS12	2.34	UGG
				10-SA-02	08/13/1991	10SA0201Y	1.000	93.7	=JS12	2.34	UGG
						10SA0202Y	1.000	98.8	=JS12	2.34	UGG
				10-SA-03	08/13/1991	10SA0301Y	1.000	170.0	=JS12	2.34	UGG
				10-SA-04	08/13/1991	10SA0401Y	1.000	125.0	=JS12	2.34	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	123.0	=JS12	2.34	UGG
				10-SA-06	08/13/1991	10SA0601Y	1.000	51.9	=JS12	2.34	UGG
				10-SA-07	08/13/1991	10SA0701Y	1.500	70.9	=JS12	2.34	UGG
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	10-SA-01	08/13/1991	10SA0101Y	4.000	0.5	<LM23	0.5	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.5	<LM23	0.5	UGG
			1,1,1-TRICHLOROETHANE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.2	<LM23	0.2	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.2	<LM23	0.2	UGG
			1,1,2,2-TETRACHLOROETHANE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.2	<LM23	0.2	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.2	<LM23	0.2	UGG
			1,1,2-TRICHLOROETHANE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.33	<LM23	0.33	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.33	<LM23	0.33	UGG
			1,1-DICHLOROETHANE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.49	<LM23	0.49	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.49	<LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	10-SA-01	08/13/1991	10SA0101Y	4.000	0.27	<LM23	0.27	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.27	<LM23	0.27	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			1,2-DICHLOROETHANE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.32	<LM23	0.32	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.32	<LM23	0.32	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	10-SA-01	08/13/1991	10SA0101Y	4.000	0.32	<LM23	0.32	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.32	<LM23	0.32	UGG
			1,2-DICHLOROPROPANE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.53	<LM23	0.53	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.53	<LM23	0.53	UGG
			1,3-DICHLOROBENZENE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.14	<LM23	0.14	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.14	<LM23	0.14	UGG
			1,3-DICLOROPROPANE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.2	<LM23	0.2	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.2	<LM23	0.2	UGG
			1,3-DIMETHYLBENZENE/M-XYLENE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.23	<LM23	0.23	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.23	<LM23	0.23	UGG
			ACETIC ACID, VINYL ESTER/VINYL	10-SA-01	08/13/1991	10SA0101NR	4.000	1.0	*LM23	1.0	UGG
				10-SA-05	08/13/1991	10SA0501NR	1.000	1.0	*LM23	1.0	UGG
			ACETONE	10-SA-01	08/13/1991	10SA0101Y	4.000	3.3	<LM23	3.3	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	3.3	<LM23	3.3	UGG
			ACRYLONITRILE	10-SA-01	08/13/1991	10SA0101Y	4.000	2.0	<LM23	2.0	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	2.0	<LM23	2.0	UGG
			BENZENE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.1	<LM23	0.1	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.1	<LM23	0.1	UGG
			BROMODICHLOROMETHANE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.2	<LM23	0.2	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.2	<LM23	0.2	UGG
			BROMOFORM	10-SA-01	08/13/1991	10SA0101Y	4.000	0.2	<LM23	0.2	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.2	<LM23	0.2	UGG
			BROMOMETHANE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.26	<LM23	0.26	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.26	<LM23	0.26	UGG
			CARBON DISULFIDE	10-SA-01	08/13/1991	10SA0101NR	4.000	0.6	*LM23	0.6	UGG
				10-SA-05	08/13/1991	10SA0501NR	1.000	0.6	*LM23	0.6	UGG
			CARBON TETRACHLORIDE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.31	<LM23	0.31	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.31	<LM23	0.31	UGG
			CHLORFORM	10-SA-01	08/13/1991	10SA0101Y	4.000	0.24	<LM23	0.24	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.24	<LM23	0.24	UGG
			CHLOROBENZENE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.1	<LM23	0.1	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.1	<LM23	0.1	UGG
			CHLOROETHANE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.64	<LM23	0.64	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.64	<LM23	0.64	UGG
			CHLOROETHANE/VINYL CHLORIDE	10-SA-01	08/13/1991	10SA0101Y	4.000	1.8	<LM23	1.8	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	1.8	<LM23	1.8	UGG
			CHLOROMETHANE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.96	<LM23	0.96	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.96	<LM23	0.96	UGG
			CIS-1,3-DICHLOROPROPYLENE/CIS-	10-SA-01	08/13/1991	10SA0101NR	4.000	0.6	*LM23	0.6	UGG
				10-SA-05	08/13/1991	10SA0501NR	1.000	0.6	*LM23	0.6	UGG
			DIBROMOCHLOROMETHANE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.25	<LM23	0.25	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.25	<LM23	0.25	UGG
			DICHLOROBENZENE - NONSPECIFIC	10-SA-01	08/13/1991	10SA0101Y	4.000	0.2	<LM23	0.2	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.2	<LM23	0.2	UGG
			ETHYLBENZENE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.19	<LM23	0.19	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.19	<LM23	0.19	UGG
			METHYL-N-BUTYL KETONE/2-HEXANO	10-SA-01	08/13/1991	10SA0101NR	4.000	1.0	*LM23	1.0	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				10-SA-05	08/13/1991	10SA0501NR	1.000	1.0	*LM23	1.0	UGG
			METHYLENE CHLORIDE	10-SA-01	08/13/1991	10SA0101Y	4.000	4.4	<LM23	4.4	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	4.4	<LM23	4.4	UGG
			METHYLETHYL PHENOL/METHYLETHYL	10-SA-01	08/13/1991	10SA0101Y	4.000	4.3	<LM23	4.3	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	4.3	<LM23	4.3	UGG
			METHYLISOBUTYL KETONE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.63	<LM23	0.63	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.63	<LM23	0.63	UGG
			STYRENE	10-SA-01	08/13/1991	10SA0101NR	4.000	0.6	*LM23	0.6	UGG
				10-SA-05	08/13/1991	10SA0501NR	1.000	0.6	*LM23	0.6	UGG
			TETRACHLOROETHYLENE/TETRACHLOR	10-SA-01	08/13/1991	10SA0101Y	4.000	0.16	<LM23	0.16	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.16	<LM23	0.16	UGG
			TOLUENE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.1	<LM23	0.1	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.1	<LM23	0.1	UGG
			TRANS-1,3-DICHLOROPROPENE	10-SA-01	08/13/1991	10SA0101NR	4.000	0.6	*LM23	0.6	UGG
				10-SA-05	08/13/1991	10SA0501NR	1.000	0.6	*LM23	0.6	UGG
			TRICHLOROETHYLENE/TRICHLOROETH	10-SA-01	08/13/1991	10SA0101Y	4.000	0.23	<LM23	0.23	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.23	<LM23	0.23	UGG
			TRICHLOROFLUOROMETHANE	10-SA-01	08/13/1991	10SA0101Y	4.000	0.23	<LM23	0.23	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.23	<LM23	0.23	UGG
			XYLENES	10-SA-01	08/13/1991	10SA0101Y	4.000	0.78	<LM23	0.78	UGG
				10-SA-05	08/13/1991	10SA0501Y	1.000	0.78	<LM23	0.78	UGG
	SW	EXPLOSIVES	1,3,5-TRINITROBENZENE	10-SW-04	08/21/1991	10SW0401Y	0.500	0.56	<UW01	0.56	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	0.56	<UW01	0.56	UGL
			1,3-DINITROBENZENE	10-SW-04	08/21/1991	10SW0401Y	0.500	0.61	<UW01	0.61	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	2.1	=UW01	0.61	UGL
			2,4,6-TNT	10-SW-04	08/21/1991	10SW0401Y	0.500	0.78	<UW01	0.78	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	0.78	<UW01	0.78	UGL
			2,4-DINITROTOLUENE	10-SW-04	08/21/1991	10SW0401Y	0.500	0.6	<UW01	0.6	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	0.6	<UW01	0.6	UGL
			2,6-DINITROTOLUENE	10-SW-04	08/21/1991	10SW0401Y	0.500	0.55	<UW01	0.55	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	0.55	<UW01	0.55	UGL
			HMX	10-SW-04	08/21/1991	10SW0401Y	0.500	1.3	<UW01	1.3	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	6.8	=UW01	1.3	UGL
			NITROBENZENE	10-SW-04	08/21/1991	10SW0401Y	0.500	1.1	<UW01	1.13	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	1.1	<UW01	1.13	UGL
			RDX	10-SW-04	08/21/1991	10SW0401Y	0.500	2.7	=UW01	0.63	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	3.4	=UW01	0.63	UGL
			TETRYL	10-SW-04	08/21/1991	10SW0401Y	0.500	0.66	<UW01	0.66	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	0.66	<UW01	0.66	UGL
		METALS	ANTIMONY	10-SW-04	08/21/1991	10SW0401Y	0.500	60.0	<SS12	60.0	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	60.0	<SS12	60.0	UGL
			ARSENIC	10-SW-04	08/21/1991	10SW0401Y	0.500	18.7	=AX8	2.35	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	44.9	=AX8	2.35	UGL
			BARIUM	10-SW-04	08/21/1991	10SW0401Y	0.500	234.0	=SS12	2.82	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	996.0	=SS12	2.82	UGL
			BERYLLIUM	10-SW-04	08/21/1991	10SW0401Y	0.500	2.0	=SS12	1.12	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	5.33	=SS12	1.12	UGL
			CADMIUM	10-SW-04	08/21/1991	10SW0401Y	0.500	6.78	<SS12	6.78	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	6.78	<SS12	6.78	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			CHROMIUM	10-SW-04	08/21/1991	10SW0401Y	0.500	84.1	=SS12	16.8	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	227.0	=SS12	16.8	UGL
			COPPER	10-SW-04	08/21/1991	10SW0401Y	0.500	38.1	=SS12	18.8	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	96.1	=SS12	18.8	UGL
			LEAD	10-SW-04	08/21/1991	10SW0401Y	0.500	450.0	=SD18	4.47	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	660.0	=SD18	4.47	UGL
			MERCURY	10-SW-04	08/21/1991	10SW0401Y	0.500	0.1	<CC8	0.1	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	0.1	<CC8	0.1	UGL
			NICKEL	10-SW-04	08/21/1991	10SW0401Y	0.500	50.2	=SS12	32.1	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	122.0	=SS12	32.1	UGL
			SELENIUM	10-SW-04	08/21/1991	10SW0401Y	0.500	2.53	<SD25	2.53	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	2.53	<SD25	2.53	UGL
			SILVER	10-SW-04	08/21/1991	10SW0401Y	0.500	10.0	<SS12	10.0	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	10.0	<SS12	10.0	UGL
			THALLIUM	10-SW-04	08/21/1991	10SW0401Y	0.500	125.0	<SS12	125.0	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	125.0	<SS12	125.0	UGL
			ZINC	10-SW-04	08/21/1991	10SW0401Y	0.500	246.0	=SS12	18.0	UGL
				10-SW-05	08/13/1991	10SW0501Y	0.500	806.0	=SS12	18.0	UGL
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	10-SW-05	08/13/1991	10SW0501Y	0.500	3.5	<UM21	3.5	UGL
			1,1,1-TRICHLOROETHANE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			1,1,2,2-TETRACHLOROETHANE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.5	<UM21	1.5	UGL
			1,1,2-TRICHLOROETHANE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			1,1-DICHLOROETHANE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			1,1-DICHLOROETHYLENE/1,1-DICHL	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			1,2-DICHLOROETHANE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			1,2-DICHLOROETHENES/1,2-DICHLO	10-SW-05	08/13/1991	10SW0501Y	0.500	5.0	<UM21	5.0	UGL
			1,2-DICHLOROPROPANE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			1,3-DICHLOROBENZENE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			1,3-DICLOROPROPANE	10-SW-05	08/13/1991	10SW0501Y	0.500	4.8	<UM21	4.8	UGL
			1,3-DIMETHYLBENZENE/M-XYLENE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			ACETIC ACID, VINYL ESTER/VINYL	10-SW-05	08/13/1991	10SW0501NR	0.500	10.0	*UM21	10.0	UGL
			ACETONE	10-SW-05	08/13/1991	10SW0501Y	0.500	8.0	<UM21	8.0	UGL
			ACRYLONITRILE	10-SW-05	08/13/1991	10SW0501Y	0.500	8.4	<UM21	8.4	UGL
			BENZENE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			BROMODICHLOROMETHANE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			BROMOFORM	10-SW-05	08/13/1991	10SW0501Y	0.500	11.0	<UM21	11.0	UGL
			BROMOMETHANE	10-SW-05	08/13/1991	10SW0501Y	0.500	14.0	<UM21	14.0	UGL
			CARBON DISULFIDE	10-SW-05	08/13/1991	10SW0501NR	0.500	5.0	*UM21	5.0	UGL
			CARBON TETRACHLORIDE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			CHLORFORM	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			CHLOROBENZENE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			CHLOROETHANE	10-SW-05	08/13/1991	10SW0501Y	0.500	8.0	<UM21	8.0	UGL
			CHLOROETHANE/VINYL CHLORIDE	10-SW-05	08/13/1991	10SW0501Y	0.500	12.0	<UM21	12.0	UGL
			CHLOROMETHANE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.2	<UM21	1.2	UGL
			CIS-1,3-DICHLOROPROPYLENE/CIS-	10-SW-05	08/13/1991	10SW0501NR	0.500	5.0	*UM21	5.0	UGL
			DIBROMOCHLOROMETHANE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			DICHLOROBENZENE - NONSPECIFIC	10-SW-05	08/13/1991	10SW0501Y	0.500	2.0	<UM21	2.0	UGL
			ETHYLBENZENE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			METHYL-N-BUTYL KETONE/2-HEXANO	10-SW-05	08/13/1991	10SW0501NR	0.500	10.0	*UM21	10.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			METHYLENE CHLORIDE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			METHYLETHYL PHENOL/METHYLETHYL	10-SW-05	08/13/1991	10SW0501Y	0.500	10.0	<UM21	10.0	UGL
			METHYLISOBUTYL KETONE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.4	<UM21	1.4	UGL
			STYRENE	10-SW-05	08/13/1991	10SW0501NR	0.500	5.0	*UM21	5.0	UGL
			TETRACHLOROETHYLENE/TETRACHLOR	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			TOLUENE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			TRANS-1,3-DICHLOROPROPENE	10-SW-05	08/13/1991	10SW0501NR	0.500	5.0	*UM21	5.0	UGL
			TRICHLOROETHYLENE/TRICHLOROETH	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			TRICHLOROFLUOROMETHANE	10-SW-05	08/13/1991	10SW0501Y	0.500	1.0	<UM21	1.0	UGL
			XYLENES	10-SW-05	08/13/1991	10SW0501Y	0.500	2.0	<UM21	2.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP11	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	11-SA-01	08/08/1991	11SA0101Y	4.000	2.1	<LW02	2.09	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	2.1	<LW02	2.09	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	2.1	<LW02	2.09	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	2.1	<LW02	2.09	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	2.1	<LW02	2.09	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	2.1	<LW02	2.09	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	2.1	<LW02	2.09	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	2.1	<LW02	2.09	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	2.1	<LW02	2.09	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	2.1	<LW02	2.09	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	11-SA-01	08/08/1991	11SA0101Y	4.000	0.59	<LW02	0.59	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	0.59	<LW02	0.59	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	0.59	<LW02	0.59	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	0.59	<LW02	0.59	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	0.59	<LW02	0.59	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	0.59	<LW02	0.59	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.59	<LW02	0.59	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.59	<LW02	0.59	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	0.59	<LW02	0.59	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.59	<LW02	0.59	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.59	<LW02	0.59	UGG
			2,4,6-TNT	11-SA-01	08/08/1991	11SA0101Y	4.000	1.9	<LW02	1.92	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	1.9	<LW02	1.92	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	1.9	<LW02	1.92	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	1.9	<LW02	1.92	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	1.9	<LW02	1.92	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	1.9	<LW02	1.92	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	1.9	<LW02	1.92	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	1.9	<LW02	1.92	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	1.9	<LW02	1.92	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	1.9	<LW02	1.92	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	11-SA-01	08/08/1991	11SA0101Y	4.000	0.42	<LW02	0.42	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	0.42	<LW02	0.42	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	0.42	<LW02	0.42	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	0.42	<LW02	0.42	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	0.42	<LW02	0.42	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	0.42	<LW02	0.42	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.42	<LW02	0.42	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.42	<LW02	0.42	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	0.42	<LW02	0.42	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	1.4	<LM25	1.4	UGG
						11SA1101Y	1.000	0.42	<LW02	0.42	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	11-SA-01	08/08/1991	11SA0101Y	4.000	0.4	<LW02	0.4	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	0.4	<LW02	0.4	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	0.4	<LW02	0.4	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	0.4	<LW02	0.4	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				11-SA-05	08/07/1991	11SA0501Y	1.000	0.4	<LW02	0.4	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	0.4	<LW02	0.4	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.4	<LW02	0.4	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.4	<LW02	0.4	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	0.4	<LW02	0.4	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	0.32	<LM25	0.32	UGG
						11SA1101Y	1.000	0.4	<LW02	0.4	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.4	<LW02	0.4	UGG
			HMX	11-SA-01	08/08/1991	11SA0101Y	4.000	1.3	<LW02	1.27	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	1.3	<LW02	1.27	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	1.3	<LW02	1.27	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	1.3	<LW02	1.27	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	1.3	<LW02	1.27	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	1.3	<LW02	1.27	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	1.3	<LW02	1.27	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	1.3	<LW02	1.27	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	1.3	<LW02	1.27	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	7.4	=LW02	1.27	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	1.3	<LW02	1.27	UGG
			NITROBENZENE	11-SA-01	08/08/1991	11SA0101Y	4.000	0.42	<LW02	0.42	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	0.42	<LW02	0.42	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	0.42	<LW02	0.42	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	0.42	<LW02	0.42	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	0.42	<LW02	0.42	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	0.42	<LW02	0.42	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.42	<LW02	0.42	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.42	<LW02	0.42	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	0.42	<LW02	0.42	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	1.8	<LM25	1.8	UGG
						11SA1101Y	1.000	0.42	<LW02	0.42	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.42	<LW02	0.42	UGG
			RDX	11-SA-01	08/08/1991	11SA0101Y	4.000	0.98	<LW02	0.98	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	0.98	<LW02	0.98	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	0.98	<LW02	0.98	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	0.98	<LW02	0.98	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	0.98	<LW02	0.98	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	0.98	<LW02	0.98	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.98	<LW02	0.98	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.98	<LW02	0.98	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	0.98	<LW02	0.98	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	6.4	=LW02	0.98	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.98	<LW02	0.98	UGG
			TETRYL	11-SA-01	08/08/1991	11SA0101Y	4.000	0.25	<LW02	0.25	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	0.25	<LW02	0.25	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	0.25	<LW02	0.25	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	0.25	<LW02	0.25	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	0.25	<LW02	0.25	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	0.25	<LW02	0.25	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.25	<LW02	0.25	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.25	<LW02	0.25	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	0.25	<LW02	0.25	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.25	<LW02	0.25	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	11-SA-01	08/08/1991	11SA0101Y	4.000	19.6	<JS12	19.6	UGG
				11-SA-02	08/08/1991	11SA0201N	1.000	19.6	<99	19.6	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	19.6	<JS12	19.6	UGG
						11SA0302YD	4.000	19.6	<JS12	19.6	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	19.6	<JS12	19.6	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	19.6	<JS12	19.6	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	19.6	<JS12	19.6	UGG
				11-SA-07	08/08/1991	11SA0701N	1.000	19.6	<99	19.6	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	19.6	<JS12	19.6	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	19.6	<JS12	19.6	UGG
				11-SA-10	08/08/1991	11SA1001N	1.000	19.6	<99	19.6	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	19.6	<JS12	19.6	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	19.6	<JS12	19.6	UGG
			ARSENIC	11-SA-01	08/08/1991	11SA0101Y	4.000	2.5	<B9	2.5	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	3.58	=B9	2.5	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	4.26	=B9	2.5	UGG
						11SA0302YD	4.000	4.21	=B9	2.5	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	6.13	=B9	2.5	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	4.28	=B9	2.5	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	4.97	=B9	2.5	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	10.3	=B9	2.5	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	2.5	<B9	2.5	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	4.54	=B9	2.5	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	6.6	=B9	2.5	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	2.5	<B9	2.5	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	2.5	<B9	2.5	UGG
			BARIUM	11-SA-01	08/08/1991	11SA0101Y	4.000	56.1	=JS12	3.29	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	137.0	=JS12	3.29	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	237.0	=JS12	3.29	UGG
						11SA0302YD	4.000	242.0	=JS12	3.29	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	467.0	=JS12	3.29	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	304.0	=JS12	3.29	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	291.0	=JS12	3.29	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	331.0	=JS12	3.29	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	179.0	=JS12	3.29	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	181.0	=JS12	3.29	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	279.0	=JS12	3.29	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	25.5	=JS12	3.29	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	247.0	=JS12	3.29	UGG
			BERYLLIUM	11-SA-01	08/08/1991	11SA0101Y	4.000	0.427	<JS12	0.427	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	0.427	<JS12	0.427	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	0.959	=JS12	0.427	UGG
						11SA0302YD	4.000	0.969	=JS12	0.427	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	1.14	=JS12	0.427	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	1.06	=JS12	0.427	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				11-SA-06	08/08/1991	11SA0601Y	1.000	1.26	=JS12	0.427	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.973	=JS12	0.427	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.85	=JS12	0.427	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	1.1	=JS12	0.427	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	0.948	=JS12	0.427	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	2.39	=JS12	0.427	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.846	=JS12	0.427	UGG
			CADMIUM	11-SA-01	08/08/1991	11SA0101Y	4.000	1.2	<JS12	1.2	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	1.2	<JS12	1.2	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	1.2	<JS12	1.2	UGG
						11SA0302YD	4.000	1.2	<JS12	1.2	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	1.2	<JS12	1.2	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	1.2	<JS12	1.2	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	1.2	<JS12	1.2	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	1.2	<JS12	1.2	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	1.2	<JS12	1.2	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	1.2	<JS12	1.2	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	1.2	<JS12	1.2	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	1.2	<JS12	1.2	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	1.2	<JS12	1.2	UGG
			CHROMIUM	11-SA-01	08/08/1991	11SA0101Y	4.000	16.1	=JS12	1.04	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	17.4	=JS12	1.04	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	30.7	=JS12	1.04	UGG
						11SA0302YD	4.000	30.1	=JS12	1.04	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	39.1	=JS12	1.04	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	43.4	=JS12	1.04	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	42.9	=JS12	1.04	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	34.4	=JS12	1.04	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	78.1	=JS12	1.04	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	31.9	=JS12	1.04	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	34.7	=JS12	1.04	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	19.1	=JS12	1.04	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	91.4	=JS12	1.04	UGG
			COPPER	11-SA-01	08/08/1991	11SA0101Y	4.000	6.72	=JS12	2.84	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	11.0	=JS12	2.84	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	19.6	=JS12	2.84	UGG
						11SA0302YD	4.000	19.6	=JS12	2.84	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	25.0	=JS12	2.84	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	45.8	=JS12	2.84	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	34.6	=JS12	2.84	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	24.8	=JS12	2.84	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	116.0	=JS12	2.84	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	56.2	=JS12	2.84	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	20.5	=JS12	2.84	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	19.2	=JS12	2.84	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	178.0	=JS12	2.84	UGG
			LEAD	11-SA-01	08/08/1991	11SA0101Y	4.000	5.75	=JD21	0.467	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	10.0	=JD21	0.467	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	20.0	=JD21	0.467	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						11SA0302YD	4.000	19.0	=JD21	0.467	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	25.0	=JD21	0.467	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	140.0	=JD21	0.467	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	16.0	=JD21	0.467	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	23.0	=JD21	0.467	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	24.0	=JD21	0.467	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	46.0	=JD21	0.467	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	15.0	=JD21	0.467	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	13.0	=JD21	0.467	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	34.0	=JD21	0.467	UGG
			MERCURY	11-SA-01	08/08/1991	11SA0101Y	4.000	0.05	<Y9	0.05	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	0.05	<Y9	0.05	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	0.05	<Y9	0.05	UGG
						11SA0302YD	4.000	0.075	=Y9	0.05	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	0.05	<Y9	0.05	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	0.067	=Y9	0.05	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	0.088	=Y9	0.05	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.05	<Y9	0.05	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.083	=Y9	0.05	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	0.074	=Y9	0.05	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	0.05	<Y9	0.05	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.05	<Y9	0.05	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.132	=Y9	0.05	UGG
			NICKEL	11-SA-01	08/08/1991	11SA0101Y	4.000	12.4	=JS12	2.74	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	9.99	=JS12	2.74	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	16.2	=JS12	2.74	UGG
						11SA0302YD	4.000	16.3	=JS12	2.74	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	16.3	=JS12	2.74	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	18.5	=JS12	2.74	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	32.0	=JS12	2.74	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	32.3	=JS12	2.74	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	39.1	=JS12	2.74	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	16.8	=JS12	2.74	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	23.0	=JS12	2.74	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	11.6	=JS12	2.74	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	57.5	=JS12	2.74	UGG
			SELENIUM	11-SA-01	08/08/1991	11SA0101Y	4.000	0.449	<JD20	0.449	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	0.449	<JD20	0.449	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	0.449	<JD20	0.449	UGG
						11SA0302YD	4.000	0.449	<JD20	0.449	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	0.449	<JD20	0.449	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	0.449	<JD20	0.449	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	0.449	<JD20	0.449	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.449	<JD20	0.449	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.449	<JD20	0.449	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	0.449	<JD20	0.449	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	0.449	<JD20	0.449	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.449	<JD20	0.449	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.449	<JD20	0.449	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			SILVER	11-SA-01	08/08/1991	11SA0101Y	4.000	0.803	<JS12	0.803	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	0.803	<JS12	0.803	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	0.803	<JS12	0.803	UGG
						11SA0302YD	4.000	0.803	<JS12	0.803	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	1.39	=JS12	0.803	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	0.803	<JS12	0.803	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	0.803	<JS12	0.803	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.803	<JS12	0.803	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.803	<JS12	0.803	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	0.803	<JS12	0.803	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	0.803	<JS12	0.803	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.803	<JS12	0.803	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.803	<JS12	0.803	UGG
			THALLIUM	11-SA-01	08/08/1991	11SA0101Y	4.000	34.3	<JS12	34.3	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	34.3	<JS12	34.3	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	34.3	<JS12	34.3	UGG
						11SA0302YD	4.000	34.3	<JS12	34.3	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	34.3	<JS12	34.3	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	34.3	<JS12	34.3	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	34.3	<JS12	34.3	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	34.3	<JS12	34.3	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	34.3	<JS12	34.3	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	34.3	<JS12	34.3	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	34.3	<JS12	34.3	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	34.3	<JS12	34.3	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	34.3	<JS12	34.3	UGG
			ZINC	11-SA-01	08/08/1991	11SA0101Y	4.000	23.9	=JS12	2.34	UGG
				11-SA-02	08/08/1991	11SA0201Y	1.000	37.8	=JS12	2.34	UGG
				11-SA-03	08/08/1991	11SA0301Y	4.000	63.1	=JS12	2.34	UGG
						11SA0302YD	4.000	63.8	=JS12	2.34	UGG
				11-SA-04	08/07/1991	11SA0401Y	1.000	75.4	=JS12	2.34	UGG
				11-SA-05	08/07/1991	11SA0501Y	1.000	104.0	=JS12	2.34	UGG
				11-SA-06	08/08/1991	11SA0601Y	1.000	157.0	=JS12	2.34	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	88.6	=JS12	2.34	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	757.0	=JS12	2.34	UGG
				11-SA-09	08/08/1991	11SA0901Y	0.500	555.0	=JS12	2.34	UGG
				11-SA-10	08/08/1991	11SA1001Y	1.000	101.0	=JS12	2.34	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	41.9	=JS12	2.34	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	1,200.0	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	11-SA-09	08/08/1991	11SA0901YU	0.500	0.011	=LH17	0.0027	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	0.068	<LM25	0.068	UGG
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	11-SA-09	08/08/1991	11SA0901YC	0.500	0.065	=LH17	0.0034	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	0.1	<LM25	0.1	UGG
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	11-SA-09	08/08/1991	11SA0901Y	0.500	0.003	<LH17	0.0027	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	0.064	<LM25	0.064	UGG
			ALDRIN	11-SA-09	08/08/1991	11SA0901Y	0.500	0.001	<LH17	0.0014	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	1.3	<LM25	1.3	UGG
			ALPHA-BENZENEHEXACHLORIDE	11-SA-09	08/08/1991	11SA0901Y	0.500	0.003	<LH17	0.0028	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	1.3	<LM25	1.3	UGG

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			ALPHA-ENDOSULFAN/ENDOSULFAN I	11-SA-09	08/08/1991	11SA0901Y	0.500	0.001	<LH17	0.001	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	0.4	<LM25	0.4	UGG
			BETA-BENZENEHEXACHLORIDE	11-SA-09	08/08/1991	11SA0901Y	0.500	0.008	<LH17	0.0077	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	1.3	<LM25	1.3	UGG
			BETA-ENDOSULFAN/ENDOSULFAN II	11-SA-09	08/08/1991	11SA0901Y	0.500	0.001	<LH17	0.0007	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	2.4	<LM25	2.4	UGG
			CHLORDANE	11-SA-09	08/08/1991	11SA0901YC	0.500	0.259	=LH17	0.0684	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	0.68	<LM25	0.68	UGG
			DELTA-BENZENEHEXACHLORIDE	11-SA-09	08/08/1991	11SA0901Y	0.500	0.008	<LH17	0.0085	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	0.21	<LM25	0.21	UGG
			DIELDRIN	11-SA-09	08/08/1991	11SA0901YU	0.500	0.005	=LH17	0.0016	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	0.079	<LM25	0.079	UGG
			ENDRIN	11-SA-09	08/08/1991	11SA0901YU	0.500	0.036	=LH17	0.0065	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	1.3	<LM25	1.3	UGG
			HEPTACHLOR	11-SA-09	08/08/1991	11SA0901YU	0.500	0.008	=LH17	0.0022	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	0.24	<LM25	0.24	UGG
			HEPTACHLOR EPOXIDE	11-SA-09	08/08/1991	11SA0901YC	0.500	0.004	=LH17	0.0013	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	0.48	<LM25	0.48	UGG
			ISODRIN	11-SA-09	08/08/1991	11SA0901Y	0.500	0.003	<LH17	0.003	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	0.48	<LM25	0.48	UGG
			LINDANE	11-SA-09	08/08/1991	11SA0901Y	0.500	0.001	<LH17	0.001	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	0.1	<LM25	0.1	UGG
			METHOXYCHLOR	11-SA-09	08/08/1991	11SA0901Y	0.500	0.036	<LH17	0.0359	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	0.26	<LM25	0.26	UGG
			PCB 1016	11-SA-09	08/08/1991	11SA0901Y	0.500	0.1	<LH17	0.1	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	0.32	<LM25	0.32	UGG
			PCB 1221	11-SA-09	08/08/1991	11SA0901NR	0.500	0.1	*LH17	0.1	UGG
				11-SA-11	08/12/1991	11SA1101NR	1.000	1.9	*LM25	1.9	UGG
			PCB 1232	11-SA-09	08/08/1991	11SA0901NR	0.500	0.1	*LH17	0.1	UGG
				11-SA-11	08/12/1991	11SA1101NR	1.000	1.9	*LM25	1.9	UGG
			PCB 1242	11-SA-09	08/08/1991	11SA0901NR	0.500	0.1	*LH17	0.1	UGG
				11-SA-11	08/12/1991	11SA1101NR	1.000	1.9	*LM25	1.9	UGG
			PCB 1248	11-SA-09	08/08/1991	11SA0901NR	0.500	0.1	*LH17	0.1	UGG
				11-SA-11	08/12/1991	11SA1101NR	1.000	1.9	*LM25	1.9	UGG
			PCB 1254	11-SA-09	08/08/1991	11SA0901NR	0.500	0.048	*LH17	0.048	UGG
				11-SA-11	08/12/1991	11SA1101NR	1.000	3.8	*LM25	3.8	UGG
			PCB 1260	11-SA-09	08/08/1991	11SA0901YC	0.500	0.112	=LH17	0.0479	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	0.79	<LM25	0.79	UGG
			PCB 1262	11-SA-11	08/12/1991	11SA1101Y	1.000	6.3	<LM25	0.3	UGG
			TOXAPHENE	11-SA-11	08/12/1991	11SA1101NR	1.000	12.0	*LM25	12.0	UGG
		SEMIVOLATILES	1,2,3-TRICHLOROBENZENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.032	<LM25	0.032	UGG
			1,2,4-TRICHLOROBENZENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.22	<LM25	0.22	UGG
			1,2-DICHLOROBENZENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.042	<LM25	0.042	UGG
			1,2-DIPHENYLHYDRAZINE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.52	<LM25	0.52	UGG
			1,4-DICHLOROBENZENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.034	<LM25	0.034	UGG
			1,4-OXATHIANE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.075	<LM25	0.075	UGG
			2,3,6-TCP	11-SA-11	08/12/1991	11SA1101Y	1.000	0.62	<LM25	0.62	UGG
			2,4,5-TRICHLOROPHENOL	11-SA-11	08/12/1991	11SA1101Y	1.000	0.49	<LM25	0.49	UGG
			2,4,6-TRICHLOROPHENOL	11-SA-11	08/12/1991	11SA1101Y	1.000	0.061	<LM25	0.061	UGG

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			2,4-DICHLOROPHENOL	11-SA-11	08/12/1991	11SA1101Y	1.000	0.065	<LM25	0.065	UGG
			2,4-DIMETHYLPHENOL	11-SA-11	08/12/1991	11SA1101Y	1.000	3.0	<LM25	3.0	UGG
			2,4-DINITROPHENOL	11-SA-11	08/12/1991	11SA1101Y	1.000	4.7	<LM25	4.7	UGG
			2,6-DINITROANILINE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.57	<LM25	0.57	UGG
			2-CHLORONAPHTHALENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.24	<LM25	0.24	UGG
			2-CHLOROPHENOL	11-SA-11	08/12/1991	11SA1101Y	1.000	0.055	<LM25	0.055	UGG
			2-METHYL-4,6-DINITROPHENOL/4,6	11-SA-11	08/12/1991	11SA1101Y	1.000	0.8	<LM25	0.8	UGG
			2-METHYLNAPHTHALENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.032	<LM25	0.032	UGG
			2-METHYLPHENOL/2-CRESOL	11-SA-11	08/12/1991	11SA1101Y	1.000	0.098	<LM25	0.098	UGG
			2-NITROANILINE	11-SA-11	08/12/1991	11SA1101NR	1.000	3.1	*LM25	3.1	UGG
			2-NITROPHENOL	11-SA-11	08/12/1991	11SA1101Y	1.000	1.1	<LM25	1.1	UGG
			3,3'-DICHLOROBENZIDINE	11-SA-11	08/12/1991	11SA1101Y	1.000	1.6	<LM25	1.6	UGG
			3,5-DINITROANILINE	11-SA-11	08/12/1991	11SA1101Y	1.000	1.6	<LM25	1.6	UGG
			3-METHYL-4-CHLOROPHENOL/4-CHLO	11-SA-11	08/12/1991	11SA1101Y	1.000	0.93	<LM25	0.93	UGG
			3-NITROANILINE	11-SA-11	08/12/1991	11SA1101Y	1.000	3.0	<LM25	3.0	UGG
			3-NITROTOLUENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.34	<LM25	0.34	UGG
			4-BROMOPHENYLPHENYL ETHER	11-SA-11	08/12/1991	11SA1101Y	1.000	0.041	<LM25	0.041	UGG
			4-CHLOROANILINE	11-SA-11	08/12/1991	11SA1101NR	1.000	0.63	*LM25	0.63	UGG
			4-CHLOROPHENYLPHENYL ETHER	11-SA-11	08/12/1991	11SA1101Y	1.000	0.17	<LM25	0.17	UGG
			4-METHYLPHENOL/4-CRESOL	11-SA-11	08/12/1991	11SA1101Y	1.000	0.24	<LM25	0.24	UGG
			4-NITROANILINE	11-SA-11	08/12/1991	11SA1101NR	1.000	3.1	*LM25	3.1	UGG
			4-NITROPHENOL	11-SA-11	08/12/1991	11SA1101Y	1.000	3.3	<LM25	3.3	UGG
			ACENAPHTHENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.041	<LM25	0.041	UGG
			ACENAPHTHYLENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.033	<LM25	0.033	UGG
			ANTHRACENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.71	<LM25	0.71	UGG
			ATRAZINE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.065	<LM25	0.065	UGG
			BENZO(A)ANTHRACENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.041	<LM25	0.48	UGG
			BENZO(A)PYRENE	11-SA-11	08/12/1991	11SA1101Y	1.000	1.2	<LM25	1.2	UGG
			BENZO(B)FLUORANTHENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.31	<LM25	0.31	UGG
			BENZO(G,H,I)PERYLENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.18	<LM25	0.18	UGG
			BENZO(K)FLUORANTHENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.13	<LM25	0.13	UGG
			BENZOIC ACID	11-SA-11	08/12/1991	11SA1101NR	1.000	3.1	*LM25	3.1	UGG
			BENZYL ALCOHOL	11-SA-11	08/12/1991	11SA1101Y	1.000	0.032	<LM25	0.032	UGG
			BIS (2-CHLOROETHOXY) METHANE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.19	<LM25	0.19	UGG
			BIS (2-CHLOROETHYL) ETHER	11-SA-11	08/12/1991	11SA1101Y	1.000	0.36	<LM25	0.36	UGG
			BIS (2-CHLOROISOPROPYL) ETHER	11-SA-11	08/12/1991	11SA1101Y	1.000	0.44	<LM25	0.44	UGG
			BIS (2-ETHYLHEXYL) PHTHALATE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.48	<LM25	0.48	UGG
			BUTYLBENZYL PHTHALATE	11-SA-11	08/12/1991	11SA1101Y	1.000	1.8	<LM25	1.8	UGG
			CHRYSENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.032	<LM25	0.032	UGG
			DI-N-BUTYL PHTHALATE	11-SA-11	08/12/1991	11SA1101Y	1.000	6.2	>LM25	1.3	UGG
			DI-N-OCTYL PHTHALATE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.23	<LM25	0.23	UGG
			DIBENZ(A,H)ANTHRACENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.31	<LM25	0.31	UGG
			DIBENZOFURAN	11-SA-11	08/12/1991	11SA1101Y	1.000	0.038	<LM25	0.038	UGG
			DIBROMOCHLOROPROPANE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.071	<LM25	0.071	UGG
			DICYCLOPENTADIENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.57	<LM25	0.57	UGG
			DIETHYL PHTHALATE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.24	<LM25	0.24	UGG
			DIMETHYL PHTHALATE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.063	<LM25	0.063	UGG
			DITHIANE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.065	<LM25	0.065	UGG
			ENDOSULFAN SULFATE	11-SA-11	08/12/1991	11SA1101Y	1.000	1.2	<LM25	1.2	UGG

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			ENDRIN ALDEHYDE	11-SA-11	08/12/1991	11SA1101Y	1.000	1.8	<LM25	1.8	UGG
			ENDRIN KETONE	11-SA-11	08/12/1991	11SA1101NR	1.000	0.28	*LM25	0.28	UGG
			FLUORANTHENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.032	<LM25	0.032	UGG
			FLUORENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.065	<LM25	0.065	UGG
			HEXACHLOROBENZENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.08	<LM25	0.08	UGG
			HEXACHLOROBUTADIENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.97	<LM25	0.97	UGG
			HEXACHLOROCYCLOPENTADIENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.52	<LM25	0.52	UGG
			HEXACHLOROETHANE	11-SA-11	08/12/1991	11SA1101Y	1.000	1.8	<LM25	1.8	UGG
			INDENO(1,2,3-C,D)PYRENE	11-SA-11	08/12/1991	11SA1101Y	1.000	2.4	<LM25	2.4	UGG
			ISOPHORONE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.39	<LM25	0.39	UGG
			MALATHION	11-SA-11	08/12/1991	11SA1101Y	1.000	0.18	<LM25	0.18	UGG
			MIREX	11-SA-11	08/12/1991	11SA1101Y	1.000	0.14	<LM25	0.14	UGG
			N-NITROSODI-N-PROPYLAMINE	11-SA-11	08/12/1991	11SA1101Y	1.000	1.1	<LM25	1.1	UGG
			N-NITROSODIMETHYLAMINE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.46	<LM25	0.46	UGG
			N-NITROSODIPHENYLAMINE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.29	<LM25	0.29	UGG
			NAPHTHALENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.74	<LM25	0.74	UGG
			P-CHLOROPHENYLMETHYL SULFIDE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.097	<LM25	0.097	UGG
			P-CHLOROPHENYLMETHYL SULFONE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.066	<LM25	0.066	UGG
			P-CHLOROPHENYLMETHYL SULFOXIDE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.32	<LM25	0.32	UGG
			PARATHION	11-SA-11	08/12/1991	11SA1101Y	1.000	1.7	<LM25	1.7	UGG
			PENTACHLOROPHENOL	11-SA-11	08/12/1991	11SA1101Y	1.000	0.76	<LM25	0.76	UGG
			PHENANTHRENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.032	<LM25	0.032	UGG
			PHENOL	11-SA-11	08/12/1991	11SA1101Y	1.000	0.052	<LM25	0.052	UGG
			PYRENE	11-SA-11	08/12/1991	11SA1101Y	1.000	0.083	<LM25	0.083	UGG
			SUPONA/2-CHLORO-1-(2,4-DICHLOR	11-SA-11	08/12/1991	11SA1101Y	1.000	0.92	<LM25	0.92	UGG
			VAPONA	11-SA-11	08/12/1991	11SA1101Y	1.000	0.068	<LM25	0.068	UGG
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	11-SA-06	08/08/1991	11SA0601Y	1.000	0.5	<LM23	0.5	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.5	<LM23	0.5	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.5	<LM23	0.5	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.5	<LM23	0.5	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.5	<LM23	0.5	UGG
			1,1,1-TRICHLOROETHANE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.2	<LM23	0.2	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.2	<LM23	0.2	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.83	=LM23	0.2	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.2	<LM23	0.2	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.2	<LM23	0.2	UGG
			1,1,2,2-TETRACHLOROETHANE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.2	<LM23	0.2	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.2	<LM23	0.2	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.2	<LM23	0.2	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.2	<LM23	0.2	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.2	<LM23	0.2	UGG
			1,1,2-TRICHLOROETHANE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.33	<LM23	0.33	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.33	<LM23	0.33	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.33	<LM23	0.33	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.33	<LM23	0.33	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.33	<LM23	0.33	UGG
			1,1-DICHLOROETHANE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.49	<LM23	0.49	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.49	<LM23	0.49	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.49	<LM23	0.49	UGG

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				11-SA-11	08/12/1991	11SA1101Y	1.000	0.49	<LM23	0.49	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.49	<LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	11-SA-06	08/08/1991	11SA0601Y	1.000	0.27	<LM23	0.27	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.27	<LM23	0.27	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.27	<LM23	0.27	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.27	<LM23	0.27	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.27	<LM23	0.27	UGG
			1,2-DICHLOROETHANE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.32	<LM23	0.32	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.32	<LM23	0.32	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.32	<LM23	0.32	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.32	<LM23	0.32	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.32	<LM23	0.32	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	11-SA-06	08/08/1991	11SA0601Y	1.000	0.32	<LM23	0.32	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.32	<LM23	0.32	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.32	<LM23	0.32	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.32	<LM23	0.32	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.32	<LM23	0.32	UGG
			1,2-DICHLOROPROPANE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.53	<LM23	0.53	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.53	<LM23	0.53	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.53	<LM23	0.53	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.53	<LM23	0.53	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.53	<LM23	0.53	UGG
			1,3-DICHLOROBENZENE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.14	<LM23	0.14	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.14	<LM23	0.14	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.14	<LM23	0.14	UGG
				11-SA-11	08/12/1991	11SA1101N	1.000	0.042	<LM25	0.042	UGG
						11SA1101Y	1.000	0.14	<LM23	0.14	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.14	<LM23	0.14	UGG
			1,3-DICLOROPROPANE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.2	<LM23	0.2	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.2	<LM23	0.2	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.2	<LM23	0.2	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.2	<LM23	0.2	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.2	<LM23	0.2	UGG
			1,3-DIMETHYLBENZENE/M-XYLENE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.23	<LM23	0.23	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.23	<LM23	0.23	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.23	<LM23	0.23	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.23	<LM23	0.23	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.23	<LM23	0.23	UGG
			ACETIC ACID, VINYL ESTER/VINYL	11-SA-06	08/08/1991	11SA0601NR	1.000	1.0	*LM23	1.0	UGG
				11-SA-07	08/08/1991	11SA0701NR	1.000	1.0	*LM23	1.0	UGG
				11-SA-08	08/08/1991	11SA0801NR	0.500	1.0	*LM23	1.0	UGG
				11-SA-11	08/12/1991	11SA1101NR	1.000	1.0	*LM23	1.0	UGG
				11-SA-12	08/08/1991	11SA1201NR	1.000	1.0	*LM23	1.0	UGG
			ACETONE	11-SA-06	08/08/1991	11SA0601Y	1.000	3.3	<LM23	3.3	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	3.3	<LM23	3.3	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	3.3	<LM23	3.3	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	3.3	<LM23	3.3	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	3.3	<LM23	3.3	UGG
			ACRYLONITRILE	11-SA-06	08/08/1991	11SA0601Y	1.000	2.0	<LM23	2.0	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				11-SA-07	08/08/1991	11SA0701Y	1.000	2.0	<LM23	2.0	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	2.0	<LM23	2.0	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	2.0	<LM23	2.0	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	2.0	<LM23	2.0	UGG
			BENZENE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.1	<LM23	0.1	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.1	<LM23	0.1	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.1	<LM23	0.1	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.1	<LM23	0.1	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.1	<LM23	0.1	UGG
			BROMODICHLOROMETHANE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.2	<LM23	0.2	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.2	<LM23	0.2	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.2	<LM23	0.2	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.2	<LM23	0.2	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.2	<LM23	0.2	UGG
			BROMOFORM	11-SA-06	08/08/1991	11SA0601Y	1.000	0.2	<LM23	0.2	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.2	<LM23	0.2	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.2	<LM23	0.2	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.2	<LM23	0.2	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.2	<LM23	0.2	UGG
			BROMOMETHANE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.26	<LM23	0.26	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.26	<LM23	0.26	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.26	<LM23	0.26	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.26	<LM23	0.26	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.26	<LM23	0.26	UGG
			CARBON DISULFIDE	11-SA-06	08/08/1991	11SA0601NR	1.000	0.6	*LM23	0.6	UGG
				11-SA-07	08/08/1991	11SA0701NR	1.000	0.6	*LM23	0.6	UGG
				11-SA-08	08/08/1991	11SA0801NR	0.500	0.6	*LM23	0.6	UGG
				11-SA-11	08/12/1991	11SA1101NR	1.000	0.6	*LM23	0.6	UGG
				11-SA-12	08/08/1991	11SA1201NR	1.000	0.6	*LM23	0.6	UGG
			CARBON TETRACHLORIDE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.31	<LM23	0.31	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.31	<LM23	0.31	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.31	<LM23	0.31	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.31	<LM23	0.31	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.31	<LM23	0.31	UGG
			CHLORFORM	11-SA-06	08/08/1991	11SA0601Y	1.000	0.24	<LM23	0.24	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.24	<LM23	0.24	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.24	<LM23	0.24	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.24	<LM23	0.24	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.24	<LM23	0.24	UGG
			CHLOROBENZENE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.1	<LM23	0.1	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.1	<LM23	0.1	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.1	<LM23	0.1	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.1	<LM23	0.1	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.1	<LM23	0.1	UGG
			CHLOROETHANE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.64	<LM23	0.64	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.64	<LM23	0.64	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.64	<LM23	0.64	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.64	<LM23	0.64	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.64	<LM23	0.64	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			CHLOROETHANE/VINYL CHLORIDE	11-SA-06	08/08/1991	11SA0601Y	1.000	1.8	<LM23	1.8	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	1.8	<LM23	1.8	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	1.8	<LM23	1.8	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	1.8	<LM23	1.8	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	1.8	<LM23	1.8	UGG
			CHLOROMETHANE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.96	<LM23	0.96	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.96	<LM23	0.96	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.96	<LM23	0.96	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.96	<LM23	0.96	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.96	<LM23	0.96	UGG
			CIS-1,3-DICHLOROPROPYLENE/CIS-	11-SA-06	08/08/1991	11SA0601NR	1.000	0.6	*LM23	0.6	UGG
				11-SA-07	08/08/1991	11SA0701NR	1.000	0.6	*LM23	0.6	UGG
				11-SA-08	08/08/1991	11SA0801NR	0.500	0.6	*LM23	0.6	UGG
				11-SA-11	08/12/1991	11SA1101NR	1.000	0.6	*LM23	0.6	UGG
				11-SA-12	08/08/1991	11SA1201NR	1.000	0.6	*LM23	0.6	UGG
			DIBROMOCHLOROMETHANE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.25	<LM23	0.25	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.25	<LM23	0.25	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.25	<LM23	0.25	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.25	<LM23	0.25	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.25	<LM23	0.25	UGG
			DICHLOROBENZENE - NONSPECIFIC	11-SA-06	08/08/1991	11SA0601Y	1.000	0.2	<LM23	0.2	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.2	<LM23	0.2	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.2	<LM23	0.2	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.2	<LM23	0.2	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.2	<LM23	0.2	UGG
			ETHYLBENZENE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.19	<LM23	0.19	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.19	<LM23	0.19	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.19	<LM23	0.19	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.19	<LM23	0.19	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.19	<LM23	0.19	UGG
			METHYL-N-BUTYL KETONE/2-HEXANO	11-SA-06	08/08/1991	11SA0601NR	1.000	1.0	*LM23	1.0	UGG
				11-SA-07	08/08/1991	11SA0701NR	1.000	1.0	*LM23	1.0	UGG
				11-SA-08	08/08/1991	11SA0801NR	0.500	1.0	*LM23	1.0	UGG
				11-SA-11	08/12/1991	11SA1101NR	1.000	1.0	*LM23	1.0	UGG
				11-SA-12	08/08/1991	11SA1201NR	1.000	1.0	*LM23	1.0	UGG
			METHYLENE CHLORIDE	11-SA-06	08/08/1991	11SA0601Y	1.000	4.4	<LM23	4.4	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	4.4	<LM23	4.4	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	4.4	<LM23	4.4	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	4.4	<LM23	4.4	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	4.4	<LM23	4.4	UGG
			METHYLETHYL PHENOL/METHYLETHYL	11-SA-06	08/08/1991	11SA0601Y	1.000	4.3	<LM23	4.3	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	4.3	<LM23	4.3	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	4.3	<LM23	4.3	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	4.3	<LM23	4.3	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	4.3	<LM23	4.3	UGG
			METHYLISOBUTYL KETONE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.63	<LM23	0.63	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.63	<LM23	0.63	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.63	<LM23	0.63	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.63	<LM23	0.63	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.63	<LM23	0.63	UGG
			STYRENE	11-SA-06	08/08/1991	11SA0601NR	1.000	0.6	*LM23	0.6	UGG
				11-SA-07	08/08/1991	11SA0701NR	1.000	0.6	*LM23	0.6	UGG
				11-SA-08	08/08/1991	11SA0801NR	0.500	0.6	*LM23	0.6	UGG
				11-SA-11	08/12/1991	11SA1101NR	1.000	0.6	*LM23	0.6	UGG
				11-SA-12	08/08/1991	11SA1201NR	1.000	0.6	*LM23	0.6	UGG
			TETRACHLOROETHYLENE/TETRACHLOR	11-SA-06	08/08/1991	11SA0601Y	1.000	0.16	<LM23	0.16	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.16	<LM23	0.16	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.16	<LM23	0.16	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.16	<LM23	0.16	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.16	<LM23	0.16	UGG
			TOLUENE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.1	<LM23	0.1	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.1	<LM23	0.1	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.1	<LM23	0.1	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.1	<LM23	0.1	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.1	<LM23	0.1	UGG
			TRANS-1,3-DICHLOROPROPENE	11-SA-06	08/08/1991	11SA0601NR	1.000	0.6	*LM23	0.6	UGG
				11-SA-07	08/08/1991	11SA0701NR	1.000	0.6	*LM23	0.6	UGG
				11-SA-08	08/08/1991	11SA0801NR	0.500	0.6	*LM23	0.6	UGG
				11-SA-11	08/12/1991	11SA1101NR	1.000	0.6	*LM23	0.6	UGG
				11-SA-12	08/08/1991	11SA1201NR	1.000	0.6	*LM23	0.6	UGG
			TRICHLOROETHYLENE/TRICHLOROETH	11-SA-06	08/08/1991	11SA0601Y	1.000	0.23	<LM23	0.23	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.23	<LM23	0.23	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.23	<LM23	0.23	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.23	<LM23	0.23	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.23	<LM23	0.23	UGG
			TRICHLOROFLUOROMETHANE	11-SA-06	08/08/1991	11SA0601Y	1.000	0.23	<LM23	0.23	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.23	<LM23	0.23	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.23	<LM23	0.23	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.23	<LM23	0.23	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.23	<LM23	0.23	UGG
			XYLENES	11-SA-06	08/08/1991	11SA0601Y	1.000	0.78	<LM23	0.78	UGG
				11-SA-07	08/08/1991	11SA0701Y	1.000	0.78	<LM23	0.78	UGG
				11-SA-08	08/08/1991	11SA0801Y	0.500	0.78	<LM23	0.78	UGG
				11-SA-11	08/12/1991	11SA1101Y	1.000	0.78	<LM23	0.78	UGG
				11-SA-12	08/08/1991	11SA1201Y	1.000	0.78	<LM23	0.78	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP12	GW	EXPLOSIVES	1,3,5-TRINITROBENZENE	EDA-01	08/22/1991	12GW0401Y	13.500	0.56	<UW01	0.56	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	0.56	<UW01	0.56	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	0.56	<UW01	0.56	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	0.56	<UW01	0.56	UGL
			1,3-DINITROBENZENE	EDA-01	08/22/1991	12GW0401Y	13.500	0.61	<UW01	0.61	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	0.61	<UW01	0.61	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	0.61	<UW01	0.61	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	0.61	<UW01	0.61	UGL
			2,4,6-TNT	EDA-01	08/22/1991	12GW0401Y	13.500	0.78	<UW01	0.78	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	0.78	<UW01	0.78	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	0.78	<UW01	0.78	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	0.78	<UW01	0.78	UGL
			2,4-DINITROTOLUENE	EDA-01	08/22/1991	12GW0401N	13.500	5.8	<UM25	5.8	UGL
						12GW0401Y	13.500	1.1	=UW01	0.6	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	5.8	<UM25	5.8	UGL
						12GW0201Y	22.000	0.6	<UW01	0.6	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	5.8	<UM25	5.8	UGL
						12GW0501Y	22.900	0.6	<UW01	0.6	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	5.8	<UM25	5.8	UGL
						12GW0301Y	14.100	0.6	<UW01	0.6	UGL
			2,6-DINITROTOLUENE	EDA-01	08/22/1991	12GW0401N	13.500	6.7	<UM25	6.7	UGL
						12GW0401Y	13.500	5.4	=UW01	0.55	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	6.7	<UM25	6.7	UGL
						12GW0201Y	22.000	0.55	<UW01	0.55	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	6.7	<UM25	6.7	UGL
						12GW0501Y	22.900	0.55	<UW01	0.55	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	6.7	<UM25	6.7	UGL
						12GW0301Y	14.100	0.55	<UW01	0.55	UGL
			HMX	EDA-01	08/22/1991	12GW0401Y	13.500	1.3	<UW01	1.3	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	9.4	=UW01	1.3	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.5	=UW01	1.3	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	50.0	=UW01	1.3	UGL
			NITROBENZENE	EDA-01	08/22/1991	12GW0401N	13.500	3.7	<UM25	3.7	UGL
						12GW0401Y	13.500	1.1	<UW01	1.13	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	3.7	<UM25	3.7	UGL
						12GW0201Y	22.000	1.1	<UW01	1.13	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	3.7	<UM25	3.7	UGL
						12GW0501Y	22.900	1.1	<UW01	1.13	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	3.7	<UM25	3.7	UGL
						12GW0301Y	14.100	1.1	<UW01	1.13	UGL
			RDX	EDA-01	08/22/1991	12GW0401Y	13.500	0.63	<UW01	0.63	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	140.0	=UW01	0.63	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	3.6	=UW01	0.63	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	23.0	=UW01	0.63	UGL
			TETRYL	EDA-01	08/22/1991	12GW0401Y	13.500	0.66	<UW01	0.66	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	0.66	<UW01	0.66	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	0.66	<UW01	0.66	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	0.66	<UW01	0.66	UGL
		METALS	ANTIMONY	EDA-01	08/22/1991	12GW0401Y	13.500	60.0	<SS12	60.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				EDA-02	08/23/1991	12GW0201Y	22.000	60.0	<SS12	60.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	60.0	<SS12	60.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	60.0	<SS12	60.0	UGL
			ARSENIC	EDA-01	08/22/1991	12GW0401Y	13.500	3.04	=AX8	2.35	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	3.04	=AX8	2.35	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	2.35	<AX8	2.35	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	2.35	<AX8	2.35	UGL
			BARIUM	EDA-01	08/22/1991	12GW0401Y	13.500	89.2	=SS12	2.82	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	128.0	=SS12	2.82	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	104.0	=SS12	2.82	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	72.1	=SS12	2.82	UGL
			BERYLLIUM	EDA-01	08/22/1991	12GW0401Y	13.500	1.12	<SS12	1.12	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.12	<SS12	1.12	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.12	<SS12	1.12	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.12	<SS12	1.12	UGL
			CADMIUM	EDA-01	08/22/1991	12GW0401Y	13.500	6.78	<SS12	6.78	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	6.78	<SS12	6.78	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	6.78	<SS12	6.78	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	6.78	<SS12	6.78	UGL
			CHROMIUM	EDA-01	08/22/1991	12GW0401Y	13.500	16.8	<SS12	16.8	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	16.8	<SS12	16.8	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	16.8	<SS12	16.8	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	16.8	<SS12	16.8	UGL
			COPPER	EDA-01	08/22/1991	12GW0401Y	13.500	18.8	<SS12	18.8	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	18.8	<SS12	18.8	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	18.8	<SS12	18.8	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	18.8	<SS12	18.8	UGL
			LEAD	EDA-01	08/22/1991	12GW0401Y	13.500	4.47	<SD18	4.47	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	4.47	<SD18	4.47	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	4.47	<SD18	4.47	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	4.47	<SD18	4.47	UGL
			MERCURY	EDA-01	08/22/1991	12GW0401Y	13.500	0.1	<CC8	0.1	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	0.1	<CC8	0.1	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	0.1	<CC8	0.1	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	0.1	<CC8	0.1	UGL
			NICKEL	EDA-01	08/22/1991	12GW0401Y	13.500	32.1	<SS12	32.1	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	32.1	<SS12	32.1	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	32.1	<SS12	32.1	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	32.1	<SS12	32.1	UGL
			SELENIUM	EDA-01	08/22/1991	12GW0401Y	13.500	2.53	<SD25	2.53	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	2.53	<SD25	2.53	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	2.53	<SD25	2.53	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	2.53	<SD25	2.53	UGL
			SILVER	EDA-01	08/22/1991	12GW0401Y	13.500	10.0	<SS12	10.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	10.0	<SS12	10.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	10.0	<SS12	10.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	10.0	<SS12	10.0	UGL
			THALLIUM	EDA-01	08/22/1991	12GW0401Y	13.500	125.0	<SS12	125.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	125.0	<SS12	125.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				EDA-03	08/22/1991	12GW0501Y	22.900	125.0	<SS12	125.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	125.0	<SS12	125.0	UGL
			ZINC	EDA-01	08/22/1991	12GW0401Y	13.500	513.0	=SS12	18.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	293.0	=SS12	18.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	34.4	=SS12	18.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	253.0	=SS12	18.0	UGL
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	EDA-01	08/22/1991	12GW0401N	13.500	14.0	<UM25	14.0	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	14.0	<UM25	14.0	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	14.0	<UM25	14.0	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	14.0	<UM25	14.0	UGL
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	EDA-01	08/22/1991	12GW0401N	13.500	18.0	<UM25	18.0	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	18.0	<UM25	18.0	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	18.0	<UM25	18.0	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	18.0	<UM25	18.0	UGL
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	EDA-01	08/22/1991	12GW0401N	13.500	18.0	<UM25	18.0	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	18.0	<UM25	18.0	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	18.0	<UM25	18.0	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	18.0	<UM25	18.0	UGL
			ALDRIN	EDA-01	08/22/1991	12GW0401N	13.500	13.0	<UM25	13.0	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	13.0	<UM25	13.0	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	13.0	<UM25	13.0	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	13.0	<UM25	13.0	UGL
			ALPHA-BENZENEHEXACHLORIDE	EDA-01	08/22/1991	12GW0401N	13.500	5.3	<UM25	5.3	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	5.3	<UM25	5.3	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	5.3	<UM25	5.3	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	5.3	<UM25	5.3	UGL
			ALPHA-ENDOSULFAN/ENDOSULFAN I	EDA-01	08/22/1991	12GW0401N	13.500	23.0	<UM25	23.0	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	23.0	<UM25	23.0	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	23.0	<UM25	23.0	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	23.0	<UM25	23.0	UGL
			BETA-BENZENEHEXACHLORIDE	EDA-01	08/22/1991	12GW0401N	13.500	17.0	<UM25	17.0	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	17.0	<UM25	17.0	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	17.0	<UM25	17.0	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	17.0	<UM25	17.0	UGL
			BETA-ENDOSULFAN/ENDOSULFAN II	EDA-01	08/22/1991	12GW0401N	13.500	42.0	<UM25	42.0	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	42.0	<UM25	42.0	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	42.0	<UM25	42.0	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	42.0	<UM25	42.0	UGL
			CHLORDANE	EDA-01	08/22/1991	12GW0401NR	13.500	37.0	*UM25	37.0	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	37.0	*UM25	37.0	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	37.0	*UM25	37.0	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	37.0	*UM25	37.0	UGL
			DELTA-BENZENEHEXACHLORIDE	EDA-01	08/22/1991	12GW0401NR	13.500	3.0	*UM25	3.0	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	3.0	*UM25	3.0	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	3.0	*UM25	3.0	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	3.0	*UM25	3.0	UGL
			DIELDRIN	EDA-01	08/22/1991	12GW0401N	13.500	26.0	<UM25	26.0	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	26.0	<UM25	26.0	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	26.0	<UM25	26.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				EDA-04	08/22/1991	12GW0301N	14.100	26.0	<UM25	26.0	UGL
			ENDRIN	EDA-01	08/22/1991	12GW0401N	13.500	18.0	<UM25	18.0	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	18.0	<UM25	18.0	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	18.0	<UM25	18.0	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	18.0	<UM25	18.0	UGL
			HEPTACHLOR	EDA-01	08/22/1991	12GW0401N	13.500	38.0	<UM25	38.0	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	38.0	<UM25	38.0	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	38.0	<UM25	38.0	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	38.0	<UM25	38.0	UGL
			HEPTACHLOR EPOXIDE	EDA-01	08/22/1991	12GW0401N	13.500	28.0	<UM25	0.28	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	28.0	<UM25	0.28	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	28.0	<UM25	0.28	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	28.0	<UM25	0.28	UGL
			ISODRIN	EDA-01	08/22/1991	12GW0401N	13.500	7.8	<UM25	7.8	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	7.8	<UM25	7.8	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	7.8	<UM25	7.8	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	7.8	<UM25	7.8	UGL
			LINDANE	EDA-01	08/22/1991	12GW0401N	13.500	7.2	<UM25	7.2	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	7.2	<UM25	7.2	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	7.2	<UM25	7.2	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	7.2	<UM25	7.2	UGL
			METHOXYCHLOR	EDA-01	08/22/1991	12GW0401N	13.500	11.0	<UM25	11.0	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	11.0	<UM25	11.0	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	11.0	<UM25	11.0	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	11.0	<UM25	11.0	UGL
			PCB 1016	EDA-01	08/22/1991	12GW0401NR	13.500	9.1	*UM25	9.1	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	9.1	*UM25	9.1	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	9.1	*UM25	9.1	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	9.1	*UM25	9.1	UGL
			PCB 1221	EDA-01	08/22/1991	12GW0401NR	13.500	7.2	*UM25	7.2	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	7.2	*UM25	7.2	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	7.2	*UM25	7.2	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	7.2	*UM25	7.2	UGL
			PCB 1232	EDA-01	08/22/1991	12GW0401NR	13.500	9.9	*UM25	9.9	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	9.9	*UM25	9.9	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	9.9	*UM25	9.9	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	9.9	*UM25	9.9	UGL
			PCB 1242	EDA-01	08/22/1991	12GW0401NR	13.500	5.2	*UM25	5.2	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	5.2	*UM25	5.2	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	5.2	*UM25	5.2	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	5.2	*UM25	5.2	UGL
			PCB 1248	EDA-01	08/22/1991	12GW0401NR	13.500	38.0	*UM25	38.0	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	38.0	*UM25	38.0	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	38.0	*UM25	38.0	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	38.0	*UM25	38.0	UGL
			PCB 1254	EDA-01	08/22/1991	12GW0401NR	13.500	33.0	*UM25	33.0	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	33.0	*UM25	33.0	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	33.0	*UM25	33.0	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	33.0	*UM25	33.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			PCB 1260	EDA-01	08/22/1991	12GW0401NR	13.500	13.0	*UM25	13.0	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	13.0	*UM25	13.0	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	13.0	*UM25	13.0	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	13.0	*UM25	13.0	UGL
			TOXAPHENE	EDA-01	08/22/1991	12GW0401NR	13.500	17.0	*UM25	17.0	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	17.0	*UM25	17.0	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	17.0	*UM25	17.0	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	17.0	*UM25	17.0	UGL
		SEMIVOLATILES	1,2,3-TRICHLOROBENZENE	EDA-01	08/22/1991	12GW0401Y	13.500	5.8	<UM25	5.8	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	5.8	<UM25	5.8	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	5.8	<UM25	5.8	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	5.8	<UM25	5.8	UGL
			1,2,4-TRICHLOROBENZENE	EDA-01	08/22/1991	12GW0401Y	13.500	2.4	<UM25	2.4	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	2.4	<UM25	2.4	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	2.4	<UM25	2.4	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	2.4	<UM25	2.4	UGL
			1,2-DICHLOROBENZENE	EDA-01	08/22/1991	12GW0401Y	13.500	1.2	<UM25	1.2	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.2	<UM25	1.2	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.2	<UM25	1.2	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.2	<UM25	1.2	UGL
			1,2-DIPHENYLHYDRAZINE	EDA-01	08/22/1991	12GW0401Y	13.500	13.0	<UM25	13.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	13.0	<UM25	13.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	13.0	<UM25	13.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	13.0	<UM25	13.0	UGL
			1,4-DICHLOROBENZENE	EDA-01	08/22/1991	12GW0401Y	13.500	1.5	<UM25	1.5	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.5	<UM25	1.5	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.5	<UM25	1.5	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.5	<UM25	1.5	UGL
			1,4-OXATHIANE	EDA-01	08/22/1991	12GW0401Y	13.500	27.0	<UM25	27.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	27.0	<UM25	27.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	27.0	<UM25	27.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	27.0	<UM25	27.0	UGL
			2,3,6-TCP	EDA-01	08/22/1991	12GW0401Y	13.500	1.7	<UM25	1.7	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.7	<UM25	1.7	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.7	<UM25	1.7	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.7	<UM25	1.7	UGL
			2,4,5-TRICHLOROPHENOL	EDA-01	08/22/1991	12GW0401Y	13.500	2.8	<UM25	2.8	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	2.8	<UM25	2.8	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	2.8	<UM25	2.8	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	2.8	<UM25	2.8	UGL
			2,4,6-TRICHLOROPHENOL	EDA-01	08/22/1991	12GW0401Y	13.500	3.6	<UM25	3.6	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	3.6	<UM25	3.6	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	3.6	<UM25	3.6	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	3.6	<UM25	3.6	UGL
			2,4-DICHLOROPHENOL	EDA-01	08/22/1991	12GW0401Y	13.500	8.4	<UM25	8.4	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	8.4	<UM25	8.4	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	8.4	<UM25	8.4	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	8.4	<UM25	8.4	UGL
			2,4-DIMETHYLPHENOL	EDA-01	08/22/1991	12GW0401Y	13.500	4.4	<UM25	4.4	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				EDA-02	08/23/1991	12GW0201Y	22.000	4.4	<UM25	4.4	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	4.4	<UM25	4.4	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	4.4	<UM25	4.4	UGL
			2,4-DINITROPHENOL	EDA-01	08/22/1991	12GW0401Y	13.500	176.0	<UM25	176.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	176.0	<UM25	176.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	176.0	<UM25	176.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	176.0	<UM25	176.0	UGL
			2,6-DINITROANILINE	EDA-01	08/22/1991	12GW0401Y	13.500	8.8	<UM25	8.8	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	8.8	<UM25	8.8	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	8.8	<UM25	8.8	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	8.8	<UM25	8.8	UGL
			2-CHLORONAPHTHALENE	EDA-01	08/22/1991	12GW0401Y	13.500	2.6	<UM25	2.6	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	2.6	<UM25	2.6	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	2.6	<UM25	2.6	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	2.6	<UM25	2.6	UGL
			2-CHLOROPHENOL	EDA-01	08/22/1991	12GW0401Y	13.500	2.8	<UM25	2.8	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	2.8	<UM25	2.8	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	2.8	<UM25	2.8	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	2.8	<UM25	2.8	UGL
			2-METHYL-4,6-DINITROPHENOL/4,6	EDA-01	08/22/1991	12GW0401NR	13.500	50.0	*UM25	50.0	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	50.0	*UM25	50.0	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	50.0	*UM25	50.0	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	50.0	*UM25	50.0	UGL
			2-METHYLNAPHTHALENE	EDA-01	08/22/1991	12GW0401Y	13.500	1.3	<UM25	1.3	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.3	<UM25	1.3	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.3	<UM25	1.3	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.3	<UM25	1.3	UGL
			2-METHYLPHENOL/2-CRESOL	EDA-01	08/22/1991	12GW0401Y	13.500	3.6	<UM25	3.6	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	3.6	<UM25	3.6	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	3.6	<UM25	3.6	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	3.6	<UM25	3.6	UGL
			2-NITROANILINE	EDA-01	08/22/1991	12GW0401NR	13.500	31.0	*UM25	31.0	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	31.0	*UM25	31.0	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	31.0	*UM25	31.0	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	31.0	*UM25	31.0	UGL
			2-NITROPHENOL	EDA-01	08/22/1991	12GW0401Y	13.500	8.2	<UM25	8.2	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	8.2	<UM25	8.2	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	8.2	<UM25	8.2	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	8.2	<UM25	8.2	UGL
			3,3'-DICHLOROBENZIDINE	EDA-01	08/22/1991	12GW0401Y	13.500	5.0	<UM25	5.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	5.0	<UM25	5.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	5.0	<UM25	5.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	5.0	<UM25	5.0	UGL
			3,5-DINITROANILINE	EDA-01	08/22/1991	12GW0401Y	13.500	21.0	<UM25	21.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	21.0	<UM25	21.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	21.0	<UM25	21.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	21.0	<UM25	21.0	UGL
			3-METHYL-4-CHLOROPHENOL/4-CHLO	EDA-01	08/22/1991	12GW0401Y	13.500	8.5	<UM25	8.5	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	8.5	<UM25	8.5	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				EDA-03	08/22/1991	12GW0501Y	22.900	8.5	<UM25	8.5	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	8.5	<UM25	8.5	UGL
			3-NITROANILINE	EDA-01	08/22/1991	12GW0401Y	13.500	15.0	<UM25	15.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	15.0	<UM25	15.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	15.0	<UM25	15.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	15.0	<UM25	15.0	UGL
			3-NITROTOLUENE	EDA-01	08/22/1991	12GW0401Y	13.500	2.9	<UM25	2.9	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	2.9	<UM25	2.9	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	2.9	<UM25	2.9	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	2.9	<UM25	2.9	UGL
			4-BROMOPHENYLPHENYL ETHER	EDA-01	08/22/1991	12GW0401Y	13.500	22.0	<UM25	22.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	22.0	<UM25	22.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	22.0	<UM25	22.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	22.0	<UM25	22.0	UGL
			4-CHLOROANILINE	EDA-01	08/22/1991	12GW0401NR	13.500	1.0	*UM25	1.0	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	1.0	*UM25	1.0	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	1.0	*UM25	1.0	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	1.0	*UM25	1.0	UGL
			4-CHLOROPHENYLPHENYL ETHER	EDA-01	08/22/1991	12GW0401Y	13.500	23.0	<UM25	23.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	23.0	<UM25	23.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	23.0	<UM25	23.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	23.0	<UM25	23.0	UGL
			4-METHYLPHENOL/4-CRESOL	EDA-01	08/22/1991	12GW0401Y	13.500	2.8	<UM25	2.8	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	2.8	<UM25	2.8	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	2.8	<UM25	2.8	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	2.8	<UM25	2.8	UGL
			4-NITROANILINE	EDA-01	08/22/1991	12GW0401NR	13.500	31.0	*UM25	31.0	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	31.0	*UM25	31.0	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	31.0	*UM25	31.0	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	31.0	*UM25	31.0	UGL
			4-NITROPHENOL	EDA-01	08/22/1991	12GW0401Y	13.500	96.0	<UM25	96.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	96.0	<UM25	96.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	96.0	<UM25	96.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	96.0	<UM25	96.0	UGL
			ACENAPHTHENE	EDA-01	08/22/1991	12GW0401Y	13.500	5.8	<UM25	5.8	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	5.8	<UM25	5.8	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	5.8	<UM25	5.8	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	5.8	<UM25	5.8	UGL
			ACENAPHTHYLENE	EDA-01	08/22/1991	12GW0401Y	13.500	5.1	<UM25	5.1	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	5.1	<UM25	5.1	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	5.1	<UM25	5.1	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	5.1	<UM25	5.1	UGL
			ANTHRACENE	EDA-01	08/22/1991	12GW0401Y	13.500	5.2	<UM25	5.2	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	5.2	<UM25	5.2	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	5.2	<UM25	5.2	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	5.2	<UM25	5.2	UGL
			ATRAZINE	EDA-01	08/22/1991	12GW0401Y	13.500	5.9	<UM25	5.9	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	5.9	<UM25	5.9	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	5.9	<UM25	5.9	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				EDA-04	08/22/1991	12GW0301Y	14.100	5.9	<UM25	5.9	UGL
			BENZO(A)ANTHRACENE	EDA-01	08/22/1991	12GW0401Y	13.500	9.8	<UM25	9.8	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	9.8	<UM25	9.8	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	9.8	<UM25	9.8	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	9.8	<UM25	9.8	UGL
			BENZO(A)PYRENE	EDA-01	08/22/1991	12GW0401Y	13.500	14.0	<UM25	14.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	14.0	<UM25	14.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	14.0	<UM25	14.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	14.0	<UM25	14.0	UGL
			BENZO(B)FLUORANTHENE	EDA-01	08/22/1991	12GW0401Y	13.500	10.0	<UM25	10.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	10.0	<UM25	10.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	10.0	<UM25	10.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	10.0	<UM25	10.0	UGL
			BENZO(G,H,I)PERYLENE	EDA-01	08/22/1991	12GW0401Y	13.500	15.0	<UM25	15.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	15.0	<UM25	15.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	15.0	<UM25	15.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	15.0	<UM25	15.0	UGL
			BENZO(K)FLUORANTHENE	EDA-01	08/22/1991	12GW0401Y	13.500	10.0	<UM25	10.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	10.0	<UM25	10.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	10.0	<UM25	10.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	10.0	<UM25	10.0	UGL
			BENZOIC ACID	EDA-01	08/22/1991	12GW0401NR	13.500	3.1	*UM25	3.1	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	3.1	*UM25	3.1	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	3.1	*UM25	3.1	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	3.1	*UM25	3.1	UGL
			BENZYL ALCOHOL	EDA-01	08/22/1991	12GW0401Y	13.500	4.0	<UM25	4.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	4.0	<UM25	4.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	4.0	<UM25	4.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	4.0	<UM25	4.0	UGL
			BIS (2-CHLOROETHOXY) METHANE	EDA-01	08/22/1991	12GW0401Y	13.500	6.8	<UM25	6.8	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	6.8	<UM25	6.8	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	6.8	<UM25	6.8	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	6.8	<UM25	6.8	UGL
			BIS (2-CHLOROETHYL) ETHER	EDA-01	08/22/1991	12GW0401Y	13.500	0.68	<UM25	0.68	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	0.68	<UM25	0.68	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	0.68	<UM25	0.68	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	0.68	<UM25	0.68	UGL
			BIS (2-CHLOROISOPROPYL) ETHER	EDA-01	08/22/1991	12GW0401Y	13.500	5.0	<UM25	5.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	5.0	<UM25	5.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	5.0	<UM25	5.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	5.0	<UM25	5.0	UGL
			BIS (2-ETHYLHEXYL) PHTHALATE	EDA-01	08/22/1991	12GW0401Y	13.500	7.7	<UM25	0.48	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	7.7	<UM25	0.48	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	7.7	<UM25	0.48	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	7.7	<UM25	0.48	UGL
			BROMACIL	EDA-01	08/22/1991	12GW0401Y	13.500	2.9	<UM25	2.9	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	2.9	<UM25	2.9	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	2.9	<UM25	2.9	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	2.9	<UM25	2.9	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			BUTYLBENZYL PHTHALATE	EDA-01	08/22/1991	12GW0401Y	13.500	28.0	<UM25	28.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	28.0	<UM25	28.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	28.0	<UM25	28.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	28.0	<UM25	28.0	UGL
			CHRYSENE	EDA-01	08/22/1991	12GW0401Y	13.500	7.4	<UM25	7.4	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	7.4	<UM25	7.4	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	7.4	<UM25	7.4	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	7.4	<UM25	7.4	UGL
			DI-N-BUTYL PHTHALATE	EDA-01	08/22/1991	12GW0401Y	13.500	33.0	<UM25	33.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	33.0	<UM25	33.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	33.0	<UM25	33.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	33.0	<UM25	33.0	UGL
			DI-N-OCTYL PHTHALATE	EDA-01	08/22/1991	12GW0401Y	13.500	1.5	<UM25	1.5	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.5	<UM25	1.5	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.5	<UM25	1.5	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.5	<UM25	1.5	UGL
			DIBENZ(A,H)ANTHRACENE	EDA-01	08/22/1991	12GW0401Y	13.500	12.0	<UM25	12.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	12.0	<UM25	12.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	12.0	<UM25	12.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	12.0	<UM25	12.0	UGL
			DIBENZOFURAN	EDA-01	08/22/1991	12GW0401Y	13.500	5.1	<UM25	5.1	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	5.1	<UM25	5.1	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	5.1	<UM25	5.1	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	5.1	<UM25	5.1	UGL
			DIBROMOCHLOROPROPANE	EDA-01	08/22/1991	12GW0401Y	13.500	12.0	<UM25	12.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	12.0	<UM25	12.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	12.0	<UM25	12.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	12.0	<UM25	12.0	UGL
			DICYCLOPENTADIENE	EDA-01	08/22/1991	12GW0401Y	13.500	5.5	<UM25	5.5	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	5.5	<UM25	5.5	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	5.5	<UM25	5.5	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	5.5	<UM25	5.5	UGL
			DIETHYL PHTHALATE	EDA-01	08/22/1991	12GW0401Y	13.500	5.9	<UM25	5.9	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	5.9	<UM25	5.9	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	5.9	<UM25	5.9	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	5.9	<UM25	5.9	UGL
			DIISOPROPYL METHYLPHOSPHONATE	EDA-01	08/22/1991	12GW0401Y	13.500	21.0	<UM25	21.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	21.0	<UM25	21.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	21.0	<UM25	21.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	21.0	<UM25	21.0	UGL
			DIMETHYL METHYLPHOSPHATE	EDA-01	08/22/1991	12GW0401Y	13.500	130.0	<UM25	130.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	130.0	<UM25	130.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	130.0	<UM25	130.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	130.0	<UM25	130.0	UGL
			DIMETHYL PHTHALATE	EDA-01	08/22/1991	12GW0401Y	13.500	2.2	<UM25	2.2	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	2.2	<UM25	2.2	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	2.2	<UM25	2.2	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	2.2	<UM25	2.2	UGL
			DITHIANE	EDA-01	08/22/1991	12GW0401Y	13.500	3.3	<UM25	3.3	UGL

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				EDA-02	08/23/1991	12GW0201Y	22.000	3.3	<UM25	3.3	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	3.3	<UM25	3.3	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	3.3	<UM25	3.3	UGL
			ENDOSULFAN SULFATE	EDA-01	08/22/1991	12GW0401Y	13.500	50.0	<UM25	50.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	50.0	<UM25	50.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	50.0	<UM25	50.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	50.0	<UM25	50.0	UGL
			ENDRIN ALDEHYDE	EDA-01	08/22/1991	12GW0401N	13.500	5.0	<UM25	5.0	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	5.0	<UM25	5.0	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	5.0	<UM25	5.0	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	5.0	<UM25	5.0	UGL
			ENDRIN KETONE	EDA-01	08/22/1991	12GW0401NR	13.500	6.0	*UM25	6.0	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	6.0	*UM25	6.0	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	6.0	*UM25	6.0	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	6.0	*UM25	6.0	UGL
			FLUORANTHENE	EDA-01	08/22/1991	12GW0401Y	13.500	24.0	<UM25	24.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	24.0	<UM25	24.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	24.0	<UM25	24.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	24.0	<UM25	24.0	UGL
			FLUORENE	EDA-01	08/22/1991	12GW0401Y	13.500	9.2	<UM25	9.2	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	9.2	<UM25	9.2	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	9.2	<UM25	9.2	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	9.2	<UM25	9.2	UGL
			HEXACHLOROBENZENE	EDA-01	08/22/1991	12GW0401Y	13.500	12.0	<UM25	12.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	12.0	<UM25	12.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	12.0	<UM25	12.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	12.0	<UM25	12.0	UGL
			HEXACHLOROBUTADIENE	EDA-01	08/22/1991	12GW0401Y	13.500	8.7	<UM25	8.7	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	8.7	<UM25	8.7	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	8.7	<UM25	8.7	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	8.7	<UM25	8.7	UGL
			HEXACHLOROCYCLOPENTADIENE	EDA-01	08/22/1991	12GW0401Y	13.500	54.0	<UM25	54.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	54.0	<UM25	54.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	54.0	<UM25	54.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	54.0	<UM25	54.0	UGL
			HEXACHLOROETHANE	EDA-01	08/22/1991	12GW0401Y	13.500	8.3	<UM25	8.3	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	8.3	<UM25	8.3	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	8.3	<UM25	8.3	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	8.3	<UM25	8.3	UGL
			INDENO(1,2,3-C,D)PYRENE	EDA-01	08/22/1991	12GW0401Y	13.500	21.0	<UM25	0.21	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	21.0	<UM25	0.21	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	21.0	<UM25	0.21	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	21.0	<UM25	0.21	UGL
			ISOPHORONE	EDA-01	08/22/1991	12GW0401Y	13.500	2.4	<UM25	2.4	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	2.4	<UM25	2.4	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	2.4	<UM25	2.4	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	2.4	<UM25	2.4	UGL
			MALATHION	EDA-01	08/22/1991	12GW0401Y	13.500	21.0	<UM25	21.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	21.0	<UM25	21.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				EDA-03	08/22/1991	12GW0501Y	22.900	21.0	<UM25	21.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	21.0	<UM25	21.0	UGL
			MIREX	EDA-01	08/22/1991	12GW0401Y	13.500	24.0	<UM25	24.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	24.0	<UM25	24.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	24.0	<UM25	24.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	24.0	<UM25	24.0	UGL
			N-NITROSODI-N-PROPYLAMINE	EDA-01	08/22/1991	12GW0401Y	13.500	6.8	<UM25	6.8	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	6.8	<UM25	6.8	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	6.8	<UM25	6.8	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	6.8	<UM25	6.8	UGL
			N-NITROSODIMETHYLAMINE	EDA-01	08/22/1991	12GW0401Y	13.500	9.7	<UM25	9.7	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	9.7	<UM25	9.7	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	9.7	<UM25	9.7	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	9.7	<UM25	9.7	UGL
			N-NITROSODIPHENYLAMINE	EDA-01	08/22/1991	12GW0401Y	13.500	3.7	<UM25	3.7	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	3.7	<UM25	3.7	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	3.7	<UM25	3.7	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	3.7	<UM25	3.7	UGL
			NAPHTHALENE	EDA-01	08/22/1991	12GW0401Y	13.500	0.5	<UM25	0.5	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	0.5	<UM25	0.5	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	0.5	<UM25	0.5	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	0.5	<UM25	0.5	UGL
			P-CHLOROPHENYLMETHYL SULFIDE	EDA-01	08/22/1991	12GW0401Y	13.500	10.0	<UM25	10.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	10.0	<UM25	10.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	10.0	<UM25	10.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	10.0	<UM25	10.0	UGL
			P-CHLOROPHENYLMETHYL SULFONE	EDA-01	08/22/1991	12GW0401Y	13.500	5.3	<UM25	5.3	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	5.3	<UM25	5.3	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	5.3	<UM25	5.3	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	5.3	<UM25	5.3	UGL
			P-CHLOROPHENYLMETHYL SULFOXIDE	EDA-01	08/22/1991	12GW0401Y	13.500	15.0	<UM25	15.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	15.0	<UM25	15.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	15.0	<UM25	15.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	15.0	<UM25	15.0	UGL
			PARATHION	EDA-01	08/22/1991	12GW0401Y	13.500	37.0	<UM25	37.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	37.0	<UM25	37.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	37.0	<UM25	37.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	37.0	<UM25	37.0	UGL
			PENTACHLOROPHENOL	EDA-01	08/22/1991	12GW0401Y	13.500	9.1	<UM25	9.1	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	9.1	<UM25	9.1	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	9.1	<UM25	9.1	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	9.1	<UM25	9.1	UGL
			PHENANTHRENE	EDA-01	08/22/1991	12GW0401Y	13.500	9.9	<UM25	9.9	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	9.9	<UM25	9.9	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	9.9	<UM25	9.9	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	9.9	<UM25	9.9	UGL
			PHENOL	EDA-01	08/22/1991	12GW0401Y	13.500	2.2	<UM25	2.2	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	2.2	<UM25	2.2	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	2.2	<UM25	2.2	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				EDA-04	08/22/1991	12GW0301Y	14.100	2.2	<UM25	2.2	UGL
			PYRENE	EDA-01	08/22/1991	12GW0401Y	13.500	17.0	<UM25	17.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	17.0	<UM25	17.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	17.0	<UM25	17.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	17.0	<UM25	17.0	UGL
			SUPONA/2-CHLORO-1-(2,4-DICHLOR	EDA-01	08/22/1991	12GW0401Y	13.500	19.0	<UM25	19.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	19.0	<UM25	19.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	19.0	<UM25	19.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	19.0	<UM25	19.0	UGL
			VAPONA	EDA-01	08/22/1991	12GW0401Y	13.500	8.5	<UM25	8.5	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	8.5	<UM25	8.5	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	8.5	<UM25	8.5	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	8.5	<UM25	8.5	UGL
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	EDA-01	08/22/1991	12GW0401Y	13.500	3.5	<UM21	3.5	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	3.5	<UM21	3.5	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	3.5	<UM21	3.5	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	3.5	<UM21	3.5	UGL
			1,1,1-TRICHLOROETHANE	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			1,1,2,2-TETRACHLOROETHANE	EDA-01	08/22/1991	12GW0401Y	13.500	1.5	<UM21	1.5	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.5	<UM21	1.5	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.5	<UM21	1.5	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.5	<UM21	1.5	UGL
			1,1,2-TRICHLOROETHANE	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			1,1-DICHLOROETHANE	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			1,1-DICHLOROETHYLENE/1,1-DICHL	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			1,2-DICHLOROETHANE	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			1,2-DICHLOROETHENES/1,2-DICHLO	EDA-01	08/22/1991	12GW0401Y	13.500	5.0	<UM21	5.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	5.0	<UM21	5.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	5.0	<UM21	5.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	5.0	<UM21	5.0	UGL
			1,2-DICHLOROPROPANE	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			1,3-DICHLOROBENZENE	EDA-01	08/22/1991	12GW0401N	13.500	3.4	<UM25	3.4	UGL
						12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201N	22.000	3.4	<UM25	3.4	UGL
						12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501N	22.900	3.4	<UM25	3.4	UGL
						12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301N	14.100	3.4	<UM25	3.4	UGL
						12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			1,3-DICLOROPROPANE	EDA-01	08/22/1991	12GW0401Y	13.500	4.8	<UM21	4.8	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	4.8	<UM21	4.8	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	4.8	<UM21	4.8	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	4.8	<UM21	4.8	UGL
			1,3-DIMETHYLBENZENE/M-XYLENE	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			ACETIC ACID, VINYL ESTER/VINYL	EDA-01	08/22/1991	12GW0401NR	13.500	10.0	*UM21	10.0	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	10.0	*UM21	10.0	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	10.0	*UM21	10.0	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	10.0	*UM21	10.0	UGL
			ACETONE	EDA-01	08/22/1991	12GW0401Y	13.500	8.0	<UM21	8.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	8.0	<UM21	8.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	8.0	<UM21	8.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	8.0	<UM21	8.0	UGL
			ACRYLONITRILE	EDA-01	08/22/1991	12GW0401Y	13.500	8.4	<UM21	8.4	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	8.4	<UM21	8.4	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	8.4	<UM21	8.4	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	8.4	<UM21	8.4	UGL
			BENZENE	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			BROMODICHLOROMETHANE	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			BROMOFORM	EDA-01	08/22/1991	12GW0401Y	13.500	11.0	<UM21	11.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	11.0	<UM21	11.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	11.0	<UM21	11.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	11.0	<UM21	11.0	UGL
			BROMOMETHANE	EDA-01	08/22/1991	12GW0401Y	13.500	14.0	<UM21	14.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	14.0	<UM21	14.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	14.0	<UM21	14.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	14.0	<UM21	14.0	UGL
			CARBON DISULFIDE	EDA-01	08/22/1991	12GW0401NR	13.500	5.0	*UM21	5.0	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	5.0	*UM21	5.0	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	5.0	*UM21	5.0	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	23.0	*UM21	23.0	UGL
			CARBON TETRACHLORIDE	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL

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				EDA-02	08/23/1991	12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			CHLORFORM	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.3	=UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			CHLOROBENZENE	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			CHLOROETHANE	EDA-01	08/22/1991	12GW0401Y	13.500	8.0	<UM21	8.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	8.0	<UM21	8.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	8.0	<UM21	8.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	8.0	<UM21	8.0	UGL
			CHLOROETHANE/VINYL CHLORIDE	EDA-01	08/22/1991	12GW0401Y	13.500	12.0	<UM21	12.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	12.0	<UM21	12.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	12.0	<UM21	12.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	12.0	<UM21	12.0	UGL
			CHLOROMETHANE	EDA-01	08/22/1991	12GW0401Y	13.500	1.2	<UM21	1.2	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	4.21	=UM21	1.2	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.2	<UM21	1.2	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.2	<UM21	1.2	UGL
			CIS-1,3-DICHLOROPROPYLENE/CIS-	EDA-01	08/22/1991	12GW0401NR	13.500	5.0	*UM21	5.0	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	5.0	*UM21	5.0	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	5.0	*UM21	5.0	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	5.0	*UM21	5.0	UGL
			DIBROMOCHLOROMETHANE	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			DICHLOROBENZENE - NONSPECIFIC	EDA-01	08/22/1991	12GW0401Y	13.500	2.0	<UM21	2.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	2.0	<UM21	2.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	2.0	<UM21	2.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	2.0	<UM21	2.0	UGL
			ETHYLBENZENE	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			METHYL-N-BUTYL KETONE/2-HEXANO	EDA-01	08/22/1991	12GW0401NR	13.500	10.0	*UM21	10.0	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	10.0	*UM21	10.0	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	10.0	*UM21	10.0	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	10.0	*UM21	10.0	UGL
			METHYLENE CHLORIDE	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			METHYLETHYL PHENOL/METHYLETHYL	EDA-01	08/22/1991	12GW0401Y	13.500	10.0	<UM21	10.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	10.0	<UM21	10.0	UGL

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				EDA-03	08/22/1991	12GW0501Y	22.900	10.0	<UM21	10.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	10.0	<UM21	10.0	UGL
			METHYLISOBUTYL KETONE	EDA-01	08/22/1991	12GW0401Y	13.500	1.4	<UM21	1.4	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.4	<UM21	1.4	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.4	<UM21	1.4	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.4	<UM21	1.4	UGL
			STYRENE	EDA-01	08/22/1991	12GW0401NR	13.500	5.0	*UM21	5.0	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	5.0	*UM21	5.0	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	5.0	*UM21	5.0	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	5.0	*UM21	5.0	UGL
			TETRACHLOROETHYLENE/TETRACHLOR	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			TOLUENE	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			TRANS-1,3-DICHLOROPROPENE	EDA-01	08/22/1991	12GW0401NR	13.500	5.0	*UM21	5.0	UGL
				EDA-02	08/23/1991	12GW0201NR	22.000	5.0	*UM21	5.0	UGL
				EDA-03	08/22/1991	12GW0501NR	22.900	5.0	*UM21	5.0	UGL
				EDA-04	08/22/1991	12GW0301NR	14.100	5.0	*UM21	5.0	UGL
			TRICHLOROETHYLENE/TRICHLOROETH	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			TRICHLOROFLUOROMETHANE	EDA-01	08/22/1991	12GW0401Y	13.500	1.0	<UM21	1.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	1.0	<UM21	1.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	1.0	<UM21	1.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	1.0	<UM21	1.0	UGL
			XYLENES	EDA-01	08/22/1991	12GW0401Y	13.500	2.0	<UM21	2.0	UGL
				EDA-02	08/23/1991	12GW0201Y	22.000	2.0	<UM21	2.0	UGL
				EDA-03	08/22/1991	12GW0501Y	22.900	2.0	<UM21	2.0	UGL
				EDA-04	08/22/1991	12GW0301Y	14.100	2.0	<UM21	2.0	UGL
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	12-SS-06	08/13/1991	12SS0601Y	0.500	27.0	=LW02	2.09	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	4.9	=LW02	2.09	UGG
			1,3-DINITROBENZENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.59	<LW02	0.59	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.59	<LW02	0.59	UGG
			2,4,6-TNT	12-SS-06	08/13/1991	12SS0601Y	0.500	6,000.0	=LW02	1.92	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	69.0	=LW02	1.92	UGG
			2,4-DINITROTOLUENE	12-SS-06	08/13/1991	12SS0601N	0.500	1.4	<LM25	1.4	UGG
						12SS0601Y	0.500	0.42	<LW02	0.42	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	1.4	<LM25	1.4	UGG
						12SS0701Y	0.500	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	12-SS-06	08/13/1991	12SS0601N	0.500	0.32	<LM25	0.32	UGG
						12SS0601Y	0.500	40.0	<LW02	0.4	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	0.32	<LM25	0.32	UGG
						12SS0701Y	0.500	0.58	=LW02	0.4	UGG
			HMX	12-SS-06	08/13/1991	12SS0601Y	0.500	3,700.0	=LW02	1.27	UGG

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				12-SS-07	08/13/1991	12SS0701Y	0.500	830.0	=LW02	1.27	UGG
			NITROBENZENE	12-SS-06	08/13/1991	12SS0601N	0.500	1.8	<LM25	1.8	UGG
						12SS0601Y	0.500	0.42	<LW02	0.42	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	1.8	<LM25	1.8	UGG
						12SS0701Y	0.500	0.82	=LW02	0.42	UGG
			RDX	12-SS-06	08/13/1991	12SS0601Y	0.500	7,700.0	=LW02	0.98	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	510.0	=LW02	0.98	UGG
			TETRYL	12-SS-06	08/13/1991	12SS0601Y	0.500	0.25	<LW02	0.25	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	12-SS-06	08/13/1991	12SS0601Y	0.500	19.6	<JS12	19.6	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	12-SS-06	08/13/1991	12SS0601Y	0.500	5.81	=B9	2.5	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	8.99	=B9	2.5	UGG
			BARIUM	12-SS-06	08/13/1991	12SS0601Y	0.500	8,300.0	=JS12	3.29	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	2,200.0	=JS12	3.29	UGG
			BERYLLIUM	12-SS-06	08/13/1991	12SS0601Y	0.500	0.773	=JS12	0.427	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	1.09	=JS12	0.427	UGG
			CADMIUM	12-SS-06	08/13/1991	12SS0601Y	0.500	1.2	<JS12	1.2	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	1.2	<JS12	1.2	UGG
			CHROMIUM	12-SS-06	08/13/1991	12SS0601Y	0.500	44.9	=JS12	1.04	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	89.9	=JS12	1.04	UGG
			COPPER	12-SS-06	08/13/1991	12SS0601Y	0.500	52.2	=JS12	2.84	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	53.9	=JS12	2.84	UGG
			LEAD	12-SS-06	08/13/1991	12SS0601Y	0.500	34.0	=JD21	0.467	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	51.0	=JD21	0.467	UGG
			MERCURY	12-SS-06	08/13/1991	12SS0601Y	0.500	0.127	=Y9	0.05	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.077	=Y9	0.05	UGG
			NICKEL	12-SS-06	08/13/1991	12SS0601Y	0.500	33.5	=JS12	2.74	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	67.8	=JS12	2.74	UGG
			SELENIUM	12-SS-06	08/13/1991	12SS0601Y	0.500	0.449	<JD20	0.449	UGG
				12-SS-07	08/13/1991	12SS0701YD	0.500	0.449	<JD20	0.449	UGG
			SILVER	12-SS-06	08/13/1991	12SS0601Y	0.500	0.803	<JS12	0.803	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.803	<JS12	0.803	UGG
			THALLIUM	12-SS-06	08/13/1991	12SS0601Y	0.500	34.3	<JS12	34.3	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	34.3	<JS12	34.3	UGG
			ZINC	12-SS-06	08/13/1991	12SS0601Y	0.500	126.0	=JS12	2.34	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	121.0	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	12-SS-06	08/13/1991	12SS0601N	0.500	0.068	<LM25	0.068	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	0.068	<LM25	0.068	UGG
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	12-SS-06	08/13/1991	12SS0601N	0.500	0.1	<LM25	0.1	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	0.1	<LM25	0.1	UGG
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	12-SS-06	08/13/1991	12SS0601N	0.500	0.064	<LM25	0.064	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	0.064	<LM25	0.064	UGG
			ALDRIN	12-SS-06	08/13/1991	12SS0601N	0.500	1.3	<LM25	1.3	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	1.3	<LM25	1.3	UGG
			ALPHA-BENZENEHEXACHLORIDE	12-SS-06	08/13/1991	12SS0601N	0.500	1.3	<LM25	1.3	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	1.3	<LM25	1.3	UGG
			ALPHA-ENDOSULFAN/ENDOSULFAN I	12-SS-06	08/13/1991	12SS0601N	0.500	0.4	<LM25	0.4	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	0.4	<LM25	0.4	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			BETA-BENZENEHEXACHLORIDE	12-SS-06	08/13/1991	12SS0601N	0.500	1.3	<LM25	1.3	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	1.3	<LM25	1.3	UGG
			BETA-ENDOSULFAN/ENDOSULFAN II	12-SS-06	08/13/1991	12SS0601N	0.500	2.4	<LM25	2.4	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	2.4	<LM25	2.4	UGG
			CHLORDANE	12-SS-06	08/13/1991	12SS0601N	0.500	0.68	<LM25	0.68	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	0.68	<LM25	0.68	UGG
			DELTA-BENZENEHEXACHLORIDE	12-SS-06	08/13/1991	12SS0601N	0.500	0.21	<LM25	0.21	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	0.21	<LM25	0.21	UGG
			DIELDRIN	12-SS-06	08/13/1991	12SS0601N	0.500	0.079	<LM25	0.079	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	0.079	<LM25	0.079	UGG
			ENDRIN	12-SS-06	08/13/1991	12SS0601N	0.500	1.3	<LM25	1.3	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	1.3	<LM25	1.3	UGG
			HEPTACHLOR	12-SS-06	08/13/1991	12SS0601N	0.500	0.24	<LM25	0.24	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	0.24	<LM25	0.24	UGG
			HEPTACHLOR EPOXIDE	12-SS-06	08/13/1991	12SS0601N	0.500	0.48	<LM25	0.48	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	0.48	<LM25	0.48	UGG
			ISODRIN	12-SS-06	08/13/1991	12SS0601N	0.500	0.48	<LM25	0.48	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	0.48	<LM25	0.48	UGG
			LINDANE	12-SS-06	08/13/1991	12SS0601N	0.500	0.1	<LM25	0.1	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	0.1	<LM25	0.1	UGG
			METHOXYCHLOR	12-SS-06	08/13/1991	12SS0601N	0.500	0.26	<LM25	0.26	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	0.26	<LM25	0.26	UGG
			PCB 1016	12-SS-06	08/13/1991	12SS0601N	0.500	0.32	<LM25	0.32	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	0.32	<LM25	0.32	UGG
			PCB 1221	12-SS-06	08/13/1991	12SS0601NR	0.500	1.9	*LM25	1.9	UGG
				12-SS-07	08/13/1991	12SS0701NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1232	12-SS-06	08/13/1991	12SS0601NR	0.500	1.9	*LM25	1.9	UGG
				12-SS-07	08/13/1991	12SS0701NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1242	12-SS-06	08/13/1991	12SS0601NR	0.500	1.9	*LM25	1.9	UGG
				12-SS-07	08/13/1991	12SS0701NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1248	12-SS-06	08/13/1991	12SS0601NR	0.500	1.9	*LM25	1.9	UGG
				12-SS-07	08/13/1991	12SS0701NR	0.500	1.9	*LM25	1.9	UGG
			PCB 1254	12-SS-06	08/13/1991	12SS0601NR	0.500	3.8	*LM25	3.8	UGG
				12-SS-07	08/13/1991	12SS0701NR	0.500	3.8	*LM25	3.8	UGG
			PCB 1260	12-SS-06	08/13/1991	12SS0601N	0.500	0.79	<LM25	0.79	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	0.79	<LM25	0.79	UGG
			PCB 1262	12-SS-06	08/13/1991	12SS0601Y	0.500	6.3	<LM25	0.3	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	6.3	<LM25	0.3	UGG
			TOXAPHENE	12-SS-06	08/13/1991	12SS0601NR	0.500	12.0	*LM25	12.0	UGG
				12-SS-07	08/13/1991	12SS0701NR	0.500	12.0	*LM25	12.0	UGG
		SEMIVOLATILES	1,2,3-TRICHLOROBENZENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.032	<LM25	0.032	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.032	<LM25	0.032	UGG
			1,2,4-TRICHLOROBENZENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.22	<LM25	0.22	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.22	<LM25	0.22	UGG
			1,2-DICHLOROBENZENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.042	<LM25	0.042	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.042	<LM25	0.042	UGG
			1,2-DIPHENYLHYDRAZINE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.52	<LM25	0.52	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.52	<LM25	0.52	UGG
			1,4-DICHLOROBENZENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.034	<LM25	0.034	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.034	<LM25	0.034	UGG
			1,4-OXATHIANE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.075	<LM25	0.075	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.075	<LM25	0.075	UGG
			2,3,6-TCP	12-SS-06	08/13/1991	12SS0601Y	0.500	0.62	<LM25	0.62	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.62	<LM25	0.62	UGG
			2,4,5-TRICHLOROPHENOL	12-SS-06	08/13/1991	12SS0601Y	0.500	0.49	<LM25	0.49	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.49	<LM25	0.49	UGG
			2,4,6-TRICHLOROPHENOL	12-SS-06	08/13/1991	12SS0601Y	0.500	0.061	<LM25	0.061	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.061	<LM25	0.061	UGG
			2,4-DICHLOROPHENOL	12-SS-06	08/13/1991	12SS0601Y	0.500	0.065	<LM25	0.065	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.065	<LM25	0.065	UGG
			2,4-DIMETHYLPHENOL	12-SS-06	08/13/1991	12SS0601Y	0.500	3.0	<LM25	3.0	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	3.0	<LM25	3.0	UGG
			2,4-DINITROPHENOL	12-SS-06	08/13/1991	12SS0601Y	0.500	4.7	<LM25	4.7	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	4.7	<LM25	4.7	UGG
			2,6-DINITROANILINE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.57	<LM25	0.57	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.57	<LM25	0.57	UGG
			2-CHLORONAPHTHALENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.24	<LM25	0.24	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.24	<LM25	0.24	UGG
			2-CHLOROPHENOL	12-SS-06	08/13/1991	12SS0601Y	0.500	0.055	<LM25	0.055	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.055	<LM25	0.055	UGG
			2-METHYL-4,6-DINITROPHENOL/4,6	12-SS-06	08/13/1991	12SS0601Y	0.500	0.8	<LM25	0.8	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.8	<LM25	0.8	UGG
			2-METHYLNAPHTHALENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.032	<LM25	0.032	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.032	<LM25	0.032	UGG
			2-METHYLPHENOL/2-CRESOL	12-SS-06	08/13/1991	12SS0601Y	0.500	0.098	<LM25	0.098	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.098	<LM25	0.098	UGG
			2-NITROANILINE	12-SS-06	08/13/1991	12SS0601NR	0.500	3.1	*LM25	3.1	UGG
				12-SS-07	08/13/1991	12SS0701NR	0.500	3.1	*LM25	3.1	UGG
			2-NITROPHENOL	12-SS-06	08/13/1991	12SS0601Y	0.500	1.1	<LM25	1.1	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	1.1	<LM25	1.1	UGG
			3,3'-DICHLOROBENZIDINE	12-SS-06	08/13/1991	12SS0601Y	0.500	1.6	<LM25	1.6	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	1.6	<LM25	1.6	UGG
			3,5-DINITROANILINE	12-SS-06	08/13/1991	12SS0601Y	0.500	8.47	=LM25	1.6	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	3.0	=LM25	1.6	UGG
			3-METHYL-4-CHLOROPHENOL/4-CHLO	12-SS-06	08/13/1991	12SS0601Y	0.500	0.93	<LM25	0.93	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.93	<LM25	0.93	UGG
			3-NITROANILINE	12-SS-06	08/13/1991	12SS0601Y	0.500	3.0	<LM25	3.0	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	3.0	<LM25	3.0	UGG
			3-NITROTOLUENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.34	<LM25	0.34	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.34	<LM25	0.34	UGG
			4-BROMOPHENYLPHENYL ETHER	12-SS-06	08/13/1991	12SS0601Y	0.500	0.041	<LM25	0.041	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.041	<LM25	0.041	UGG
			4-CHLOROANILINE	12-SS-06	08/13/1991	12SS0601NR	0.500	0.63	*LM25	0.63	UGG
				12-SS-07	08/13/1991	12SS0701NR	0.500	0.63	*LM25	0.63	UGG
			4-CHLOROPHENYLPHENYL ETHER	12-SS-06	08/13/1991	12SS0601Y	0.500	0.17	<LM25	0.17	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.17	<LM25	0.17	UGG
			4-METHYLPHENOL/4-CRESOL	12-SS-06	08/13/1991	12SS0601Y	0.500	0.24	<LM25	0.24	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.24	<LM25	0.24	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			4-NITROANILINE	12-SS-06	08/13/1991	12SS0601NR	0.500	3.1	*LM25	3.1	UGG
				12-SS-07	08/13/1991	12SS0701NR	0.500	3.1	*LM25	3.1	UGG
			4-NITROPHENOL	12-SS-06	08/13/1991	12SS0601Y	0.500	3.3	<LM25	3.3	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	3.3	<LM25	3.3	UGG
			ACENAPHTHENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.041	<LM25	0.041	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.041	<LM25	0.041	UGG
			ACENAPHTHYLENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.033	<LM25	0.033	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.033	<LM25	0.033	UGG
			ANTHRACENE	12-SS-06	08/13/1991	12SS0601Y	0.500	2.51	=LM25	0.71	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.71	<LM25	0.71	UGG
			ATRAZINE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.065	<LM25	0.065	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.065	<LM25	0.065	UGG
			BENZO(A)ANTHRACENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.041	<LM25	0.48	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.041	<LM25	0.48	UGG
			BENZO(A)PYRENE	12-SS-06	08/13/1991	12SS0601Y	0.500	1.2	<LM25	1.2	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	1.2	<LM25	1.2	UGG
			BENZO(B)FLUORANTHENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.31	<LM25	0.31	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.31	<LM25	0.31	UGG
			BENZO(G,H,I)PERYLENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.18	<LM25	0.18	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.18	<LM25	0.18	UGG
			BENZO(K)FLUORANTHENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.13	<LM25	0.13	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.13	<LM25	0.13	UGG
			BENZOIC ACID	12-SS-06	08/13/1991	12SS0601NR	0.500	3.1	*LM25	3.1	UGG
				12-SS-07	08/13/1991	12SS0701NR	0.500	3.1	*LM25	3.1	UGG
			BENZYL ALCOHOL	12-SS-06	08/13/1991	12SS0601Y	0.500	0.032	<LM25	0.032	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.032	<LM25	0.032	UGG
			BIS (2-CHLOROETHOXY) METHANE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.19	<LM25	0.19	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.19	<LM25	0.19	UGG
			BIS (2-CHLOROETHYL) ETHER	12-SS-06	08/13/1991	12SS0601Y	0.500	0.36	<LM25	0.36	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.36	<LM25	0.36	UGG
			BIS (2-CHLOROISOPROPYL) ETHER	12-SS-06	08/13/1991	12SS0601Y	0.500	0.44	<LM25	0.44	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.44	<LM25	0.44	UGG
			BIS (2-ETHYLHEXYL) PHTHALATE	12-SS-06	08/13/1991	12SS0601Y	0.500	1.35	=LM25	0.48	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.48	<LM25	0.48	UGG
			BUTYLBENZYL PHTHALATE	12-SS-06	08/13/1991	12SS0601Y	0.500	1.8	<LM25	1.8	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	1.8	<LM25	1.8	UGG
			CHRYSENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.032	<LM25	0.032	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.032	<LM25	0.032	UGG
			DI-N-BUTYL PHTHALATE	12-SS-06	08/13/1991	12SS0601Y	0.500	4.51	=LM25	1.3	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	1.3	<LM25	1.3	UGG
			DI-N-OCTYL PHTHALATE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.23	<LM25	0.23	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.23	<LM25	0.23	UGG
			DIBENZ(A,H)ANTHRACENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.31	<LM25	0.31	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.31	<LM25	0.31	UGG
			DIBENZOFURAN	12-SS-06	08/13/1991	12SS0601Y	0.500	0.038	<LM25	0.038	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.038	<LM25	0.038	UGG
			DIBROMOCHLOROPROPANE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.071	<LM25	0.071	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.071	<LM25	0.071	UGG
			DICYCLOPENTADIENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.57	<LM25	0.57	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.57	<LM25	0.57	UGG
			DIETHYL PHTHALATE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.24	<LM25	0.24	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.24	<LM25	0.24	UGG
			DIMETHYL PHTHALATE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.063	<LM25	0.063	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.063	<LM25	0.063	UGG
			DITHIANE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.065	<LM25	0.065	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.065	<LM25	0.065	UGG
			ENDOSULFAN SULFATE	12-SS-06	08/13/1991	12SS0601Y	0.500	1.2	<LM25	1.2	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	1.2	<LM25	1.2	UGG
			ENDRIN ALDEHYDE	12-SS-06	08/13/1991	12SS0601Y	0.500	1.8	<LM25	1.8	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	1.8	<LM25	1.8	UGG
			ENDRIN KETONE	12-SS-06	08/13/1991	12SS0601NR	0.500	0.28	*LM25	0.28	UGG
				12-SS-07	08/13/1991	12SS0701NR	0.500	0.28	*LM25	0.28	UGG
			FLUORANTHENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.032	<LM25	0.032	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.128	=LM25	0.032	UGG
			FLUORENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.065	<LM25	0.065	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.065	<LM25	0.065	UGG
			HEXACHLOROBENZENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.08	<LM25	0.08	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.08	<LM25	0.08	UGG
			HEXACHLOROBUTADIENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.97	<LM25	0.97	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.97	<LM25	0.97	UGG
			HEXACHLOROCYCLOPENTADIENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.52	<LM25	0.52	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.52	<LM25	0.52	UGG
			HEXACHLOROETHANE	12-SS-06	08/13/1991	12SS0601Y	0.500	1.8	<LM25	1.8	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	1.8	<LM25	1.8	UGG
			INDENO(1,2,3-C,D)PYRENE	12-SS-06	08/13/1991	12SS0601Y	0.500	2.4	<LM25	2.4	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	2.4	<LM25	2.4	UGG
			ISOPHORONE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.39	<LM25	0.39	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.39	<LM25	0.39	UGG
			MALATHION	12-SS-06	08/13/1991	12SS0601Y	0.500	0.18	<LM25	0.18	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.18	<LM25	0.18	UGG
			MIREX	12-SS-06	08/13/1991	12SS0601Y	0.500	0.14	<LM25	0.14	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.14	<LM25	0.14	UGG
			N-NITROSODI-N-PROPYLAMINE	12-SS-06	08/13/1991	12SS0601Y	0.500	1.1	<LM25	1.1	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	1.1	<LM25	1.1	UGG
			N-NITROSODIMETHYLAMINE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.46	<LM25	0.46	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.46	<LM25	0.46	UGG
			N-NITROSODIPHENYLAMINE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.29	<LM25	0.29	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.29	<LM25	0.29	UGG
			NAPHTHALENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.74	<LM25	0.74	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.74	<LM25	0.74	UGG
			P-CHLOROPHENYLMETHYL SULFIDE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.097	<LM25	0.097	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.097	<LM25	0.097	UGG
			P-CHLOROPHENYLMETHYL SULFONE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.066	<LM25	0.066	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.066	<LM25	0.066	UGG
			P-CHLOROPHENYLMETHYL SULFOXIDE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.32	<LM25	0.32	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.32	<LM25	0.32	UGG
			PARATHION	12-SS-06	08/13/1991	12SS0601Y	0.500	1.7	<LM25	1.7	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	1.7	<LM25	1.7	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			PENTACHLOROPHENOL	12-SS-06	08/13/1991	12SS0601Y	0.500	0.76	<LM25	0.76	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.76	<LM25	0.76	UGG
			PHENANTHRENE	12-SS-06	08/13/1991	12SS0601Y	0.500	2.48	=LM25	0.032	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.331	=LM25	0.032	UGG
			PHENOL	12-SS-06	08/13/1991	12SS0601Y	0.500	0.052	<LM25	0.052	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.052	<LM25	0.052	UGG
			PYRENE	12-SS-06	08/13/1991	12SS0601Y	0.500	1.67	=LM25	0.083	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.383	=LM25	0.083	UGG
			SUPONA/2-CHLORO-1-(2,4-DICHLOR	12-SS-06	08/13/1991	12SS0601Y	0.500	0.92	<LM25	0.92	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.92	<LM25	0.92	UGG
			VAPONA	12-SS-06	08/13/1991	12SS0601Y	0.500	0.068	<LM25	0.068	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.068	<LM25	0.068	UGG
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	12-SS-06	08/13/1991	12SS0601Y	0.500	0.5	<LM23	0.5	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.5	<LM23	0.5	UGG
			1,1,1-TRICHLOROETHANE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.2	<LM23	0.2	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2,2-TETRACHLOROETHANE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.2	<LM23	0.2	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2-TRICHLOROETHANE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.33	<LM23	0.33	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.33	<LM23	0.33	UGG
			1,1-DICHLOROETHANE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.49	<LM23	0.49	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.49	<LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	12-SS-06	08/13/1991	12SS0601Y	0.500	0.27	<LM23	0.27	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.27	<LM23	0.27	UGG
			1,2-DICHLOROETHANE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.32	<LM23	0.32	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	12-SS-06	08/13/1991	12SS0601Y	0.500	0.32	<LM23	0.32	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROPROPANE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.53	<LM23	0.53	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.53	<LM23	0.53	UGG
			1,3-DICHLOROBENZENE	12-SS-06	08/13/1991	12SS0601N	0.500	0.042	<LM25	0.042	UGG
						12SS0601Y	0.500	0.14	<LM23	0.14	UGG
				12-SS-07	08/13/1991	12SS0701N	0.500	0.042	<LM25	0.042	UGG
						12SS0701Y	0.500	0.14	<LM23	0.14	UGG
			1,3-DICLOROPROPANE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.2	<LM23	0.2	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.2	<LM23	0.2	UGG
			1,3-DIMETHYLBENZENE/M-XYLENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.23	<LM23	0.23	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.23	<LM23	0.23	UGG
			ACETIC ACID, VINYL ESTER/VINYL	12-SS-06	08/13/1991	12SS0601NR	0.500	1.0	*LM23	1.0	UGG
				12-SS-07	08/13/1991	12SS0701NR	0.500	1.0	*LM23	1.0	UGG
			ACETONE	12-SS-06	08/13/1991	12SS0601Y	0.500	3.3	<LM23	3.3	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	3.3	<LM23	3.3	UGG
			ACRYLONITRILE	12-SS-06	08/13/1991	12SS0601Y	0.500	2.0	<LM23	2.0	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	2.0	<LM23	2.0	UGG
			BENZENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.1	<LM23	0.1	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.1	<LM23	0.1	UGG
			BROMODICHLOROMETHANE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.2	<LM23	0.2	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.2	<LM23	0.2	UGG
			BROMOFORM	12-SS-06	08/13/1991	12SS0601Y	0.500	0.2	<LM23	0.2	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.2	<LM23	0.2	UGG
			BROMOMETHANE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.26	<LM23	0.26	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.26	<LM23	0.26	UGG
			CARBON DISULFIDE	12-SS-06	08/13/1991	12SS0601NR	0.500	0.6	*LM23	0.6	UGG
				12-SS-07	08/13/1991	12SS0701NR	0.500	0.6	*LM23	0.6	UGG
			CARBON TETRACHLORIDE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.31	<LM23	0.31	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.31	<LM23	0.31	UGG
			CHLORFORM	12-SS-06	08/13/1991	12SS0601Y	0.500	0.24	<LM23	0.24	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.24	<LM23	0.24	UGG
			CHLOROBENZENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.1	<LM23	0.1	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.1	<LM23	0.1	UGG
			CHLOROETHANE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.64	<LM23	0.64	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.64	<LM23	0.64	UGG
			CHLOROETHANE/VINYL CHLORIDE	12-SS-06	08/13/1991	12SS0601Y	0.500	1.8	<LM23	1.8	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	1.8	<LM23	1.8	UGG
			CHLOROMETHANE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.96	<LM23	0.96	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.96	<LM23	0.96	UGG
			CIS-1,3-DICHLOROPROPYLENE/CIS-	12-SS-06	08/13/1991	12SS0601NR	0.500	0.6	*LM23	0.6	UGG
				12-SS-07	08/13/1991	12SS0701NR	0.500	0.6	*LM23	0.6	UGG
			DIBROMOCHLOROMETHANE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.25	<LM23	0.25	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.25	<LM23	0.25	UGG
			DICHLOROBENZENE - NONSPECIFIC	12-SS-06	08/13/1991	12SS0601Y	0.500	0.2	<LM23	0.2	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.2	<LM23	0.2	UGG
			ETHYLBENZENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.19	<LM23	0.19	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.19	<LM23	0.19	UGG
			METHYL-N-BUTYL KETONE/2-HEXANO	12-SS-06	08/13/1991	12SS0601NR	0.500	1.0	*LM23	1.0	UGG
				12-SS-07	08/13/1991	12SS0701NR	0.500	1.0	*LM23	1.0	UGG
			METHYLENE CHLORIDE	12-SS-06	08/13/1991	12SS0601Y	0.500	4.4	<LM23	4.4	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	4.4	<LM23	4.4	UGG
			METHYLETHYL PHENOL/METHYLETHYL	12-SS-06	08/13/1991	12SS0601Y	0.500	4.3	<LM23	4.3	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	4.3	<LM23	4.3	UGG
			METHYLISOBUTYL KETONE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.63	<LM23	0.63	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.63	<LM23	0.63	UGG
			STYRENE	12-SS-06	08/13/1991	12SS0601NR	0.500	0.6	*LM23	0.6	UGG
				12-SS-07	08/13/1991	12SS0701NR	0.500	0.6	*LM23	0.6	UGG
			TETRACHLOROETHYLENE/TETRACHLOR	12-SS-06	08/13/1991	12SS0601Y	0.500	0.16	<LM23	0.16	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.16	<LM23	0.16	UGG
			TOLUENE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.1	<LM23	0.1	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.1	<LM23	0.1	UGG
			TRANS-1,3-DICHLOROPROPENE	12-SS-06	08/13/1991	12SS0601NR	0.500	0.6	*LM23	0.6	UGG
				12-SS-07	08/13/1991	12SS0701NR	0.500	0.6	*LM23	0.6	UGG
			TRICHLOROETHYLENE/TRICHLOROETH	12-SS-06	08/13/1991	12SS0601Y	0.500	0.23	<LM23	0.23	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.23	<LM23	0.23	UGG
			TRICHLOROFLUOROMETHANE	12-SS-06	08/13/1991	12SS0601Y	0.500	0.23	<LM23	0.23	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.23	<LM23	0.23	UGG
			XYLENES	12-SS-06	08/13/1991	12SS0601Y	0.500	0.78	<LM23	0.78	UGG
				12-SS-07	08/13/1991	12SS0701Y	0.500	0.78	<LM23	0.78	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP13	SD	EXPLOSIVES	1,3,5-TRINITROBENZENE	13-SD-01	08/16/1991	13SD0101Y	0.500	2.1	<LW02	2.09	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	13-SD-01	08/16/1991	13SD0101Y	0.500	0.59	<LW02	0.59	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	0.59	<LW02	0.59	UGG
			2,4,6-TNT	13-SD-01	08/16/1991	13SD0101Y	0.500	1.9	<LW02	1.92	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	13-SD-01	08/16/1991	13SD0101Y	0.500	0.42	<LW02	0.42	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	13-SD-01	08/16/1991	13SD0101Y	0.500	0.4	<LW02	0.4	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	0.4	<LW02	0.4	UGG
			HMX	13-SD-01	08/16/1991	13SD0101Y	0.500	1.3	<LW02	1.27	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	1.3	<LW02	1.27	UGG
			NITROBENZENE	13-SD-01	08/16/1991	13SD0101Y	0.500	0.42	<LW02	0.42	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	0.42	<LW02	0.42	UGG
			RDX	13-SD-01	08/16/1991	13SD0101Y	0.500	0.98	<LW02	0.98	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	0.98	<LW02	0.98	UGG
			TETRYL	13-SD-01	08/16/1991	13SD0101Y	0.500	0.25	<LW02	0.25	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	13-SD-01	08/16/1991	13SD0101Y	0.500	19.6	<JS12	19.6	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	13-SD-01	08/16/1991	13SD0101Y	0.500	4.95	=B9	2.5	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	5.14	=B9	2.5	UGG
			BARIUM	13-SD-01	08/16/1991	13SD0101Y	0.500	105.0	=JS12	3.29	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	142.0	=JS12	3.29	UGG
			BERYLLIUM	13-SD-01	08/16/1991	13SD0101Y	0.500	0.612	=JS12	0.427	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	0.427	<JS12	0.427	UGG
			CADMIUM	13-SD-01	08/16/1991	13SD0101Y	0.500	1.2	<JS12	1.2	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	1.2	<JS12	1.2	UGG
			CHROMIUM	13-SD-01	08/16/1991	13SD0101Y	0.500	33.1	=JS12	1.04	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	31.7	=JS12	1.04	UGG
			COPPER	13-SD-01	08/16/1991	13SD0101Y	0.500	33.3	=JS12	2.84	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	24.8	=JS12	2.84	UGG
			LEAD	13-SD-01	08/16/1991	13SD0101Y	0.500	88.0	=JD21	0.467	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	90.0	=JD21	0.467	UGG
			MERCURY	13-SD-01	08/16/1991	13SD0101Y	0.500	0.407	=Y9	0.05	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	0.175	=Y9	0.05	UGG
			NICKEL	13-SD-01	08/16/1991	13SD0101Y	0.500	18.3	=JS12	2.74	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	19.2	=JS12	2.74	UGG
			SELENIUM	13-SD-01	08/16/1991	13SD0101Y	0.500	0.449	<JD20	0.449	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	0.449	<JD20	0.449	UGG
			SILVER	13-SD-01	08/16/1991	13SD0101Y	0.500	0.803	<JS12	0.803	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	0.803	<JS12	0.803	UGG
			THALLIUM	13-SD-01	08/16/1991	13SD0101Y	0.500	34.3	<JS12	34.3	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	34.3	<JS12	34.3	UGG
			ZINC	13-SD-01	08/16/1991	13SD0101Y	0.500	59.8	=JS12	2.34	UGG
				13-SD-02	08/16/1991	13SD0201Y	0.500	73.6	=JS12	2.34	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP14	SD	EXPLOSIVES	1,3,5-TRINITROBENZENE	14-SD-04	08/15/1991	14SD0401Y	0.300	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.59	<LW02	0.59	UGG
			2,4,6-TNT	14-SD-04	08/15/1991	14SD0401Y	0.300	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	14-SD-04	08/15/1991	14SD0401N	0.300	1.4	<LM25	1.4	UGG
						14SD0401Y	0.300	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	14-SD-04	08/15/1991	14SD0401N	0.300	0.32	<LM25	0.32	UGG
						14SD0401Y	0.300	0.4	<LW02	0.4	UGG
			HMX	14-SD-04	08/15/1991	14SD0401Y	0.300	1.3	<LW02	1.27	UGG
			NITROBENZENE	14-SD-04	08/15/1991	14SD0401N	0.300	1.8	<LM25	1.8	UGG
						14SD0401Y	0.300	0.42	<LW02	0.42	UGG
			RDX	14-SD-04	08/15/1991	14SD0401Y	0.300	0.98	<LW02	0.98	UGG
			TETRYL	14-SD-04	08/15/1991	14SD0401Y	0.300	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	14-SD-04	08/15/1991	14SD0401Y	0.300	19.6	<JS12	19.6	UGG
			ARSENIC	14-SD-04	08/15/1991	14SD0401Y	0.300	7.68	=B9	2.5	UGG
			BARIUM	14-SD-04	08/15/1991	14SD0401Y	0.300	237.0	=JS12	3.29	UGG
			BERYLLIUM	14-SD-04	08/15/1991	14SD0401Y	0.300	0.75	=JS12	0.427	UGG
			CADMIUM	14-SD-04	08/15/1991	14SD0401Y	0.300	1.2	<JS12	1.2	UGG
			CHROMIUM	14-SD-04	08/15/1991	14SD0401Y	0.300	13.3	=JS12	1.04	UGG
			COPPER	14-SD-04	08/15/1991	14SD0401Y	0.300	14.8	=JS12	2.84	UGG
			LEAD	14-SD-04	08/15/1991	14SD0401Y	0.300	30.0	=JD21	0.467	UGG
			MERCURY	14-SD-04	08/15/1991	14SD0401Y	0.300	0.05	<Y9	0.05	UGG
			NICKEL	14-SD-04	08/15/1991	14SD0401Y	0.300	10.0	=JS12	2.74	UGG
			SELENIUM	14-SD-04	08/15/1991	14SD0401Y	0.300	0.685	=JD20	0.449	UGG
			SILVER	14-SD-04	08/15/1991	14SD0401Y	0.300	0.803	<JS12	0.803	UGG
			THALLIUM	14-SD-04	08/15/1991	14SD0401Y	0.300	34.3	<JS12	34.3	UGG
			ZINC	14-SD-04	08/15/1991	14SD0401Y	0.300	236.0	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-DI	14-SD-04	08/15/1991	14SD0401N	0.300	0.068	<LM25	0.068	UGG
			2,2-BIS(P-CHLOROPHENYL)-1,1-TR	14-SD-04	08/15/1991	14SD0401N	0.300	0.1	<LM25	0.1	UGG
			2,2-BIS(P-CHOLROPHENYL)-1,1-DI	14-SD-04	08/15/1991	14SD0401N	0.300	0.064	<LM25	0.064	UGG
			ALDRIN	14-SD-04	08/15/1991	14SD0401N	0.300	1.3	<LM25	1.3	UGG
			ALPHA-BENZENEHEXACHLORIDE	14-SD-04	08/15/1991	14SD0401N	0.300	1.3	<LM25	1.3	UGG
			ALPHA-ENDOSULFAN/ENDOSULFAN I	14-SD-04	08/15/1991	14SD0401N	0.300	0.4	<LM25	0.4	UGG
			BETA-BENZENEHEXACHLORIDE	14-SD-04	08/15/1991	14SD0401N	0.300	1.3	<LM25	1.3	UGG
			BETA-ENDOSULFAN/ENDOSULFAN II	14-SD-04	08/15/1991	14SD0401N	0.300	2.4	<LM25	2.4	UGG
			CHLORDANE	14-SD-04	08/15/1991	14SD0401N	0.300	0.68	<LM25	0.68	UGG
			DELTA-BENZENEHEXACHLORIDE	14-SD-04	08/15/1991	14SD0401N	0.300	0.21	<LM25	0.21	UGG
			DIELDRIN	14-SD-04	08/15/1991	14SD0401N	0.300	0.079	<LM25	0.079	UGG
			ENDRIN	14-SD-04	08/15/1991	14SD0401N	0.300	1.3	<LM25	1.3	UGG
			HEPTACHLOR	14-SD-04	08/15/1991	14SD0401N	0.300	0.24	<LM25	0.24	UGG
			HEPTACHLOR EPOXIDE	14-SD-04	08/15/1991	14SD0401N	0.300	0.48	<LM25	0.48	UGG
			ISODRIN	14-SD-04	08/15/1991	14SD0401N	0.300	0.48	<LM25	0.48	UGG
			LINDANE	14-SD-04	08/15/1991	14SD0401N	0.300	0.1	<LM25	0.1	UGG
			METHOXYCHLOR	14-SD-04	08/15/1991	14SD0401N	0.300	0.26	<LM25	0.26	UGG
			PCB 1016	14-SD-04	08/15/1991	14SD0401N	0.300	0.32	<LM25	0.32	UGG
			PCB 1221	14-SD-04	08/15/1991	14SD0401NR	0.300	1.9	*LM25	1.9	UGG
			PCB 1232	14-SD-04	08/15/1991	14SD0401NR	0.300	1.9	*LM25	1.9	UGG
			PCB 1242	14-SD-04	08/15/1991	14SD0401NR	0.300	1.9	*LM25	1.9	UGG
			PCB 1248	14-SD-04	08/15/1991	14SD0401NR	0.300	1.9	*LM25	1.9	UGG
			PCB 1254	14-SD-04	08/15/1991	14SD0401NR	0.300	3.8	*LM25	3.8	UGG

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			PCB 1260	14-SD-04	08/15/1991	14SD0401N	0.300	0.79	<LM25	0.79	UGG
			PCB 1262	14-SD-04	08/15/1991	14SD0401Y	0.300	6.3	<LM25	0.3	UGG
			TOXAPHENE	14-SD-04	08/15/1991	14SD0401NR	0.300	12.0	*LM25	12.0	UGG
		SEMIVOLATILES	1,2,3-TRICHLOROBENZENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.032	<LM25	0.032	UGG
			1,2,4-TRICHLOROBENZENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.22	<LM25	0.22	UGG
			1,2-DICHLOROBENZENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.042	<LM25	0.042	UGG
			1,2-DIPHENYLHYDRAZINE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.52	<LM25	0.52	UGG
			1,4-DICHLOROBENZENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.034	<LM25	0.034	UGG
			1,4-OXATHIANE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.075	<LM25	0.075	UGG
			2,3,6-TCP	14-SD-04	08/15/1991	14SD0401Y	0.300	0.62	<LM25	0.62	UGG
			2,4,5-TRICHLOROPHENOL	14-SD-04	08/15/1991	14SD0401Y	0.300	0.49	<LM25	0.49	UGG
			2,4,6-TRICHLOROPHENOL	14-SD-04	08/15/1991	14SD0401Y	0.300	0.061	<LM25	0.061	UGG
			2,4-DICHLOROPHENOL	14-SD-04	08/15/1991	14SD0401Y	0.300	0.065	<LM25	0.065	UGG
			2,4-DIMETHYLPHENOL	14-SD-04	08/15/1991	14SD0401Y	0.300	3.0	<LM25	3.0	UGG
			2,4-DINITROPHENOL	14-SD-04	08/15/1991	14SD0401Y	0.300	4.7	<LM25	4.7	UGG
			2,6-DINITROANILINE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.57	<LM25	0.57	UGG
			2-CHLORONAPHTHALENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.24	<LM25	0.24	UGG
			2-CHLOROPHENOL	14-SD-04	08/15/1991	14SD0401Y	0.300	0.055	<LM25	0.055	UGG
			2-METHYL-4,6-DINITROPHENOL/4,6	14-SD-04	08/15/1991	14SD0401Y	0.300	0.8	<LM25	0.8	UGG
			2-METHYLNAPHTHALENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.032	<LM25	0.032	UGG
			2-METHYLPHENOL/2-CRESOL	14-SD-04	08/15/1991	14SD0401Y	0.300	0.098	<LM25	0.098	UGG
			2-NITROANILINE	14-SD-04	08/15/1991	14SD0401NR	0.300	3.1	*LM25	3.1	UGG
			2-NITROPHENOL	14-SD-04	08/15/1991	14SD0401Y	0.300	1.1	<LM25	1.1	UGG
			3,3'-DICHLOROBENZIDINE	14-SD-04	08/15/1991	14SD0401Y	0.300	1.6	<LM25	1.6	UGG
			3,5-DINITROANILINE	14-SD-04	08/15/1991	14SD0401Y	0.300	1.6	<LM25	1.6	UGG
			3-METHYL-4-CHLOROPHENOL/4-CHLO	14-SD-04	08/15/1991	14SD0401Y	0.300	0.93	<LM25	0.93	UGG
			3-NITROANILINE	14-SD-04	08/15/1991	14SD0401Y	0.300	3.0	<LM25	3.0	UGG
			3-NITROTOLUENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.34	<LM25	0.34	UGG
			4-BROMOPHENYLPHENYL ETHER	14-SD-04	08/15/1991	14SD0401Y	0.300	0.041	<LM25	0.041	UGG
			4-CHLOROANILINE	14-SD-04	08/15/1991	14SD0401NR	0.300	0.63	*LM25	0.63	UGG
			4-CHLOROPHENYLPHENYL ETHER	14-SD-04	08/15/1991	14SD0401Y	0.300	0.17	<LM25	0.17	UGG
			4-METHYLPHENOL/4-CRESOL	14-SD-04	08/15/1991	14SD0401Y	0.300	0.24	<LM25	0.24	UGG
			4-NITROANILINE	14-SD-04	08/15/1991	14SD0401NR	0.300	3.1	*LM25	3.1	UGG
			4-NITROPHENOL	14-SD-04	08/15/1991	14SD0401Y	0.300	3.3	<LM25	3.3	UGG
			ACENAPHTHENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.041	<LM25	0.041	UGG
			ACENAPHTHYLENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.033	<LM25	0.033	UGG
			ANTHRACENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.71	<LM25	0.71	UGG
			ATRAZINE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.065	<LM25	0.065	UGG
			BENZO(A)ANTHRACENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.041	<LM25	0.48	UGG
			BENZO(A)PYRENE	14-SD-04	08/15/1991	14SD0401Y	0.300	1.2	<LM25	1.2	UGG
			BENZO(B)FLUORANTHENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.31	<LM25	0.31	UGG
			BENZO(G,H,I)PERYLENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.18	<LM25	0.18	UGG
			BENZO(K)FLUORANTHENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.13	<LM25	0.13	UGG
			BENZOIC ACID	14-SD-04	08/15/1991	14SD0401NR	0.300	3.1	*LM25	3.1	UGG
			BENZYL ALCOHOL	14-SD-04	08/15/1991	14SD0401Y	0.300	0.032	<LM25	0.032	UGG
			BIS (2-CHLOROETHOXY) METHANE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.19	<LM25	0.19	UGG
			BIS (2-CHLOROETHYL) ETHER	14-SD-04	08/15/1991	14SD0401Y	0.300	0.36	<LM25	0.36	UGG
			BIS (2-CHLOROISOPROPYL) ETHER	14-SD-04	08/15/1991	14SD0401Y	0.300	0.44	<LM25	0.44	UGG
			BIS (2-ETHYLHEXYL) PHTHALATE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.48	<LM25	0.48	UGG

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			BUTYLBENZYL PHTHALATE	14-SD-04	08/15/1991	14SD0401Y	0.300	1.8	<LM25	1.8	UGG
			CHRYSENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.032	<LM25	0.032	UGG
			DI-N-BUTYL PHTHALATE	14-SD-04	08/15/1991	14SD0401Y	0.300	1.3	<LM25	1.3	UGG
			DI-N-OCTYL PHTHALATE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.23	<LM25	0.23	UGG
			DIBENZ(A,H)ANTHRACENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.31	<LM25	0.31	UGG
			DIBENZOFURAN	14-SD-04	08/15/1991	14SD0401Y	0.300	0.038	<LM25	0.038	UGG
			DIBROMOCHLOROPROPANE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.071	<LM25	0.071	UGG
			DICYCLOPENTADIENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.57	<LM25	0.57	UGG
			DIETHYL PHTHALATE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.24	<LM25	0.24	UGG
			DIMETHYL PHTHALATE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.063	<LM25	0.063	UGG
			DITHIANE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.065	<LM25	0.065	UGG
			ENDOSULFAN SULFATE	14-SD-04	08/15/1991	14SD0401Y	0.300	1.2	<LM25	1.2	UGG
			ENDRIN ALDEHYDE	14-SD-04	08/15/1991	14SD0401Y	0.300	1.8	<LM25	1.8	UGG
			ENDRIN KETONE	14-SD-04	08/15/1991	14SD0401NR	0.300	0.28	*LM25	0.28	UGG
			FLUORANTHENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.032	<LM25	0.032	UGG
			FLUORENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.065	<LM25	0.065	UGG
			HEXACHLOROBENZENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.08	<LM25	0.08	UGG
			HEXACHLOROBUTADIENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.97	<LM25	0.97	UGG
			HEXACHLOROCYCLOPENTADIENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.52	<LM25	0.52	UGG
			HEXACHLOROETHANE	14-SD-04	08/15/1991	14SD0401Y	0.300	1.8	<LM25	1.8	UGG
			INDENO(1,2,3-C,D)PYRENE	14-SD-04	08/15/1991	14SD0401Y	0.300	2.4	<LM25	2.4	UGG
			ISOPHORONE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.39	<LM25	0.39	UGG
			MALATHION	14-SD-04	08/15/1991	14SD0401Y	0.300	0.18	<LM25	0.18	UGG
			MIREX	14-SD-04	08/15/1991	14SD0401Y	0.300	0.14	<LM25	0.14	UGG
			N-NITROSODI-N-PROPYLAMINE	14-SD-04	08/15/1991	14SD0401Y	0.300	1.1	<LM25	1.1	UGG
			N-NITROSODIMETHYLAMINE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.46	<LM25	0.46	UGG
			N-NITROSODIPHENYLAMINE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.29	<LM25	0.29	UGG
			NAPHTHALENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.74	<LM25	0.74	UGG
			P-CHLOROPHENYLMETHYL SULFIDE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.097	<LM25	0.097	UGG
			P-CHLOROPHENYLMETHYL SULFONE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.066	<LM25	0.066	UGG
			P-CHLOROPHENYLMETHYL SULFOXIDE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.32	<LM25	0.32	UGG
			PARATHION	14-SD-04	08/15/1991	14SD0401Y	0.300	1.7	<LM25	1.7	UGG
			PENTACHLOROPHENOL	14-SD-04	08/15/1991	14SD0401Y	0.300	0.76	<LM25	0.76	UGG
			PHENANTHRENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.032	<LM25	0.032	UGG
			PHENOL	14-SD-04	08/15/1991	14SD0401Y	0.300	0.052	<LM25	0.052	UGG
			PYRENE	14-SD-04	08/15/1991	14SD0401Y	0.300	0.452	=LM25	0.083	UGG
			SUPONA/2-CHLORO-1-(2,4-DICHLOR	14-SD-04	08/15/1991	14SD0401Y	0.300	0.92	<LM25	0.92	UGG
			VAPONA	14-SD-04	08/15/1991	14SD0401Y	0.300	0.068	<LM25	0.068	UGG
		VOLATILES	1,3-DICHLOROBENZENE	14-SD-04	08/15/1991	14SD0401N	0.300	0.042	<LM25	0.042	UGG
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	14-SS-01	08/15/1991	14SS0101Y	0.500	2.1	<LW02	2.09	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	2.1	<LW02	2.09	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	14-SS-01	08/15/1991	14SS0101Y	0.500	0.59	<LW02	0.59	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	0.59	<LW02	0.59	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	0.59	<LW02	0.59	UGG
			2,4,6-TNT	14-SS-01	08/15/1991	14SS0101Y	0.500	1.9	<LW02	1.92	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	1.9	<LW02	1.92	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	14-SS-01	08/15/1991	14SS0101Y	0.500	0.42	<LW02	0.42	UGG

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				14-SS-02	08/15/1991	14SS0201Y	0.500	0.42	<LW02	0.42	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	14-SS-01	08/15/1991	14SS0101Y	0.500	0.4	<LW02	0.4	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	0.4	<LW02	0.4	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	0.4	<LW02	0.4	UGG
			HMX	14-SS-01	08/15/1991	14SS0101Y	0.500	1.3	<LW02	1.27	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	1.3	<LW02	1.27	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	1.3	<LW02	1.27	UGG
			NITROBENZENE	14-SS-01	08/15/1991	14SS0101Y	0.500	0.42	<LW02	0.42	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	0.42	<LW02	0.42	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	0.47	=LW02	0.42	UGG
			RDX	14-SS-01	08/15/1991	14SS0101Y	0.500	0.98	<LW02	0.98	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	0.98	<LW02	0.98	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	0.98	<LW02	0.98	UGG
			TETRYL	14-SS-01	08/15/1991	14SS0101Y	0.500	0.25	<LW02	0.25	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	0.25	<LW02	0.25	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	14-SS-01	08/15/1991	14SS0101Y	0.500	19.6	<JS12	19.6	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	19.6	<JS12	19.6	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	14-SS-01	08/15/1991	14SS0101Y	0.500	3.24	=B9	2.5	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	6.8	=B9	2.5	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	4.36	=B9	2.5	UGG
			BARIUM	14-SS-01	08/15/1991	14SS0101Y	0.500	54.9	=JS12	3.29	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	1,050.0	=JS12	3.29	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	87.8	=JS12	3.29	UGG
			BERYLLIUM	14-SS-01	08/15/1991	14SS0101Y	0.500	2.05	=JS12	0.427	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	0.71	=JS12	0.427	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	1.01	=JS12	0.427	UGG
			CADMIUM	14-SS-01	08/15/1991	14SS0101Y	0.500	1.2	<JS12	1.2	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	1.2	<JS12	1.2	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	1.7	=JS12	1.2	UGG
			CHROMIUM	14-SS-01	08/15/1991	14SS0101Y	0.500	13.1	=JS12	1.04	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	22.2	=JS12	1.04	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	11.7	=JS12	1.04	UGG
			COPPER	14-SS-01	08/15/1991	14SS0101Y	0.500	8.74	=JS12	2.84	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	276.0	=JS12	2.84	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	32.4	=JS12	2.84	UGG
			LEAD	14-SS-01	08/15/1991	14SS0101Y	0.500	29.0	=JD21	0.467	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	140.0	=JD21	0.467	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	29.0	=JD21	0.467	UGG
			MERCURY	14-SS-01	08/15/1991	14SS0101Y	0.500	0.05	<Y9	0.05	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	0.072	=Y9	0.05	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	0.05	<Y9	0.05	UGG
			NICKEL	14-SS-01	08/15/1991	14SS0101Y	0.500	8.88	=JS12	2.74	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	24.0	=JS12	2.74	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	17.0	=JS12	2.74	UGG
			SELENIUM	14-SS-01	08/15/1991	14SS0101Y	0.500	0.449	<JD20	0.449	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	0.449	<JD20	0.449	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				14-SS-03	08/15/1991	14SS0301Y	0.500	0.449	<JD20	0.449	UGG
			SILVER	14-SS-01	08/15/1991	14SS0101Y	0.500	0.803	<JS12	0.803	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	0.803	<JS12	0.803	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	0.803	<JS12	0.803	UGG
			THALLIUM	14-SS-01	08/15/1991	14SS0101Y	0.500	34.3	<JS12	34.3	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	34.3	<JS12	34.3	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	34.3	<JS12	34.3	UGG
			ZINC	14-SS-01	08/15/1991	14SS0101Y	0.500	96.7	=JS12	2.34	UGG
				14-SS-02	08/15/1991	14SS0201Y	0.500	415.0	=JS12	2.34	UGG
				14-SS-03	08/15/1991	14SS0301Y	0.500	223.0	=JS12	2.34	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP15	SD	ANIONS	NITRITE, NITRATE - NONSPECIFIC	15-SD-01	08/21/1991	15SD0101Y	0.500	1.0	<KF17	1.0	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	2.12	=KF17	1.0	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	1.02	=KF17	1.0	UGG
			SULFATE	15-SD-01	08/21/1991	15SD0101Y	0.500	17.1	=KT07	5.0	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	14.0	=KT07	5.0	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	180.0	=KT07	5.0	UGG
		METALS	ANTIMONY	15-SD-01	08/21/1991	15SD0101Y	0.500	19.6	<JS12	19.6	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	19.6	<JS12	19.6	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	15-SD-01	08/21/1991	15SD0101Y	0.500	2.5	<B9	2.5	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	2.5	<B9	2.5	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	5.82	=B9	2.5	UGG
			BARIUM	15-SD-01	08/21/1991	15SD0101Y	0.500	144.0	=JS12	3.29	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	121.0	=JS12	3.29	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	77.6	=JS12	3.29	UGG
			BERYLLIUM	15-SD-01	08/21/1991	15SD0101Y	0.500	0.427	<JS12	0.427	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	0.427	<JS12	0.427	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	0.427	<JS12	0.427	UGG
			CADMIUM	15-SD-01	08/21/1991	15SD0101Y	0.500	1.2	<JS12	1.2	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	1.2	<JS12	1.2	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	1.2	<JS12	1.2	UGG
			CHROMIUM	15-SD-01	08/21/1991	15SD0101Y	0.500	15.7	=JS12	1.04	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	24.5	=JS12	1.04	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	11.7	=JS12	1.04	UGG
			COPPER	15-SD-01	08/21/1991	15SD0101Y	0.500	9.87	=JS12	2.84	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	9.11	=JS12	2.84	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	5.72	=JS12	2.84	UGG
			LEAD	15-SD-01	08/21/1991	15SD0101Y	0.500	9.1	=JD21	0.467	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	9.68	=JD21	0.467	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	16.0	=JD21	0.467	UGG
			MERCURY	15-SD-01	08/21/1991	15SD0101Y	0.500	0.077	=Y9	0.05	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	1.0	>Y9	0.05	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	0.05	<Y9	0.05	UGG
			NICKEL	15-SD-01	08/21/1991	15SD0101Y	0.500	9.83	=JS12	2.74	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	2.74	<JS12	2.74	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	6.64	=JS12	2.74	UGG
			SELENIUM	15-SD-01	08/21/1991	15SD0101Y	0.500	0.449	<JD20	0.449	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	0.449	<JD20	0.449	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	0.449	<JD20	0.449	UGG
			SILVER	15-SD-01	08/21/1991	15SD0101Y	0.500	2.73	=JS12	0.803	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	14.5	=JS12	0.803	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	2.17	=JS12	0.803	UGG
			THALLIUM	15-SD-01	08/21/1991	15SD0101Y	0.500	34.3	<JS12	34.3	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	34.3	<JS12	34.3	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	34.3	<JS12	34.3	UGG
			ZINC	15-SD-01	08/21/1991	15SD0101Y	0.500	34.4	=JS12	2.34	UGG
				15-SD-02	08/21/1991	15SD0201Y	0.500	42.2	=JS12	2.34	UGG
				15-SD-04	08/21/1991	15SD0401Y	0.500	32.6	=JS12	2.34	UGG
	SO	ANIONS	NITRITE, NITRATE - NONSPECIFIC	15-SA-03	08/16/1991	15SA0301Y	3.000	31.0	=KF17	1.0	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				15-SS-03	08/16/1991	15SS0301Y	0.500	38.0	=KF17	1.0	UGG
			SULFATE	15-SA-03	08/16/1991	15SA0301Y	3.000	105.0	=KT07	5.0	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	170.0	=KT07	5.0	UGG
		METALS	ANTIMONY	15-SA-03	08/16/1991	15SA0301Y	3.000	19.6	<JS12	19.6	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	15-SA-03	08/16/1991	15SA0301Y	3.000	17.5	=B9	2.5	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	18.6	=B9	2.5	UGG
			BARIUM	15-SA-03	08/16/1991	15SA0301Y	3.000	139.0	=JS12	3.29	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	196.0	=JS12	3.29	UGG
			BERYLLIUM	15-SA-03	08/16/1991	15SA0301Y	3.000	3.36	=JS12	0.427	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	4.31	=JS12	0.427	UGG
			CADMIUM	15-SA-03	08/16/1991	15SA0301Y	3.000	1.2	<JS12	1.2	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	2.53	=JS12	1.2	UGG
			CHROMIUM	15-SA-03	08/16/1991	15SA0301Y	3.000	27.9	=JS12	1.04	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	31.5	=JS12	1.04	UGG
			COPPER	15-SA-03	08/16/1991	15SA0301Y	3.000	34.1	=JS12	2.84	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	39.4	=JS12	2.84	UGG
			LEAD	15-SA-03	08/16/1991	15SA0301Y	3.000	29.0	=JD21	0.467	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	37.0	=JD21	0.467	UGG
			MERCURY	15-SA-03	08/16/1991	15SA0301Y	3.000	0.104	=Y9	0.05	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	0.15	=Y9	0.05	UGG
			NICKEL	15-SA-03	08/16/1991	15SA0301Y	3.000	30.0	=JS12	2.74	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	36.7	=JS12	2.74	UGG
			SELENIUM	15-SA-03	08/16/1991	15SA0301Y	3.000	2.34	=JD20	0.449	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	2.31	=JD20	0.449	UGG
			SILVER	15-SA-03	08/16/1991	15SA0301Y	3.000	0.803	<JS12	0.803	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	0.803	<JS12	0.803	UGG
			THALLIUM	15-SA-03	08/16/1991	15SA0301Y	3.000	34.3	<JS12	34.3	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	34.3	<JS12	34.3	UGG
			ZINC	15-SA-03	08/16/1991	15SA0301Y	3.000	271.0	=JS12	2.34	UGG
				15-SS-03	08/16/1991	15SS0301Y	0.500	431.0	=JS12	2.34	UGG
	SW	ANIONS	NITRITE, NITRATE - NONSPECIFIC	15-SW-01	08/21/1991	15SW0101Y	0.500	5,300.0	=LL8	10.0	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	5,300.0	=LL8	10.0	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	4,200.0	=LL8	10.0	UGL
			SULFATE	15-SW-01	08/21/1991	15SW0101Y	0.500	70,000.0	=TT09	175.0	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	82,000.0	=TT09	175.0	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	1500,000.0	=TT09	175.0	UGL
		METALS	ANTIMONY	15-SW-01	08/21/1991	15SW0101Y	0.500	60.0	<SS12	60.0	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	60.0	<SS12	60.0	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	60.0	<SS12	60.0	UGL
			ARSENIC	15-SW-01	08/21/1991	15SW0101Y	0.500	2.66	=AX8	2.35	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	2.35	<AX8	2.35	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	2.35	<AX8	2.35	UGL
			BARIUM	15-SW-01	08/21/1991	15SW0101Y	0.500	81.9	=SS12	2.82	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	79.3	=SS12	2.82	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	85.7	=SS12	2.82	UGL
			BERYLLIUM	15-SW-01	08/21/1991	15SW0101Y	0.500	1.12	<SS12	1.12	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	1.12	<SS12	1.12	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	1.44	=SS12	1.12	UGL

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			CADMIUM	15-SW-01	08/21/1991	15SW0101Y	0.500	6.78	<SS12	6.78	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	6.78	<SS12	6.78	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	6.78	<SS12	6.78	UGL
			CHROMIUM	15-SW-01	08/21/1991	15SW0101Y	0.500	16.8	<SS12	16.8	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	16.8	<SS12	16.8	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	16.8	<SS12	16.8	UGL
			COPPER	15-SW-01	08/21/1991	15SW0101Y	0.500	18.8	<SS12	18.8	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	18.8	<SS12	18.8	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	18.8	<SS12	18.8	UGL
			LEAD	15-SW-01	08/21/1991	15SW0101Y	0.500	4.47	<SD18	4.47	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	4.47	<SD18	4.47	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	4.47	<SD18	4.47	UGL
			MERCURY	15-SW-01	08/21/1991	15SW0101Y	0.500	0.1	<CC8	0.1	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	0.1	<CC8	0.1	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	0.1	<CC8	0.1	UGL
			NICKEL	15-SW-01	08/21/1991	15SW0101Y	0.500	32.1	<SS12	32.1	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	32.1	<SS12	32.1	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	32.1	<SS12	32.1	UGL
			SELENIUM	15-SW-01	08/21/1991	15SW0101Y	0.500	2.53	<SD25	2.53	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	2.53	<SD25	2.53	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	2.53	<SD25	2.53	UGL
			SILVER	15-SW-01	08/21/1991	15SW0101Y	0.500	10.0	<SS12	10.0	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	10.0	<SS12	10.0	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	10.0	<SS12	10.0	UGL
			THALLIUM	15-SW-01	08/21/1991	15SW0101Y	0.500	125.0	<SS12	125.0	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	125.0	<SS12	125.0	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	125.0	<SS12	125.0	UGL
			ZINC	15-SW-01	08/21/1991	15SW0101Y	0.500	69.5	=SS12	18.0	UGL
				15-SW-02	08/21/1991	15SW0201Y	0.500	74.3	=SS12	18.0	UGL
				15-SW-04	08/21/1991	15SW0401Y	0.500	73.5	=SS12	18.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP17	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	17-SA-01	08/15/1991	17SA0101Y	3.400	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	17-SA-01	08/15/1991	17SA0101Y	3.400	0.59	<LW02	0.59	UGG
			2,4,6-TNT	17-SA-01	08/15/1991	17SA0101Y	3.400	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	17-SA-01	08/15/1991	17SA0101Y	3.400	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	17-SA-01	08/15/1991	17SA0101Y	3.400	0.4	<LW02	0.4	UGG
			HMX	17-SA-01	08/15/1991	17SA0101Y	3.400	1.3	<LW02	1.27	UGG
			NITROBENZENE	17-SA-01	08/15/1991	17SA0101Y	3.400	0.42	<LW02	0.42	UGG
			RDX	17-SA-01	08/15/1991	17SA0101Y	3.400	0.98	<LW02	0.98	UGG
			TETRYL	17-SA-01	08/15/1991	17SA0101Y	3.400	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	17-SA-01	08/15/1991	17SA0101Y	3.400	19.6	<JS12	19.6	UGG
			ARSENIC	17-SA-01	08/15/1991	17SA0101Y	3.400	9.66	=B9	2.5	UGG
			BARIUM	17-SA-01	08/15/1991	17SA0101Y	3.400	1,120.0	=JS12	3.29	UGG
			BERYLLIUM	17-SA-01	08/15/1991	17SA0101Y	3.400	1.48	=JS12	0.427	UGG
			CADMIUM	17-SA-01	08/15/1991	17SA0101Y	3.400	1.2	<JS12	1.2	UGG
			CHROMIUM	17-SA-01	08/15/1991	17SA0101Y	3.400	58.9	=JS12	1.04	UGG
			COPPER	17-SA-01	08/15/1991	17SA0101Y	3.400	31.3	=JS12	2.84	UGG
			LEAD	17-SA-01	08/15/1991	17SA0101Y	3.400	13.0	=JD21	0.467	UGG
			MERCURY	17-SA-01	08/15/1991	17SA0101Y	3.400	0.138	=Y9	0.05	UGG
			NICKEL	17-SA-01	08/15/1991	17SA0101Y	3.400	56.6	=JS12	2.74	UGG
			SELENIUM	17-SA-01	08/15/1991	17SA0101Y	3.400	0.764	=JD20	0.449	UGG
			SILVER	17-SA-01	08/15/1991	17SA0101Y	3.400	0.803	<JS12	0.803	UGG
			THALLIUM	17-SA-01	08/15/1991	17SA0101Y	3.400	34.3	<JS12	34.3	UGG
			ZINC	17-SA-01	08/15/1991	17SA0101Y	3.400	68.2	=JS12	2.34	UGG
		PEST-PCBS	2,2-BIS(P-CHLOROPHENYL)-1,1-TR	17-SA-01	08/15/1991	17SA0101YC	3.400	0.007	=LH17	0.0034	UGG
			ALDRIN	17-SA-01	08/15/1991	17SA0101Y	3.400	0.001	<LH17	0.0014	UGG
			ALPHA-BENZENEHEXACHLORIDE	17-SA-01	08/15/1991	17SA0101Y	3.400	0.003	<LH17	0.0028	UGG
			CHLORDANE	17-SA-01	08/15/1991	17SA0101Y	3.400	0.068	<LH17	0.0684	UGG
			DELTA-BENZENEHEXACHLORIDE	17-SA-01	08/15/1991	17SA0101Y	3.400	0.008	<LH17	0.0085	UGG
			DIELDRIN	17-SA-01	08/15/1991	17SA0101Y	3.400	0.002	<LH17	0.0016	UGG
			ENDRIN	17-SA-01	08/15/1991	17SA0101Y	3.400	0.007	<LH17	0.0065	UGG
			HEPTACHLOR	17-SA-01	08/15/1991	17SA0101Y	3.400	0.002	<LH17	0.0022	UGG
			ISODRIN	17-SA-01	08/15/1991	17SA0101Y	3.400	0.003	<LH17	0.003	UGG
			LINDANE	17-SA-01	08/15/1991	17SA0101Y	3.400	0.001	<LH17	0.001	UGG
			PCB 1016	17-SA-01	08/15/1991	17SA0101Y	3.400	0.1	<LH17	0.1	UGG
			PCB 1260	17-SA-01	08/15/1991	17SA0101Y	3.400	0.048	<LH17	0.0479	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP18	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	18-SA-01	08/16/1991	18SA0101Y	1.500	2.1	<LW02	2.09	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	2.1	<LW02	2.09	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	18-SA-01	08/16/1991	18SA0101Y	1.500	0.59	<LW02	0.59	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	0.59	<LW02	0.59	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	0.59	<LW02	0.59	UGG
			2,4,6-TNT	18-SA-01	08/16/1991	18SA0101Y	1.500	1.9	<LW02	1.92	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	1.9	<LW02	1.92	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	18-SA-01	08/16/1991	18SA0101Y	1.500	0.42	<LW02	0.42	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	0.42	<LW02	0.42	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	18-SA-01	08/16/1991	18SA0101Y	1.500	0.4	<LW02	0.4	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	0.4	<LW02	0.4	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	0.4	<LW02	0.4	UGG
			HMX	18-SA-01	08/16/1991	18SA0101Y	1.500	1.3	<LW02	1.27	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	1.3	<LW02	1.27	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	1.3	<LW02	1.27	UGG
			NITROBENZENE	18-SA-01	08/16/1991	18SA0101Y	1.500	0.42	<LW02	0.42	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	0.42	<LW02	0.42	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	0.42	<LW02	0.42	UGG
			RDX	18-SA-01	08/16/1991	18SA0101Y	1.500	0.98	<LW02	0.98	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	0.98	<LW02	0.98	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	0.98	<LW02	0.98	UGG
			TETRYL	18-SA-01	08/16/1991	18SA0101Y	1.500	0.25	<LW02	0.25	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	0.25	<LW02	0.25	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	18-SA-01	08/16/1991	18SA0101Y	1.500	19.6	<JS12	19.6	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	19.6	<JS12	19.6	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	19.6	<JS12	19.6	UGG
			ARSENIC	18-SA-01	08/16/1991	18SA0101Y	1.500	5.9	=B9	2.5	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	5.27	=B9	2.5	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	4.9	=B9	2.5	UGG
			BARIUM	18-SA-01	08/16/1991	18SA0101Y	1.500	140.0	=JS12	3.29	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	250.0	=JS12	3.29	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	260.0	=JS12	3.29	UGG
			BERYLLIUM	18-SA-01	08/16/1991	18SA0101Y	1.500	0.427	<JS12	0.427	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	0.427	<JS12	0.427	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	0.427	<JS12	0.427	UGG
			CADMIUM	18-SA-01	08/16/1991	18SA0101Y	1.500	1.2	<JS12	1.2	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	1.2	<JS12	1.2	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	1.2	<JS12	1.2	UGG
			CHROMIUM	18-SA-01	08/16/1991	18SA0101Y	1.500	35.8	=JS12	1.04	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	26.2	=JS12	1.04	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	21.7	=JS12	1.04	UGG
			COPPER	18-SA-01	08/16/1991	18SA0101Y	1.500	20.1	=JS12	2.84	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	17.8	=JS12	2.84	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	12.2	=JS12	2.84	UGG
			LEAD	18-SA-01	08/16/1991	18SA0101Y	1.500	14.0	=JD21	0.467	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				18-SA-02	08/16/1991	18SA0201Y	1.500	19.0	=JD21	0.467	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	19.0	=JD21	0.467	UGG
			MERCURY	18-SA-01	08/16/1991	18SA0101Y	1.500	0.061	=Y9	0.05	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	0.053	=Y9	0.05	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	0.083	=Y9	0.05	UGG
			NICKEL	18-SA-01	08/16/1991	18SA0101Y	1.500	15.1	=JS12	2.74	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	14.4	=JS12	2.74	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	2.74	<JS12	2.74	UGG
			SELENIUM	18-SA-01	08/16/1991	18SA0101Y	1.500	0.449	<JD20	0.449	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	0.449	<JD20	0.449	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	0.449	<JD20	0.449	UGG
			SILVER	18-SA-01	08/16/1991	18SA0101Y	1.500	0.803	<JS12	0.803	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	0.803	<JS12	0.803	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	0.803	<JS12	0.803	UGG
			THALLIUM	18-SA-01	08/16/1991	18SA0101Y	1.500	34.3	<JS12	34.3	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	34.3	<JS12	34.3	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	34.3	<JS12	34.3	UGG
			ZINC	18-SA-01	08/16/1991	18SA0101Y	1.500	66.7	=JS12	2.34	UGG
				18-SA-02	08/16/1991	18SA0201Y	1.500	47.0	=JS12	2.34	UGG
				18-SA-03	08/16/1991	18SA0301Y	1.500	44.9	=JS12	2.34	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP19	SD	EXPLOSIVES	1,3,5-TRINITROBENZENE	19-SD-02	08/09/1991	19SD0201Y	0.500	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	19-SD-02	08/09/1991	19SD0201Y	0.500	0.59	<LW02	0.59	UGG
			2,4,6-TNT	19-SD-02	08/09/1991	19SD0201Y	0.500	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	19-SD-02	08/09/1991	19SD0201Y	0.500	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	19-SD-02	08/09/1991	19SD0201Y	0.500	0.4	<LW02	0.4	UGG
			HMX	19-SD-02	08/09/1991	19SD0201Y	0.500	1.3	<LW02	1.27	UGG
			NITROBENZENE	19-SD-02	08/09/1991	19SD0201Y	0.500	0.42	<LW02	0.42	UGG
			RDX	19-SD-02	08/09/1991	19SD0201Y	0.500	0.98	<LW02	0.98	UGG
			TETRYL	19-SD-02	08/09/1991	19SD0201Y	0.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	19-SD-02	08/09/1991	19SD0201Y	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	19-SD-02	08/09/1991	19SD0201Y	0.500	4.57	=B9	2.5	UGG
			BARIUM	19-SD-02	08/09/1991	19SD0201Y	0.500	226.0	=JS12	3.29	UGG
			BERYLLIUM	19-SD-02	08/09/1991	19SD0201Y	0.500	0.755	=JS12	0.427	UGG
			CADMIUM	19-SD-02	08/09/1991	19SD0201Y	0.500	1.2	<JS12	1.2	UGG
			CHROMIUM	19-SD-02	08/09/1991	19SD0201Y	0.500	24.8	=JS12	1.04	UGG
			COPPER	19-SD-02	08/09/1991	19SD0201Y	0.500	15.5	=JS12	2.84	UGG
			LEAD	19-SD-02	08/09/1991	19SD0201Y	0.500	19.0	=JD21	0.467	UGG
			MERCURY	19-SD-02	08/09/1991	19SD0201Y	0.500	0.05	<Y9	0.05	UGG
			NICKEL	19-SD-02	08/09/1991	19SD0201Y	0.500	20.5	=JS12	2.74	UGG
			SELENIUM	19-SD-02	08/09/1991	19SD0201Y	0.500	0.449	<JD20	0.449	UGG
			SILVER	19-SD-02	08/09/1991	19SD0201Y	0.500	0.803	<JS12	0.803	UGG
			THALLIUM	19-SD-02	08/09/1991	19SD0201Y	0.500	34.3	<JS12	34.3	UGG
			ZINC	19-SD-02	08/09/1991	19SD0201Y	0.500	63.7	=JS12	2.34	UGG
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	19-SA-01	08/09/1991	19SA0101Y	4.000	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	19-SA-01	08/09/1991	19SA0101Y	4.000	0.59	<LW02	0.59	UGG
			2,4,6-TNT	19-SA-01	08/09/1991	19SA0101Y	4.000	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	19-SA-01	08/09/1991	19SA0101Y	4.000	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	19-SA-01	08/09/1991	19SA0101Y	4.000	0.4	<LW02	0.4	UGG
			HMX	19-SA-01	08/09/1991	19SA0101YP	4.000	0.4	=LW02	1.27	UGG
			NITROBENZENE	19-SA-01	08/09/1991	19SA0101Y	4.000	0.42	<LW02	0.42	UGG
			RDX	19-SA-01	08/09/1991	19SA0101YP	4.000	0.31	=LW02	0.98	UGG
			TETRYL	19-SA-01	08/09/1991	19SA0101Y	4.000	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	19-SA-01	08/09/1991	19SA0101Y	4.000	19.6	<JS12	19.6	UGG
			ARSENIC	19-SA-01	08/09/1991	19SA0101Y	4.000	9.43	=B9	2.5	UGG
			BARIUM	19-SA-01	08/09/1991	19SA0101Y	4.000	222.0	=JS12	3.29	UGG
			BERYLLIUM	19-SA-01	08/09/1991	19SA0101Y	4.000	0.929	=JS12	0.427	UGG
			CADMIUM	19-SA-01	08/09/1991	19SA0101Y	4.000	1.2	<JS12	1.2	UGG
			CHROMIUM	19-SA-01	08/09/1991	19SA0101Y	4.000	32.4	=JS12	1.04	UGG
			COPPER	19-SA-01	08/09/1991	19SA0101Y	4.000	26.3	=JS12	2.84	UGG
			LEAD	19-SA-01	08/09/1991	19SA0101Y	4.000	25.0	=JD21	0.467	UGG
			MERCURY	19-SA-01	08/09/1991	19SA0101Y	4.000	0.06	=Y9	0.05	UGG
			NICKEL	19-SA-01	08/09/1991	19SA0101Y	4.000	20.8	=JS12	2.74	UGG
			SELENIUM	19-SA-01	08/09/1991	19SA0101Y	4.000	0.449	<JD20	0.449	UGG
			SILVER	19-SA-01	08/09/1991	19SA0101Y	4.000	0.803	<JS12	0.803	UGG
			THALLIUM	19-SA-01	08/09/1991	19SA0101Y	4.000	34.3	<JS12	34.3	UGG
			ZINC	19-SA-01	08/09/1991	19SA0101Y	4.000	72.8	=JS12	2.34	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP20	SD	EXPLOSIVES	1,3,5-TRINITROBENZENE	20-SD-03	08/21/1991	20SD0301Y	0.500	2.1	<LW02	2.09	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	20-SD-03	08/21/1991	20SD0301Y	0.500	0.59	<LW02	0.59	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	0.59	<LW02	0.59	UGG
			2,4,6-TNT	20-SD-03	08/21/1991	20SD0301Y	0.500	1.9	<LW02	1.92	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	20-SD-03	08/21/1991	20SD0301Y	0.500	0.42	<LW02	0.42	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	20-SD-03	08/21/1991	20SD0301Y	0.500	0.4	<LW02	0.4	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	0.4	<LW02	0.4	UGG
			HMX	20-SD-03	08/21/1991	20SD0301Y	0.500	1.3	<LW02	1.27	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	1.3	<LW02	1.27	UGG
			NITROBENZENE	20-SD-03	08/21/1991	20SD0301Y	0.500	0.42	<LW02	0.42	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	0.42	<LW02	0.42	UGG
			RDX	20-SD-03	08/21/1991	20SD0301Y	0.500	0.98	<LW02	0.98	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	0.98	<LW02	0.98	UGG
			TETRYL	20-SD-03	08/21/1991	20SD0301Y	0.500	0.25	<LW02	0.25	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	20-SD-03	08/21/1991	20SD0301Y	0.500	19.6	<JS12	19.6	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	20-SD-03	08/21/1991	20SD0301Y	0.500	9.72	=B9	2.5	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	4.82	=B9	2.5	UGG
			BARIUM	20-SD-03	08/21/1991	20SD0301Y	0.500	270.0	=JS12	3.29	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	94.3	=JS12	3.29	UGG
			BERYLLIUM	20-SD-03	08/21/1991	20SD0301Y	0.500	0.543	=JS12	0.427	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	0.427	<JS12	0.427	UGG
			CADMIUM	20-SD-03	08/21/1991	20SD0301Y	0.500	1.53	=JS12	1.2	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	1.2	<JS12	1.2	UGG
			CHROMIUM	20-SD-03	08/21/1991	20SD0301Y	0.500	36.8	=JS12	1.04	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	17.7	=JS12	1.04	UGG
			COPPER	20-SD-03	08/21/1991	20SD0301Y	0.500	93.6	=JS12	2.84	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	20.3	=JS12	2.84	UGG
			LEAD	20-SD-03	08/21/1991	20SD0301Y	0.500	280.0	=JD21	0.467	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	11.0	=JD21	0.467	UGG
			MERCURY	20-SD-03	08/21/1991	20SD0301Y	0.500	0.205	=Y9	0.05	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	0.05	<Y9	0.05	UGG
			NICKEL	20-SD-03	08/21/1991	20SD0301Y	0.500	23.0	=JS12	2.74	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	16.1	=JS12	2.74	UGG
			SELENIUM	20-SD-03	08/21/1991	20SD0301Y	0.500	0.449	<JD20	0.449	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	0.449	<JD20	0.449	UGG
			SILVER	20-SD-03	08/21/1991	20SD0301Y	0.500	1.25	=JS12	0.803	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	0.803	<JS12	0.803	UGG
			THALLIUM	20-SD-03	08/21/1991	20SD0301Y	0.500	34.3	<JS12	34.3	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	34.3	<JS12	34.3	UGG
			ZINC	20-SD-03	08/21/1991	20SD0301Y	0.500	449.0	=JS12	2.34	UGG
				20-SD-11	08/21/1991	20SD1101Y	0.500	257.0	=JS12	2.34	UGG
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	20-SD-11	08/21/1991	20SD1101Y	0.500	0.5	<LM23	0.5	UGG
			1,1,1-TRICHLOROETHANE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2,2-TETRACHLOROETHANE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.2	<LM23	0.2	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			1,1,2-TRICHLOROETHANE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.33	<LM23	0.33	UGG
			1,1-DICHLOROETHANE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.49	<LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	20-SD-11	08/21/1991	20SD1101Y	0.500	0.27	<LM23	0.27	UGG
			1,2-DICHLOROETHANE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	20-SD-11	08/21/1991	20SD1101Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROPROPANE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.53	<LM23	0.53	UGG
			1,3-DICHLOROBENZENE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.14	<LM23	0.14	UGG
			1,3-DICLOROPROPANE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.2	<LM23	0.2	UGG
			1,3-DIMETHYLBENZENE/M-XYLENE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.23	<LM23	0.23	UGG
			ACETIC ACID, VINYL ESTER/VINYL	20-SD-11	08/21/1991	20SD1101NR	0.500	1.0	*LM23	1.0	UGG
			ACETONE	20-SD-11	08/21/1991	20SD1101Y	0.500	3.3	<LM23	3.3	UGG
			ACRYLONITRILE	20-SD-11	08/21/1991	20SD1101Y	0.500	2.0	<LM23	2.0	UGG
			BENZENE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.1	<LM23	0.1	UGG
			BROMODICHLOROMETHANE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.2	<LM23	0.2	UGG
			BROMOFORM	20-SD-11	08/21/1991	20SD1101Y	0.500	0.2	<LM23	0.2	UGG
			BROMOMETHANE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.26	<LM23	0.26	UGG
			CARBON DISULFIDE	20-SD-11	08/21/1991	20SD1101NR	0.500	0.6	*LM23	0.6	UGG
			CARBON TETRACHLORIDE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.31	<LM23	0.31	UGG
			CHLORFORM	20-SD-11	08/21/1991	20SD1101Y	0.500	0.24	<LM23	0.24	UGG
			CHLOROBENZENE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.1	<LM23	0.1	UGG
			CHLOROETHANE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.64	<LM23	0.64	UGG
			CHLOROETHANE/VINYL CHLORIDE	20-SD-11	08/21/1991	20SD1101Y	0.500	1.8	<LM23	1.8	UGG
			CHLOROMETHANE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.96	<LM23	0.96	UGG
			CIS-1,3-DICHLOROPROPYLENE/CIS-	20-SD-11	08/21/1991	20SD1101NR	0.500	0.6	*LM23	0.6	UGG
			DIBROMOCHLOROMETHANE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.25	<LM23	0.25	UGG
			DICHLOROBENZENE - NONSPECIFIC	20-SD-11	08/21/1991	20SD1101Y	0.500	0.2	<LM23	0.2	UGG
			ETHYLBENZENE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.19	<LM23	0.19	UGG
			METHYL-N-BUTYL KETONE/2-HEXANO	20-SD-11	08/21/1991	20SD1101NR	0.500	1.0	*LM23	1.0	UGG
			METHYLENE CHLORIDE	20-SD-11	08/21/1991	20SD1101Y	0.500	4.4	<LM23	4.4	UGG
			METHYLETHYL PHENOL/METHYLETHYL	20-SD-11	08/21/1991	20SD1101Y	0.500	4.3	<LM23	4.3	UGG
			METHYLISOBUTYL KETONE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.63	<LM23	0.63	UGG
			STYRENE	20-SD-11	08/21/1991	20SD1101NR	0.500	0.6	*LM23	0.6	UGG
			TETRACHLOROETHYLENE/TETRACHLOR	20-SD-11	08/21/1991	20SD1101Y	0.500	0.16	<LM23	0.16	UGG
			TOLUENE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.1	<LM23	0.1	UGG
			TRANS-1,3-DICHLOROPROPENE	20-SD-11	08/21/1991	20SD1101NR	0.500	0.6	*LM23	0.6	UGG
			TRICHLOROETHYLENE/TRICHLOROETH	20-SD-11	08/21/1991	20SD1101Y	0.500	0.23	<LM23	0.23	UGG
			TRICHLOROFLUOROMETHANE	20-SD-11	08/21/1991	20SD1101Y	0.500	0.23	<LM23	0.23	UGG
			XYLENES	20-SD-11	08/21/1991	20SD1101Y	0.500	0.78	<LM23	0.78	UGG
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	20-SA-01	08/21/1991	20SA0101Y	3.000	2.1	<LW02	2.09	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	2.1	<LW02	2.09	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	2.1	<LW02	2.09	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	2.1	<LW02	2.09	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	2.1	<LW02	2.09	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	20-SA-01	08/21/1991	20SA0101Y	3.000	0.59	<LW02	0.59	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	0.59	<LW02	0.59	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	0.59	<LW02	0.59	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	0.59	<LW02	0.59	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	0.59	<LW02	0.59	UGG

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				20-SS-05	08/21/1991	20SS0501Y	0.500	0.59	<LW02	0.59	UGG
			2,4,6-TNT	20-SA-01	08/21/1991	20SA0101Y	3.000	1.9	<LW02	1.92	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	1.9	<LW02	1.92	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	1.9	<LW02	1.92	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	1.9	<LW02	1.92	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	1.9	<LW02	1.92	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	20-SA-01	08/21/1991	20SA0101Y	3.000	0.42	<LW02	0.42	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	0.42	<LW02	0.42	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	0.42	<LW02	0.42	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	0.42	<LW02	0.42	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	0.42	<LW02	0.42	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	20-SA-01	08/21/1991	20SA0101Y	3.000	0.4	<LW02	0.4	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	0.4	<LW02	0.4	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	0.4	<LW02	0.4	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	0.4	<LW02	0.4	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	0.4	<LW02	0.4	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	0.4	<LW02	0.4	UGG
			HMX	20-SA-01	08/21/1991	20SA0101Y	3.000	1.3	<LW02	1.27	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	1.3	<LW02	1.27	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	1.3	<LW02	1.27	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	1.3	<LW02	1.27	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	1.3	<LW02	1.27	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	1.3	<LW02	1.27	UGG
			NITROBENZENE	20-SA-01	08/21/1991	20SA0101Y	3.000	0.42	<LW02	0.42	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	0.42	<LW02	0.42	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	0.42	<LW02	0.42	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	0.42	<LW02	0.42	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	0.42	<LW02	0.42	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	0.42	<LW02	0.42	UGG
			RDX	20-SA-01	08/21/1991	20SA0101Y	3.000	0.98	<LW02	0.98	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	0.98	<LW02	0.98	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	0.98	<LW02	0.98	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	0.98	<LW02	0.98	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	0.98	<LW02	0.98	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	0.98	<LW02	0.98	UGG
			TETRYL	20-SA-01	08/21/1991	20SA0101Y	3.000	0.25	<LW02	0.25	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	0.25	<LW02	0.25	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	0.25	<LW02	0.25	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	0.25	<LW02	0.25	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	0.25	<LW02	0.25	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	20-SA-01	08/21/1991	20SA0101Y	3.000	19.6	<JS12	19.6	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	19.6	<JS12	19.6	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	19.6	<JS12	19.6	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	19.6	<JS12	19.6	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	19.6	<JS12	19.6	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	19.6	<JS12	19.6	UGG

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				20-SS-05	08/21/1991	20SS0501Y	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	20-SA-01	08/21/1991	20SA0101Y	3.000	2.5	<B9	2.5	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	5.3	=B9	2.5	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	8.8	=B9	2.5	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	30.3	=B9	2.5	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	4.88	=B9	2.5	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	5.53	=B9	2.5	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	117.0	<SS12	117.0	UGL
			BARIUM	20-SA-01	08/21/1991	20SA0101Y	3.000	116.0	=JS12	3.29	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	136.0	=JS12	3.29	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	567.0	=JS12	3.29	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	333.0	=JS12	3.29	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	89.5	=JS12	3.29	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	267.0	=JS12	3.29	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	32.3	=SS12	2.82	UGL
			BERYLLIUM	20-SA-01	08/21/1991	20SA0101Y	3.000	0.594	=JS12	0.427	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	0.427	<JS12	0.427	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	0.742	=JS12	0.427	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	0.967	=JS12	0.427	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	0.427	<JS12	0.427	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	0.58	=JS12	0.427	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	0.427	<JS12	0.427	UGG
			CADMIUM	20-SA-01	08/21/1991	20SA0101Y	3.000	1.2	<JS12	1.2	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	1.2	<JS12	1.2	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	17.6	=JS12	1.2	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	6.99	=JS12	1.2	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	1.2	<JS12	1.2	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	1.2	<JS12	1.2	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	6.78	<SS12	6.78	UGL
			CHROMIUM	20-SA-01	08/21/1991	20SA0101Y	3.000	31.2	=JS12	1.04	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	30.0	=JS12	1.04	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	93.5	=JS12	1.04	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	54.6	=JS12	1.04	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	28.7	=JS12	1.04	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	34.2	=JS12	1.04	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	16.8	<SS12	16.8	UGL
			COPPER	20-SA-01	08/21/1991	20SA0101Y	3.000	14.7	=JS12	2.84	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	202.0	=JS12	2.84	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	1,700.0	=JS12	2.84	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	278.0	=JS12	2.84	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	22.8	=JS12	2.84	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	89.7	=JS12	2.84	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	47,000.0	=JS12	2.84	UGG
			LEAD	20-SA-01	08/21/1991	20SA0101Y	3.000	12.0	=JD21	0.467	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	15.0	=JD21	0.467	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	1,800.0	=JD21	0.467	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	7,600.0	=JD21	0.467	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	9.3	=JD21	0.467	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	220.0	=JD21	0.467	UGG

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				20-SS-05	08/21/1991	20SS0501N	0.500	43.4	<SS12	43.4	UGL
						20SS0501Y	0.500	32.0	=JD21	0.467	UGG
			MERCURY	20-SA-01	08/21/1991	20SA0101Y	3.000	0.05	<Y9	0.05	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	0.05	<Y9	0.05	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	0.291	=Y9	0.05	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	0.224	=Y9	0.05	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	0.05	<Y9	0.05	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	0.194	=Y9	0.05	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	0.1	<CC8	0.1	UGL
			NICKEL	20-SA-01	08/21/1991	20SA0101Y	3.000	18.6	=JS12	2.74	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	17.8	=JS12	2.74	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	52.5	=JS12	2.74	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	30.6	=JS12	2.74	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	14.9	=JS12	2.74	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	23.7	=JS12	2.74	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	27.7	=JS12	2.74	UGG
			SELENIUM	20-SA-01	08/21/1991	20SA0101Y	3.000	0.449	<JD20	0.449	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	0.449	<JD20	0.449	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	0.449	<JD20	0.449	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	0.449	<JD20	0.449	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	0.449	<JD20	0.449	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	0.449	<JD20	0.449	UGG
				20-SS-05	08/21/1991	20SS0501N	0.500	97.1	<SS12	97.1	UGL
						20SS0501Y	0.500	0.449	<JD20	0.449	UGG
			SILVER	20-SA-01	08/21/1991	20SA0101Y	3.000	0.803	<JS12	0.803	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	0.803	<JS12	0.803	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	7.1	=JS12	0.803	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	3.62	=JS12	0.803	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	0.803	<JS12	0.803	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	0.803	<JS12	0.803	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	10.0	<SS12	10.0	UGL
			THALLIUM	20-SA-01	08/21/1991	20SA0101Y	3.000	34.3	<JS12	34.3	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	34.3	<JS12	34.3	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	34.3	<JS12	34.3	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	34.3	<JS12	34.3	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	34.3	<JS12	34.3	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	34.3	<JS12	34.3	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	34.3	<JS12	34.3	UGG
			ZINC	20-SA-01	08/21/1991	20SA0101Y	3.000	41.2	=JS12	2.34	UGG
				20-SA-02	08/21/1991	20SA0201Y	3.000	137.0	=JS12	2.34	UGG
				20-SA-07	08/22/1991	20SA0701Y	1.200	2,200.0	=JS12	2.34	UGG
				20-SA-08	08/22/1991	20SA0801Y	1.500	735.0	=JS12	2.34	UGG
				20-SD-10	08/21/1991	20SD1001Y	0.500	82.1	=JS12	2.34	UGG
				20-SS-04	08/21/1991	20SS0401Y	0.500	426.0	=JS12	2.34	UGG
				20-SS-05	08/21/1991	20SS0501Y	0.500	20,000.0	=JS12	2.34	UGG
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	20-SD-10	08/21/1991	20SD1001Y	0.500	0.5	<LM23	0.5	UGG
			1,1,1-TRICHLOROETHANE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2,2-TETRACHLOROETHANE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2-TRICHLOROETHANE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.33	<LM23	0.33	UGG

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			1,1-DICHLOROETHANE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.49	<LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	20-SD-10	08/21/1991	20SD1001Y	0.500	0.27	<LM23	0.27	UGG
			1,2-DICHLOROETHANE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	20-SD-10	08/21/1991	20SD1001Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROPROPANE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.53	<LM23	0.53	UGG
			1,3-DICHLOROBENZENE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.14	<LM23	0.14	UGG
			1,3-DICLOROPROPANE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.2	<LM23	0.2	UGG
			1,3-DIMETHYLBENZENE/M-XYLENE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.23	<LM23	0.23	UGG
			ACETIC ACID, VINYL ESTER/VINYL	20-SD-10	08/21/1991	20SD1001NR	0.500	1.0	*LM23	1.0	UGG
			ACETONE	20-SD-10	08/21/1991	20SD1001Y	0.500	3.3	<LM23	3.3	UGG
			ACRYLONITRILE	20-SD-10	08/21/1991	20SD1001Y	0.500	2.0	<LM23	2.0	UGG
			BENZENE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.1	<LM23	0.1	UGG
			BROMODICHLOROMETHANE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.2	<LM23	0.2	UGG
			BROMOFORM	20-SD-10	08/21/1991	20SD1001Y	0.500	0.2	<LM23	0.2	UGG
			BROMOMETHANE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.26	<LM23	0.26	UGG
			CARBON DISULFIDE	20-SD-10	08/21/1991	20SD1001NR	0.500	0.6	*LM23	0.6	UGG
			CARBON TETRACHLORIDE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.31	<LM23	0.31	UGG
			CHLORFORM	20-SD-10	08/21/1991	20SD1001Y	0.500	0.24	<LM23	0.24	UGG
			CHLOROBENZENE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.1	<LM23	0.1	UGG
			CHLOROETHANE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.64	<LM23	0.64	UGG
			CHLOROETHANE/VINYL CHLORIDE	20-SD-10	08/21/1991	20SD1001Y	0.500	1.8	<LM23	1.8	UGG
			CHLOROMETHANE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.96	<LM23	0.96	UGG
			CIS-1,3-DICHLOROPROPYLENE/CIS-	20-SD-10	08/21/1991	20SD1001NR	0.500	0.6	*LM23	0.6	UGG
			DIBROMOCHLOROMETHANE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.25	<LM23	0.25	UGG
			DICHLOROBENZENE - NONSPECIFIC	20-SD-10	08/21/1991	20SD1001Y	0.500	0.2	<LM23	0.2	UGG
			ETHYLBENZENE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.19	<LM23	0.19	UGG
			METHYL-N-BUTYL KETONE/2-HEXANO	20-SD-10	08/21/1991	20SD1001NR	0.500	1.0	*LM23	1.0	UGG
			METHYLENE CHLORIDE	20-SD-10	08/21/1991	20SD1001Y	0.500	4.4	<LM23	4.4	UGG
			METHYLETHYL PHENOL/METHYLETHYL	20-SD-10	08/21/1991	20SD1001Y	0.500	4.3	<LM23	4.3	UGG
			METHYLISOBUTYL KETONE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.63	<LM23	0.63	UGG
			STYRENE	20-SD-10	08/21/1991	20SD1001NR	0.500	0.6	*LM23	0.6	UGG
			TETRACHLOROETHYLENE/TETRACHLOR	20-SD-10	08/21/1991	20SD1001Y	0.500	0.16	<LM23	0.16	UGG
			TOLUENE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.1	<LM23	0.1	UGG
			TRANS-1,3-DICHLOROPROPENE	20-SD-10	08/21/1991	20SD1001NR	0.500	0.6	*LM23	0.6	UGG
			TRICHLOROETHYLENE/TRICHLOROETH	20-SD-10	08/21/1991	20SD1001Y	0.500	0.23	<LM23	0.23	UGG
			TRICHLOROFLUOROMETHANE	20-SD-10	08/21/1991	20SD1001Y	0.500	0.23	<LM23	0.23	UGG
			XYLENES	20-SD-10	08/21/1991	20SD1001Y	0.500	0.78	<LM23	0.78	UGG
	SW	EXPLOSIVES	1,3,5-TRINITROBENZENE	20-SW-10	08/22/1991	20SW1001Y	0.500	0.56	<UW01	0.56	UGL
						20SW1002Y	0.500	0.56	<UW01	0.56	UGL
			1,3-DINITROBENZENE	20-SW-10	08/22/1991	20SW1001Y	0.500	0.61	<UW01	0.61	UGL
						20SW1002Y	0.500	0.61	<UW01	0.61	UGL
			2,4,6-TNT	20-SW-10	08/22/1991	20SW1001Y	0.500	0.78	<UW01	0.78	UGL
						20SW1002Y	0.500	0.78	<UW01	0.78	UGL
			2,4-DINITROTOLUENE	20-SW-10	08/22/1991	20SW1001Y	0.500	0.6	<UW01	0.6	UGL
						20SW1002Y	0.500	0.6	<UW01	0.6	UGL
			2,6-DINITROTOLUENE	20-SW-10	08/22/1991	20SW1001Y	0.500	0.55	<UW01	0.55	UGL
						20SW1002Y	0.500	1.1	=UW01	0.55	UGL
			HMX	20-SW-10	08/22/1991	20SW1001Y	0.500	1.3	<UW01	1.3	UGL
						20SW1002Y	0.500	1.3	<UW01	1.3	UGL

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SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			NITROBENZENE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.1	<UW01	1.13	UGL
						20SW1002Y	0.500	1.1	<UW01	1.13	UGL
			RDX	20-SW-10	08/22/1991	20SW1001Y	0.500	0.63	<UW01	0.63	UGL
						20SW1002Y	0.500	0.63	<UW01	0.63	UGL
			TETRYL	20-SW-10	08/22/1991	20SW1001Y	0.500	0.66	<UW01	0.66	UGL
						20SW1002Y	0.500	0.66	<UW01	0.66	UGL
		METALS	ANTIMONY	20-SW-10	08/22/1991	20SW1001Y	0.500	181.0	=SS12	60.0	UGL
						20SW1002Y	0.500	60.0	<SS12	60.0	UGL
			ARSENIC	20-SW-10	08/22/1991	20SW1001Y	0.500	24.3	=AX8	2.35	UGL
						20SW1002Y	0.500	11.4	=AX8	2.35	UGL
			BARIUM	20-SW-10	08/22/1991	20SW1001Y	0.500	836.0	=SS12	2.82	UGL
						20SW1002Y	0.500	262.0	=SS12	2.82	UGL
			BERYLLIUM	20-SW-10	08/22/1991	20SW1001Y	0.500	3.91	=SS12	1.12	UGL
						20SW1002Y	0.500	1.12	<SS12	1.12	UGL
			CADMIUM	20-SW-10	08/22/1991	20SW1001Y	0.500	8.62	=SS12	6.78	UGL
						20SW1002Y	0.500	6.78	<SS12	6.78	UGL
			CHROMIUM	20-SW-10	08/22/1991	20SW1001Y	0.500	81.5	=SS12	16.8	UGL
						20SW1002Y	0.500	16.8	<SS12	16.8	UGL
			COPPER	20-SW-10	08/22/1991	20SW1001Y	0.500	124.0	=SS12	18.8	UGL
						20SW1002Y	0.500	18.8	<SS12	18.8	UGL
			LEAD	20-SW-10	08/22/1991	20SW1001Y	0.500	36.5	=SD18	4.47	UGL
						20SW1002Y	0.500	14.0	=SD18	4.47	UGL
			MERCURY	20-SW-10	08/22/1991	20SW1001Y	0.500	0.1	<CC8	0.1	UGL
						20SW1002Y	0.500	0.1	<CC8	0.1	UGL
			NICKEL	20-SW-10	08/22/1991	20SW1001Y	0.500	99.2	=SS12	32.1	UGL
						20SW1002Y	0.500	32.1	<SS12	32.1	UGL
			SELENIUM	20-SW-10	08/22/1991	20SW1001Y	0.500	2.53	<SD25	2.53	UGL
						20SW1002Y	0.500	2.53	<SD25	2.53	UGL
			SILVER	20-SW-10	08/22/1991	20SW1001Y	0.500	10.0	<SS12	10.0	UGL
						20SW1002Y	0.500	10.0	<SS12	10.0	UGL
			THALLIUM	20-SW-10	08/22/1991	20SW1001Y	0.500	125.0	<SS12	125.0	UGL
						20SW1002Y	0.500	125.0	<SS12	125.0	UGL
			ZINC	20-SW-10	08/22/1991	20SW1001Y	0.500	3,360.0	=SS12	18.0	UGL
						20SW1002Y	0.500	779.0	=SS12	18.0	UGL
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	20-SW-10	08/22/1991	20SW1001Y	0.500	3.5	<UM21	3.5	UGL
						20SW1002Y	0.500	3.5	<UM21	3.5	UGL
			1,1,1-TRICHLOROETHANE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.0	<UM21	1.0	UGL
						20SW1002Y	0.500	1.0	<UM21	1.0	UGL
			1,1,2,2-TETRACHLOROETHANE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.5	<UM21	1.5	UGL
						20SW1002Y	0.500	1.5	<UM21	1.5	UGL
			1,1,2-TRICHLOROETHANE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.0	<UM21	1.0	UGL
						20SW1002Y	0.500	1.0	<UM21	1.0	UGL
			1,1-DICHLOROETHANE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.0	<UM21	1.0	UGL
						20SW1002Y	0.500	1.0	<UM21	1.0	UGL
			1,1-DICHLOROETHYLENE/1,1-DICHL	20-SW-10	08/22/1991	20SW1001Y	0.500	5.02	=UM21	1.0	UGL
						20SW1002Y	0.500	7.81	=UM21	1.0	UGL
			1,2-DICHLOROETHANE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.0	<UM21	1.0	UGL
						20SW1002Y	0.500	1.0	<UM21	1.0	UGL
			1,2-DICHLOROETHENES/1,2-DICHLO	20-SW-10	08/22/1991	20SW1001Y	0.500	5.0	<UM21	5.0	UGL

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SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
						20SW1002Y	0.500	5.0	<UM21	5.0	UGL
			1,2-DICHLOROPROPANE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.0	<UM21	1.0	UGL
						20SW1002Y	0.500	1.0	<UM21	1.0	UGL
			1,3-DICHLOROBENZENE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.0	<UM21	1.0	UGL
						20SW1002Y	0.500	1.0	<UM21	1.0	UGL
			1,3-DICLOROPROPANE	20-SW-10	08/22/1991	20SW1001Y	0.500	4.8	<UM21	4.8	UGL
						20SW1002Y	0.500	4.8	<UM21	4.8	UGL
			1,3-DIMETHYLBENZENE/M-XYLENE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.0	<UM21	1.0	UGL
						20SW1002Y	0.500	1.0	<UM21	1.0	UGL
			ACETIC ACID, VINYL ESTER/VINYL	20-SW-10	08/22/1991	20SW1001NR	0.500	10.0	*UM21	10.0	UGL
						20SW1002NR	0.500	10.0	*UM21	10.0	UGL
			ACETONE	20-SW-10	08/22/1991	20SW1001Y	0.500	8.0	<UM21	8.0	UGL
						20SW1002Y	0.500	8.0	<UM21	8.0	UGL
			ACRYLONITRILE	20-SW-10	08/22/1991	20SW1001Y	0.500	8.4	<UM21	8.4	UGL
						20SW1002Y	0.500	8.4	<UM21	8.4	UGL
			BENZENE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.0	<UM21	1.0	UGL
						20SW1002Y	0.500	1.0	<UM21	1.0	UGL
			BROMODICHLOROMETHANE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.0	<UM21	1.0	UGL
						20SW1002Y	0.500	1.0	<UM21	1.0	UGL
			BROMOFORM	20-SW-10	08/22/1991	20SW1001Y	0.500	11.0	<UM21	11.0	UGL
						20SW1002Y	0.500	11.0	<UM21	11.0	UGL
			BROMOMETHANE	20-SW-10	08/22/1991	20SW1001Y	0.500	14.0	<UM21	14.0	UGL
						20SW1002Y	0.500	14.0	<UM21	14.0	UGL
			CARBON DISULFIDE	20-SW-10	08/22/1991	20SW1001NR	0.500	41.0	*UM21	41.0	UGL
						20SW1002NR	0.500	25.0	*UM21	25.0	UGL
			CARBON TETRACHLORIDE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.0	<UM21	1.0	UGL
						20SW1002Y	0.500	1.0	<UM21	1.0	UGL
			CHLORFORM	20-SW-10	08/22/1991	20SW1001Y	0.500	1.0	<UM21	1.0	UGL
						20SW1002Y	0.500	1.0	<UM21	1.0	UGL
			CHLOROBENZENE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.0	<UM21	1.0	UGL
						20SW1002Y	0.500	1.0	<UM21	1.0	UGL
			CHLOROETHANE	20-SW-10	08/22/1991	20SW1001Y	0.500	8.0	<UM21	8.0	UGL
						20SW1002Y	0.500	8.0	<UM21	8.0	UGL
			CHLOROETHANE/VINYL CHLORIDE	20-SW-10	08/22/1991	20SW1001Y	0.500	12.0	<UM21	12.0	UGL
						20SW1002Y	0.500	12.0	<UM21	12.0	UGL
			CHLOROMETHANE	20-SW-10	08/22/1991	20SW1001Y	0.500	2.16	=UM21	1.2	UGL
						20SW1002Y	0.500	1.2	<UM21	1.2	UGL
			CIS-1,3-DICHLOROPROPYLENE/CIS-	20-SW-10	08/22/1991	20SW1001NR	0.500	5.0	*UM21	5.0	UGL
						20SW1002NR	0.500	5.0	*UM21	5.0	UGL
			DIBROMOCHLOROMETHANE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.0	<UM21	1.0	UGL
						20SW1002Y	0.500	1.0	<UM21	1.0	UGL
			DICHLOROBENZENE - NONSPECIFIC	20-SW-10	08/22/1991	20SW1001Y	0.500	2.0	<UM21	2.0	UGL
						20SW1002Y	0.500	2.0	<UM21	2.0	UGL
			ETHYLBENZENE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.0	<UM21	1.0	UGL
						20SW1002Y	0.500	1.0	<UM21	1.0	UGL
			METHYL-N-BUTYL KETONE/2-HEXANO	20-SW-10	08/22/1991	20SW1001NR	0.500	10.0	*UM21	10.0	UGL
						20SW1002NR	0.500	10.0	*UM21	10.0	UGL
			METHYLENE CHLORIDE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.0	<UM21	1.0	UGL
						20SW1002Y	0.500	1.0	<UM21	1.0	UGL

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SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			METHYLETHYL PHENOL/METHYLETHYL	20-SW-10	08/22/1991	20SW1001Y	0.500	10.0	<UM21	10.0	UGL
						20SW1002Y	0.500	10.0	<UM21	10.0	UGL
			METHYLISOBUTYL KETONE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.4	<UM21	1.4	UGL
						20SW1002Y	0.500	1.4	<UM21	1.4	UGL
			STYRENE	20-SW-10	08/22/1991	20SW1001NR	0.500	5.0	*UM21	5.0	UGL
						20SW1002NR	0.500	5.0	*UM21	5.0	UGL
			TETRACHLOROETHYLENE/TETRACHLOR	20-SW-10	08/22/1991	20SW1001Y	0.500	1.0	<UM21	1.0	UGL
						20SW1002Y	0.500	1.0	<UM21	1.0	UGL
			TOLUENE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.0	<UM21	1.0	UGL
						20SW1002Y	0.500	1.0	<UM21	1.0	UGL
			TRANS-1,3-DICHLOROPROPENE	20-SW-10	08/22/1991	20SW1001NR	0.500	5.0	*UM21	5.0	UGL
						20SW1002NR	0.500	5.0	*UM21	5.0	UGL
			TRICHLOROETHYLENE/TRICHLOROETH	20-SW-10	08/22/1991	20SW1001Y	0.500	4.0	=UM21	1.0	UGL
						20SW1002Y	0.500	6.3	=UM21	1.0	UGL
			TRICHLOROFLUOROMETHANE	20-SW-10	08/22/1991	20SW1001Y	0.500	1.0	<UM21	1.0	UGL
						20SW1002Y	0.500	1.0	<UM21	1.0	UGL
			XYLENES	20-SW-10	08/22/1991	20SW1001Y	0.500	2.0	<UM21	2.0	UGL
						20SW1002Y	0.500	2.0	<UM21	2.0	UGL

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
IAAP21	GW	EXPLOSIVES	1,3,5-TRINITROBENZENE	DA-02	08/23/1991	21GW0501Y	20.100	0.56	<UW01	0.56	UGL
				G-9	08/23/1991	21GW0101Y	17.500	0.56	<UW01	0.56	UGL
			1,3-DINITROBENZENE	DA-02	08/23/1991	21GW0501Y	20.100	0.61	<UW01	0.61	UGL
				G-9	08/23/1991	21GW0101Y	17.500	0.61	<UW01	0.61	UGL
			2,4,6-TNT	DA-02	08/23/1991	21GW0501Y	20.100	0.78	<UW01	0.78	UGL
				G-9	08/23/1991	21GW0101Y	17.500	0.78	<UW01	0.78	UGL
			2,4-DINITROTOLUENE	DA-02	08/23/1991	21GW0501Y	20.100	0.6	<UW01	0.6	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.5	=UW01	0.6	UGL
			2,6-DINITROTOLUENE	DA-02	08/23/1991	21GW0501Y	20.100	0.55	<UW01	0.55	UGL
				G-9	08/23/1991	21GW0101YP	17.500	0.55	=UW01	0.55	UGL
			HMX	DA-02	08/23/1991	21GW0501Y	20.100	1.3	<UW01	1.3	UGL
				G-9	08/23/1991	21GW0101Y	17.500	1.3	<UW01	1.3	UGL
			NITROBENZENE	DA-02	08/23/1991	21GW0501Y	20.100	1.1	<UW01	1.13	UGL
				G-9	08/23/1991	21GW0101Y	17.500	1.1	<UW01	1.13	UGL
			RDX	DA-02	08/23/1991	21GW0501Y	20.100	7.0	=UW01	0.63	UGL
				G-9	08/23/1991	21GW0101Y	17.500	2.3	=UW01	0.63	UGL
			TETRYL	DA-02	08/23/1991	21GW0501Y	20.100	0.66	<UW01	0.66	UGL
				G-9	08/23/1991	21GW0101Y	17.500	0.66	<UW01	0.66	UGL
		METALS	ANTIMONY	DA-02	08/23/1991	21GW0501Y	20.100	60.0	<SS12	60.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	60.0	<SS12	60.0	UGL
			ARSENIC	DA-02	08/23/1991	21GW0501Y	20.100	2.35	<AX8	2.35	UGL
				G-9	08/23/1991	21GW0101Y	17.500	3.43	=AX8	2.35	UGL
			BARIUM	DA-02	08/23/1991	21GW0501Y	20.100	106.0	=SS12	2.82	UGL
				G-9	08/23/1991	21GW0101Y	17.500	197.0	=SS12	2.82	UGL
			BERYLLIUM	DA-02	08/23/1991	21GW0501Y	20.100	1.12	<SS12	1.12	UGL
				G-9	08/23/1991	21GW0101Y	17.500	1.12	<SS12	1.12	UGL
			CADMIUM	DA-02	08/23/1991	21GW0501Y	20.100	6.78	<SS12	6.78	UGL
				G-9	08/23/1991	21GW0101Y	17.500	6.78	<SS12	6.78	UGL
			CHROMIUM	DA-02	08/23/1991	21GW0501Y	20.100	16.8	<SS12	16.8	UGL
				G-9	08/23/1991	21GW0101Y	17.500	16.8	<SS12	16.8	UGL
			COPPER	DA-02	08/23/1991	21GW0501Y	20.100	18.8	<SS12	18.8	UGL
				G-9	08/23/1991	21GW0101Y	17.500	18.8	<SS12	18.8	UGL
			LEAD	DA-02	08/23/1991	21GW0501Y	20.100	4.47	<SD18	4.47	UGL
				G-9	08/23/1991	21GW0101Y	17.500	4.47	<SD18	4.47	UGL
			MERCURY	DA-02	08/23/1991	21GW0501Y	20.100	0.1	<CC8	0.1	UGL
				G-9	08/23/1991	21GW0101Y	17.500	0.1	<CC8	0.1	UGL
			NICKEL	DA-02	08/23/1991	21GW0501Y	20.100	32.1	<SS12	32.1	UGL
				G-9	08/23/1991	21GW0101Y	17.500	32.1	<SS12	32.1	UGL
			SELENIUM	DA-02	08/23/1991	21GW0501Y	20.100	2.53	<SD25	2.53	UGL
				G-9	08/23/1991	21GW0101Y	17.500	2.53	<SD25	2.53	UGL
			SILVER	DA-02	08/23/1991	21GW0501Y	20.100	10.0	<SS12	10.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	10.0	<SS12	10.0	UGL
			THALLIUM	DA-02	08/23/1991	21GW0501Y	20.100	125.0	<SS12	125.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	125.0	<SS12	125.0	UGL
			ZINC	DA-02	08/23/1991	21GW0501Y	20.100	267.0	=SS12	18.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	381.0	=SS12	18.0	UGL
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	DA-02	08/23/1991	21GW0501Y	20.100	350.0	<UM21	3.5	UGL
				G-9	08/23/1991	21GW0101Y	17.500	17.5	<UM21	3.5	UGL
			1,1,1-TRICHLOROETHANE	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			1,1,2,2-TETRACHLOROETHANE	DA-02	08/23/1991	21GW0501Y	20.100	150.0	<UM21	1.5	UGL
				G-9	08/23/1991	21GW0101Y	17.500	7.5	<UM21	1.5	UGL
			1,1,2-TRICHLOROETHANE	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			1,1-DICHLOROETHANE	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			1,1-DICHLOROETHYLENE/1,1-DICHL	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			1,2-DICHLOROETHANE	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			1,2-DICHLOROETHENES/1,2-DICHLO	DA-02	08/23/1991	21GW0501Y	20.100	500.0	<UM21	5.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	25.0	<UM21	5.0	UGL
			1,2-DICHLOROPROPANE	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			1,3-DICHLOROBENZENE	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			1,3-DICLOROPROPANE	DA-02	08/23/1991	21GW0501Y	20.100	480.0	<UM21	4.8	UGL
				G-9	08/23/1991	21GW0101Y	17.500	24.0	<UM21	4.8	UGL
			1,3-DIMETHYLBENZENE/M-XYLENE	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			ACETIC ACID, VINYL ESTER/VINYL	DA-02	08/23/1991	21GW0501NR	20.100	1,000.0	*UM21	1,000.0	UGL
				G-9	08/23/1991	21GW0101NR	17.500	50.0	*UM21	50.0	UGL
			ACETONE	DA-02	08/23/1991	21GW0501Y	20.100	800.0	<UM21	8.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	40.0	<UM21	8.0	UGL
			ACRYLONITRILE	DA-02	08/23/1991	21GW0501Y	20.100	840.0	<UM21	8.4	UGL
				G-9	08/23/1991	21GW0101Y	17.500	42.0	<UM21	8.4	UGL
			BENZENE	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			BROMODICHLOROMETHANE	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			BROMOFORM	DA-02	08/23/1991	21GW0501Y	20.100	1,100.0	<UM21	11.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	55.0	<UM21	11.0	UGL
			BROMOMETHANE	DA-02	08/23/1991	21GW0501Y	20.100	1,400.0	<UM21	14.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	70.0	<UM21	14.0	UGL
			CARBON DISULFIDE	DA-02	08/23/1991	21GW0501NR	20.100	500.0	*UM21	500.0	UGL
				G-9	08/23/1991	21GW0101NR	17.500	25.0	*UM21	25.0	UGL
			CARBON TETRACHLORIDE	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			CHLORFORM	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			CHLOROBENZENE	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			CHLOROETHANE	DA-02	08/23/1991	21GW0501Y	20.100	800.0	<UM21	8.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	40.0	<UM21	8.0	UGL
			CHLOROETHANE/VINYL CHLORIDE	DA-02	08/23/1991	21GW0501Y	20.100	1,200.0	<UM21	12.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	60.0	<UM21	12.0	UGL
			CHLOROMETHANE	DA-02	08/23/1991	21GW0501Y	20.100	120.0	<UM21	1.2	UGL
				G-9	08/23/1991	21GW0101Y	17.500	6.0	<UM21	1.2	UGL

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
			CIS-1,3-DICHLOROPROPYLENE/CIS-	DA-02	08/23/1991	21GW0501NR	20.100	500.0	*UM21	500.0	UGL
				G-9	08/23/1991	21GW0101NR	17.500	25.0	*UM21	25.0	UGL
			DIBROMOCHLOROMETHANE	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			DICHLOROBENZENE - NONSPECIFIC	DA-02	08/23/1991	21GW0501Y	20.100	200.0	<UM21	2.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	10.0	<UM21	2.0	UGL
			ETHYLBENZENE	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			METHYL-N-BUTYL KETONE/2-HEXANO	DA-02	08/23/1991	21GW0501NR	20.100	1,000.0	*UM21	1,000.0	UGL
				G-9	08/23/1991	21GW0101NR	17.500	50.0	*UM21	50.0	UGL
			METHYLENE CHLORIDE	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			METHYLETHYL PHENOL/METHYLETHYL	DA-02	08/23/1991	21GW0501Y	20.100	1,000.0	<UM21	10.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	50.0	<UM21	10.0	UGL
			METHYLISOBUTYL KETONE	DA-02	08/23/1991	21GW0501Y	20.100	140.0	<UM21	1.4	UGL
				G-9	08/23/1991	21GW0101Y	17.500	7.0	<UM21	1.4	UGL
			STYRENE	DA-02	08/23/1991	21GW0501NR	20.100	500.0	*UM21	500.0	UGL
				G-9	08/23/1991	21GW0101NR	17.500	25.0	*UM21	25.0	UGL
			TETRACHLOROETHYLENE/TETRACHLOR	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			TOLUENE	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			TRANS-1,3-DICHLOROPROPENE	DA-02	08/23/1991	21GW0501NR	20.100	500.0	*UM21	500.0	UGL
				G-9	08/23/1991	21GW0101NR	17.500	25.0	*UM21	25.0	UGL
			TRICHLOROETHYLENE/TRICHLOROETH	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			TRICHLOROFLUOROMETHANE	DA-02	08/23/1991	21GW0501Y	20.100	100.0	<UM21	1.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	5.0	<UM21	1.0	UGL
			XYLENES	DA-02	08/23/1991	21GW0501Y	20.100	200.0	<UM21	2.0	UGL
				G-9	08/23/1991	21GW0101Y	17.500	10.0	<UM21	2.0	UGL
	SO	EXPLOSIVES	1,3,5-TRINITROBENZENE	21-SS-06	08/15/1991	21SS0601Y	0.500	2.1	<LW02	2.09	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	2.1	<LW02	2.09	UGG
			1,3-DINITROBENZENE	21-SS-06	08/15/1991	21SS0601Y	0.500	0.59	<LW02	0.59	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	25.0	=LW02	0.59	UGG
			2,4,6-TNT	21-SS-06	08/15/1991	21SS0601Y	0.500	1.9	<LW02	1.92	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	1.9	<LW02	1.92	UGG
			2,4-DINITROTOLUENE	21-SS-06	08/15/1991	21SS0601Y	0.500	0.42	<LW02	0.42	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.42	<LW02	0.42	UGG
			2,6-DINITROTOLUENE	21-SS-06	08/15/1991	21SS0601Y	0.500	0.4	<LW02	0.4	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.4	<LW02	0.4	UGG
			HMX	21-SS-06	08/15/1991	21SS0601Y	0.500	1.3	<LW02	1.27	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	1.3	<LW02	1.27	UGG
			NITROBENZENE	21-SS-06	08/15/1991	21SS0601Y	0.500	0.42	<LW02	0.42	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.42	<LW02	0.42	UGG
			RDX	21-SS-06	08/15/1991	21SS0601Y	0.500	0.98	<LW02	0.98	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.98	<LW02	0.98	UGG
			TETRYL	21-SS-06	08/15/1991	21SS0601Y	0.500	0.25	<LW02	0.25	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.25	<LW02	0.25	UGG
		METALS	ANTIMONY	21-SS-06	08/15/1991	21SS0601Y	0.500	19.6	<JS12	19.6	UGG

IAAP SI DATA RESULTS

SWMU	MEDIA	PARAMETER GROUP	COMPOUND	FACILITY ID	DATE	SAMPLE ID	DEPTH	RESULT VALUE	BOOL METHOD	CRL	UNITS
				21-SS-07	08/15/1991	21SS0701Y	0.500	19.6	<JS12	19.6	UGG
			ARSENIC	21-SS-06	08/15/1991	21SS0601Y	0.500	9.9	=B9	2.5	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	7.86	=B9	2.5	UGG
			BARIUM	21-SS-06	08/15/1991	21SS0601Y	0.500	219.0	=JS12	3.29	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	173.0	=JS12	3.29	UGG
			BERYLLIUM	21-SS-06	08/15/1991	21SS0601Y	0.500	0.657	=JS12	0.427	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.849	=JS12	0.427	UGG
			CADMIUM	21-SS-06	08/15/1991	21SS0601Y	0.500	1.2	<JS12	1.2	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	1.79	=JS12	1.2	UGG
			CHROMIUM	21-SS-06	08/15/1991	21SS0601Y	0.500	20.6	=JS12	1.04	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	22.8	=JS12	1.04	UGG
			COPPER	21-SS-06	08/15/1991	21SS0601Y	0.500	38.9	=JS12	2.84	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	165.0	=JS12	2.84	UGG
			LEAD	21-SS-06	08/15/1991	21SS0601Y	0.500	68.0	=JD21	0.467	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	88.0	=JD21	0.467	UGG
			MERCURY	21-SS-06	08/15/1991	21SS0601Y	0.500	0.304	=Y9	0.05	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.719	=Y9	0.05	UGG
			NICKEL	21-SS-06	08/15/1991	21SS0601Y	0.500	18.1	=JS12	2.74	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	17.6	=JS12	2.74	UGG
			SELENIUM	21-SS-06	08/15/1991	21SS0601Y	0.500	0.449	<JD20	0.449	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.449	<JD20	0.449	UGG
			SILVER	21-SS-06	08/15/1991	21SS0601Y	0.500	0.803	<JS12	0.803	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.803	<JS12	0.803	UGG
			THALLIUM	21-SS-06	08/15/1991	21SS0601Y	0.500	34.3	<JS12	34.3	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	34.3	<JS12	34.3	UGG
			ZINC	21-SS-06	08/15/1991	21SS0601Y	0.500	169.0	=JS12	2.34	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	262.0	=JS12	2.34	UGG
		VOLATILES	(2-CHLOROETHOXY) ETHENE/2-CHLO	21-SA-06	08/15/1991	21SA0602Y	1.500	0.5	<LM23	0.5	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.5	<LM23	0.5	UGG
			1,1,1-TRICHLOROETHANE	21-SA-06	08/15/1991	21SA0602Y	1.500	0.2	<LM23	0.2	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2,2-TETRACHLOROETHANE	21-SA-06	08/15/1991	21SA0602Y	1.500	0.2	<LM23	0.2	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.2	<LM23	0.2	UGG
			1,1,2-TRICHLOROETHANE	21-SA-06	08/15/1991	21SA0602Y	1.500	0.33	<LM23	0.33	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.33	<LM23	0.33	UGG
			1,1-DICHLOROETHANE	21-SA-06	08/15/1991	21SA0602Y	1.500	0.49	<LM23	0.49	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.49	<LM23	0.49	UGG
			1,1-DICHLOROETHYLENE/1,1-DICHL	21-SA-06	08/15/1991	21SA0602Y	1.500	0.27	<LM23	0.27	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.27	<LM23	0.27	UGG
			1,2-DICHLOROETHANE	21-SA-06	08/15/1991	21SA0602Y	1.500	0.32	<LM23	0.32	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROETHENES/1,2-DICHLO	21-SA-06	08/15/1991	21SA0602Y	1.500	0.32	<LM23	0.32	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.32	<LM23	0.32	UGG
			1,2-DICHLOROPROPANE	21-SA-06	08/15/1991	21SA0602Y	1.500	0.53	<LM23	0.53	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.53	<LM23	0.53	UGG
			1,3-DICHLOROBENZENE	21-SA-06	08/15/1991	21SA0602Y	1.500	0.14	<LM23	0.14	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.14	<LM23	0.14	UGG
			1,3-DICLOROPROPANE	21-SA-06	08/15/1991	21SA0602Y	1.500	0.2	<LM23	0.2	UGG
				21-SS-07	08/15/1991	21SS0701Y	0.500	0.2	<LM23	0.2	UGG