DEPARTMENT OF THE NAVY
CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
300 HIGHWAY 361
CRANE, INDIANA 47522-5000

IN REPLY REFER TO:
5090
Ser 095/7048

25 FEB 1997

U.S. Environmental Protection Agency, Region V
Waste, Pesticides, & Toxics Division
Waste Management Branch
Illinois, Indiana, and Michigan Section
Attn: Ms. Carol Witt-Smith (DRP-8J)
77 West Jackson Blvd.
Chicago, IL 60604

Dear Ms. Witt-Smith:

Crane Division, Naval Surface Warfare Center (NAVSURFWARCENDIV Crane) submits for review two copies of the Draft Interim Measures Report (IMR) for Solid Waste Management Unit (SWMU) 24/00 - Sludge Beds A and B as enclosure (1). Enclosure (2) is the required certification statement.

NAVSURFWARCENDIV Crane point of contact is Mr. Thomas J. Brent, Code 09510, telephone 812-854-6160.

Sincerely,

G. K. Hill
G. K. HILL
Deputy Director, Public Works Department
By direction of the Commander

Encl:
(1) Draft IMR for SWMU 24/00
(2) Certification Statement

Copy to: (w/o encls)
ADMINISTRATIVE RECORD
COMNAVSEASYSCOM (SEA OOT)
MK (Steve Downey)
SOUTHNAVFACENGCOM (Code 1864)

DRAFT

Interim Measures Report
SWMU - 24/00
Sludge Drying Beds A and B

Volume 1

NSWC Crane
Crane, Indiana

Unit Identification Code: N00164
Contract No. N62467-93-D-1106

February, 1997

Southern Division
Naval Facilities Engineering Command
North Charleston, South Carolina
29419-9010

DRAFT

INTERIM MEASURES REPORT
SWMU - 24/00
Sludge Drying Beds A and B

NSWC CRANE
CRANE, INDIANA

Volume 1

February, 1997

CONTRACT N62467-93-D-1106
DELIVERY ORDER #0009
STATEMENT OF WORK #007

Prepared for

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
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PREPARED/APPROVED BY:

Jeffrey D. Overton
MK Project Engineer

Date

APPROVALS:

MK Program Manager

Date

DRAFT INTERIM MEASURES REPORT
FOR SWMU #24/00
SLUDGE DRYING BEDS A & B

COMMENTS AND RESPONSES

COMMENTOR: ***James Hunsicker***

General Comments

a. The text font is very small and hard to read. Please left justify only and check document for double spaces between words.

b. Please be consistent and make sure references to figures in the text and the figure titles match.

c. Binder edge label of the SWMU 24/00 Interim Measures Report Volume 2 states that NAVSURFWARCENDIV Crane is located in Kentucky.

d. If figures and tables are not included in an appendix, then they should appear in chronological order as they are found in the text. For example, the order for the figures and tables in Section 3.0 should be Table 3-1, Table 3-2, Table 3-3, Table 3-4, Table 3-5, Figure 3-1, Figure 3-2, and Table 3-6

e. A reference section should be included as Section 6.0

f. References should be included within the sentence they concern. Parentheses should be used to surround references instead of brackets. For example, " ....the facility boundary. [NEESA 1983] " should be written as ".....the facility boundary (NEESA 1983).

General Responses

a MK has been requested to use the standard fonts as determined by SOUTHDIV for this contract as outlined in the Southern Division Environmental Report Format Guidance Manual, Revision 5.0, dated 5 February, 1996. Also the document has been left justified and spacing has been checked.

b Figure call-outs in the text and the figure titles have been checked and revised if necessary.

c. The binder for Volume 2 has been corrected to read "Crane, Indiana".

d. All Figures have been arranged in order as they appear in the report.

e. A reference section has been added to this report and is included in Section 6.

f. All references in the text have been changed to the requested format.

Comment 1:
P. 1 , ¶5

Appendix D is listed before Appendix A. Please switch the order or the names of the referenced appendices to indicate their appearance in the report.

Response 1: The appedices are arranged, based on order of appearance.

Comment 2:
P. 1, ¶6

Appendix B is listed before Appendix A. Please switch the order or the names of the referenced appendices to indicate their chronological appearance in the report.

Response 2:

Refer to response of comment 1.

Comment 3:
P. 2, §2.1, ¶1

Rewrite first sentence to include the reference to Figure 2-1 and delete the reference from the second sentence.

Response 3:

The sentence has been changed and now reads, "NSWC Crane consists of 62,463 acres located approximately 75 miles south of Indianapolis, Indiana as shown in Figure 2-1". Also the reference to Figure 2-1 has been deleted from the second sentence.

Comment 4:
P. 2, §2.1, ¶2

a. Remove references to other sites not included in this report from Figure 2-2.

b. In the last sentence, add the specific numbers of the drawings that deal with Sludge Bed A.

Response 4:

a Enhanced call-out for Sludge Bed A and B on Figure 2-1 has been added

b. The drawing numbers associated with Sludge Bed A have been added to the sentence.

Comment 5:
P. 2, §2 1, ¶3

At the end of the paragraph, remove "(Appendix A)," and replace with, "Appendix A contains drawings of Sludge Bed B."

Response 5:

The sentence has been changed and reads, "Appendix B contains Sludge Bed B drawings B-4, B-5, and B-6.

Comment 6:
P. 2, §2.2, ¶1

In the last sentence of this paragraph, remove entire name of referenced material leaving only, "(NEESA 1983)" and include cited material in a standard reference section.

Response 6:

Entire name of referenced material was removed from the sentence and the referenced item has been placed in the reference section, Section 6.

Comment 7:
P. 6, §3 1, ¶1

In the second and third sentences, clarify which samples numbers came from each of the two sludge beds.

Response 7:

Two new sentences were added and read, "Sample 24/00-044, 24/00-045, and 24/00-046 were collected from Sludge Bed A. Sample 24/00-047, 24/00-048, 24/00-049, and duplicate sample 24/00-050 were collected from Sludge Bed B".

Comment 8:
P. 6, §3.1, ¶2

a. Remove the first sentence and incorporate into paragraph discussing Sludge Bed A at the end of Section 3.1

b Include, in the second sentence, which pesticides were found.

c. Rewrite the second sentence to read, ".. ..pesticides that were at or near the target cleanup levels and were considered human & ecological risk issues."

d. Rewrite third sentence to clarify table contents, "Table 3-3 is a sample collection summary."

e. Correct sentence four to include the correct range of arsenic detected, ".....ranging from 1300 to 5300 ppb."

Response 8: a. Section 3.1 has been rewritten to reflect these comments and now reads as follows:

On July 12, 1995, characterization samples were collected from Sludge Beds A and B to determine contaminant concentrations in the beds and evaluate disposal options. Three samples were collected along the longitudinal centerline of each Sludge Bed at an approximate depth of 8 inches. Sample 24/00-044, 24/00,-045, and 24/00-046 were collected from Sludge Bed A. Sample 24/00-047, 24/00-048, 24/00-049, and duplicate sample 24/00-050 were collected from Sludge Bed B. The six soil samples, one duplicate soil sample plus field, trip, and equipment rinsate blanks were analyzed for 40 CFR 264, Appendix IX compounds by AENI (See Section 4.0) Table 3-1 identifies characterization, confirmation, backfill, background, and QA/QC samples. Table 3-2 identifies the characterization results, by presenting all detected analytes.

Sludge Bed A characterization sample (24/00-044 through 24/00-046) results were compared to the established cleanup levels for Interim Measures in Table 5 of the SAP which is included in Appendix A. Results showed arsenic and cobalt above the target cleanup levels. Background and borrow source samples (BP\BF-001 through BP\BF-006) were collected from undisturbed soil and analyzed for 40 CFR 264, Appendix IX analytes. The analysis indicated that the background concentrations for arsenic and cobalt are naturally occurring and are above the target cleanup levels. Based on the levels of arsenic and cobalt that are naturally occurring in the surrounding soil, the determination that Sludge Bed A would not require an interim measure was made with the concurrence of the Indiana Department of Environmental Management (IDEM) and USEPA. Appendix A contains documentation informing MK of this concurrence. Thus, when the Work Plan was finalized, the IM for Sludge Bed A had been removed.

Sludge Bed B characterization samples (24/00-047 through 24/00-050) also indicated levels of arsenic and cobalt above the target cleanup levels but are within background concentrations. However, sample 24/00-047 contained the pesticide 4,4-DDT at levels above the target cleanup levels. These results are summarized in Table 3-3 which indicates the compounds in excedence of the interim cleanup levels. Levels of arsenic ranging from 1,300 to 5,300 µ g/kg were detected in all of the samples collected. Cobalt was also detected in levels as high as 5,100 µ g/kg. Samples collected from virgin soil borrow sources confirmed that levels of arsenic and cobalt above the established cleanup levels are naturally present in soils in the surrounding area. Table 3-4 summarizes the background samples (BP/BF-05, BP/BF-06) collected off-site.

Four additional characterization samples (24/00-051 through 24/00-053 and duplicate sample 24/00-54) were collected at Sludge Bed B and analyzed for RCRA characteristics to determine final disposal information These samples were collected from the same locations as the original four characterization samples at Sludge Bed B but at a depth of 12 inches Specific parameters are provided in Table 4 of the SAP and is included in Appendix A

A number of samples, summarized in Table 3-5, had analytes with reporting limits that exceeded the Interim measure cleanup levels specified in Tables 5 and 6 of the SAP. In these

instances, the practical quantitation limit has been reported per the USEPA 1994 Guidance Document. The results of these samples did not show the presence of target analytes above the reporting limit.

b. Refer to response of 8a.

c. Refer to response of 8a.

d. Refer to response of 8a.

e. Refer to response of 8a.

Comment 9:
P. 6, §3.1, ¶3

a. Clarify as to which four additional characterization samples were collected from Sludge Bed B to determine the final disposal information

b. In the second sentence, clarify that there were three samples taken and one duplicate to equal the four samples.

c. In the last sentence in this paragraph, Table 4 is -----??

Response 9:

a. Refer to response of 8a.

b. Refer to response of 8a.

c. Refer to response of 8a.

Comment 10:
P. 6, §3.1, ¶5

a. Discuss Sludge Bed A material first in a paraph of its own, then move on to Sludge Bed. B

b. Paragraph 5 should be moved to the second paragraph position and an explanation of how the contaminant-free determination was made.

c. Which samples represented material from SWMU 24/00 Sludge Bed A?

d. There are no maps showing sample locations for SWMU 24/00 Sludge Bed A

Response 10:

a. Refer to response of 8a.

b. Refer to response of 8a.

c. Refer to response of 8a.

d. Figure 3-1, indicating the sample locations for Sludge Bed A, has been added The remaining figures have been renumbered accordingly.

Comment 11.
P. 6, §3.2

Rewrite the last sentence in the paragraph as follows, "The certification <u>for disposal</u> is provided in Appendix E."

Response 11:

The sentence has been changed and now reads, " The certification for disposal is provided in Volume 2, Appendix E".

Comment 12:

P 6, §3.3 — Modify the third sentence to read, "Backfill material results are included in Table 3-4." for clarification.

Response 12: The sentence has been changed and now reads, "Backfill material results are included in Table 3-4".

Comment 13.
P. 7, §3.4 — Section 3.4 Excavation should be renamed, "Section 3.5 Excavation and Sludge Bed Confirmation Sampling."

Response 13: Section 3.4 has been renamed to " 3.4 Excavation and Sludge Bed Confirmation Sampling".

Comment 14:
P. 7, §3.4, ¶1 — This paragraph needs to include the fact that some of the concrete material was transported to a construction debris fill area (location unknown to NAVSURFWARCENDIV Crane, Code 095) by direction from the NAVSURFWARCENDIV Crane ROICC office. The specific location of the construction debris fill area used should be listed in this paragraph and shown on Figure 2-2.

Response 14: A sentence has been added which indicates the location of concrete disposal and reads, "The concrete debris was removed and used as backfill to fill a low area near the maintenance building adjacent to the golf course and Biofacility".

Comment 15:
P 7, §3.4, ¶2

a In the first sentence, list the sample numbers for the twelve confirmation samples and two duplicates.

b. Modify the second sentence to read, ".....laid out over each of the three "beds" located within ~~in~~ Sludge Bed B."

c. Add the sample numbers to their corresponding locations for Figure 3-1, pages 2 and 3 because Figure 3-2 is very hard to read, and specific details cannot be seen.

Response 15:

a. The sentence has been changed and now reads, "After excavation and removal activities, 12 confirmation samples (24/00-055 through 24/00-067 and two duplicate samples 24/00-058 and 24/00-068) were collected and submitted to a laboratory for analysis of 40 CFR 264, Appendix IX compounds".

b. The sentence has been changed and now reads, " A five foot grid interval was laid out over each of the three "beds" located within Sludge Bed B"

c. Figure 3-1 page 2 and 3 have been redrawn and renumbered (3-3) to include the sample locations.

Comment 16:
P. 7, §3.4, ¶3

a. In sentence two, add the sample number(s) of the confirmation sample results which indicated that 4,4-DDT was above the target cleanup level.

b. Modify the fifth sentence to read, "The next 2.5 feet depth of material was considered contaminated and removed for....."

c. In the eighth sentence, list the sample numbers for the five confirmation samples

Response 16:

a The sample number 24/00-068 has been added to the sentence.

b. The sentence has been modified into two sentences and now reads, "The area was excavated five feet by ten feet by an additional two and one-half feet deep. The material was considered contaminated and was removed and transported to the on-site landfill for disposal".

c. The five confirmation samples (24/00-069 through 24/00-073) have been added to the sentence.

Comment 17:
P. 22, §4.2.1

In the second sentence, list the sample numbers for the six soil characterization samples and also from which bed.

Response 17:

The sentence was changed and now reads, "Characterization samples 24/00-044, 24/00-045 and 24/00-046 were collected from Sludge Bed A and characterization samples 24/00-047, 24/00-048, 24/00-049, and duplicate sample 24/00-050 were collected from Sludge Bed B".

Comment 18·
P. 22, §4.3

a. In the second sentence, list the sample numbers for the four additional characterization samples.

b. Are these samples included in the discussion in Section 4.2.1?

c. From which sludge bed were they taken?

Response 18:

a. The four characterization samples 24/00-051 through 24/00-054 were added to the sentence.

b. The four characterization samples 24/00-051 through 24/00-054 have been included in section 4.2.1.

c. The sentence has been modified to indicate that the samples were collected from Sludge Bed B

Comment 19:
P. 23, §4.4

Explain why Table 3-1 starts with NSWC 24/00-044. Why were samples NSWC 24/00-001 through NSWC 24/00-43 deleted? This must be explained in the text of this section

Response 19:

A sentence has been added and reads, "The sample numbering for SWMU 24/00 begins at sample number 24/00-044. Sample numbers 24/00-001 through 24/00-043 were deleted and were not used"

Comment 20:
P. 27, §5.0

This section should be deleted and the contents incorporated into Section 3.5 Site Restoration because it is part of the work execution. The Summary and Conclusion section should then be renamed Section 5 0

Response 20: The contents of this section have been moved to section 3.5 and Section 5.0 has been renamed to Summary and Conclusions.

Comment 21:
P. 27, §6 0, ¶1

a. Third sentence should read, ".....reviewed and ~~the~~ IDEM recommended....."

b The last sentence should read, "A copy of the Special Waste Certification ~~approval~~ is located ...."

Response 21: a. & b. Note, section 6 has been moved to section 5. The entire section has been rewritten and reads as follows:

Based on analytical results of the characterization samples collected at Sludge Bed A, it was determined that Interim Measures would not be required and that the Sludge Bed could remain in use. Sludge and debris was removed from Sludge Bed B using hand and machine methods. The laboratory analysis was reviewed and IDEM recommended disposal as a special waste. MK obtained approval from IDEM for disposal of the materials as special waste at the NSWC Crane landfill. A copy of the Special Waste Certification is included in Volume 2, Appendix E. Approximately 378 tons of material was classified as special waste and was transported to the on-site NSWC Crane landfill. Photographs of the site and the progress of work performed during the interim measures activities are provided in Appendix C.

Sample analyses were performed following EPA SW846 methodologies. Initial and supplemental characterization samples were analyzed for 40 CFR 264, Appendix IX analytes and RCRA characteristics. Confirmation samples were analyzed for similar compounds to verify that contaminants were removed to below cleanup levels. Tables 3-2 through 3-6 provide a comparison of conditions at the site prior to and following remedial actions taken during the interim measures activities. Table 3-4 summarizes the results of background samples collected from the on-site borrow pit and virgin soil borrow sources confirming that concentrations of various compounds tested are above established interim measures cleanup levels and are naturally present in soils in the surrounding area.

The final confirmation sampling results (samples 24/00-069 through -073 dated February 7, 1996) indicate the levels of the constituents analyzed are below the criteria established for interim measures cleanup. The Navy submitted these results to the USEPA, who compared them to Region V Data Quality Limits The USEPA accepted the confirmation sampling results and approved the area for backfill and restoration. A copy of the USEPA, Region V approval letter is included in Volume 2, Appendix E. The interim measures activities performed have met the requirements and objectives of the work plan Site grading is complete, a final inspection of the site has been performed, the physical work has been accepted by NSWC Crane personnel, and it is recommended that no further action be taken on SWMU -24/00.

Comment 22:
P. 27, §6.0, ¶2

a. First sentence should include the exact location and read, ".. disposed of it at the NAVSURFWARCENDIV Crane landfill..."

b. Add to the end of the paragraph a sentence that states that the Region V USEPA approval letter is included in Appendix E.

Response 22. a & b. Refer to response to 21a & b.

Comment 23:

P. 27, §6.0, ¶3

a. The third paragraph contains only one sentence. This does not make up a paragraph.

b. Also, include in this statement that the work was approved by Region V USEPA.

Response 23:

a & b. Refer to response to 21a & b.

Comment 24:
Appendix A

a. Appendix A is supposed to contain figures and drawings but only contains drawings. The figures are located throughout the text. Either change the name of Appendix A to "Drawings" or move the figures to Appendix A.

b. Some of the drawings have two or more titles.

c The drawings for the two sludge beds are mixed together. Put sludge bed A drawings first, followed by.....

Response 24:

a, b, & c. Appendix A has been moved to Appendix B to follow the order as it is called out in the text. The title was changed to "Drawings". Sludge Bed A drawings are placed first in the appendix followed by Sludge Bed B drawings. All drawing now have only one title.

Comment 25:
Appendix D

a. Titles from the report text are not consistent with material listed in the referenced appendix. Target cleanup levels not listed unless SAP Tables are what is being referenced.

b. Does not contain SAP Tables 1 and 4.

c. Does contain Tables 6 and 7, but are not listed in Appendix D, Table of Contents.

d. Cyanide results are listed fourth in the table of contents, but an incomplete portion is found first.

e. After Table 7, another page labeled, "Appendix D Analytical Results" is found and then begins with cyanide.

Response 25:

a, b, c, d, &e. Appendix D has been re-organized and is now consistent with the document. SAP tables 1 and 4 have been included in Appendix A. A list of materials found in the appendix has been incorporated on page 2 of the Appendix .

EXECUTIVE SUMMARY

This Interim Measures Report has been prepared by Morrison Knudsen (MK) for the Naval Facilities Engineering Command (NAVFACENGCOM), Southern Division pursuant to the scope of work defined in Delivery Order #0009, under Contract #N62467-93-D-1106 All remedial actions and interim measures taken at the Solid Waste Management Unit (SWMU) -24/00, Sludge Drying Beds A and B, located at, Naval Surface Warfare Center, Crane, Indiana (NSWC Crane), were performed in response to the Resource Conservation and Recovery Act (RCRA) Part B Permit for NSWC Crane.

SWMU 24/00 consists of Sludge Drying Beds A and B. The original objectives were to sample bed materials to determine if disposal would be either on-site or off-site and then remove and dispose of the dried sludge material. Drying Bed A was to be restored for continued use, while Drying Bed B was to be completely excavated, backfilled, and seeded to match original grade.

Based on the analytical results of characterization samples (24/00-044 through 24/00-046 collected on July 12, 1995) and the intent that Sludge Drying Bed A will continue to be an operating facility, Interim Measures were not initiated for the Sludge Bed A portion of the SWMU. Analytical results indicated that no target compounds were present above the interim cleanup levels.

Sludge Bed B was excavated, backfilled, and seeded as detailed in the Work Plan. Approximately 378 tons of excavated sludge and concrete were classified as a Special Waste, and transferred to the on-site landfill. Following the completion of sludge removal, confirmation samples were collected. Fourteen samples (24/00-055 through 24/00-068 collected on October 17, 1995) were collected and analyzed for 40 CFR 264, Appendix IX criteria in accordance with the Sampling and Analysis Plan (SAP). The results were below the target cleanup levels except for sample 24/00-068 which contained 4,4-DDT levels above the target cleanup levels. Additional excavation was performed on an area approximately 5 feet long by 10 feet wide. Once the removal was complete, five additional confirmation samples (24/00-069 through 24/00-073) were collected and analyzed for 40 CFR 264, Appendix IX criteria. The results were below the target cleanup levels. All quality control data was found to be precise, accurate, representative and complete. Upon review of the results, the United States Environmental Protection Agency (USEPA) approved the area for backfilling The area was backfilled with material from an approved source, seeded and provided with erosion control matting to support vegetation growth.

SWMU 24/00 Acceptance and Turnover statement is dated July 12, 1996, and reflects the final inspection of SWMU 24/00 by Naval Surface Warfare Center (NSWC) personnel. Considering the work performed at SWMU 24/00, the confirmation sample results and the acceptance of the physical work by the Navy, it is recommended that this site be considered as meeting the requirements and objectives of the Interim Measures Cleanup Activities and require no further action.

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ACRONYMS AND ABBREVIATIONS

AENI	American Environmental Network, Inc
CAAA	Crane Army Ammunition Activity
CEC	Compuchem Environmental Corporation
CFR	Code of Federal Regulations
DRMO	Defense Reutilization and Marketing Office
HSWA	Hazardous and Solid Waste Amendments
IDEM	Indiana Department of Environmental Management
IM	Interim Measure
IMR	Interim Measures Report
MK	Morrison Knudsen Corporation
MS	Matrix Spike
MS/MD	Matrix Spike/Matrix Duplicate
NAVFACENGCOM	Naval Facilities Engineering Command
NSWC	Naval Surface Warfare Center
QAPP	Quality Assurance Project Plan
QCP	Quality Control Plan
RFI	RCRA Facilities Investigation
RCRA	Resource Conservation and Recovery Act
SAP	Sampling and Analysis Plan
SWMU	Solid Waste Management Unit
USEPA	United States Environmental Protection Agency

1.0
INTRODUCTION

Morrison Knudsen Corporation (MK) was contracted by the Southern Division (SOUTHDIV), Naval Facilities Engineering Command (NAVFACENGCOM), under Contract #N62467-93-D-1106, Delivery Order #0009, Statement of Work #007 to remediate Solid Waste Management Units (SWMUs) at Naval Surface Warfare Center (NSWC) Crane, Crane, Indiana. This Interim Measures Report (IMR) summarizes all construction and environmental tasks associated with the sampling, excavation and disposal of materials from SWMU 24/00, composed of Sludge Beds A and B.

Promulgation of the United States Environmental Protection Agency's (USEPA's) regulatory program under the Resource Conservation and Recovery Act (RCRA) provided the impetus to identify and control environmental contamination from past practices at NSWC Crane. On December 23, 1989, the EPA issued the federal portion of the final RCRA Part B permit for NSWC Crane to the US Navy and issued the permit renewal for a period of five years on July 31, 1995. This permit contains both the Federal permit conditions and State permit conditions, which were issued separately by the State of Indiana RCRA program. It establishes the Hazardous and Solid Waste Amendment (HSWA) Corrective Action Requirements and Compliance Schedules obligating the US Navy to perform RCRA Facility Investigations (RFIs) at 30 SWMUs, to conduct Corrective Measures Studies and to implement corrective measures if needed. Interim measures were performed at SWMU 24/00 (Sludge Drying Beds) as part of the RCRA Part B Permit for NSWC Crane.

MK provided project management, construction management, scientific and environmental staff, as well as health and safety oversight and quality control MK's primary subcontractor, US Tech, provided excavation, removal and disposal, and backfilling/restoration services American Environmental Network, Inc. (AENI) and CompuChem Environmental Corporation (CEC) provided analytical services under contract to MK.

MK prepared the following project documents which describe the procedures to be used in execution of the voluntary interim measure (IM) at SWMU 24/00:

> *Work Plan and Task-Specific Health and Safety Plans for SWMUs 16/16 and 24/00,* Revision B, as amended, dated August 18, 1995 (MK, 1995a).
>
> *General Project Plans for Interim Measures Cleanup, Revision C,* August 18, 1995, consisting of the following plans:
>
> - *Quality Control Plan*, Rev C, August 18, 1995 (MK, 1995b).
> - *Quality Assurance Project Plan*, Rev. C, December 29, 1995 (MK, 1995c)
> - *Waste Management Plan*, Rev. C, August 18, 1995 (MK, 1995d).
> - *Sampling and Analysis Plan*, Rev. C, August 18, 1995 (MK, 1995e).
> - *Environmental Protection Plan*, Rev C, August 18, 1995 (MK, 1995f).

Prior to finalization of the Work Plan, characterization sampling was conducted at Sludge Beds A and B. The characterization sampling was conducted to determine if the industrial sludge deposited in the sludge beds contained organic or inorganic contaminants above target cleanup levels. The target cleanup levels for this IM were taken from "*RCRA Corrective Action Guidance Human Data Quality Levels for RFI Projects*", June 18, 1994 (USEPA, 1994) as site-specific risk based cleanup levels had not been developed for NSWC Crane. The target cleanup levels are presented in Appendix A.

MK received approval of the Work Plan for SWMUs 16/16 and 24/00 on October 10, 1995. The IM at Sludge Bed A was deleted from the work because the characterization sampling did not identify any constituents over the target cleanup criteria. Consequently, Sludge Bed A remained in operation and an IM was conducted at Sludge Bed B. A copy of the pertinent sections of the amended Work Plan is included in Appendix A.

2.0
SITE BACKGROUND

2.1 SITE DESCRIPTION

NSWC Crane consists of 62,463 acres located approximately 75 miles south of Indianapolis, Indiana as shown in Figure 2-1. The site provides support for equipment, shipboard weapons systems, and ordnance. In addition, NSWC Crane supports The Crane Army Ammunition Activity (CAAA), including production and renovation of conventional ammunition, as well as storage, shipment, demilitarization and disposal of conventional ammunition.

Sludge Bed A is located at the sewage treatment plant, in the east central section of NSWC Crane at the Intersection of H-15 and H-514, as shown in Figure 2-2. The sludge bed processes sludges from industrial wastewater and sanitary sewer treatment systems. The area is divided into three separate "beds" by two eight-inch wide concrete walls. The individual beds are 26 feet wide by 50 feet long (inside dimensions). Each bed has an earthen base with clay drainage pipes covered by several layers of gravel. Sludge Bed A was potentially contaminated with metals, pesticides and herbicides. Appendix B contains Sludge Bed A drawings B-1, B-2, and B-3.

Sludge Bed B is located in the northwest section of NSWC Crane, just outside Crane Gate #4 on H-498, off H-5, as shown in Figure 2-2. The site was used to process sludges from both industrial wastewater and sanitary sewer treatment systems. Sludge Bed B has been out of service for a significant amount of time and is overgrown with vegetation. The area is divided into three separate "beds" by concrete walls which show signs of deterioration. The individual beds are 19.5 feet wide by 50.25 feet long (inside dimensions). The inside walls are two-inch wide concrete. Each bed has an earthen base covered with gravel. Sludge Bed B was potentially contaminated with metals, pesticides and herbicides. The Sludge Bed B area is also enclosed by a chain link fence. Appendix B contains Sludge Bed B drawings B-4, B-5, and B-6. Photographs showing the original site conditions are included in Appendix C.

2.2 ENVIRONMENTAL SETTING

The topography of NSWC Crane consists of flat to gently rolling terrain dissected by numerous well-defined drainageways Surface elevation ranges from approximately 470 feet at the drain exiting the southern boundary of Crane to 860 feet on a ridge in the west-central portion of the facility. Ridge crests generally lie at an elevation of 750 to 800 feet (NEESA 1983).

Natural surface drainage at NSWC Crane are dendritic and define four drainage basins. Sludge Bed A is located in Basin IV which occupies the central portion of the facility. Sludge Bed B is located in the Basin I drainage area which drains the north and northwest portions of the facility. Basin I eventually empties into Furst Creek, which flows in a westerly direction and crosses the facility boundary (NEESA 1983).

NSWC Crane is underlain by unconsolidated deposits of Quaternary (Pleistocene) age and residual soil derived from Pennsylvanian and Mississippian bedrock. The unconsolidated deposits are limited to the small floodplains and are composed of alluvial, colluvial and paludal (marshland) silt, sand, and gravel; lacustrine clay, silt, and sand; and outwash plain gravel, sand and silt. The remainder of NSWC Crane surficial deposits consist of residual clays and silt from the Pennsylvanian Raccoon Creek Group and Mississippian Stephensport and West Baden Groups with small area of Quaternary clay, silt and sand (Lacustrine deposits). The bedrock units beneath the facility, primarily Raccoon Creek and Stephensport Groups containing predominately sandstone and shale, reportedly dip gently from the Cincinnati Arch to the Illinois Basin in the Southwest (NEESA 1983).

Boring logs collected from the facility show the major soil type as a 2- to 3-inch-thick surface layer of brown to tan organic clay loam underlain by clay intermixed with silts and sand. Occasionally, a clay hardpan occurs between 25 to 32 inches below the surface (NEESA 1983).

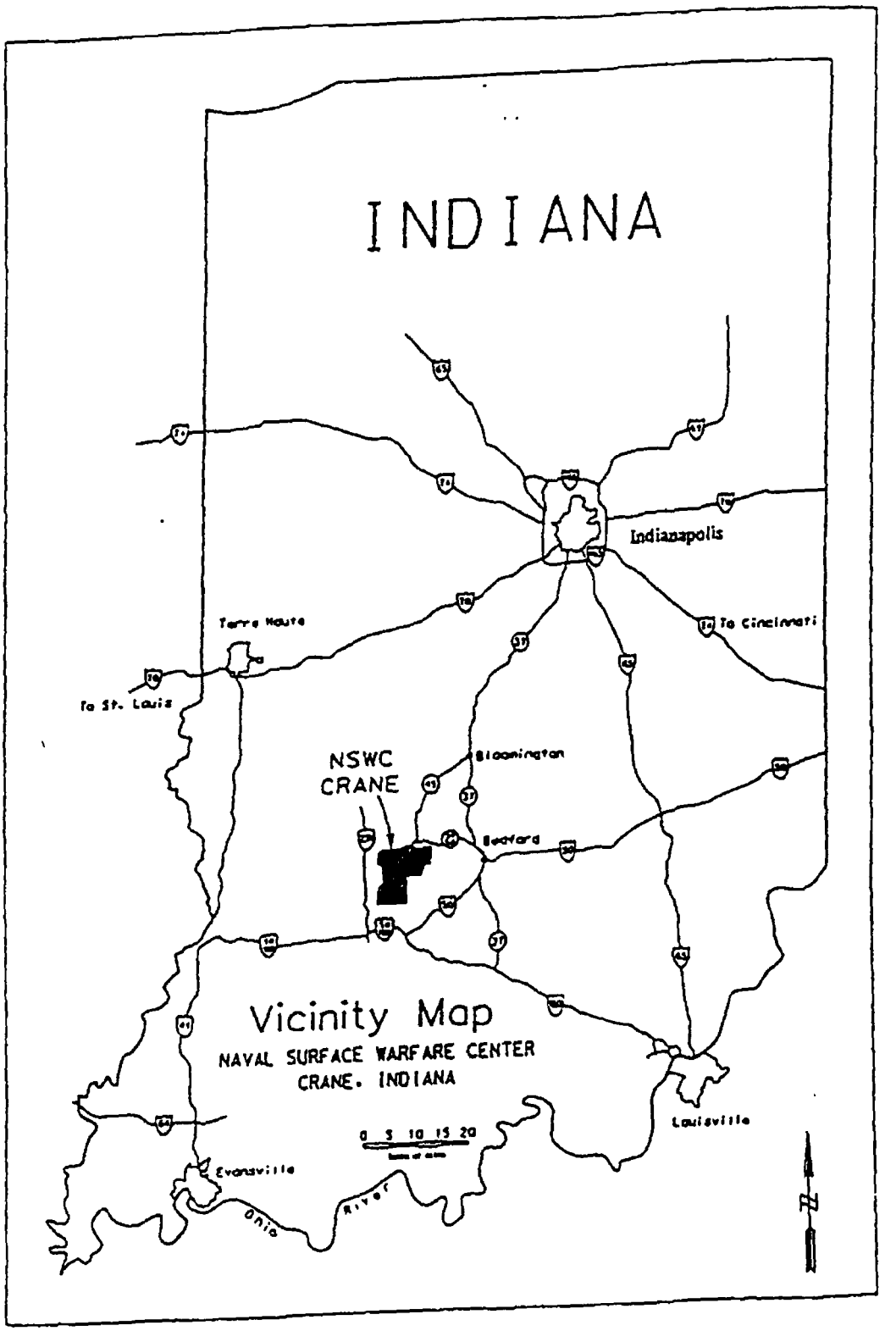


FIGURE 2-1
VICINITY MAP OF NSWC CRANE

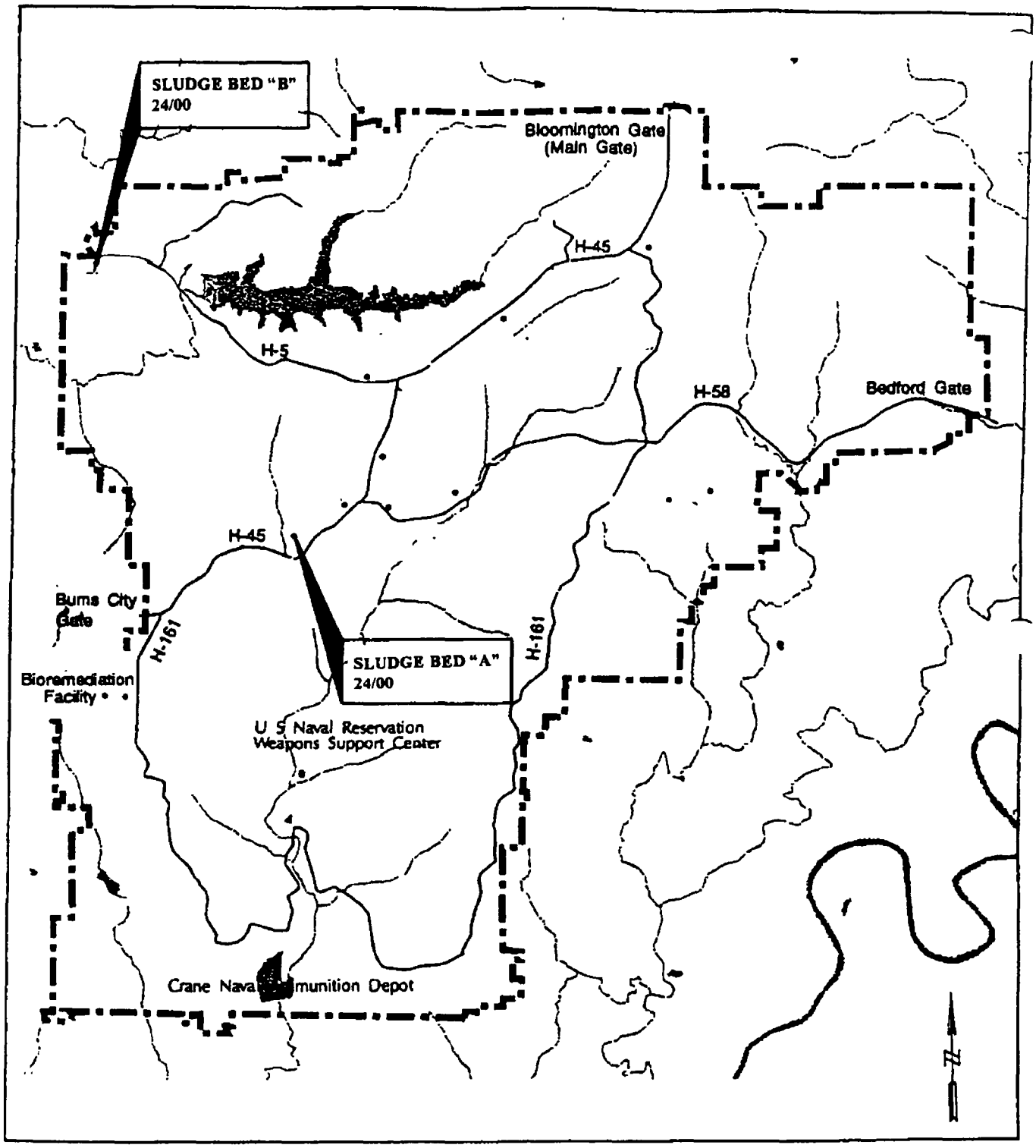


FIGURE 2-2
LOCATION OF SOLID WASTE MANAGEMENT UNITS

3.0
WORK EXECUTION

3.1 SLUDGE BED CHARACTERIZATION SAMPLING

On July 12, 1995, characterization samples were collected from Sludge Beds A and B to determine contaminant concentrations in the beds and evaluate disposal options. Three samples were collected along the longitudinal centerline of each Sludge Bed at an approximate depth of 8 inches. Sample 24/00-044, 24/00,-045, and 24/00-046 were collected from Sludge Bed A, at locations shown in Figure 3-1. Sample 24/00-047, 24/00-048, 24/00-049, and duplicate sample 24/00-050 were collected from Sludge Bed B, at locations shown in Figure 3-2. The six soil samples, one duplicate soil sample plus field, trip, and equipment rinsate blanks were analyzed for 40 CFR 264, Appendix IX compounds by AENI (See Section 4 0) Table 3-1 identifies characterization, confirmational, backfill, background, and QA/QC samples. Table 3-2 identifies the characterization results, by presenting all detected analytes.

Sludge Bed A characterization sample (24/00-044 through 24/00-046) results were compared to the established cleanup levels for Interim Measures in Table 5 of the SAP which is included in Appendix A. Results showed arsenic and cobalt above the target cleanup levels. Background and borrow source samples (BP\BF-001 through BP\BF-006) were collected from undisturbed soil and analyzed for 40 CFR 264, Appendix IX analytes. The analysis indicated that the background concentrations for arsenic and cobalt are naturally occurring and are above the target cleanup levels. Based on the levels of arsenic and cobalt that are naturally occurring in the surrounding soil, the determination that Sludge Bed A would not require an interim measure was made with the concurrence of the Indiana Department of Environmental Management (IDEM) and USEPA. Appendix A contains documentation informing MK of this concurrence. Thus, when the Work Plan was finalized, the IM for Sludge Bed A had been removed

Sludge Bed B characterization samples (24/00-047 through 24/00-050) also indicated levels of arsenic and cobalt above the target cleanup levels but are within background concentrations. However, sample 24/00-047 contained the pesticide 4,4-DDT at levels above the target cleanup levels. These results are summarized in Table 3-3 which indicates the compounds in excedence of the interim cleanup levels. Levels of arsenic ranging from 1,300 to 5,300 µg/kg were detected in all of the samples collected. Cobalt was also detected in levels as high as 5,100 µg/kg. Samples collected from virgin soil borrow sources confirmed that levels of arsenic and cobalt above the established cleanup levels are naturally present in soils in the surrounding area Table 3-4 summarizes the background samples (BP/BF-05, BP/BF-06) collected off-site.

Four additional characterization samples (24/00-051 through 24/00-053 and duplicate sample 24/00-54) were collected at Sludge Bed B and analyzed for RCRA characteristics to determine final disposal information. These samples were collected from the same locations as the original four characterization samples at Sludge Bed B but at a depth of 12 inches. Specific parameters are provided in Table 4 of the SAP and is included in Appendix A.

A number of samples, summarized in Table 3-5, had analytes with reporting limits that exceeded the Interim measure cleanup levels specified in Tables 5 and 6 of the SAP. In these instances, the practical quantitation limit has been reported per the USEPA 1994 Guidance Document. The results of these samples did not show the presence of target analytes above the reporting limit.

3.2 CLASSIFICATION OF WASTE

The Sludge Bed B material was determined to be a special waste and required approval for landfilling from IDEM. MK filed a special waste approval application with the IDEM and was granted *Special Waste Certification no. 50852* to dispose of the waste at the on-site sanitary landfill. The certification for disposal is provided in Volume 2, Appendix E.

3.3 SOURCE OF BACKFILL

The on-site borrow pit was an approved source of backfill material based upon samples previously collected Two samples (NSWC-BP\BF-003, NSWC-BP\BF-004) were collected from the borrow pit, analyzed for Appendix IX compounds and determined to be free of contaminants of concern. Backfill material results are included in Table 3-4. The use of onsite backfill required a modification to the work plan which was approved The Work Plan modification is included in Appendix A.

3.4 EXCAVATION AND SLUDGE BED CONFIRMATION SAMPLING

Material from Sludge Bed B was excavated and transported directly to the on-site landfill beginning on October 9, 1995 Eighteen truckloads (14 cubic yards each) of the excavated material (sludge and debris) from Sludge Bed B were disposed at the on-site landfill as special waste. A copy of the approval for the Crane Landfill to accept the waste is included in Volume 2, Appendix E. The inlet piping and valves removed during excavation were transported to the Defense Reutilization and Marketing Office (DRMO). The concrete debris was removed and used as backfill to fill a low area near the maintenance building adjacent to the golf course and Biofacility

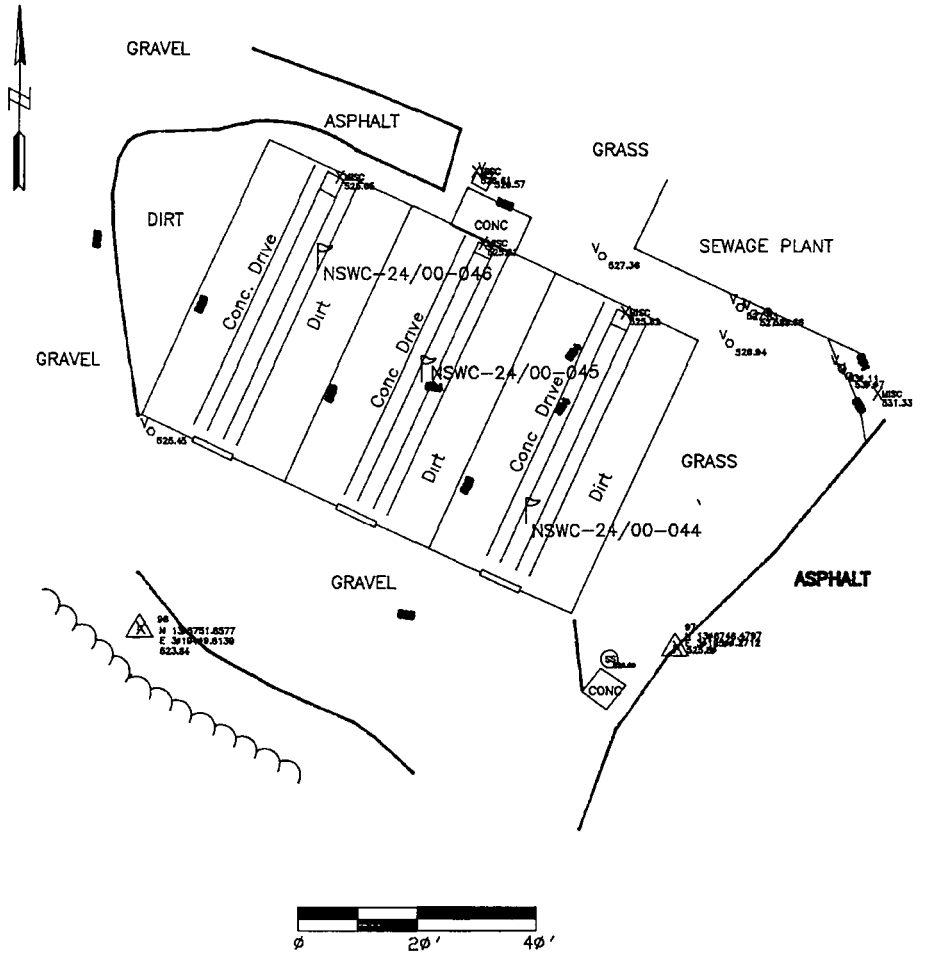
After excavation and removal activities, 12 confirmation samples (24/00-055 through 24/00-067 and two duplicate samples 24/00-058 and 24/00-068) were collected and submitted to a laboratory for analysis of 40 CFR 264, Appendix IX compounds. A five foot grid interval was laid out over each of the three "beds" located within Sludge Bed B. The number of samples collected was based on the cube root of the number of grid intersections. Each "bed" in Sludge Bed B had 40 grid intersections, thus by rounding up, four samples were collected from each "bed". A random number generator was used to determine the grid sample number. The sample map for each bed and the random number chart is included as Figure 3-3 Figure 3-4 shows the actual field location of each sample.

The confirmation sample 24/00-068 results indicated that the sludge at one location in Sludge Bed B contained 4,4-DDT above the target cleanup level Thus, on February 7, 1996, additional excavation was conducted in this area. The area was excavated five feet by ten feet by an additional 2.5 feet deep. The material was considered contaminated and was removed and transported to the on-site landfill for disposal. Approximately five cubic yards of material was removed. The resultant excavation was resampled. Five confirmation samples (24/00-069 through 24/00-073) were collected on February 7, 1996 and were analyzed for 40 CFR 264, Appendix IX compounds. The analytical results established the material remaining at Sludge Bed B was below target cleanup levels. The "Detail" in Figure 3-4 identifies the sample locations used for the confirmation resampling. Table 3-6 identifies all detected analytes from the confirmation sampling.

3.5 SITE RESTORATION

The excavated area was backfilled with material from the approved on-site borrow source. The backfill, including topsoil, was placed and the site was restored to original grade. The site was surveyed at final grade and is shown on drawing B-6 in Appendix B The area was seeded, mulched, and subsequently monitored to ensure establishment of adequate ground cover to prevent erosion. Adequate ground cover has been reestablished. This work was accepted by the Navy on July 12, 1996. A copy of SWMU 24/00 Acceptance and Turnover Statement is included with the regulatory documents in Volume 2, Appendix E. Photographs showing the progress of the work and the restoration are included in Appendix C.

The fencing from around Sludge Bed B was removed in its entirety instead of a partial replacement, as was originally planned. Approved changes to the Work Plan are included in Appendix A. All fencing that was removed and any salvageable material was transported to DRMO.



LEGEND

- MANHOLE
- SAMPLE LOCATION
- X GROUND
- GUARD POST
- SIGN
- SOIL BORING

SLUDGE BED A
NSWC CRANE
CRANE, INDIANA

MORRISON KNUDSEN CORPORATION
ENVIRONMENTAL SERVICES

FIGURE 3-1
CHARACTERIZATION/CONFIRMATION
SAMPLE LOCATIONS

SOURCE: MSE CORPORATION, 1996

DWG DATE 2/13/97 | DWG NAME: SLDGBEDA

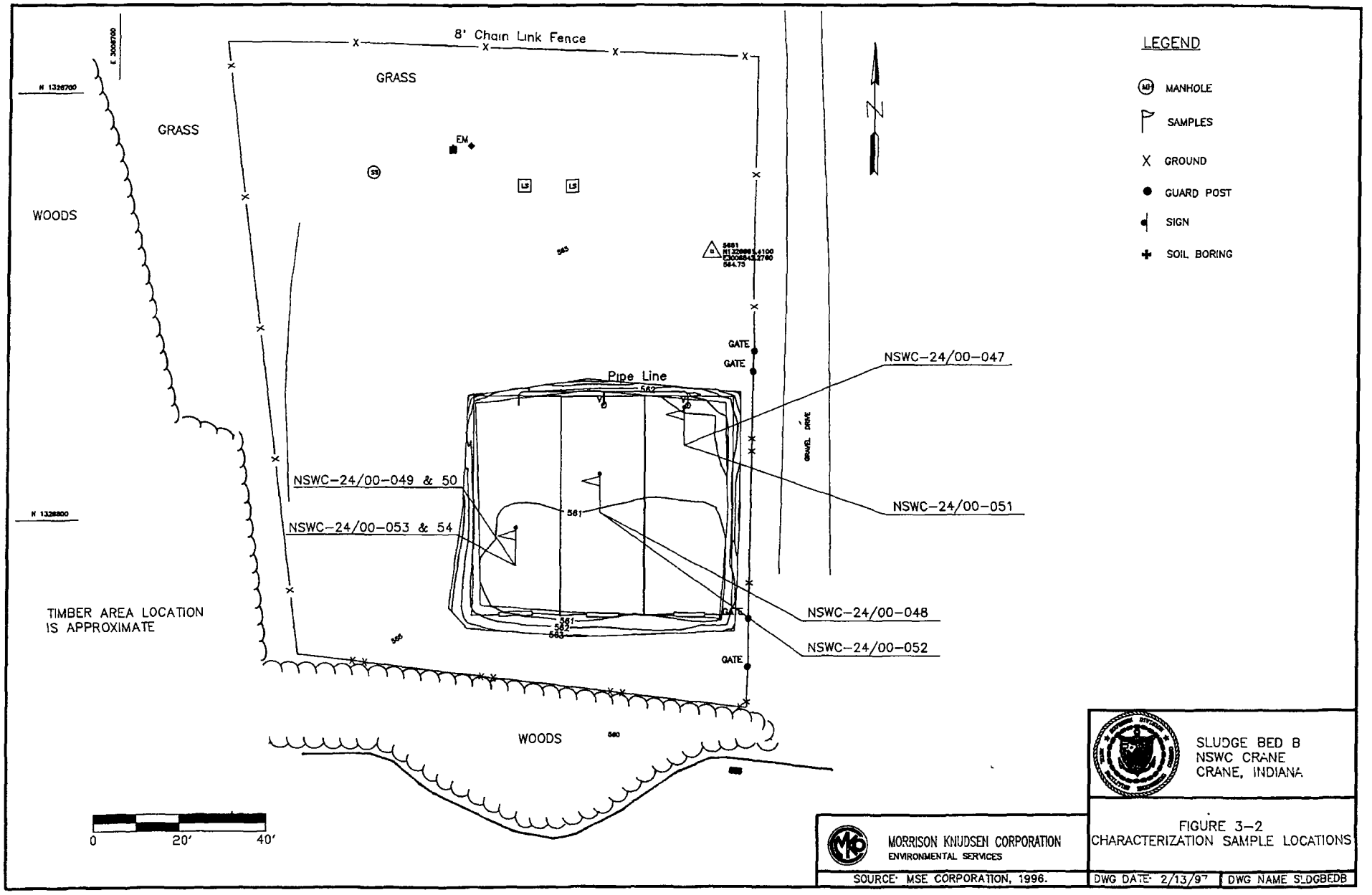


FIGURE 3-2
CHARACTERIZATION SAMPLE LOCATIONS

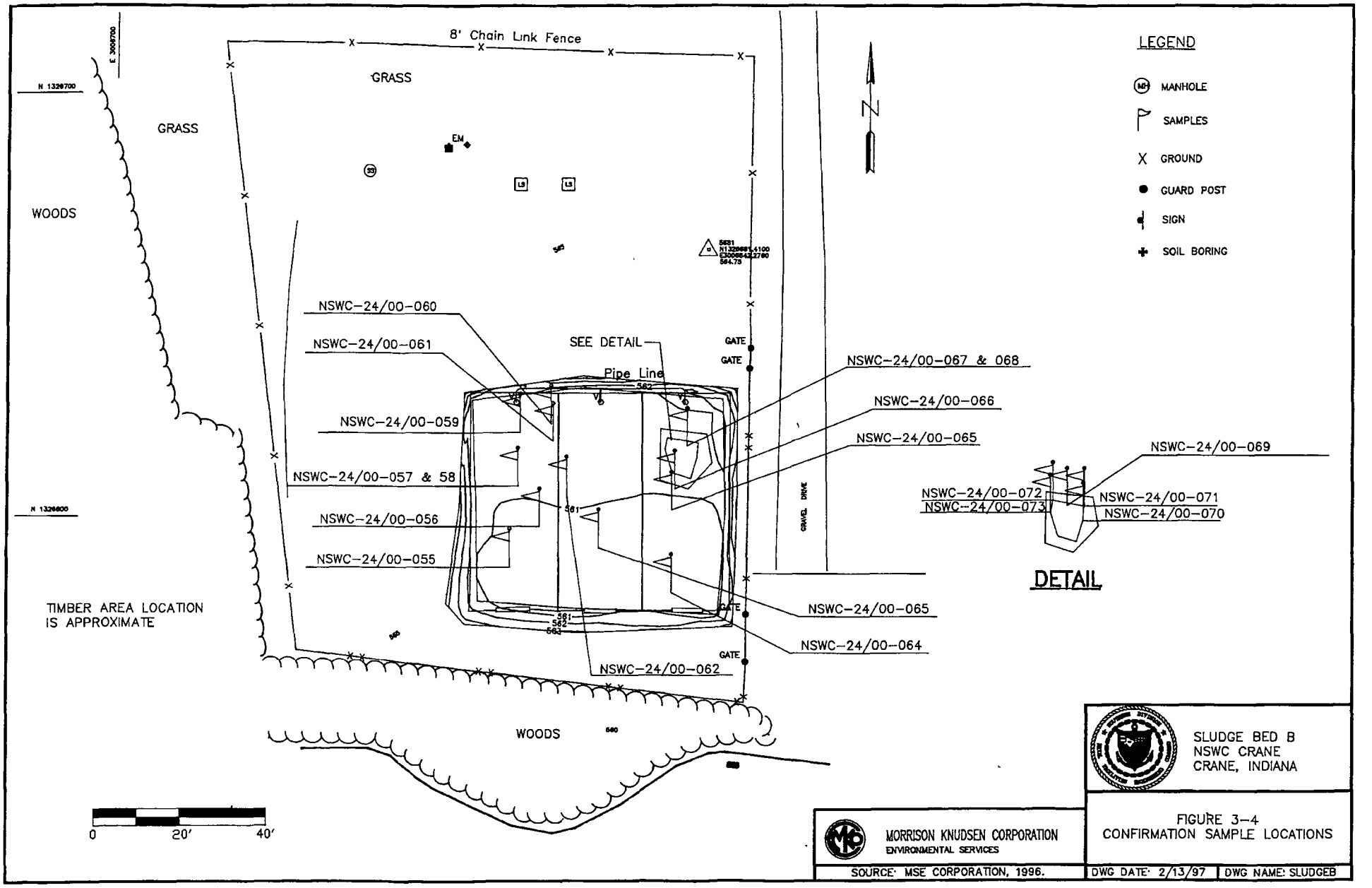

8' Chain Link Fence
GRASS
GRASS
WOODS
WOODS
N 1326700
E 3006700
N 1326600
EM
LS
LS
NSWC-24/00-060
NSWC-24/00-061
SEE DETAIL
Pipe Line
NSWC-24/00-059
NSWC-24/00-057 & 58
NSWC-24/00-056
NSWC-24/00-055
NSWC-24/00-067 & 068
NSWC-24/00-066
NSWC-24/00-065
NSWC-24/00-065
NSWC-24/00-064
NSWC-24/00-062
GATE
GATE
GATE
GRAVEL DRIVE
TIMBER AREA LOCATION
IS APPROXIMATE
0
20'
40'
LEGEND
MANHOLE
SAMPLES
GROUND
GUARD POST
SIGN
SOIL BORING
NSWC-24/00-069
NSWC-24/00-072
NSWC-24/00-073
NSWC-24/00-071
NSWC-24/00-070
DETAIL
SLUDGE BED B
NSWC CRANE
CRANE, INDIANA
MORRISON KNUDSEN CORPORATION
ENVIRONMENTAL SERVICES
FIGURE 3-4
CONFIRMATION SAMPLE LOCATIONS
SOURCE: MSE CORPORATION, 1996.
DWG DATE: 2/13/97
DWG NAME: SLUDGEB

TABLE 3-1
SAMPLE COLLECTION SUMMARY
SWMU 24/00

Sample No	Medium	Type	D	Date Sampled	Analysis	Location
24/00-044	SOIL	WASTE CHARACTERIZATION		07/12/95	APPENDIX IX	Sludge A
24/00-045	SOIL	WASTE CHARACTERIZATION		07/12/95	APPENDIX IX	Sludge A
24/00-046	SOIL	WASTE CHARACTERIZATION		07/12/95	APPENDIX IX	Sludge A
24/00-047	SOIL	WASTE CHARACTERIZATION		07/12/95	APPENDIX IX	Sludge B
24/00-048	SOIL	WASTE CHARACTERIZATION		07/12/95	APPENDIX IX	Sludge B
24/00-049	SOIL	WASTE CHARACTERIZATION	D	07/12/95	APPENDIX IX	Sludge B
24/00-050	SOIL	WASTE CHARACTERIZATION	D	07/12/95	APPENDIX IX	Sludge B
24/00-FB1	LIQUID	FIELD BLANK		07/13/95	APPENDIX IX	QA/QC
24/00-RB1	LIQUID	EQUIP RINSATE		07/13/95	APPENDIX IX	QA/QC
24/00-TB1	LIQUID	TRIP BLANK		07/12/95	8240(APPENDIX IX)8270	QA/QC
24/00-051	SOIL	WASTE CHARACTERIZATION		09/18/95	8330	Sludge B
24/00-051	SOIL	WASTE CHARACTERIZATION		09/18/95	TCLP & RCRA	Sludge B
24/00-052	SOIL	WASTE CHARACTERIZATION		09/18/95	8330	Sludge B
24/00-052	SOIL	WASTE CHARACTERIZATION		09/18/95	TCLP & RCRA	Sludge B
24/00-053	SOIL	WASTE CHARACTERIZATION		09/18/95	8330	Sludge B
24/00-053	SOIL	WASTE CHARACTERIZATION		09/18/95	TCLP & RCRA	Sludge B
24/00-054	SOIL	WASTE CHARACTERIZATION	D	09/18/95	8330	Sludge B
24/00-054	SOIL	WASTE CHARACTERIZATION	D	09/18/95	TCLP & RCRA	Sludge B
24/00-RB9	LIQUID	EQUIP RINSATE		10/17/95	APPENDIX IX	QA/QC
24/00-055	SOIL	CONFIRMATION		10/17/95	APPENDIX IX	Sludge B
24/00-056	SOIL	CONFIRMATION		10/17/95	APPENDIX IX	Sludge B
24/00-057	SOIL	CONFIRMATION	D	10/17/95	APPENDIX IX	Sludge B
24/00-058	SOIL	CONFIRMATION	D	10/17/95	APPENDIX IX	Sludge B
24/00-059	SOIL	CONFIRMATION		10/17/95	APPENDIX IX	Sludge B
24/00-060	SOIL	CONFIRMATION		10/17/95	APPENDIX IX	Sludge B
24/00-061	SOIL	CONFIRMATION		10/17/95	APPENDIX IX	Sludge B
24/00-062	SOIL	CONFIRMATION		10/17/95	APPENDIX IX	Sludge B
24/00-063	SOIL	CONFIRMATION		10/17/95	APPENDIX IX	Sludge B
24/00-064	SOIL	CONFIRMATION		10/17/95	APPENDIX IX	Sludge B
24/00-065	SOIL	CONFIRMATION		10/17/95	APPENDIX IX	Sludge B
24/00-066	SOIL	CONFIRMATION		10/17/95	APPENDIX IX	Sludge B
24/00-067	SOIL	CONFIRMATION	D	10/17/95	APPENDIX IX	Sludge B
24/00-068	SOIL	CONFIRMATION	D	10/17/95	APPENDIX IX	Sludge B
24/00-TB6	LIQUID	TRIP BLANK		10/17/95	8240	QA/QC
24/00-TB7	LIQUID	TRIP BLANK		10/17/95	8240	QA/QC
24/00-069	SOIL	CONFIRMATION		02/07/96	APPENDIX IX	Sludge B
24/00-070	SOIL	CONFIRMATION		02/07/96	APPENDIX IX	Sludge B
24/00-071	SOIL	CONFIRMATION		02/07/96	APPENDIX IX	Sludge B
24/00-072	SOIL	CONFIRMATION		02/07/96	APPENDIX IX	Sludge B
24/00-073	SOIL	CONFIRMATION		02/07/96	APPENDIX IX	Sludge B
NSWC-BP/BF-001	SOIL	LANDFILL AREA, BACKFILL		08/16/95	APPENDIX IX	BACKFILL
NSWC-BP/BF-002	SOIL	LANDFILL AREA, BACKFILL		08/16/95	APPENDIX IX	BACKFILL
NSWC-BP/BF-003	SOIL	ONSITE BORROW PIT SAMPLE		10/12/95	APPENDIX IX	BACKFILL
NSWC-BP/BF-004	SOIL	ONSITE BORROW PIT SAMPLE		10/12/95	APPENDIX IX	BACKFILL
NSWC-BP/BF-005	SOIL	OFFSITE BACKFILL, EAST SIDE		10/27/95	APPENDIX IX	BACKGROUND
NSWC-BP/BF-006	SOIL	OFFSITE BACKFILL WEST SIDE		10/27/95	APPENDIX IX	BACKGROUND

Note A 'D' next to the Sample Type indicates a duplicate

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TABLE 3-2
SWMU 24/00 CHARACTERIZATION SAMPLES
ANALYTICAL RESULTS SUMMARY

	SAMPLE #	24/00-044	24/00-045	24/00-046	24/00-047	24/00-048	24/00-049	24/00-050	24/00-FB1	24/00-RB1	24/00-TB1
	SAMPLE DATE	7/12/95	7/12/95	7/12/95	7/12/95	7/12/95	7/12/95	7/12/95	7/13/95	7/13/95	7/12/95
	TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	LIQUID	LIQUID	LIQUID
COMPOUND	CLEANUP LEVEL ug/kg										
		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/l	ug/l	ug/l
Total Sulfide	NA*	82000			57000		84000	41000			
Methylene Chloride	22,000	12 (B)	26 (B)	18 (B)	15 (B)	11 (B)	19 (B)	13 (B)	5 (J,B)	15000(B)	8 3 (B)
Acetone	9,200,000	3 1 (J)	4 1 (J)		8 4 (J)	6.1 (J)	6 7 (J)	4 4 (J)	17 (J)	600 (J)	6 3 (J)
Chloroform	960								93		
MEK (2-Butanone)	5,200,000								12 (J)		
Bromodichloromethane	2,900								9 6		
Arsenic	970	1500	2,300	2300	2300	1700	1600	1500			
Cobalt	100	4600	5000	5100	4800	3500	4800	4400			
Dieldrin	53				4 1 (J)						
Chlordane	660	33			47	53	34	48			
4-methyl-2-pentanone	2,000,000								5 2 (J)		
4,4, DDT	8				8.5 (P)		7 1 (P)	6.8 (P)			
4,4, DDE	2500				5 1		6 3	5 2			
4,4, DDD	3500				5 7 (P)		15(P)	12(P)			

TABLE 3-2 B

	SAMPLE #	24\00-051	24/00-052	24/00-053	24/00-054
	SAMPLE DATE	9/18/95	9/18/95	9/18/95	9/18/95
	TYPE	SOIL	SOIL	SOIL	SOIL
COMPOUND					
Barium		1090 ug/l	940 ug/l	1210 ug/l	887 ug/l
Reactive Sulfide		48 mg/kg			
Flashpoint		>203	>203	>203	>203
pH		8 7	9.1	9	9 9

Notes:
- * None Available
- (P) indicates there is a greater than 25% difference for detected concentrations between the two GC columns. The lower value is reported
- (B) indicates the compound was also present in the associated field or trip blank
- (J) indicates the value is estimated

TABLE 3-3
SWMU 24/00
COMPOUNDS EXCEEDING
INTERIM CLEANUP LEVELS

CLEANUP	4,4-DDT	Arsenic	Beryllium	Cobalt
LEVEL ug/kg	8	970	400	100
Site ID				
NSWC 24/00-				
-044		1500		4600
-045		2300		5000
-046		2300		5100
-047	8.5	2300		4800
-048		1700		3500
-049		1600		4800
-050		1500		4400
-055		1700		1400
-056		2900		3300
-057		4300	460	2200
-058		4000		3000
-059		3100		3800
-060		3700		4800
-061		3100		4400
-062		2800		2200
-063		4700		2300
-064		1300		2000
-065		5300	410	3400
-066		3400		4200
-067		3400		4200
-068	12	3200		4300
-069		5000		1970
-070		2990		844
-071		4570	478	1690
-072		2530		1890
-073		4850		2340
BP\BF-001		9400		3900
BP\BF-002		9000		4600
BP\BF-003		7800		8600
BP\BF-004		6300		7000
BP\BF-005		1900		2400
BP\BF-006		1800		3200
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TABLE 3-4
NSWC CRANE BACKGROUND/BACKFILL SAMPLES
ANALYTICAL RESULTS SUMMARY

	SAMPLE # (NSWC)	BP\BF-001	BP\BF-002	BP\BF-003	BP\BF-004	BF\BF-005	BF\BF-005RE	BF\BF-006
	SAMPLE DATE	8/12/95	8/12/95	10/12/95	10/12/95	10/27/95	10/27/95	10/27/95
	TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
COMPOUND	CLEANUP LEVEL ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Total Cyanide		ND	ND	ND	ND	ND		
Total Sulfide	NA*	ND	ND	ND	ND	ND		
Methylene Chloride	22,000	21	16		10	41(B)	9(B)	19(B)
Acetone	9,200,000	11(J)	7 7(J)					
Arsenic	970	9400	9,000	7800	6300	1900		1800
Cobalt	100	3900	4600	8600	7000	2400		3200
Chloroform	960							
MEK (2-Butanone)	5,200,000							
Bromodichloromethane	2,900							
4-methyl-2-pentanone	2,000,000							
4,4, DDT	8							
Tetrachloroethene					34		1.4(J)	
Toluene					16			
m+p Xylene					4 7(J)		3.3(J)	
o Xylene							1 3(J)	

Notes.
* None Available

(B) indicates the compound was also present in the associated field or trip blank
(J) indicates the value is estimated

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TABLE 3-5
ANALYTES WITH REPORTING LIMITS EXCEEDING THE INTERIM MEASURES CLEANUP LEVELS
SWMU 24/00

	SAMPLE #	24/00-044	24/00-045	24/00-046	24/00-047	24/00-048	24/00-049	24/00-050
	SAMPLE DATE	7/12/95	7/12/95	7/12/95	7/12/95	7/12/95	7/12/95	7/12/95
	TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
COMPOUND	CLEANUP LEVEL ug/kg							
Acrylonitrile	260	1000	1000	1000	1400	1000	1000	1000
2-Hexanone	50	51	51	51	70	51	51	51
Vinyl Chloride	9.7	10	10	10	14	10	10	10
bis(2-Chloroethyl)ether	150	340	330	340	460	340	340	360
n-Nitrosodibutylamine	160	340	330	340	460	340	340	360
n-Nitrosodiethylamine	5 7	340	330	340	460	340	340	360
Dibenzo(a,h)anthracene	120	340	330	340	460	340	340	360
3,3-Dimethylbenzidine	93	340	330	340	460	340	340	360
n-Nitrosodimethylamine	17	340	330	340	460	340	340	360
n-Nitrosomethylethylamine	39	340	330	340	460	340	340	360
2-Nitrophenol	300	340	330	340	460	340	340	360
4-Nitrophenol	190	340	330	340	460	340	340	360
gamma-BHC (Lindane)	2.68	3.3	3.3	3 3	4.7	3.4	3.4	3.4
alpha-BHC	2.01							
beta-BHC	4.02							
delta-BHC	6 03							
4,4-DDT	8							
Endrin Aldehyde	15.4							
Toxaphene	770							
Arochlor-1016	110							
Arochlor-1221	110							
Arochlor-1232	110							
Arochlor-1242	110							
Arochlor-1254	110							
Arochlor-1260	110							
Kepone	47							

NOTE: If there is not a number reported then, the sample reporting limits were below the cleanup levels

* Indicates that reporting limit was elevated due to sample dilutions.

TABLE 3-5
ANALYTES WITH REPORTING LIMITS EXCEEDING THE INTERIM MEASURES CLEANUP LEVELS
SWMU 24/00

	SAMPLE #	24/00-055	24/00-056	24/00-057	24/00-058	24/00-059	24/00-060	24/00-061
	SAMPLE DATE	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95
	TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
COMPOUND	CLEANUP LEVEL ug/kg							
Acrylonitrile	260	1100	1100	1100	1100	1100	1100	1100
2-Hexanone	50	55	53	56	55	54	53	56
Vinyl Chloride	9.7	11	11	11	11	11	11	11
bis(2-Chloroethyl)ether	150							
n-Nitrosodibutylamine	160							
n-Nitrosodiethylamine	5.7							
Dibenzo(a,h)anthracene	120							
3,3-Dimethylbenzidine	93							
n-Nitrosodimethylamine	17							
n-Nitrosomethylethylamine	39							
2-Nitrophenol	300							
4-Nitrophenol	190							
gamma-BHC (Lindane)	2.68	3.6	3 5	3.7	3.6	3.6	17*	3 6
alpha-BHC	2.01						8.7*	
beta-BHC	4.02						8.7*	
delta-BHC	6 03						8.7*	
4,4-DDT	8						17*	
Endrin Aldehyde	15.4						17*	
Toxaphene	770						870*	
Arochlor-1016	110						170*	
Arochlor-1221	110						350*	
Arochlor-1232	110						170*	
Arochlor-1242	110						170*	
Arochlor-1254	110						170*	
Arochlor-1260	110						170*	
Kepone	47						175*	

NOTE: If there is not a number reported then, the sample reporting limits were below the cleanup levels.

* Indicates that reporting limit was elevated due to sample dilutions.

TABLE 3-5
ANALYTES WITH REPORTING LIMITS EXCEEDING THE INTERIM MEASURES CLEANUP LEVELS
SWMU 24/00

	SAMPLE #	24/00-062	24/00-063	24/00-064	24/00-065	24/00-066	24/00-067	24/00-068
	SAMPLE DATE	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95
	TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
COMPOUND	CLEANUP LEVEL ug/kg							
Acrylonitrile	260	1100	1100	1100	1100	1100	1100	1100
2-Hexanone	50	56	56	54	56	57	53	53
Vinyl Chloride	9 7	11	11	11	11	11	11	11
bis(2-Chloroethyl)ether	150							
n-Nitrosodibutylamine	160							
n-Nitrosodiethylamine	5 7							
Dibenzo(a,h)anthracene	120							
3,3-Dimethylbenzidine	93							
n-Nitrosodimethylamine	17							
n-Nitrosomethylethylamine	39							
2-Nitrophenol	300							
4-Nitrophenol	190							
gamma-BHC (Lindane)	2.68	3 6	3 6	3.5	3 7	3 8	17*	7.9*
alpha-BHC	2.01						8.5*	3.9*
beta-BHC	4.02						8.5*	
delta-BHC	6.03						8.5*	
4,4-DDT	8						17*	
Endrin Aldehyde	15.4						17*	
Toxaphene	770						850*	
Arochlor-1016	110						170*	
Arochlor-1221	110						340*	160*
Arochlor-1232	110						170*	
Arochlor-1242	110						170*	
Arochlor-1254	110						170*	
Arochlor-1260	110						170*	
Kepone	47						169*	79*

NOTE: If there is not a number reported then, the sample reporting limits were below the cleanup levels.

* Indicates that reporting limit was elevated due to sample dilutions.

TABLE 3-5
ANALYTES WITH REPORTING LIMITS EXCEEDING THE INTERIM MEASURES CLEANUP LEVELS
SWMU 24/00

	SAMPLE #	24/00-069	24/00-070	24/00-071	24/00-072	24/00-073	
	SAMPLE DATE	2/7/96	2/7/96	2/7/96	2/7/96	2/7/96	
	TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	
COMPOUND	CLEANUP LEVEL ug/kg						
Acrylonitrile	260						
2-Hexanone	50						
Vinyl Chloride	9.7						
bis(2-Chloroethyl)ether	150	340	330	330	310	330	
n-Nitrosodibutylamine	160	180	180	180	170	80	
n-Nitrosodiethylamine	5.7	270	260	260	250	260	
Dibenzo(a,h)anthracene	120	220	210	210	200	210	
3,3-Dimethylbenzidine	93	540	530	530	510	530	
n-Nitrosodimethylamine	17	310	310	310	290	310	
n-Nitrosomethylethylamine	39	290	280	280	270	280	
2-Nitrophenol	300	740	730	730	700	730	
4-Nitrophenol	190	830	810	810	780	810	
gamma-BHC (Lindane)	2.68						
alpha-BHC	2.01						
beta-BHC	4 02						
delta-BHC	6.03						
4,4-DDT	8						
Endrin Aldehyde	15.4						
Toxaphene	770						
Arochlor-1016	110						
Arochlor-1221	110						
Arochlor-1232	110						
Arochlor-1242	110						
Arochlor-1254	110						
Arochlor-1260	110						
Kepone	47						

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NOTE. If there is not a number reported then, the sample reporting limits were below the cleanup levels.

* Indicates that reporting limit was elevated due to sample dilutions

	A	B	C
1	23	10	11
2	2	13	28
3	16	6	16
4	0	9	15
5	29	7	8
6	36	20	32
7	19	25	23
8	5	25	21
9	2	39	23
10	25	32	19
11	21	2	10
12	1	16	23
13	23	24	27
14	29	16	28
15	21	22	0
16	7	15	18
17	6	3	5
18	9	9	17
19	40	24	6
20	23	2	34
21	18	14	27
22	15	23	12
23	5	32	19
24	13	12	6
25	26	37	28
26	38	30	8
27	4	37	11
28	20	24	20
29	3	37	36
30	35	14	3
31	8	30	17
32	31	15	12
33	0	36	23
34	15	31	13
35	15	18	40
36	6	38	23
37	19	17	20
38	4	23	14
39	39	10	29
40	30	30	10

SELECTION OF SAMPLE POINTS SLUDGE BED "E

40 points / bed

$\sqrt[3]{40} = 3.42$ use 4 / bed

use first 4 #'s from each column

RANDOM # GENERATOR FROM EXCEL Spreadsh

FIGURE 3-3
CONFIRMATION SAMPLE LOCATIONS AND RANDOM NUMBER GENERATOR
PAGE 1 OF 3

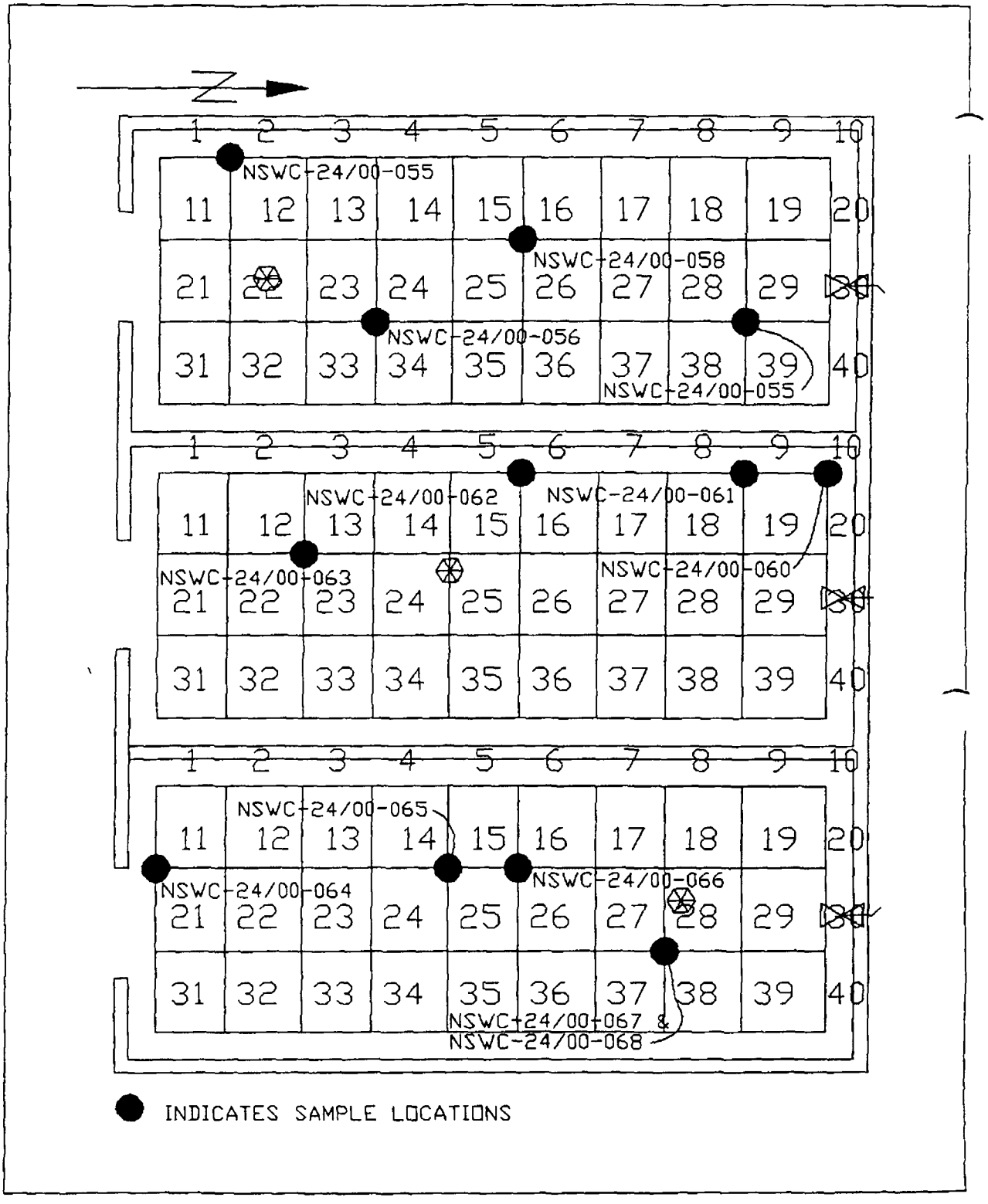

FIGURE 3-3
CONFIRMATION SAMPLE LOCATIONS AND RANDOM NUMBER GENERATOR
PAGE 2 OF 3

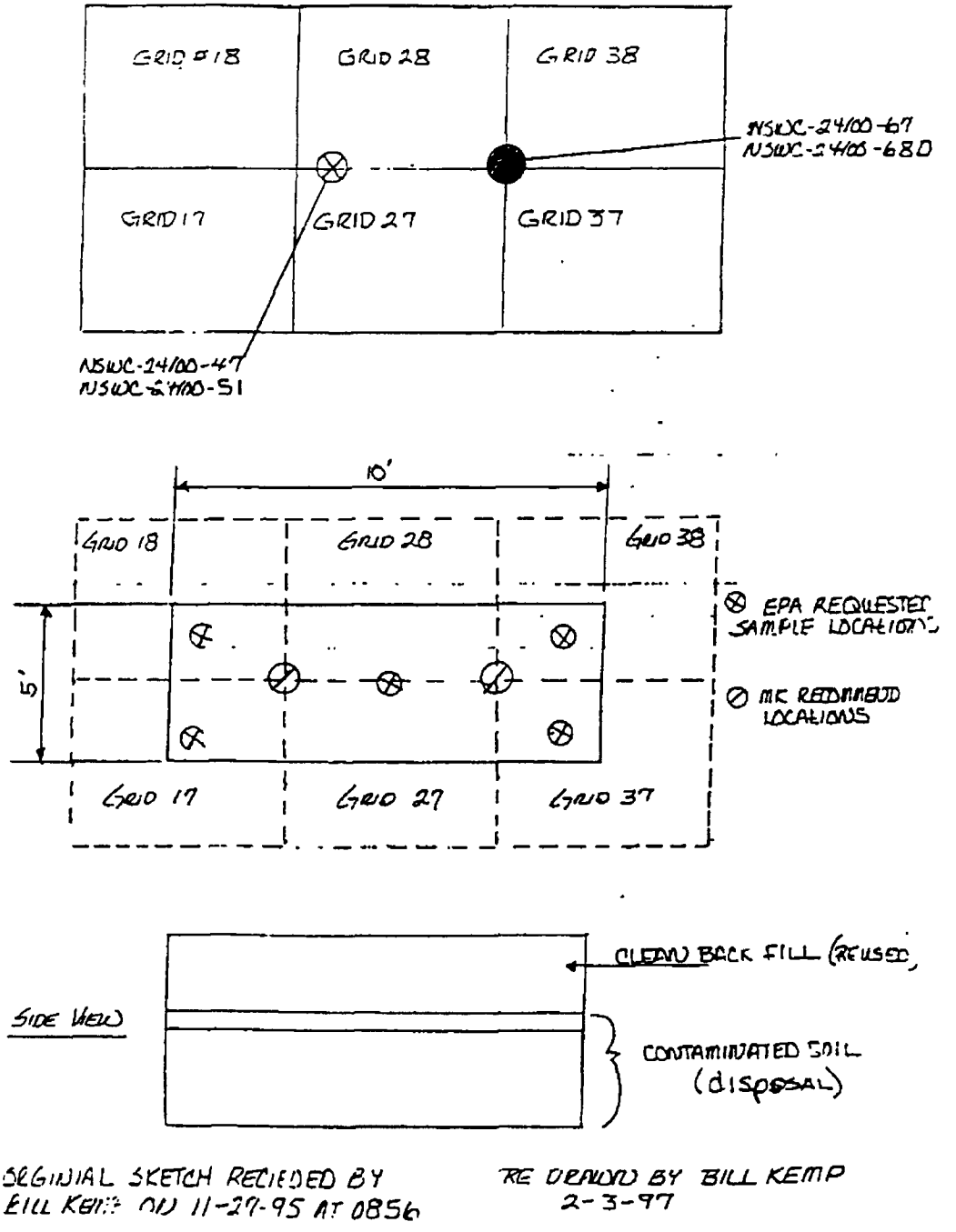

FIGURE 3-3
CONFIRMATION SAMPLE LOCATIONS AND RANDOM NUMBER GENERATOR
PAGE 3 OF 3

TABLE 3-6
SWMU 24/00 CONFIRMATION SAMPLES
ANALYTICAL RESULTS SUMMARY

	SAMPLE #	24/00-055	24/00-056	24/00-057	24/00-058	24/00-059	24/00-060	24/00-061	24/00-062	24/00-063	24/00-064	24/00-065	24/00-066	24/00-067	24/00-068	24/00-RB9	24/00-TB6	24/00-TB7
	SAMPLE DATE	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95
	TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	LIQUID**	LIQUID	LIQUID
COMPOUND	CLEANUP LEVEL ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg			
Total Sulfide	NA*									66000								
Methylene Chloride	22,000	8		3 8 (J)		5 7	5 1(J)	4 8 (J)	3 9 (J)	14	3 6 (J)	11	15	18	13		2 6 (J)	4 2 (J)
Acetone	9,200,000	23 (J)		17 (J)	19(J)	11(J)	10 (J)	15 (J)	13 (J)	18 (J)	9 1 (J)	24 (J)	22 (J)					
4-methyl-2-pentanone	2 000,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13 (J)	ND	ND	ND
Tetrachloroethene	22,000	5 1 (J)	13	15	5 9	3 7(J)	2 1 (J)	4 (J)	3 4 (J)	9 1		7	3 4 (J)	26	6 6			
Trichloroethene	NA*	ND	4J	4 7J		1 8J	19	2 2J		30		5J	7 3	25	35			
Toluene	280,000				12									3 9J	ND	ND	ND	ND
Arsenic	970	1700	2,900	4300	4000	3100	3700	3100	2800		1300	5300	3400	3400	3200			
Cobalt	100	1400	3300	2200	3000	3800	4800	4400	2200		2000	3400	4200	4200	4300			
Phenanthrene	660				77J	37J								68J				
Fluoranthene	1,600,000				78J		81J							63J	41J			
Pyrene	1,200,000				87J		67J							68J	36J			
Benzo(a)anthracene	660				39J		ND											
Chrysene	800						44J											
1,2,3,4,6,7,8,9-OCDD		0 427					0 353						0 389	0 524	0 601			
2,4,D	390,000																	
Silvex	110																	
4,4 DDT	8														12(P)			
4,4-DDE	2500						19						4 4(P)		9 1			
Chlordane	660														12(P)			
Endosulfane	2000					2 2(P)								8 6(P)				

Notes A blank space indicates that the sample was non-detect

* None Available

** All Compounds were reported by the laboratory as undetected

(B) indicates the compound was also present in the associated field,trip, or method blank

(J) indicates the value is estimated

(P) indicates there is a greater than 25% difference for detected concentrations between the two GC columns The lower value is reported

TABLE 3-6
SWMU 24/00 CONFIRMATION SAMPLES
ANALYTICAL RESULTS SUMMARY

	SAMPLE #	24/00-055	24/00-056	24/00-057	24/00-058	24/00-059	24/00-060	24/00-061	24/00-062	24/00-063	24/00-064	24/00-065	24/00-066	24/00-067	24/00-068	24/00-RB9	24/00-TB6	24/00-TB7
	SAMPLE DATE	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95	10/17/95
	TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	LIQUID**	LIQUID	LIQUID
COMPOUND	CLEANUP LEVEL ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg			
Total Sulfide	NA*									66000								
Methylene Chloride	22 000	8		3 8 (J)		5 7	5 1(J)	4 8 (J)	3 9 (J)	14	3 6 (J)	11	15	18	13		2 6 (J)	4 2 (J)
Acetone	9,200,000	23 (J)		17 (J)	19(J)	11(J)	10 (J)	15 (J)	13 (J)	18 (J)	9 1 (J)	24 (J)	22 (J)					
4-methyl-2-pentanone	2 000,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13 (J)	ND	ND	ND
Tetrachloroethene	22,000	5 1 (J)	13	15	5 9	3 7(J)	2 1 (J)	4 (J)	3 4 (J)	9 1		7	3 4 (J)	26	6 6			
Trichloroethene	NA*	ND	4J	4 7J		1 8J	19	2 2J		30		5J	7 3	25	35			
Toluene	280,000				12									3 9J	ND	ND	ND	ND
Arsenic	970	1700	2,900	4300	4000	3100	3700	3100	2800		1300	5300	3400	3400	3200			
Cobalt	100	1400	3300	2200	3000	3800	4800	4400	2200		2000	3400	4200	4200	4300			
Phenanthrene	660				77J	37J								68J				
Fluoranthene	1,600,000				78J		81J							63J	41J			
Pyrene	1,200,000				87J		67J							66J	36J			
Benzo(a)anthracene	660				39J		ND											
Chrysene	800						44J											
1,2,3,4,6,7,8,9-OCDD		0 427					0 353						0 389	0 524	0 601			
2,4,D	390,000																	
Silvex	110																	
4,4 DDT	8														12(P)			
4,4-DDE	2500						19						4 4(P)		9 1			
Chlordane	660														12(P)			
Endosulfane	2000					2 2(P)								8 6(P)				

Notes: A blank space indicates that the sample was non-detect.

* None Available

** All Compounds were reported by the laboratory as undetected

(B) indicates the compound was also present in the associated field,trip, or method blank

(J) indicates the value is estimated

(P) indicates there is a greater than 25% difference for detected concentrations between the two GC columns The lower value is reported

4.0
SAMPLING ANALYSIS

4.1 SAMPLING PROCEDURES

All sampling was performed in accordance with the SAP for Interim Measures Cleanup. Chain-of-Custody records were maintained for each sample shipment sent to the laboratory for analysis. Samples were collected and preserved per the SAP in order to maintain the sample integrity Equipment rinse blanks, field duplicates and trip blanks were collected and submitted to the laboratory in order to assist in evaluating field and analytical precision, accuracy, representativeness, and comparability The laboratories performed method blank, sample matrix spikes, sample duplicates, surrogate spikes, and standard matrix spike analyses in order to evaluate laboratory accuracy and precision.

4.2 SAMPLE COLLECTION

4.2.1 Characterization

Characterization samples 24/00-044, 24/00-045 and 24/00-046 were collected from Sludge Bed A and characterization samples 24/00-047, 24/00-048, 24/00-049, and duplicate sample 24/00-050 were collected from Sludge Bed B, shown in Figures 3-1 and 3-2, respectively. The six soil samples and one soil duplicate were analyzed for 40 CFR 264, Appendix IX constituents. Samples were collected along the longitudinal center line of each Sludge Bed at a depth of eight inches. Sludge Bed A samples were determined to be free of contaminants of concern and the Sludge Bed was removed from the interim action. Additional characterization samples (24/00-051 through 24/00-54) were collected on September 18,1995 from Sludge Bed B. These samples were collected in the same location as samples 24/00-047 through 24/00-050 but at depth of 12 inches. The additional characterization samples were analyzed for RCRA characteristics to determine final disposal information. Sludge Bed B was classified as a special waste for disposal. Characterization results are presented in Table 3-2.

4.2.2 Confirmation

Upon completion of excavation at Sludge Bed B, confirmation sampling was conducted at SWMU 24/00 on October 17, 1995. A five foot grid interval was laid out over each "bed" in Sludge Bed B. The number of samples collected was based on the cube root of the number of grid intersections. Each "bed" in Sludge Bed B had 40 grid intersections, thus 3.4 or 4 samples were collected from each "bed". A random number generator was used to determine the grid sample number The sample map for each bed and the random number chart is included as Figure 3-3. Fourteen samples (24/00-55 through 24/00-68) were collected and sent to a laboratory to be analyzed for 40 CFR 264, Appendix IX requirements per the SAP. Results of the initial confirmation samples were used to characterize remaining soils for further remediation activities. These sample locations are identified in Figure 3-4.

Following the removal of additional soil at Sludge Bed B, five additional confirmation samples (24/00-069 through 24/00-073) were collected on February 7, 1996 These sample locations were directed by the USEPA and were clustered around the excavation versus random generation. Figure 3-3 and the detail in Figure 3-4 identifies the sample locations. These samples (24/00-69 through 24/00-73) were submitted to CEC for analysis of 40 CFR 264, Appendix IX compounds. Results of the confirmation sampling are summarized in Table 3-6.

Soil confirmation samples were collected using either a stainless steel core sampler lined with a brass sleeve that was hand driven into undisturbed soil, or a stainless steel trowel. These samples were placed in appropriate containers for analysis per the SAP. The confirmation samples were marked and placed in

a cooler with "blue ice" prior to shipment to maintain sample integrity. All soil and liquid samples were transported using proper chain of custody procedures. Chain of custody records are provided in Volume 2, Appendix D of this report.

4.3 SAMPLE ANALYSES

Site characterization samples (24/00-044 through 24/00-050) were analyzed for 40 CFR 264, Appendix IX compounds. Four additional characterization samples (24/00-051 through 24/00-054) were collected from Sludge Bed B to determine the method of disposal and were analyzed for RCRA characteristics and followed *Test Methods for Evaluating Solid Waste, SW 846, USEPA 1986,* (SW 846) Method 8330 Analytical results are provided in Volume 2, Appendix D

Confirmatory samples (24/00-055 through 24/00-068) were collected from Sludge Bed B on October 17, 1995 and were analyzed for 40 CFR 264, Appendix IX compounds to ensure complete removal of all contaminated material. Analysis of these samples indicated that additional excavation was required. Five final confirmatory samples (24/00-069 through 24/00-073) were collected from Sludge Bed B on February 7, 1996 and were analyzed for 40 CFR 264, Appendix IX compounds. The results confirm that no further action is required at SWMU 24/00. The analytical methods employed for this SWMU were in accordance with the SAP and SW 846 methodologies. The analytical methods used for analyses associated with these interim measures activities are presented in Table 3-1 and in Appendix A. A summary of the sampling activity and results for SWMU-24/00 is included in Tables 3-2 through 3-6.

4.4 DATA QUALITY CONTROL

All soil and liquid samples collected from SWMU-24/00 were transported using proper chain-of-custody procedures. Copies of the chain of custody documents are included in Volume 2, Appendix D of this report. The sample numbering for SWMU 24/00 begins at sample number 24/00-044. Sample numbers 24/00-001 through 24/00-043 were deleted and were not used.

4.4.1 Field Quality Control

Field quality control samples, including trip blanks, field duplicates, and an equipment rinsate sample were collected during the work at SWMU -24/00 to identify potential sources of error or cross contamination that occurred during collection, storage, or shipment of samples to the laboratory and assist in evaluating precision and representativeness. Results for these samples are included in the Summary Tables and in Volume 2, Appendix D.

Trip blanks, field blanks, equipment rinsates, and field duplicate analytical results from characterization and confirmation sampling events were evaluated to identify potential sources of error introduced during sampling. The equipment rinsate was collected by flushing decontaminated sampling equipment with deionized water (from the facility), collecting the rinse water and submitting it for analysis. Results were used to evaluate the effectiveness of decontamination procedures in preventing sample cross-contamination No target compounds were detected in the rinsate blanks from the confirmation samples confirming that cross-contamination of the samples through sample equipment was not a potential concern. Methylene chloride was detected in the rinsate blank collected during the first round of characterization sampling. However, all of these characterization samples had methylene chloride concentrations at levels similar to the level found in the corresponding method blank.

Field blank sample results were evaluated to identify any sources of contamination in the deionized rinse water and /or general atmospheric conditions in the field. Field blanks were collected by pouring deionized water (from the same source used for sample equipment decontamination) into appropriate sample containers and adding sample preservative as required. No target compounds were detected in the field blanks.

Trip blank sample results were evaluated to identify any cross-contamination that may have occurred during storage and shipping of the samples to the analytical laboratory Trip blanks were received in sealed sample containers from the laboratory and are not opened at the site. Methylene chloride and acetone were both detected, at very low levels, in the trip blank for the characterization samples. Methylene chloride alone was detected, again at very low levels, in the trip blanks for the confirmation samples.

Duplicate samples were collected from sample locations during all rounds of sampling events. Samples 24/00-49 and 24/00-50, and 24/00-53 and 24/00-54 were collected during characterization. Samples 24/00-57 and 24/00-58, as well as samples 24/00-67 and 24/00-68, were duplicates for the confirmational samples. Precision criteria for duplicate samples is 25% Relative Percent Difference (RPD). This precision criteria does not apply when values for analytes are estimated below the reporting limits. Field duplicate samples taken in support of SWMU 24/00 met precision criteria for the majority of analytes.

Both 24/00-49 and 24/00-50 had detectable levels of 4,4-DDT (7.1 and 6.8 µg/kg) and low level detection of other compounds. The 4,4-DDT is the indicator compound that resulted in the excavation and disposal of the sludge. The other compounds detected were significantly below the cleanup levels. Sample results for 24/00-49 and 24/00-50 met precision criteria for most analytes, with several exceptions Chlordane was detected at 34 µg/kg in sample 24/00-49, and at 48 µg/kg in sample 24/00-50; the RPD was slightly high at 29% Pronamide was detected in 24/00-50, but was not detected in 24/00-49 Mercury was detected in 24/00-049, but was not seen in sample 24/00-50 Precision criteria were met for almost all analytes in samples 24/00-53 and 24/00-54. Barium RPD was slightly high at 26.6%.

There were several analytes which didn't meet precision criteria for duplicate samples 24/00-57 and 24/00-58. Toluene was detected in 24/00-58, but was not detected in 24/00-57. This pair of field duplicate samples had poor precision for barium and lead, with RPD's of 57% and 80%, respectively. Precision criteria were met for all other analytes for these two samples.

4,4-DDT was detected in 24/00-68 and resulted in the additional excavation as the DDT level was above the interim cleanup level. With few exceptions, duplicate samples 24/00-67 and 24/00-68 met precision criteria. Trichloroethene RPD was slightly high at 28.6%, while the RPD for tetrachloroethene was higher at 75%. Sample 24/00-67 had a hit of endosulfan I, which was not seen in 24/00-68. Sample 24/00-68 had hits of 4,4-DDE, 4,4-DDT, and Chlordane; these analytes were not detected in sample 24/00-67.

4.4.2 Laboratory Quality Control

The laboratory performed method blank, sample matrix spike, sample matrix spike duplicate, sample duplicate, surrogate, and standard matrix spike analyses in order to evaluate laboratory accuracy and precision.

Thirty soil samples collected for NSWC Crane SWMU 24/00 were analyzed for pesticides/PCBs, RCRA characteristics, metals, organophosphorus pesticides, semi-volatile organic compounds, volatile organic compounds, herbicides, dioxins and/or explosives. Volume 2, Appendix D contains method numbers for all analytes The laboratory data received was reviewed to determine whether data quality objectives were met for the sampling and analytical programs through the assessment of precision, accuracy, representativeness, comparability and completeness.

Precision is a measure of the reproducibility of measurements under a given set of conditions. Laboratory duplicates, matrix spikes and matrix spike duplicates were used to determine the precision of the analytical process.

Accuracy is a measure of the bias in a measurement system, and defined as the closeness of the reported value to the true value. The accuracy of a measurement system was assessed by evaluating the

results of quality control samples such as matrix spikes, analytical surrogates and the use of field/trip blanks, and equipment rinsate blanks.

Representativeness in the laboratory is ensured by using the proper analytical procedures, meeting sample holding times and analyzing and assessing field quality control samples. Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. Planned analytical data are considered to be comparable when similar sampling and analytical methods are used and documented per the QAPP. Completeness is a measure of the amount of valid measurements obtained from all measurements taken in the project. The laboratory completeness goal established in the QAPP was 80 percent.

Method blanks were free of target compounds above the reporting limits, although methylene chloride was present in several method blanks below the reporting limit. Corresponding field samples impacted by the methylene chloride blank contamination were flagged accordingly. Most surrogate recoveries fell within acceptable ranges to meet the project data quality objectives In one organophosphorus pesticide batch, several soil samples and the corresponding spiked samples had low surrogate recoveries. The recoveries of the spiked target analytes met method criteria, indicating that target analyte results for the soil samples were unaffected.

The majority of laboratory standard spikes had acceptable recoveries with the following exceptions:

> One standard spike which was run for pesticides had a high recovery for 4,4-DDE at 219%, and another standard spike, run for explosives, had a high recovery for 4-Am-DNT at 165%. Because the high recoveries indicate increased sensitivity for the respective analytes, and corresponding field samples had no hits for these analytes, the reported results are considered to have met the project objectives
>
> The herbicides quality control samples corresponding with samples NSWC-24/00-044,-045,-046,-047,-048,-049,-050,FB1,RB1, and TB1, showed the laboratory standard spike and the sample matrix spikes had low recoveries for Silvex and 2,4-D, ranging from 31% to 47%. This may indicate that the corresponding sample and results may underestimate true concentrations by a factor of two to three. However, all measured results for 2,4-D were at least four orders of magnitude (a factor of 10,000) below data quality objectives referenced in Table 5 of the SAP. Silvex was not detected in any of the samples, and the data quality objective for this analyte is more than 20 times greater than the reporting limit.

The sample matrix spikes and matrix spike duplicates (MS/MSD) had acceptable accuracy and precision, with few exceptions. The MS and MSD of sample NSWC 24/00-071 was analyzed for pesticides and had low recoveries for endosulfan I, dieldrin, endosulfan II, endrin, and 4,4-DDD, which ranged from 0-32%. Since the laboratory standard spike had acceptable recoveries for these analytes, a matrix interference was suspected. The data quality objectives for these compounds are 35 to 4000 times greater than the corresponding reporting limits, and none of the corresponding samples (NSWC 24/00-069, -070k, -071, -072, or -073) contained hits greater than the reporting limits. MS/MSD recoveries for several metals were slightly low, but in all cases, the post-digest spike recoveries were acceptable, and data was flagged appropriately. Antimony recoveries were in the 40%-50% range, indicating that the corresponding sample results may underestimate true concentrations by half, but since the data quality objective was at least an order of magnitude (or ten times) greater than the reporting limit, and the only sample hit quantitated was approximately 70 times less than the criteria, the data is considered acceptable.

Overall, data quality objectives for accuracy, precision, comparability and completeness have been met and the data is considered acceptable.

5.0
SUMMARY AND CONCLUSIONS

Based on analytical results of the characterization samples collected at Sludge Bed A, it was determined that Interim Measures would not be required and that the Sludge Bed could remain in use. Sludge and debris was removed from Sludge Bed B using hand and machine methods. The laboratory analysis was reviewed and IDEM recommended disposal as a special waste. MK obtained approval from IDEM for disposal of the materials as special waste at the NSWC Crane landfill. A copy of the Special Waste Certification is included in Volume 2, Appendix E. Approximately 378 tons of material was classified as special waste and was transported to the on-site NSWC Crane landfill. Photographs of the site and the progress of work performed during the interim measures activities are provided in Appendix C.

Sample analyses were performed following EPA SW846 methodologies. Initial and supplemental characterization samples were analyzed for 40 CFR 264, Appendix IX analytes and RCRA characteristics. Confirmation samples were analyzed for similar compounds to verify that contaminants were removed to below cleanup levels. Tables 3-2 through 3-6 provide a comparison of conditions at the site prior to and following remedial actions taken during the interim measures activities. Table 3-4 summarizes the results of background samples collected from the on-site borrow pit and virgin soil borrow sources confirming that concentrations of various compounds tested are above established interim measures cleanup levels and are naturally present in soils in the surrounding area.

The final confirmation sampling results (samples 24/00-069 through -073 dated February 7, 1996) indicate the levels of the constituents analyzed are below the criteria established for interim measures cleanup. The Navy submitted these results to the USEPA, who compared them to Region V Data Quality Limits. The USEPA accepted the confirmation sampling results and approved the area for backfill and restoration. A copy of the USEPA, Region V approval letter is included in Volume 2, Appendix E. The interim measures activities performed have met the requirements and objectives of the work plan. Site grading is complete, a final inspection of the site has been performed, the physical work has been accepted by NSWC Crane personnel, and it is recommended that no further action be taken on SWMU -24/00.

6.0
REFERENCES

Morrison Knudsen Corporation, (MK) 1995a. *Work Plan for Interim Measures Cleanup at Solid Waste Management Units #16/16 AND #24/00*, Revision B, as amended dated August 18, 1995.

Morrison Knudsen Corporation, (MK) 1995b. *Task-Specific Site Safety and Health Plan, Supplement to Work Plan for Solid Waste Management Units #16/16 AND #24/00*, Revision B, dated August 18, 1995.

Morrison Knudsen Corporation, (MK) 1995c *Quality Control Plan for Interim Measures Cleanup, NSWC Crane, Crane, Indiana* Revision C, August 1995.

Morrison Knudsen Corporation, (MK) 1995d. *Quality Assurance Project Plan for RCRA Corrective Action Interim Measures Cleanup, NSWC Crane, Crane, Indiana* Revision C, December 1995.

Morrison Knudsen Corporation, (MK) 1995e *Waste Management Plan for Interim Measures Cleanup, NSWC Crane, Crane, Indiana* Revision C, August 1995.

Morrison Knudsen Corporation, (MK) 1995f *Sampling and Analysis Plan for Interim Measures Cleanup, NSWC Crane, Crane, Indiana* Revision C, August 1995.

Morrison Knudsen Corporation, (MK) 1995g *Environmental Protection Plan for Interim Measures Cleanup, NSWC Crane, Crane, Indiana* Revision C, August 1995.

Naval Energy and Environmental Support Activity. (NEESA) 1983. *Initial Assessment Study of Naval Weapons Support Center Crane, Indiana.* NEESA 13-003, May

U.S. Environmental Protection Agency (USEPA) 1994. *RCRA Corrective Action Guidance Human Data Quality Levels for RFI Projects.* June 18, 1994.

APPENDIX A
REGULATORY FORMS/CORRESPONDENCE

APPENDIX A
REGULATORY FORMS/CORRESPONDENCE

- Table 1 (1 page), Table 4 (2 pages), and Table 5 (6 pages) (extracted from the NSWC Crane Sampling and Analysis Plan)
- Work Plan Approval/Sign-Off page for Solid Waste Management Units #16/16 and #24/00, Dated. August 18,1995, Revision B (1 page)
- Fax transmittal from Mk to Adrienne Wilson with The Department of Navy- Southern Division, Dated October 13, 1995, Discussing Work Plan changes and revisions (14 pages)
- Construction Interface Documents (CIDs) and backup (10 pages)
- Memorandum from Thomas Brent to Brent Robertson Dated August 29, 1995, Granting permission to backfill SWMU 24/00 (1 Page)
- Letter from Brent Robertson to MK, Dated: 30May95, Contract N62467-93-D-1106, Environmental RAC Contract 4324-0009 NSWC-CRANE, Discussing EOD Clearance for the Remedial site (3 pages)
- DNR-Guidence Document, Part 2, Medium and Large Site Soil Cleanup Verification. Discusses random number generation for collecting samples (6 pages)

TABLE 1
ANALYTICAL SUMMARY

SWMU Number	Analytical Parameters[1]	Rationale
SWMU #03/10 Ammunition Burning Ground Soils	Explosives, Sb, Se, Cr, Cu, Co, Pb, Hg, Ni, Ag, Zn, Al, Ba Mg, Mn, Sn, Na, P, TCE, tetrachloroethene	Contaminants identified in WES reports
SWMU #10/15 Rockeye Soils	Explosives, Method 8240 VOCs, As, Al, Ba, Cd, Cr, Cu, Fe, Pb, Mg, Ni, Zn	Contaminants identified in WES reports
SWMU #12/14 Mine Fill A Soils	Applicable Appendix IX Metals and Explosives	History of site and nature of cleanup activities
SWMU #13/14 Mine Fill B Soils	Applicable Appendix IX Metals, and Explosives	History of site and nature of cleanup activities
SWMU #14/00 Sanitary Landfill and Lithium Battery Disposal Soils	Applicable Appendix IX Metals and Lithium	History of site and nature of cleanup activities
SWMU #16/16 Cast High Explosive/Incinerator Building 146 Soils	Applicable Appendix IX Metals, PCBs and Explosives	History of site and nature of cleanup activities.
SWMU #17/04 PCB Capacitor Burial/Pole Yard Soils	Applicable Appendix IX Metals and PCBs	History of site and nature of cleanup activities
SWMU #23/00 Battery Shop Soils	Appendix IX List	History of site and nature of cleanup activities
SWMU #24/00 Sludge Drying Beds Sludges and Soils	Appendix IX List	Potential contaminants unknown
SWMU #25/07D Highway 58 Dump Site A Debris and Soils	Appendix IX List	Potential contaminants unknown
SWMU #26/08D Highway 58 Dump Site B Debris and Soils	Appendix IX List	Potential contaminants unknown.
SWMUs #13/14, #16/16 and #17/04 Excavated Soil	RCRA Characteristics[2], Paint Filter Test and PCBs	Characterization for disposal: possible presence of PCBs
SWMUs #14/00 and #23/00 Excavated Soil	RCRA Characteristics, Only TCLP Metals and Paint Filter Test	Characterization for disposal; potential TCLP contaminants are metals only.
SWMUs #24/00, #25/07D and #26/08D Incidental Soil, if required	RCRA Characteristics and Paint Filter Test	Characterization for disposal; potential contaminants unknown

[1] - These parameters are preliminary and are not to be used until confirmed by the Project Manager
[2] - RCRA Characteristics includes ignitability, corrosivity, reactivity, and full TCLP

TABLE 4
ANALYTICAL METHODS

Parameter	Method Number	Sample Size/ Container	Preservation	Holding Time
Soil Sample Analyses (SAMPLER MUST NOTE IF APPENDIX IX OR STANDARD LIST WILL BE USED)				
Volatile Organics	8260	2 x 4 oz. glass jar	Refrigerate at 4°C	14 days
Volatile Organics	8015	2 x 4 oz. glass jar	Refrigerate at 4°C	14 days
Semivolatile Organics	8270	1 x 250 mL glass jar	Refrigerate at 4°C	14/40 days[1]
Organochlorine Pesticides/PCBs	8080	1 x 250 mL glass jar	Refrigerate at 4°C	14/40 days[1]
Organophosphate Pesticides	8140	1 x 250 mL glass jar	Refrigerate at 4°C	14/40 days[1]
Chlorinated Herbicides	8150	1 x 250 mL glass jar	Refrigerate at 4°C	14/40 days[1]
Metals	6010/7471	1 x 250 mL glass jar	Refrigerate at 4°C	6 months
Cyanide	9012	1 x 250 mL glass jar	Refrigerate at 4°C	14 days
Sulfide	9030	1 x 250 mL glass jar	Refrigerate at 4°C	7 days
Dioxins/furans	8280	1 x 250 mL glass jar	Refrigerate at 4°C	14/40 days[1]
Explosives	8330	1 x 250 mL glass jar	Refrigerate at 4°C	14/40 days[1]
Lithium	6010 or 7430	1 x 250 mL glass jar	Refrigerate at 4°C	6 months
Solid Waste Characterization Sample Analyses				
Ignitability	1010	1 X 250 mL glass jar	None	ASAP
Corrosivity - pH[1]	9040	1 x 500 mL plastic bottle	Refrigerate at 4°C	ASAP
Corrosivity - pH[1]	9045	1 x 250 mL glass jar	Refrigerate at 4°C	ASAP
Sulfide reactivity[1]	Sec.7.3.4.1	1 x 500 mL glass bottle	Refrigerate at 4°C 2 mL zinc acetate & NaOH to pH > 9	7 days
Sulfide reactivity[1]	Sec.7.3.4.1	1 x 250 mL glass jar	Refrigerate at 4°C	7 days
Cyanide reactivity[2]	Sec 7.3.3.2	1 x 1 L plastic bottle	Refrigerate at 4°C NaOH pH > 12	14 days
Cyanide reactivity[2]	Sec 7.3.3.2	1 x 250 mL glass jar	Refrigerate at 4°C	14 days

TABLE 4
ANALYTICAL METHODS

Parameter	Method Number	Sample Size/ Container	Preservation	Holding Time
TCLP - Organics[1]	8260, 8270, 8150, 8140, 8080	2 x 40 mL VOA vials (8260); 1 liter amber glass jar (8270), 1 liter amber glass jar (8080), 1 liter amber glass jar (8150/8140); 1 liter plastic (6010); 1 8-ounce jar (mercury)	Refrigerate at 4°C	14 days 7/40 days
TCLP - Metals[1]	6010, 7470	2 x 250 mL plastic bottle	HNO, pH < 2	180 days
Paint Filter Test	9095	1 x 250 mL glass jar	None	N/A
Water Samples (SAMPLER MUST NOTE IF STANDARD OR APPENDIX IX PARAMETER LIST WILL BE USED)				
Volatile Organics	624/8260	2 x 40 mL glass vials	HCL to pH < 2, Refrigerate at 4°C	14 days
Explosives	8330	1 x 250 mL glass or plastic	Refrigerate at 4°C	14/40 days
Total Nitrates	353.1	1 x 500 mL glass or plastic	Refrigerate at 4°C	48 hours
Metals	200 series	1 x 1 L plastic bottle	Refrigerate at 4°C	6 months

Notes:
[1] - 14 days for extraction and 40 days from extraction to analysis.
[2] - Liquid samples only.
[3] - Solid samples only
[4] - For solid samples, submit the following jars one 250 mL glass jar for 8260, two 500-mL (two 8-ounce jars) for 8080, 8140/ 8150 and metals The extraction method will be EPA Method 1311.

TABLE 5
INTERIM MEASURE CLEANUP LEVELS' FOR SOIL ANALYSES

Compound	Cleanup Level µg/kg	Compound	Cleanup Level µg/kg
Volatile Compounds - Methods 8260 & 8015			
Acetone	9,200,000	trans-1,3-Dichloropropene	1,000
Acetonitrile	230,000	1,4-Dioxane	32,000
Acrolein	780,000	Ethylbenzene	58,000
Acrylonitrile	260	Ethyl cyanide	100
Allyl chloride	200,000	Ethyl methacrylate	38,000
Benzene	2,700	2-Hexanone	50
Bromodichloromethane	2,900	Iodomethane	5
Bromomethane	60,000	Isobutyl alcohol	N.A.
Carbon disulfide	53,000	Methacrylonitrile	56,000
Carbon tetrachloride	920	Methyl ethyl ketone	5,200,000
Chlorobenzene	300,000	Methyl methacrylate	3,200,000
2-Chloro-1,3-butadiene	5	4-Methyl-2-pentanone	2,000,000
Chlorodibromomethane	10,000	Pentachloroethane	10
Chloroethane	270,000	Styrene	13,000,000
Chloroform	960	1,1,1,2-Tetrachloroethane	10,000
Chloromethane	3,700	1,1,2,2-Tetrachloroethane	2,100
3-Chloropropene	5	Tetrachloroethylene	22,000
1,2-Dibromoethane	19	Toluene	280,000
Dibromomethane	390,000	Tribromomethane	110,000
trans-1,4-Dichloro-2-butene	15	1,1,1-Trichloroethane	300,000
Dichlorodifluoromethane	380,000	1,1,2-Trichloroethane	2,900
1,1-Dichloroethane	400,000	Trichloroethylene	14,000
1,2-Dichloroethane	840	Trichlorofluoromethane	410,000
1,1-Dichloroethylene	70	1,2,3-Trichloropropane	310,000
trans-1,2-Dichloroethylene	620,000	Vinyl acetate	39,000,000

TABLE 5
INTERIM MEASURE CLEANUP LEVELS[1] FOR SOIL ANALYSES

Compound	Cleanup Level µg/kg	Compound	Cleanup Level µg/kg
Dichloromethane	22,000	Vinyl chloride	9.7
1,2-Dichloropropane	1,300	Total xylenes	99,000
cis-1,3-Dichloropropene	1,000		
Base/Neutral Compounds - Methods 8270 & 8280[2]			
Acenaphthene	36,000	Hexachlorocyclopentadiene	270,000
Acenaphthylene	660	Hexachlorodibenzo-p-dioxins	N.A.[3]
Acetophenone	3,900,000	Hexachlorodibenzofurans	N.A.[3]
2-Acetylaminofluorene	N.A.[3]	Hexachloroethane	39,000
4-Aminobiphenyl	N.A.[3]	Hexachlorobenzene	12,000
Aniline	11,000	Hexachloropropene	N.A.[3]
Anthracene	1,900	Indeno(1,2,3-c,d)pyrene	1,200
Aramite	34,000	Isophorone	900,000
Benzo(a)anthracene	660	Isosafrole	N.A.[3]
Benzo(b)fluoranthene	660	Methapyrilene	N.A.[3]
Benzo(k)fluoranthene	660	3-Methylcholanthrene	N.A.[3]
Benzo(g,h,i)perylene	660	Methyl methanesulfonate	N.A.[3]
Benzo(a)pyrene	660	2-Methylnaphthalene	660
Benzyl alcohol	12,000,000	Naphthalene	80,000
Bis(2-chloroethoxy)methane	660	1,4-Naphthoquinone	N.A.[3]
Bis(2-chloroethyl)ether	150	1-Naphthylamine	N.A.[3]
Bis(2-chloroisopropyl)ether	12,000	2-Naphthylamine	N.A.[3]
Bis(2-ethylhexyl)phthalate	61,000	m-Nitroaniline	3,300
4-Bromophenyl phenyl ether	660	o-Nitroaniline	2,300
Butyl benzyl phthalate	7,800,000	p-Nitroaniline	N.A.[3]
p-Chloroaniline	160,000	Nitrobenzene	20,000
2-Chloronaphthalene	3,100,000	4-Nitroquinoline-1-oxide	N.A.[3]

TABLE 5
INTERIM MEASURE CLEANUP LEVELS[1] FOR SOIL ANALYSES

Compound	Cleanup Level µg/kg	Compound	Cleanup Level µg/kg
4-Chlorophenyl phenyl ether	660	N-Nitrosodi-n-butylamine	160
Chrysene	800	N-nitrosodiethylamine	5.7
Dibenzo(a,h)anthracene	120	N-nitrosodimethylamine	17
Dibenzofuran	660	N-nitrosodiphenylamine	170,000
1,2-Dibromo-3-chloropropane	610	N-nitrosomethylethylamine	39
Di-n-butyl phthalate	3,900,000	N-nitrosomorpholine	N.A.[2]
m-Dichlorobenzene	280,000	N-nitrosopiperidine	N.A.[2]
o-Dichlorobenzene	230,000	N-nitrosopyrrolidine	N.A.[2]
p-Dichlorobenzene	17,000	5-nitro-o-toluidine	N.A.[2]
3,3'-Dichlorobenzidine	1,900	Pentachlorobenzene	31,000
Diethyl phthalate	31,000,000	Pentachlorodibenzo-p-dioxins	N.A.[2]
O,O-Diethyl-O-2-purazinylphosphorothioate	N.A.[2]	Pentachlorodibenzofurans	N.A.[2]
p-Dimethylaminoazobenzene	N.A.[2]	Phenacetin	N.A.[2]
7,12-Dimethylbenz(a)anthracene	N.A.[2]	Phenanthrene	660
3,3'-Dimethylbenzidine	93	p-Phenylenediamine	7,400,000
alpha,alpha-Dimethyphenethylamine	N.A.[2]	2-Picoline	N.A.[2]
Dimethyl phthalate	100 000,000	Pyrene	1,200,000
m-Dinitrobenzene	3,900	Pyridine	3,900
2,4-Dinitrotoluene	78,000	Safrole	N.A.[2]
2,6-Dinitrotoluene	1,300	1,2,4,5-Tetrachlorobenzene	12,000
Di-n-octyl phthalate	780,000	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0.0057
Diphenylamine	980,000	Tetrachlorodibenzo-p-dioxins	N.A.[2]
Di-n-propylnitrosamine	120	Tetrachlorodibenzofurans	N.A.[2]
Ethyl methanesulfonate	N.A.[2]	o-Toluidine	N.A.[2]
Fluoranthene	1,600,000	1,2,4-Trichlorobenzene	93,000
Fluorene	28,000	O,O,O-Triethylphosphorothioate	N.A.[2]

TABLE 5
INTERIM MEASURE CLEANUP LEVELS[1] FOR SOIL ANALYSES

Compound	Cleanup Level µg/kg	Compound	Cleanup Level µg/kg
Hexachlorobenzene	530	sym-Trinitrobenzene	2,000
Hexachlorobutadiene	11,000		
Acid Compounds - Method 8270			
2-sec-Butyl-4,6-dinitrophenol	39,000	4,6-Dinitro-o-cresol	3,300
p-Chloro-m-cresol	210	2,4-Dinitrophenol	78,000
2-Chlorophenol	200,000	2-Nitrophenol	300
meta-Cresol	2,000,000	4-Nitrophenol	190
ortho-Cresol	2,000,000	Pentachlorophenol	7,100
para-Cresol	200 000	Phenol	23,000,000
2,4-Dichlorophenol	120,000	2,3,4,6-Tetrachlorophenol	1,200,000
2,6-Dichlorophenol	N.A.[2]	2,4,5-Trichlorophenol	930
2,4-Dimethylphenol	780,000	2,4,6-Trichlorophenol	77,000
Pesticide & PCB Compounds - Methods 8080 & 8140			
Aldrin	50	Disulfoton	1,600
Aroclor 1016	110[3]	Endosulfan sulfate	44.2
Aroclor 1221	110[3]	Endosulfan I (alpha)	2,000
Aroclor 1232	110[3]	Endosulfan II (beta)	2,000
Aroclor 1242	110[3]	Endrin	12,000
Aroclor 1248	110[3]	Endrin aldehyde	15.4
Aroclor 1254	110[3]	Famphur	N.A.[2]
Aroclor 1260	110[3]	Heptachlor	190
alpha-BHC	2.01	Heptachlor epoxide	94
beta-BHC	4.02	Isodrin	N.A.[2]
delta-BHC	6.03	Kepone	47
gamma-BHC	2.68	Methoxychlor	200,000
Chlordane	660	Methyl parathion	20

TABLE 5
INTERIM MEASURE CLEANUP LEVELS' FOR SOIL ANALYSES

Compound	Cleanup Level µg/kg	Compound	Cleanup Level µg/kg
Chlorobenzilate	3 200	Parathion	230,000
4,4'-DDD	3,500	Pentachloronitrobenzene	3,300
4,4'-DDE	2,500	Phorate	7,800
4,4'-DDT	2	Pronamide	2,900,000
Diallate	14,000	Tetraethyl dithiopyrophosphate	20,000
Dieldrin	53	Toxaphene	770
Dimethoate	7,800		
Herbicides - Method 8150			
2,4-Dichlorophenoxyacetic acid	390,000	2,4,5-T	390,000
Silvex	110		

TABLE 5
INTERIM MEASURE CLEANUP LEVELS[1] FOR SOIL ANALYSES

Compound	Cleanup Level µg/kg	Compound	Cleanup Level µg/kg
Metals - Methods 6010/7000			
Antimony	31,000	Mercury	23,000
Arsenic	970	Nickel	1,600,000
Barium	5,500,000	Selenium	390,000
Beryllium	400	Silver	390,000
Cadmium	39,000	Thallium	N.A.[2]
Chromium	940,000	Tin	47,000,000
Cobalt	100	Vanadium	550,000
Copper	2,900,000	Zinc	23,000,000
Lead	500,000		
Miscellaneous - Methods 9012 & 9030			
Cyanide	1,600,000	Sulfide	N.A.[2]

[1]Levels taken from USEPA memo *RCRA Corrective Action Guidance Human Health Data Quality Levels for RFI Projects* by Karl E. Bremer, June 18, 1994.
[2]N.A - None Available.
[3]Method 8280 for dioxins and furans only.
[4]DQL for total PCBs is 110 µg/kg.

Note: Constituents printed in bold fond are those for which the lowest practical quantitative limit (PQL) either equals or exceeds the cleanup goal. For these cases, the PQL is listed as the cleanup level, and the detection limit achieved by the laboratory should be closely monitored. The analyte list for 8260 should be reviewed to make sure all parameters are accounted for.

Equipment rinsates will be analyzed for the same parameters as the soil samples collected that day. Consult the laboratory for appropriate bottle size and preservative.

WORK PLAN INFORMATION

NAVAL SURFACE WARFARE CENTER
CRANE WORK PLAN

SOLID WASTE MANAGEMENT UNITS
#16/16 AND #24/00

NSWC CRANE
CRANE, INDIANA

August 18, 1995
Revision B

CONTRACT N62467-93-D-1106
DELIVERY ORDER #0009

Prepared by:

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APPROVALS:

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MK Sr. Project Manager — Date

[illegible] — 18 Sept 95
MK Program Manager — Date

ACCEPTANCE

[illegible] — 18 SEPT 95
U.S. Navy Responsible Authority — Date

10 305.1

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FACSIMILE TRANSMITTAL

DATE: October 13, 1995

TO: Adrienne Wilson

COMPANY: Department of the Navy - Southern Division

PHONE: 803-743-0582 FAX NUMBER: 803-743-0465

FROM: Jenny Wray

PHONE: (812) 854-6941 FAX NUMBER: (812) 854-6944

TOTAL NUMBER OF PAGES (INCLUDING THIS COVER SHEET): 45
IF YOU DO NOT RECEIVE ALL THE PAGES, PLEASE CALL THE OFFICE A.S.A.P.:

NAME: JENNY WRAY
TELEPHONE: 812-854-6941

NOTES OR COMMENTS:

As requested, the following are corrections in regard to the USEPA Informal Comments for the Work Plan and Task Specific H&S Plan for SWMUs #16 and 24.

Please review the corrections and adjustments and contact Tom Payne at your earliest convenience, so we may revise.

Thank You.

1.3 OBJECTIVES

MK's goal is to cost-effectively and efficiently execute the work in accordance with the Delivery Order requirements while meeting or exceeding all site-specific, local, state and federal requirements. The primary work objectives are to:

- Perform all work in a manner that maximizes worker safety and minimizes environmental impacts

- Remove, test, and dispose of the ash/slag piles at the High Cast Explosive area and restore the site by backfilling the excavation to the original grade.

- Remove and test the sludge at Drying Bed B. If the removed sludge tests non-hazardous, it may be landed on-site in the beds. Sludge Drying Bed B will be removed, the underlying soils sampled, the concrete walls removed, backfilled, and the area regraded. Remediation activities will minimize the impacts to the operating facility

4.1.4 Removal of Sludge

After sample screening, in accordance with Section 4.1.6, the sludge will be removed from the sumps. Based on the results of the screening samples, the sludge will be dispositioned as contaminated or noncontaminated. Noncontaminated sludge will be disposed of as nonhazardous waste. Contaminated sludge will be containerized in roll-offs. Sludges with contaminants in excess of those levels in Tables 5 and 6 of the Sampling and Analysis Plan (SAP) will be transported to an off-site disposal facility. Identifying, packaging, labeling, and transporting hazardous materials will be performed in accordance with the Waste Management Plan.

The sump walls will be cleaned by a high-pressure wash. The walls will not be sampled to confirm removal of contamination, but a visual inspection will be performed. The sump will be considered clean when no residue remain on the concrete surfaces.

Contaminated wash water from the sump wall cleaning process will be collected, sampled, and disposed of as required.

4.1.5 Excavation of Ash/Slag Piles

Based on the visual inspection of the site, the ash/slag piles will be identified, excavated, and placed in roll-offs for sampling and characterization. After a pile has been excavated, confirmation sampling will be performed to determine whether the excavated area is below the contaminant levels listed in Tables 5 and 6 of the SAP. Sampling and analysis requirements are described in Section 4.1.6 below.

4.1.6 Sampling and Analysis

Sump Sludge Sampling. The purpose of sludge sampling at Cast High Explosive/ Incinerator Building 146 is to determine if the sludge contains concentrations of explosive compounds or Appendix IX metals above cleanup levels listed in Tables 5 and 6 of the SAP. The sludge from each sump will be sampled and analyzed according to the following procedure.

An initial sampling will be performed to verify levels of explosives and determine if PCBs are present. To do so, a 2-inch diameter or larger sampling tube will be pushed or drilled into the sump sludge until the bottom is reached. The tube will be removed and split open to expose the sample. Field screening analysis for TNT, RDX and PCBs will be conducted at 1-foot intervals along the sample. Field sampling and screening procedures are described in the SAP.

The roll-offs will be halved and a sample shall be taken from each half. These samples will be analyzed to characterize the material for disposal, unless the sludges are characterized by in-situ sampling.

Soil Sampling. The purpose of the soil sampling effort at Cast High Explosive/ Incinerator Building 146 is to determine whether the soil contains concentrations of explosive

compounds, Appendix IX metals or PCBs above cleanup levels listed in Tables 5 and 6 of the SAP

After the ash/slag piles have been removed, a minimum of 1 confirmation sample for each excavation or per 20-square-foot grid of excavated area shall be taken and analyzed for Appendix IX metals, explosives and PCBs. These soil samples will be taken from the bottom of each excavation. Details of the sampling techniques and analytical requirements are described in the SAP

Soil/slag materials excavated and stored in roll-offs will have discrete samples taken from each container The container will be divided in half and one sample will be taken from 1 to 2 feet down from the surface in each half The samples will be analyzed to characterize the materials for disposal. If the materials are characterized by in-situ sampling, the sampling of roll offs will not be required

4.1.7 Hazardous Waste Packaging, Transportation, and Disposal

Contaminated materials classified as RCRA hazardous will be packaged, labeled, and placed in temporary storage for no longer than 90 days from the date of being excavated or generated. A licensed hazardous waste transporter will be contracted to ship the materials to a Treatment, Storage, and Disposal (TSD) Facility permitted for the type of material as determined by the analytical results of the sampling. Manifests shall be prepared and presented to the NSWC Site Representative for signature. Hazardous wastes will be packaged, labeled, and transported in accordance with the Waste Management Plan.

4.1.8 Site Cleanup

Equipment no longer required in the EZ will be decontaminated and moved to the SZ. After all contaminated materials are containerized, the remaining equipment will be decontaminated and moved to the SZ. The decontamination equipment will then be cleaned and the work zone barriers removed All decontamination fluids will be collected, sampled, and disposed of either at the sewage treatment plant or at an off-site TSD facility.

4.1.9 Backfilling and Site Restoration

The extent of any excavation and the points at which confirmation samples were taken will be surveyed to determine the volume of the excavation and to record the extent of the excavation and location of the samples. The excavation will then be backfilled to grade with clean material. Backfill must be clean, noncontaminated fill from an on-site or off-site borrow source. The backfill will be placed in 12-inch lifts and compacted to the required density. All areas will be covered with 3 inches of topsoil (defined as having a minimum of 5 percent organic matter), seeded with native grasses, and fertilized. Erosion control measures shall be maintained until the growth of grasses is sufficient to prevent erosion. The sumps will not be backfilled

shall be removed, containerized in roll-offs, and characterized for disposal. Sludges with contaminants in excess of those levels in Table 5 and 6 of the SAP shall be transported to an off-site disposal facility or disposed of in the NSWC Crane landfill, if the acceptance criteria are met. Hazardous materials will be identified, packaged, labeled, and transported in accordance with the Waste Management Plan.

Confirmation sampling will be performed to determine whether the excavated area is below the contaminant levels listed in Tables 5 and 6 of the SAP Sampling and analysis requirements are described in Section 4 2.6 below.

4.2.5 Cleaning of Concrete

If the initial characterization sampling indicates contaminant levels of Appendix IX compound above that listed in Tables 5 and 6 SAP, a high-pressure wash will be used to clean residue from the concrete walls of the Drying Bed. The bed will be considered clean when no visible residues are present on the walls. The walls will be cleaned sequentially from the top to the bottom of the wall. Contaminated wash water from the sludge bed wall cleaning process will be collected and characterized for disposal. The final rinse water may be used as a confirmation sample.

4.2.6 Soil Sampling and Analysis

Initial characterization sampling and analysis will be performed on the sludge drying bed to determine constituent contaminant levels present prior to excavation. During the initial characterization, sludge samples will be analyzed for Appendix IX compounds listed in Tables 5 and 6 of the SAP. Initial characterization samples will be taken at three points along the longitudinal centerline of each drying bed at depths of 6 and 18 inches.

After the sludge has been excavated, the filter bed of the sludge drying bed will be sampled to confirm that the soils remaining contain no Appendix IX compounds above the cleanup levels listed in Tables 5 and 6 of the SAP. Soil confirmation sampling will occur in a grid pattern to ensure the samples obtained are representative of the excavated area. To ensure that the entire area is included in the sampling grid, a maximum grid interval of 5 feet will be used to grid Sludge and Sludge Bed B. The number of samples collected is the cube root of the number of grid intersections. Sludge Bed B has 40 grid intersections. The cube root of 40 is 3.4, or 4 samples for Sludge Bed B. The intersections of the grid to be sampled at depths of 6 to 18 inches will be randomly selected. Samples will be submitted to the laboratory for analysis Procedures to collect soil samples are discussed in the SAP.

4.2.7 Hazardous Waste Packaging, Transportation and Disposal

Contaminated materials classified as RCRA hazardous will be packaged, labeled, and placed in temporary storage for no longer than 90 days from the date of being excavated or generated A licensed hazardous waste transporter will be contracted to ship the

WORK PLAN
FOR
INTERIM MEASURES CLEANUP
AT
SOLID WASTE MANAGEMENT UNITS
#16/16 and #24/00

EXCERPT
NOT ENTIRE
PLAN

NSWC CRANE
Crane, Indiana

REVISION B
August 18, 1995

CONTRACT #N62467-93-D-1106
DELIVERY ORDER #0009
STATEMENT OF WORK #007

Prepared For:

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
P. O. Box 190010
2155 Eagle Drive
North Charleston, South Carolina 29419-9010

Prepared By:

MORRISON KNUDSEN CORPORATION
2420 Mall Drive
Corporate Square 1 - Suite 211
North Charleston, South Carolina 29406

SET ID NO:

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INTRODUCTION

The Naval Surface Warfare Center (NSWC) Crane is located in southwestern Indiana, see Figure 1-1, and provides support for equipment, shipboard weapons systems, and ordnance. In addition, NSWC supports the Crane Army Ammunition Activity (CAAA) including production and renovation of conventional ammunition, storage, shipment, and demilitarization and disposal of conventional ammunition.

This Work Plan has been prepared by Morrison Knudsen (MK) for the Naval Facilities Engineering Command (NAVFACENGCOM), Southern Division pursuant to the scope of work defined in Delivery Order #0009, under Contract #N62467-93-D-1106. This Work Plan describes the methods to be used to perform the interim measure cleanup required by the scope of work for two Solid Waste Management Units (SWMUs): #16/16 Cast High Explosive/Incinerator Building 146 and #24/00 Sludge Drying Beds A & B. The SWMUs' locations are shown in Figure 1-2.

1.1 SWMU #16/16, CAST HIGH EXPLOSIVE/INCINERATOR BUILDING 146

The Cast High Explosive area is located in the north central part of NSWC as shown on Figure 1-2. Building 146 is situated along H-307 and was the site for melt-pouring TNT, RDX, and HMX explosives into projectiles (cast loading). High-pressure water washout of 5-inch projectiles filled with Composition A was also conducted at Building 146. Prior to 1978, the generated waste water was discharged to a storm drain, with release to a ditch and ultimately Boggs Creek. Beginning in 1967, small-arms ammunition was demilitarized in three incinerators located adjacent to Building 146. Incinerator ash collected in the emission controls system was stockpiled on the surface soil prior to disposal (Halliburton 1994). Scattered small piles of potentially contaminated ash and slag are visible throughout the area.

Two settling basins are located near the northeast and northwest corners of Building 146, as shown in Figure 1-3. These basins are thought to accept discharge from the floor drains inside the building (Halliburton 1994). These settling basins (sumps) are constructed of concrete, with wood slats covering the tops. Each sump measures approximately 13 feet long by seven feet wide by seven feet deep. The bottom of a 12-inch diameter discharge pipe is located approximately three and one-half feet from the bottom of the sumps. The discharge areas will be sampled for potential soil contamination. Figure 1-3 shows the location of the Building 146 sumps as well as the affected soil area.

The major soil contaminants resulting from Building 146 loading and washout activities were TNT, RDX, HMX, Composition A, Composition B, and ammonium picrate. The main compounds of concern in the incinerator ash are lead, barium, cadmium, chromium, and mercury. Potential contamination from PCB oxidation products resulting from fuel blending at the incinerator has also been reported (Halliburton 1994).

1.2 SWMU #24/00, SLUDGE DRYING BEDS A AND B

1.2.1 Sludge Drying Beds A

The Sludge Drying Beds A are located in the east central section of NSWC at the sewage treatment plant at the intersection of H-15 and H-514, as shown in Figure 1-4. The sludge beds have processed sludges from industrial waste water treatment systems as well as sanitary sewer treatment systems and are potentially contaminated with compounds such as metals, pesticides, and herbicides.

This portion of the SWMU consists of a large cell with concrete walls 8 inches thick and 5 feet-8 inches deep to the bottom of the footer (BOF). This cell measures 80 feet-8 inches wide by 51 feet-4 inches long and is divided into three separate sludge beds by two 8-inch concrete walls, 5 feet-8 inches BOF. The individual sludge beds are 26 feet wide by 50 feet long (inside dimensions). Each bed base is earthen lined with two 6-inch vitrified clay pipes traversing the entire length, covered with a 5-inch layer of coarse gravel, a 5-inch layer of fine gravel, and finally a 12-inch layer of sand.

A sludge slurry is deposited in the beds from a 6-inch cast iron manifold with isolation valves for bed selection. The inlet pipe and valve manifold is located on the north end of the sludge beds and enters the bed at approximately 6 inches down from the top of the bed walls. The outlet pipe of the beds exit at the south wall approximately 5 feet deep (top of footer) and tie into a 10-inch interceptor sewer line which drains to the sewage treatment system.

Each bed is provided with concrete drive pads which traverse the length of the bed for truck access to remove dewatered sludge.

1.2.2 Sludge Drying Beds B

The Sludge Drying Beds B are located in the northwest section of NSWC, just outside of the Crane Gate (Gate #4) on H-498 off of H-5, as shown in Figure 1-5. These sludge beds also processed sludges from industrial waste water treatment systems as well as sanitary sewer treatment systems and are potentially contaminated with compounds such as metals, pesticides, and herbicides (MK 1994).

This portion of the SWMU consist of a smaller cell with 8-inch concrete block walls, two feet-8 inches deep BOF. This cell measures 51 feet-4 inches wide by 51 feet-8 inches long and is divided into three separate sludge beds by two 2-inch concrete block walls, 2 feet-8 inches BOF. The individual sludge beds are 19 feet-8 inches wide by 50 feet-4 inches long (inside dimensions). Each bed base is earthen lined and covered with a layer of gravel. These beds have not been in service for a significant time period; they are overgrown with vegetation and have badly deteriorated walls.

The sludge feed pipe enters the beds from a valved manifold on the north side of the cell. The effluent piping is on the south side of the beds; however, no detail available on this piping which is thought to discharge to the creek.

1.3 OBJECTIVES

MK's goal is to cost-effectively and efficiently execute the work in accordance with the Delivery Order requirements while meeting or exceeding all site-specific, local, state, and federal requirements. The primary work objectives are to:

- Perform all work in a manner that maximizes worker safety and minimizes environmental impacts.

- Remove, test, and dispose of the ash\slag piles at the High Cast Explosive area, and restore the site by backfilling the excavation to the original grade.

- Remove and test the sludge at Drying Bed B. If the removed sludge tests non-hazardous, it may be landed on-site in the beds. Sludge Drying Bed B will be removed, the underlying soils sampled, the concrete walls removed, backfilled, and the area regraded. Remediation activities will minimize the impacts to the operating facility.

4.2 SWMU #24/00 SLUDGE DRYING BEDS A & B

4.2.1 *Work Scope*

The scope of work includes excavating, sampling, transporting, and disposing of sludge and backfilling and restoring all disturbed areas. Figures 1-4 and 1-5 show the general location of the sludge beds and access.

4.2.2 Site Assessment

The NSWC Crane Site Representative will determine if a UXO survey is necessary. If the potential exists for encountering explosive ordnance in the work area, NSWC Crane will perform a surface UXO survey to identify and remove any unexploded ordnance. The area will be surveyed and located in relationship to existing monuments. Data will be collected to create a topographical map of the site and to verify the quantities of material to be excavated. Permits will be obtained for all site activities and mobilization will begin. Sampling of Beds A & B will be performed prior to full site mobilization to determine contamination levels and any hazardous materials from industrial wastes. Sampling will be as specified in Section 4.2.6 below. Preliminary information indicates that approximately 1,500 cubic yards of sludge may be have to be removed (Wilson 1994).

4.2.3 Mobilization

The initial steps in mobilization will be to prepare the Environmental Condition Report and for the subcontractor to define the configuration of the work area including the boundaries of the Exclusion Zone (EZ), the Contamination Reduction Zone (CRZ) with appropriate decontamination stations, the Support Zone (SZ), and access routes. The work zones and access routes will be established. Tools, equipment, and supplies will be delivered to the site and personnel mobilized.

The subcontractor will steam clean and inspect all equipment before shipment to the site. Upon arrival at the site, the contractor will inspect the equipment for the presence of dirt, oils, and grease. The general condition of the equipment will be inspected and tested to ensure that all safety systems and alarms are functional. The performance of the equipment will be tested to determine if the equipment can perform the required tasks.

Storm water and erosion control measures shall be implemented as necessary to control storm water runoff and to prevent erosion. These measures are explained further in the Environmental Protection Plan.

4.2.4 Removal of Sludge and Filter Materials

Based on the results of the investigative samples (Section 4.2.2), the sludge will be dispositioned as contaminated or noncontaminated. Noncontaminated sludge shall be

shall be removed, containerized in roll-offs, and characterized for disposal. Sludges with contaminants in excess of those levels in Table 5 and 6 of the SAP shall be transport to an off-site disposal facility or disposed of in the NSWC Crane landfill, if the acceptance criteria are met. Hazardous materials will be identified, packaged, labeled, and transported in accordance with the Waste Management Plan.

Confirmation sampling will be performed to determine whether the excavated area is below the contaminant levels listed in Tables 5 and 6 of the SAP. Sampling and analysis requirements are described in Section 4.2.6 below.

4.2.5 Cleaning of Concrete

If the initial characterization sampling indicates contaminant levels of Appendix IX compound above that listed in Tables 5 and 6 SAP, a high-pressure wash will be used to clean residue from the concrete walls of the Drying Bed. The bed will be considered clean when no visible residues are present on the walls. The walls will be cleaned sequentially from the top to the bottom of the wall. Contaminated wash water from the sludge bed wall cleaning process will be collected and characterized for disposal. The final rinse water may be used as a confirmation sample.

4.2.6 Soil Sampling and Analysis

Initial characterization sampling and analysis will be performed on the sludge drying be to determine constituent contaminant levels present prior to excavation. During the initial characterization, sludge samples will be analyzed for Appendix IX compounds listed in Tables 5 and 6 of the SAP. Initial characterization samples will be taken at three points along the longitudinal centerline of each drying bed at depths of 6 and 18 inches.

After the sludge has been excavated, the filter bed of the sludge drying bed will be sampled to confirm that the soils remaining contain no Appendix IX compounds above the cleanup levels listed in Tables 5 and 6 of the SAP. Soil confirmation sampling will occur in a grid pattern to ensure the samples obtained are representative of the excavated area. To ensure that the entire area is included in the sampling grid, a maximum grid interval of 5 feet will be used to grid Sludge and Sludge Bed B. The number of samples collected is the cube root of the number of grid intersections. Sludge Bed B has 40 grid intersections. The cube root of 40 is 3.4, or 4 samples for Sludge Bed B. The intersections of the grid to be sampled at depths of 6 to 18 inches will be randomly selected. Samples will be submitted to the laboratory for analysis. Procedures to collect soil samples are discussed in the SAP.

4.2.7 Hazardous Waste Packaging, Transportation and Disposal

Contaminated materials classified as RCRA hazardous will be packaged, labeled, a placed in temporary storage for no longer than 90 days from the date of being excavated or generated. A licensed hazardous waste transporter will be contracted to ship the

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Contaminated materials classified as RCRA hazardous will be packaged, labeled, and placed in temporary storage for no longer than 90 days from the date of being excavated or generated. A licensed hazardous waste transporter will be contracted to ship the materials to a Treatment, Storage, and Disposal (TSD) Facility permitted for the type of material as determined by the analytical results of the sampling. Manifests shall be prepared and presented to the NSWC Site Representative for signature. Hazardous wastes will be packaged, labeled, and transported in accordance with the Waste Management Plan.

4.2.8 Site Cleanup

Equipment no longer required in the EZ will be decontaminated and moved to the SZ. After all contaminated materials are containerized, the remaining equipment will be decontaminated and moved to the SZ. The decontamination equipment will then be cleaned and the work zone barriers removed. All decontamination fluids will be collected, sampled, and disposed of either at the sewage treatment plant or at an off-site TSD facility.

4.2.9 Backfilling and Site Restoration

The extent of any excavation and the points at which confirmation samples were taken will be surveyed to determine the volume of the excavation and to record the extent of the excavation and location of the samples.

Sludge Drying Bed A will be restored to an operating condition. Restoration will include replacement of drain pipe, gravel beds, geotextile fabric and filter sand. Restorations shall also include all areas outside the drying beds disturbed by construction activities.

Sludge Drying Bed B excavation will be backfilled to grade with clean material. Backfill must be clean, noncontaminated fill from an on-site or off-site borrow source. The backfill will be placed in 12-inch lifts and compacted to the required density. All areas will be covered with 3 inches of topsoil (defined as having a minimum of 5 percent organic matter), seeded with native grasses, and fertilized. Erosion control measures shall be maintained until the growth of grasses is sufficient to prevent erosion.

CONSTRUCTION INTERFACE DOCUMENTS (CIDS)
NAVY AND EPA CORRESPONDENCE

WORK ≠ COST

INITIAL

DEPARTMENT OF THE NAVY

SOUTHERN DIVISION

NAVAL FACILITIES ENGINEERING COMMAND

2155 EAGLE DRIVE, NORTH

NORTH CHARLESTON, S.C. 29406-5803

PLEASE ADDRESS REPLY TO THE COMMANDING OFFICER, NOT TO THE NAMED OFFICER. IN THIS LETTER REFER TO

4330
Code 0232EC
N62467-93-D-1106
16 Jun 94

Morrison Knudsen Corp
1500 West 3rd Street
Cleveland, OH 44133-1406

Gentlemen,

In accordance with the terms of Contract N62467-93-D-1106, ENVIRONMENTAL RESPONSE ACTION CONTRACT, DISTRICT II, the Government wishes to issue a delivery order for REMEDIATION AT NAVAL SURFACE WARFARE CENTER CRANE, IN, in accordance with enclosure (1). The initial award will be for Phases I and II. Additional phases will be negotiated at a later date and awarded via formal modification to this delivery order. Enclosure (2) is provided for your information.

Please submit: (1) an estimated budget in the format specified in the basic contract and in sufficient detail to allow a thorough cost analysis, and (2) an original and three copies of your cost proposal to this office, Attn: Wanda Ferris, Code 0232WF, at the address above, not later than 30 Jun 94. The anticipated award date is 20 Jul 94.

You are reminded that this letter does not constitute authority to proceed with any work other than preparation of the cost proposal and negotiations. Issuance of a delivery order will depend upon the successful completion of negotiations. In the unlikely event that negotiations are unsuccessful or procurement action is canceled, the Government cannot be held liable for any expenses incurred by your firm.

Release of Information: Southern Division, Naval Facilities Engineering Command, is the releasing authority for all information/documents regarding projects contracted out to private firms. Therefore, the contractor or any contractor personnel shall obtain approval before publicizing, discussing, or releasing any documents or information concerning this or any other project with anyone other than Government personnel associated with the project in question.

Inquiries should be directed to Wanda Ferris, Code 0232WF, at (803) 743-0618.

Sincerely,

EVA S. CLEMENT

NSWC - CRANE
432-0003
PROJECT MEMBER
PROJECT MANAGER
PROJECT ENGINEER
GNL SUPT
SAFETY ENGINEER
QACC SUPERVISOR
PROJECT CONTROLS
FIELD ENGINEERING
FMO-CHARLESTON
FILE: 11.010.F
FILE: 10

Encl:
(1) Statement of Work dtd 01 Jun 94
(2) Misc. Backup Data

Copy to:
MK Ron Thomason (w/o encl (2))

CONSTRUCTION INTERFACE DOCUMENT

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP

DATE: 9/18/95

MK CID NO: 034 - 001

DELIVERY ORDER NO.: 4324 - 0009 - 007 - 30

SUBCONTRACT NO: SC - 4324 - 034

ORIGINATOR PROBLEM NO.: MK-004

SUBCONTRACTOR: US Tech Group, Inc.

TO: Tom Payne

PROJECT DESCRIPTION: NSWC Crane - SWMU #24/00 B

FROM: Steve Downey

REFERENCE: WORK PLAN/DRAWINGS/SPECIFICATIONS: N/A

SUBJECT: Disposal of Sludge

ATTACHMENTS: YES ☑ NO ☐
Estimate and letter

PROBLEM / DEFICIENCY — CLARIFICATION ☐ CHANGE ☐ INFORMATION ☐

Subcontract SC-4324-034 was awarded to US Tech Group, Inc for interim measures clean up at SWMU's #16/16 and 24/00 B. The scope at 24/00 B involved removal of concrete block, concrete footing, and piping material from a sludge bed, with the sludge to remain in place. A memorandum from Thomas J. Brent to Brent Robertson dated 8/29/95 (copy attach) provided recommendations from the EPA to dispose of the s.. as a special waste. This sludge may be disposed of at the Crane NSWC landfill.

ADDITIONAL COSTS: YES ☑ NO ☐

SCHEDULE CHANGE: YES ☐ NO ☐

PROPOSAL: YES ☐ NO ☐

RECOMMENDED SOLUTION

Modify subcontract SC - 4324 - 034 to add additional quantities for excavation, disposal at landfill and backfill per the attached estimate.

FACSIMILE TRANSMITTAL

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP

NAVFAC SouthDiv C4324
NSWC-Crane, O.O. #0009
P.O. BOX 408
CRANE VILLAGE, INDIANA 47522

PROJECT MANAGER
PROJECT MANAGER
PROJECT ENGINEER
GNL SUPT
SAFETY AND HEALTH
QA/QC SUPERVISOR
PROJECT CONTROL
FIELD ENGINEERING
PMC-CHARLESTON

FILE 11.041.5
FILE 10.305.5
FILE 13.020.05

Date: 9/13/95
Please Deliver the Following Pages to:

TO: Name: Ramadan Abdelsalam

Company: US Tech Group, Inc.
Phone: (812) 474-2129 Fax No. (812) 474-4791

FROM: Name. Steve Downey

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP

Phone: 812-854-6941 Fax No.. 812-854-6944

Total Number of Pages (Including this cover sheet)

If you do not receive all the pages, please call back ASAP:

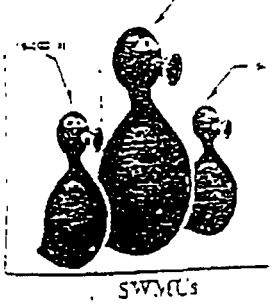
Name. Jenny Wray
Phone: 812-854-6941

Remarks:

Ramadan,

Per our previous conversation, the sludge material at sludge bed "B" will be disposed of at the Crane NSWC landfill in lieu of left in place. Please confirm your unit prices on the attached table and return to me via fax so that we may process a change order.

Steve T Downey



SWMU's

CONSTRUCTION INTERFACE DOCUMENT

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP

DATE: 9/29/95

MK CID NO: 034 - 002

DELIVERY ORDER NO.: 4324 - 0009 - 007 - 30

SUBCONTRACT NO.: SC - 4324 - 034

ORIGINATOR PROBLEM NO.: MK - 005

SUBCONTRACTOR: US Tech Group Inc.

TO: Tom Payne

PROJECT DESCRIPTION: NSWC Crane - SWMU #24/00 B

FROM: Steve Downey

REFERENCE: WORK PLAN/DRAWINGS/SPECIFICATIONS: N/A

SUBJECT: Fence removal @ Sludge Bed B

ATTACHMENTS: YES ☐ NO ☑

PROBLEM / DEFICIENCY — CLARIFICATION ☐ CHANGE ☑ INFORMATION ☐

Verbal direction was provided by Brent Robertson (ROICC) on 9/28/95 to remove the fence around Sludge Bed B (SWMU #24/c completely as opposed to a partial removal and restoration around a lift station.

ADDITIONAL COSTS: YES ☐ NO ☑

SCHEDULE CHANGE: YES ☐ NO ☑

PROPOSAL: YES ☐ NO ☐

RECOMMENDED SOLUTION

Modify the scope of work associated with pay item # 8 of SWMU #24/00, Sludge Drying Bed - B as follows:

Remove 8' high chain link fence with barbed wire and associated posts, gates and hardware from around Sludge Bed "B" (SWMU # 24/00 B). Total length of fence is approxim 550'. No fence will be re-installed in this area. Material (fence, posts, gates and hardware) will be delivered to the DRMO (Defense Reutilization and Marketing Office) at Crane NSWC.

CID DISPOSITION REPORT

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP

DATE: 9/29/95

MK CID NO: 034 - 002

DELIVERY ORDER NO. 4324 - 0009 - 007 - 30

SUBCONTRACT NO. SC - 4324 - 034

ORIGINATOR PROBLEM NO. MK-005

SUBCONTRACTOR: US Tech Group, Inc.

DISPOSITION CATEGORIES

- ☐ Request for Info/Clarification
- ☐ Work Plan Change
- ☐ Design Change (Design Eng. Approval req'd)
- ☑ Subcontract Scope Change
- ☐ Delivery Order Scope Change

- ☑ No cost/schedule impact
- ☐ Cost/schedule impact
  - ☐ Cost increase/decrease
  - ☐ _____ (estimate)
  - ☐ Schedule impact: _____ days
  - ☐ Engineering estimate attached? ☐ Yes ☐ No
  - ☐ Requisition # _____

DETAILED DISPOSITION

Recommended Solution is acceptable.

Dispositioned by: Steven T. Downey Date: 9/29/95 Title: Project Engineer

APPROVALS

Steven T Downey 9/29/95
MK Project Engineer Date

MK Contract Admin. Mgr. Date

R Thomas Payne 9/29/95
MK Project Manager Date

MK Program Manager (over $5000) Date

MK Sr Project Manager (over $5000) Date

MK Project Controls Manager Date

MK Quality Control Manager (Work Plan or Design Changes only) Date

CONSTRUCTION INTERFACE DOCUMENT

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP

DATE: 10/13/95

MK CID NO: 034-005

DELIVERY ORDER NO. 4324-0009-007-30

SUBCONTRACT NO. SC-4324-034

ORIGINATOR PROBLEM NO. MK-009

SUBCONTRACTOR: US Tech Group, Inc.

TO: Tom Payne

PROJECT DESCRIPTION: NSWS Crane-SWMU's 16/16 & 24/00"

FROM: Steve Downey

REFERENCE, WORK PLAN/DRAWINGS/SPECIFICATIONS: N/A

SUBJECT: Backfill Material Credit

ATTACHMENTS. YES ☒ NO ☐

PROBLEM / DEFICIENCY

CLARIFICATION ☐ CHANGE ☒ INFORMATION ☐

Backfill material is available from an on-site borrow pit eliminating the need to haul material from an off-site source.

ADDITIONAL COSTS YES ☐ NO ☒

SCHEDULE CHANGE YES ☐ NO ☒

PROPOSAL YES ☐ NO ☐

RECOMMENDED SOLUTION

Utilize on-site borrow pit and negotiate appropriate credit from subcontractor.

CID DISPOSITION REPORT

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP

DATE: 10/18/95

MK CID NO: 034-005

DELIVERY ORDER NO. 4324-0009-007-30

SUBCONTRACT NO. SC-4324-034

ORIGINATOR PROBLEM NO. MK-009

SUBCONTRACTOR. US Tech Group, Inc.

DISPOSITION CATEGORIES

- ☐ Request for Info/Clarification
- ☐ Work Plan Change
- ☐ Design Change (Design Eng. Approval req'd)
- ☒ Subcontract Scope Change
- ☐ Delivery Order Scope Change

- ☐ No cost/schedule impact
- ☒ Cost/schedule impact
  - ☒ Cost increase/(decrease)
  - ☒ $3900.00 (estimate)
  - ☐ Schedule impact: _____ days
  - ☒ Engineering estimate attached? ☒ Yes ☐ No
  - ☐ Requisition #: _____

DETAILED DISPOSITION

Issue a change notice to subcontract SC-4324-034 per the attached proposal from U.S. Tech for a credit of $3,900.00 This will reduce the unit price for backfill material to $8.33/CY (was $13.33) for SWMU 16/16 and to $5.61/CY (was $11.61) for SWMU 24/00 "B".

Dispositioned by: Steven T. Downey Date: 10/18/95 Title: Project Engineer

APPROVALS

Steven T Downey	10/18/95		
MK Project Engineer	Date	MK Contract Admin. Mgr.	Date
Steven T Downey	10/18/95		
MK Project Manager for Tom Payne	Date	MK Program Manager (over $5000)	Date
MK Sr. Project Manager (over $5000)	Date	MK Project Controls Manager	Date
		MK Quality Control Manager (Work Plan or Design Changes only)	Date

To: Scott Newman@NAVFAC@MKEnvironmental
John McCumbers@NAVFAC@MKEnvironmental
Ron Thompson@NAVFAC@MKEnvironmental

:

c:

From Steve Downey@NAVFAC@MKEnvironmental
Subject: Changes @ Cast High
Date Wednesday, October 18, 1995 17:03.35 EDT
Attach:
Certify: N
Forwarded by

CID 034-003

The scope of this CID includes a lump sum activity to remove (2) 1,000 gal and (1) 250 gal. fuel oil tanks, (3) valve boxes and contents, steel framework, and concrete foundations. The tanks have been removed, cleaned and staged on plastic for delivery to the DRMO. The concrete foundations have been disposed of on site and the other items have also been removed an staged on plastic for disposal on site. The bottom of the foundations were saturated with fuel oil and the soil in the hole was visually stained and odorous. There is no pooling or free liquid present. The lump sum price proposed by U.S. Tech Group, Inc. for this D/R work is $4,454.00. This CID also includes an estimated 46 CY of petrolium contaminated soil to be excavated and disposed of as a special waste. U.S. Tech proposed a unit ra of $85.00/CY for excavation, loading, transporting and disposing of this terial (non-hazardous) to an approved disposal facility agreed upon b W d backfilling the resulting hole. Based on contamination found at th bottom of the foundations (4 feet deep) the current estimate is that 100 of petrolium contaminated soil may need to be removed. If this soil contai PCB or lead contamination, it would not be classified as a special waste. Sample analysis results are expected by tomorrow.

CID 034-004

This CID was written to add 150 CY to the quantities for excavation, dispos and backfill at Cast High. The current unit price for excavation and disposal are $8.11.CY and $232.10/CY respectively. The current unit price for Backfill - Labor and Equipment is $12.00/CY. The current unit price fo Backfill - Material Supply is $13.33/CY however U.S. Tech has offered a credit of $5.00/CY because backfill material is available on-site about 6 miles from the SWMU. This results in a backfill material cost of $8.33/CY. The total subcontract cost for the additional 150 CY is $40,253.00 which includes $1,172.00 for additional Performance & Payment Bond.

CID 034-005

As mentioned above U.S Tech has offered a credit for utilizing the on-site borrow pit for backfill material. The credit is $5.00/CY for Cast High and $6.00/CY for Sludge Bed "B". Based on the current contract quantities (including Change Order No. 1) this credit amounts to $1,500.00 (300 CY X $5.00/CY) for Cast High and $2,400.00 (400 CY X $6.00/CY) for Sludge B B r a total subcontract change of $3,900.00 credit.

Additional Analytical

Approximately 25 additional samples will be collected and analyzed at an

average cost of approximately $151.00 per sample as a result of this added scope. This will result in added analytical subcontract costs of $6,250.00

Summary and Recommendations

he recommended path forward is as follows:

Above Ground Tank Area

- Complete D/R of tanks and appurtenances which was started today
- Remove remaining metals contaminated soils in the tank area.
- Characterize remaining petrolium contaminated soils for disposal.
- Remove all apparently contaminated soils based on odor and visual staining
- Sample the area to document final conditions.
- Backfill.
- Restore the site.

Balance of Cast High Area

- Continue excavation of metals contaminated soils.
- Closely monitor quantities as excavation progresses.
- Communicate daily with site Navy personnel (ROICC & Environmental) on areas being excavated.
- Process an additional CID (if necessary) to add additional quantities prior to exceeding those currently authorized.

Cost Summary

CID 034-003	Tank Removal	$4,454.00
"	100 CY Petrolium Contaminated soil	$8,500.00
CID 034-004	150 CY additional Metals Contaminated Soil	$40,253.00
CID 034-005	Credit for backfill material	-$3,900.00
	Additional Analytical	$6,250.00
	Subtotal	$55,557.00

Additional Fee associated with this change should also be added to the above total.

Thanks,

Steve

CONSTRUCTION INTERFACE DOCUMENT

MORRISON KNUDSEN CORPORATION
ENGINEERING CONSTRUCTION & ENVIRONMENTAL GROUP

DATE: 11 15/95

MK CID NO: 034-006

ORIGINAL

DELIVERY ORDER NO. 4324-0009-007-30	SUBCONTRACT NO SC-4324-034
ORIGINATOR PROBLEM NO. MK-010	SUBCONTRACTOR U.S. Tech Group, Inc
TO Steve Downey	PROJECT DESCRIPTION NSWC Crane - SWMU #24/00 B
FROM. Marvin G. Chidester Jr.	REFERENCE WORK PLAN/DRAWINGS/SPECIFICATIONS N/A
SUBJECT *Additional Excavation of Soil from Sludge Bed B*	ATTACHMENTS YES X NO ___ Field Drawing for excavation limits and sample locations

PROBLEM / DEFICIENCY CLARIFICATION ___ CHANGE X INFORMATION ___

Sample data from samples (NSWC-24/00) #047 & 67/68 received from American Environmental Network lists contaminates that are above the risk based levels. The contaminate of concern is 4, 4'-DDT which requires removal from Sludge Bed "B"

NSWC - CRANE
034-006
PROJECT MANAGER
PROJECT ENGINEER
GNL SUPT
SAFETY
CACC SUPERVISOR
FIELD ENGINEER
PROPOSAL YES ___ NO X

ADDITIONAL COSTS YES X NO ___

SCHEDULE CHANGE YES X NO X

RECOMMENDED SOLUTION

An area approximately 5' x 10' will require excavation. The first 2'- 6" of soil removed from this area will be considered "Clean Backfill". The next 2'- 6" of soil removed is contaminated and will be disposed of in the on site disposal landfill maintained by the NAVY. The amount of soil to be excavated as "Clean Soil" is estimated as 5 x 10' x 2'- 6". This is approximately 5 cubic yards. The amount of soil to be excavated as "Contaminated Soil" is estimated as 5' x 10' x 2'- 6". This is approximately 5 cubic yards. Additional "Clean Backfill" will be placed in the excavation. Approximately an additional 5 cubic yards of "Clean Backfill" will be required to replace the removed "Contaminated Soil". The total backfill to be placed is approximately 10 cubic yards.

DIST	PM	P/M	PCM	CAM	BM	PURCH	OCM	SAFETY	File
1			✓			✓		✓	✓
A								✓	✓

C-4324

OTHER CORRESPONDENCE

file
RAC

RECEIVED
SEP 18 1995
MK-CRANE

August 29, 1995

MEMORANDUM

From: 09510
To: OICC (Brent Robertson)

Subj: **BACKFILLING 14/00 AND WHAT-TO-DO ABOUT 24/00**

1. I spoke with Adrienne concerning backfilling the Lithium Battery excavation. We agreed to allow MK to proceed with backfilling. The hesitation arises from the persistent presence of arsenic and cobalt, and frequently beryllium, at levels greater than the cleanup standard. This is either a natural condition of the local soils, a sampling and analysis quality control problem, or an excessively low cleanup standard for these three metals. I suspect it's a combination of the three. At any rate, please provide MK with the approval to promptly begin backfilling

2. MK provided results of screening samples taken of the soils at the Sludge Beds. Sludge Bed A is clean enough to be left as is. The presence of certain pesticides, especially DDT, however, raises some concern for the soils at Sludge Bed B. The levels of all constituents at Sludge Bed B are less than the required cleanup levels, however, in order to avoid any possible future ecological risk issues, the U.S. EPA feels we should clean out the bed. According to IDEM, the materials would have to be disposed of as a special waste. IDEM has agreed to process a special waste approval within two weeks of receipt of the application. Since the application requires a $250 application fee, and Code 11 takes as long as six weeks to cut a check, Adrienne will confer with MK and have them submit the application along with the fee.

NSWC - CRANE			
4324-0009			
PROJECT MEMBER	ACT	INFO	INIT
PROJECT MANAGER			
PROJECT ENGINEER			
GNL SUPT			
SAFETY AND HEALTH			
QA/QC SUPERVISOR			
PROJECT CONTROLS			
FIELD ENGINEERING			
PMO-CHARLESTON			
FILE:			
FILE:			
FILE:			

Thomas J. Brent
Thomas J. Brent
Environmental Protection Specialist

DEPARTMENT OF THE NAVY
OFFICER IN CHARGE OF
NAVAL FACILITIES ENGINEERING COMMAND
CONTRACTS
CRANE DIVISION, NAVAL SURFACE WARFARE CENTER
BUILDING 2516
CRANE, INDIANA 47522-5082

4330
OICC
30 May 95

MAY 3 1 1995

MK-CRANE

Morrison Knudsen Corp.
CTR 12
NSWC Crane In
Crane, IN 47522

Subj: Contract N62467-93-D-1106, ENVIRONMENTAL RAC CONTRACT 4324-0009 NSWC-CRANE

Encl: NSWC Memo code 067 dtd. 22 May 95.

Gentlemen:

Enclosed is the EOD clearance for the remedial sites as requested. Should you have any questions, please call me at 812-854-3318.

Sincerely,

Brent Robertson
Navy Technical Representative

cc: Caryl Hickel; SDIV Code 0514 w/o encl.
Jimmy Jones; SDIV Code 18011 w/o encl.
Adrienne Wilson; SDIV Code 1864 w/o encl.
File

NSWC - CRANE			
4324-0009			
PROJECT MEMBER	ACT	INFO	INIT
PROJECT MANAGER			
PROJECT ENGINEER			
GNL SUPT		X	
SAFETY AND HEALTH		X	
QA/QC SUPERVISOR		X	
PROJECT CONTROLS			
FIELD ENGINEERING			
PMO-CHARLESTON		X	
FILE: 11.01L.F			
FILE:			

10.302.F
10.304.F
10.305.F
10.306.F

DEPARTMENT OF THE NAVY
CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
300 HIGHWAY 361
CRANE, INDIANA 47522-5000

IN REPLY REFER TO
8020
067
22 May 95

MEMORANDUM

From: Explosives Safety Officer
To: Officer in Charge of NAVFAC Contracts

Subj: CONSTRUCTION CONTRACT N62467-93-C-1106, ENVIRONMENTAL RESPONSE ACTION CONTRACT

Ref: (a) OIC for NAVFAC Contracts memo OIC 4330 of 12 May 95

1. In response to reference (a), the following information is provided regarding the known history of the sites making up the various work areas:

a. Lithium Battery Burial Site - This area has no history of ordnance dumping being only a designated land fill for inert materials.

b. PCB Capacitor Burial Site - This dump site is fairly new and no historical information exists to suggest it being used for any dumping except inert materials.

c. Battery Shop - The area and the type of work conducted in the area suggests no involvement with explosive ordnance.

d. Highway 58 Dump site A - The location of this site to ordnance functions may make the presence of "ordnance looking" material possible. In reviewing the way materials were disposed of through the years, there is no strong evidence to suggest live ordnance was "dumped" as opposed to being processed through the Detonation Range. This is so because the Detonation Range has been a viable alternative for the destruction of ordnance materials since 1946. There has been inert (concrete filled) hardware dumped at various sites throughout the years because no other alternative was available. Such hardware as 12.75" warheads (Hedgehog) were found dumped near some of the buildings and used as filler to prevent land erosion. These items caused quite a stir when first uncovered until a check was made as to their make-up and purpose.

e. Highway 58 Dump site B - Same comment as for Dump site A.

f. Dye Burial Ground - Though not much is known about this burial plot, the only evidence that exists illustrates that bulk dye was dumped in open trenches and that hardware (especially containing explosives) was not a factor.

Subj: CONSTRUCTION CONTRACT N62467-93-C-1106, ENVIRONMENTAL RESPONSE ACTION CONTRACT

g. Bioremediation Facility Area - This area was identified because of the land configuration (flat with minimal explosives safety quantity distance controls) and no record exists in this office regarding its use as a dumping ground.

h. Cast High Explosives/Incinerator Building - As a cast high explosives area, the probability of uncovering unexploded ordnance is minimal. As the Incinerator Building, there is a probability that ordnance parts (fuze bodies, small caliber projectiles etc.) can be found in the area surrounding the Building 146 facility.

i. Sludge Drying Beds A & B - There is no risk of unexploded ordnance or ordnance looking hardware being in these two beds.

j. Rockeye - There is no reason to believe unexploded ordnance exists in this area.

k. Ammunition Burning Ground - There is evidence that ordnance looking hardware could be found in this area. Of all the excavation that has been conducted for the purpose of cleaning up ash pits and so on, there has been minimal active explosive material found.

l. Mine Fill A - There is no evidence to suggest that unexploded ordnance was ever dumped in this area.

m. Mine Fill B - Same comment as for Mine Fill B.

2. Point of contact is Dale Groh, Code 067, Building 12, Extension 3601.

D. L. Groh

D. L. GROH

Jenny,

Give a copy of this to Bill and Steve.

It is the criteria used to select sample points for Sludge Bed B

also ~~not~~ file a copy in the work plan file for this site SWMU # 24/00

10.305.5
12.032.09.5
12.043.05F

DNR–GUIDANCE DOCUMENT, PART 2

MEDIUM AND LARGE SITE SOIL CLEANUP VERIFICATION (GREATER THAN 10,890 SQUARE FEET)

Part 2 describes statistical random sampling strategies to verify the remediation of medium and large sites greater than 0.25 acres in size. The strategies employ the use of gridding to facilitate the unbiased selection of sampling points and accepted statistical tools for evaluating the resultant data. The strategies provide a 95% confidence level of determining any hot spot concentrations on a site. It contains guidance on sampling protocol and necessary documentation for clean closures. Part 2 also discusses how to establish grid intervals, set grids, sample grids, statistically evaluate the data, use grids to guide additional remedial activities, disposal options, reporting, and a certification checklist. It also provides guidance on the sampling of ex-situ remedial processes (e.g., thermal desorption).

The term 'clean closure' means that the site has been restored to either Type A or Type B levels. Type A is defined in Act 307 P.A. 1982, as amended, which references non-detect or background levels. Type B is defined in Act 307 P.A. 1982, as amended, which references risk-based or background levels. Waste, soil, other environmental media, and/or debris removed should be classified as hazardous or non-hazardous to determine disposal options and handling requirements (i.e., solid waste under Act 641 P.A. 1978, as amended; hazardous waste under Act 64 P.A. 1979, as amended; land ban restrictions under 40 CFR Part 268).

All cleanup verification evaluations must consider the spatial arrangements of sample values (patterned vs totally random) and the impacts on the present and future uses of the site. Because Type B cleanups are based on residual risk, the distribution of that risk, now and in the future, must be determined. These procedures are not *absolutes*. Other sampling approaches may be developed and submitted for DNR approval.

Three of the statistical sampling strategies most commonly used for evaluating remedial sites and wastes are described in Attachment 2. For further discussion on sampling strategies and sample collection methods, see "Test Methods for Evaluating Solid Waste," SW-846 Volume II: Field Methods, November 1986, Third Edition, US EPA.

Compositing samples for verifying soil remediation is not acceptable without prior DNR approval. When verifying a soil remediation is complete, contaminant concentrations will be low. Compositing may result in the contaminant concentrations not being representative of what remains in the soil. If concentrations are low, compositing may dilute the concentrations of a contaminant to below its threshold detection limit. Additionally, if contamination is indicated in a composited sample, the location of the contamination remains unknown.

ESTABLISHING GRID INTERVALS

When obtaining samples to verify that soil or wastes have been adequately remediated, it is important to insure that the analytical results obtained will provide an accurate representation of the entire area or volume under consideration. The location and number of samples to be taken at a particular remediation site depends on many factors: the level of confidence desired, the spatial and temporal variability of the media to be sampled, and the costs involved. An important objective in any sampling program is to obtain the most accurate data possible while minimizing the associated costs. One method to accomplish this goal is to use statistically valid sampling strategies. The appropriate sample number can be estimated and the sampling locations can be chosen without bias.

Such strategies employ the use of gridding to facilitate the unbiased selection of sampling points and accepted statistical tools for evaluating the resultant data. Statistical theory allows for the sampling of a subset of the grid points to achieve a reliable characterization of the entire remedial area or waste. Subsections describe ways to use sampling grids and statistical tools to evaluate areas of remediation.

The following equations and tables provide a sample basis to establish a grid system to facilitate unbiased selection of sampling points and sample coverage proportional to the area being verified.

1. *Basic Strategies.* A grid system should be established over the area being remediated. Grid point representation should be proportional to the size of the area. For excavation, both the sidewalls and bottom areas would be included in the determination of the area size. It is recommended that one of the following equations be used to determine grid intervals for sampling:

small site: see Part 1

$$\text{medium site: } \frac{\sqrt{A/\pi}}{4} = GI$$

$$\text{large site: } \sqrt{\frac{A\pi}{SF}} = GI$$

WHERE: A = area to be grid (square feet)
GI = grid interval
SF = Site Factor, length of area to be grid (unitless)

It appears that there are logical size ranges of sites to which the grid equations apply:

A) small: up to 0.25 acre

B) medium: 0.25 - 3.0 acres

C) large: 3.0 acres and greater

To simplify this application, use the following chart based on an average size range of sites (1 acre = 43,560 square feet). The approximate grid ranges are provided as a quick check on numbers generated for specific sites using the above formulas.

*Site Acreage**	*Square Feet**	*= Grid Interval Ranges*
up to 0.25 (small)	up to 10,890	See Part 1
0.25-3.00 (medium)	10,890-130,680	15-50 feet
3.0 and over (large)	130,680 +	30 feet plus

* Site acreage, square footage, is total area of sidewalls and base of excavation.

2. *Setting the Grid.* After the grid interval is calculated, it is recommended that a scaled grid overlay be made to superimpose on a map of the remediated area (this area includes both sidewalls and base). Some specified point (usually the southwest corner) should be designated as the 0,0 coordinate. The grid can then be adjusted to maximum sampling coverage. Some grid adjustment may be necessary for unusually shaped areas. Grid adjustment may also be needed to accommodate a minimum of at least one sample from each sidewall. Proposals for different grid strategies may be submitted for DNR review and approval on a case-by-case basis.

3 *Variations on Basic Strategy.*

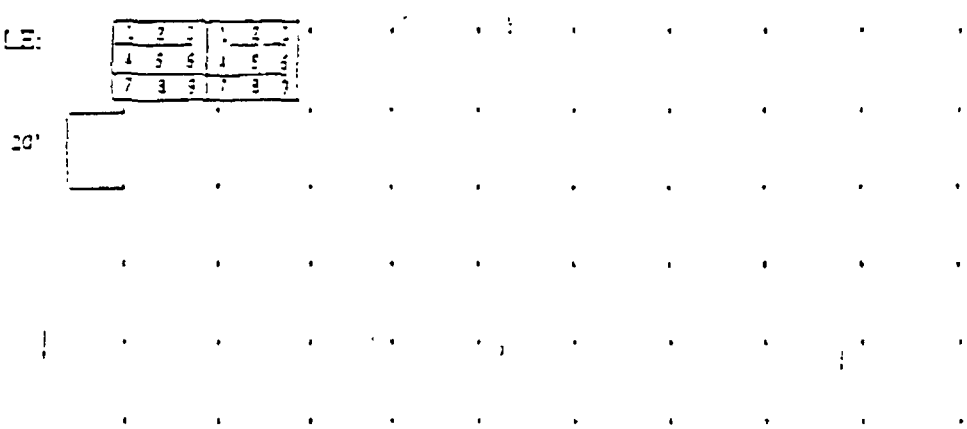
A. Subgridding. It may be warranted to apply grids with different intervals within the remediated area so that a proportional sampling can be focused on suspect areas (such as sumps, tank leak areas, etc.).

EXAMPLE.

' = Area I Sample Station, 80' x 200', GI = 20'
* = Area II (subset of I) Sample Station, 30' x 30', GI = 10'

B. Further Randomization. Sites that may have a patterned distribution of waste or contamination due to time sequence of filling, production sequences, or physical site conditions (i.e., furrows) may require a further randomization of sampling. In such cases, the following grid cell sampling format may be selected instead of at grid point stations. Each grid cell to be sampled must be divided into nine equal sized "subcells." Next, a random number table is used to select in which of the subcells the sample will be taken. The random number table is used again to select which subcell for the next cell and so on.

EXAMPLE:



Area = 120' x 200', GI = 20'

In the example above, a sampling grid has been set up with grid point stations 20 feet apart using the appropriate formula. Two cells which have been selected at random have been divided into nine subcells each. Subcell #4 was chosen randomly in one cell and subcell #2 in the other cell. This process is continued for all of the cells selected at random for sampling. Samples are then taken in each randomly chosen subcell.

C. Three dimensional gridding: In-Situ and Ex-Situ Remediations.

In-situ and ex-situ remediations involving soils and/or wastes with a significant vertical component should be evaluated in three dimensions (volume evaluation). Examples of such remediations would be in-situ soil vapor extraction or ex-situ bioremediation involving several cubic feet of soil and/or waste. A grid is superimposed on the remediation area as described in the previous sections and a vertical component is added at each node. The vertical sampling increments would be site specific and require prior approval from the DNR. Refer to Attachment 1 "Guide to Sample Bias" for additional guidance on vertical sampling increments.

SAMPLING OF GRID

Sampling of grids may include all of the grid stations or a pressed subset of the total stations. The subset of grid stations is created by assigning coordinates to all the nodes and randomly selecting nodes using a random number generator or a random number table (refer to Attachment 2). A minimum of 12 samples or 25%, whichever is larger, of the total grid stations should be sampled and analyzed initially to allow a large enough data pool for statistical analysis. It is advisable that extra samples also be taken and kept under proper chain of custody and storage procedures at the time of initial sampling. If the statistical analysis indicates that more samples are needed, an additional sample trip to the field may have been avoided. A method for calculating the sample size requirements is presented in Attachment 2 (Lambda relationship).

ESTABLISHING SOIL BACKGROUND

Establishing soil background, as required by Act 307 PA 1982, as amended, Michigan Environmental Response Act (MERA), can be accomplished by utilizing Operational Memorandum #15 or using the following guidance.

Background should be established for site specific waste constituents, specific chemicals used in various processes, facility operations, or remedial investigation results. Sample analyses may include metals, organic constituents, or other site specific waste constituents. Analyses should be in accordance with Act. 307 P.A. 1982, as amended.

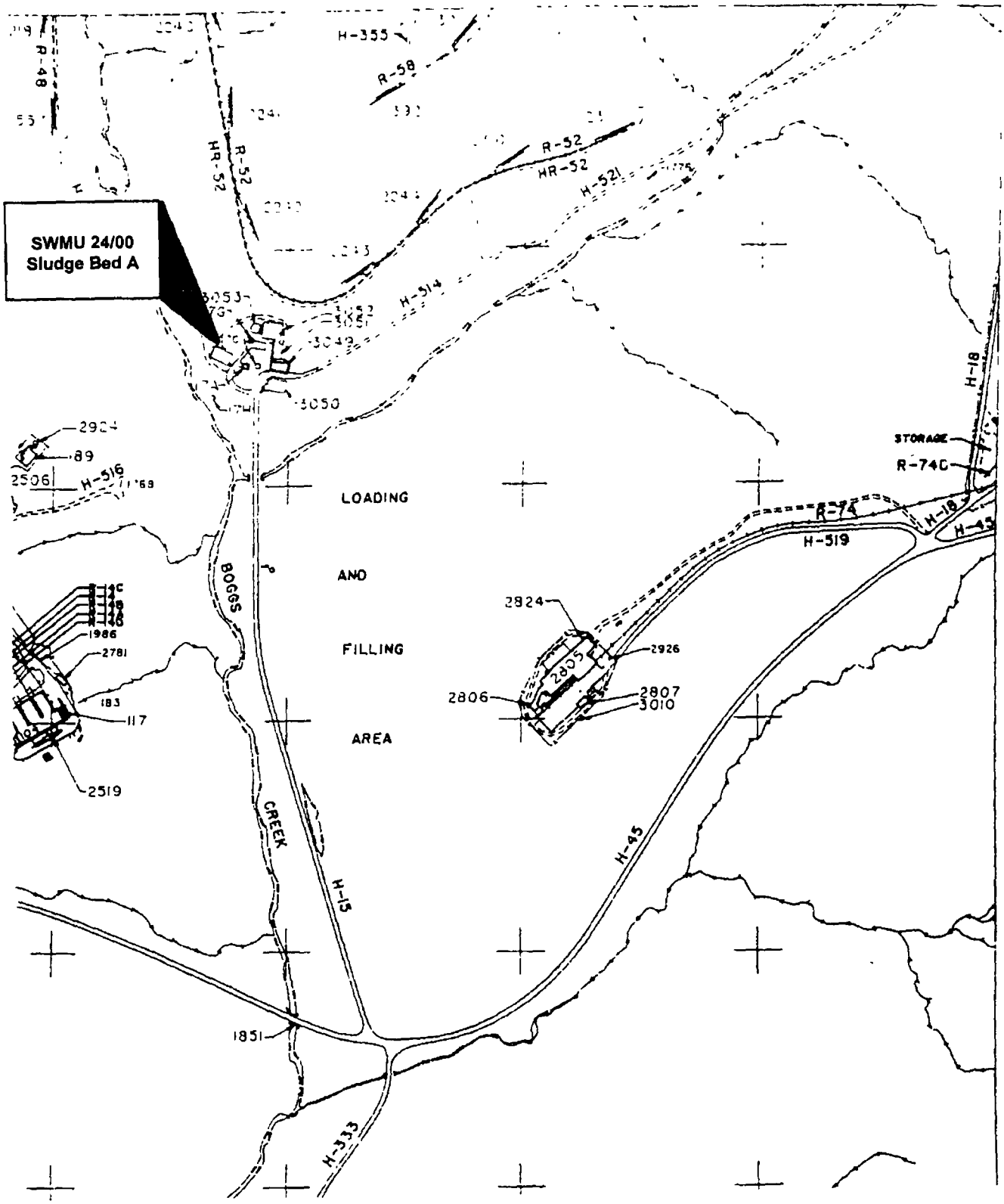
Many factors can play a part in the background concentrations of a chemical in soil.

EXAMPLE: The geologic origin (e.g., the parent rock) of glacial drift may have been high in copper, lead or other metals that may be potential contaminants. Additionally, the hydrogeologic situation can alter the quantity of these elements. Groundwater recharge areas (e.g., highlands) are frequently leached of metals while groundwater discharge areas (e.g., swamps, floodplain) are the recipients of leached metals. Thus, sites in low areas will usually have higher background concentrations than upland areas. Other conditions, such as precipitation and atmospheric fallout from widely dispersed human and natural activities, also affect soil concentrations.

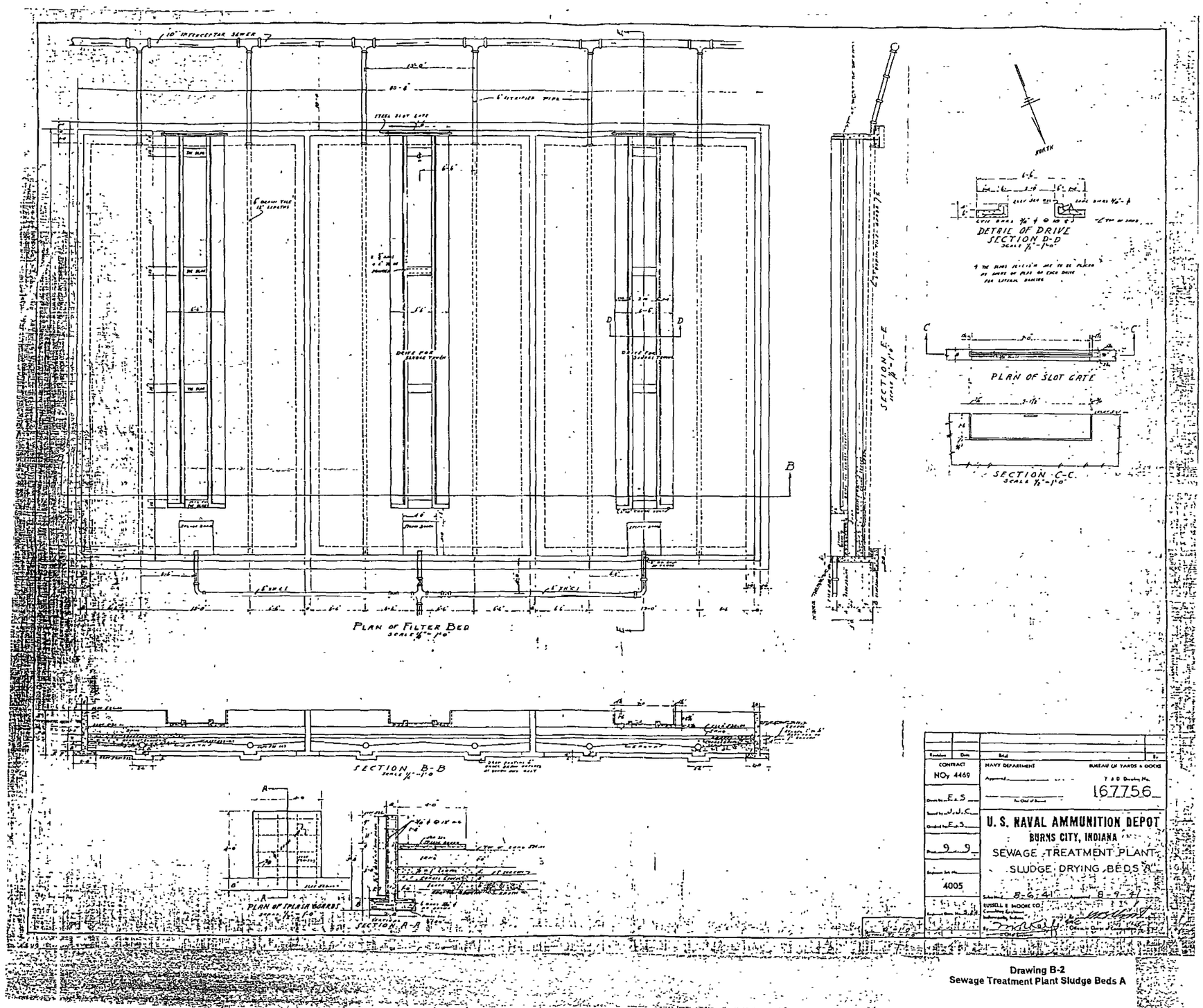
APPENDIX B
DRAWINGS

APPENDIX B
DRAWINGS

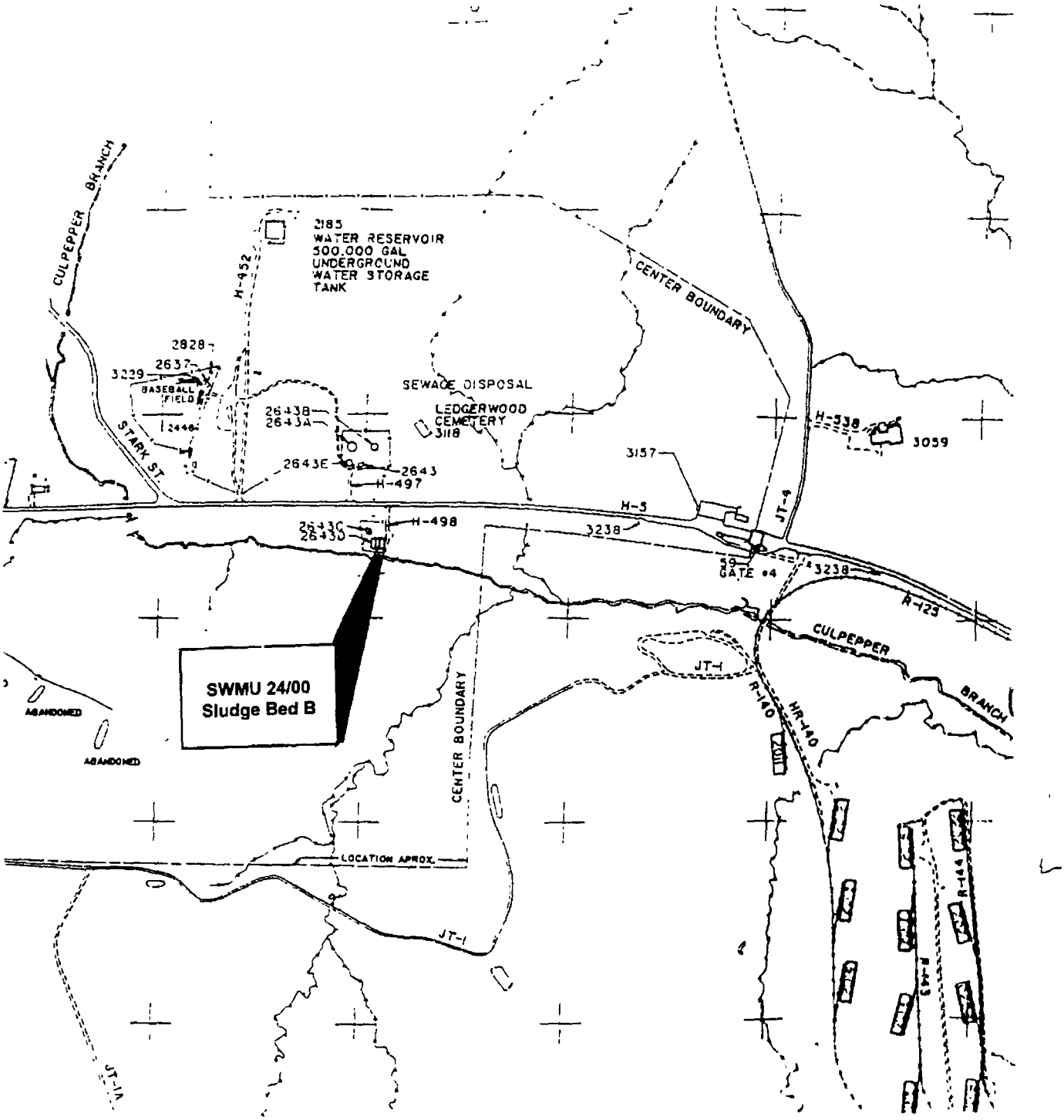
- Drawing B-1, Sludge Drying Bed A Location Map
- Drawing B-2, Sewage Treatment Plant Sludge Bed A Design Drawing
- Drawing B-3, Sludge Drying Bed B Location Map
- Drawing B-4, Rehab of Sludge Drying Bed B Design Drawing
- Drawing B-5, Sludge Bed B Topog.. Drawing



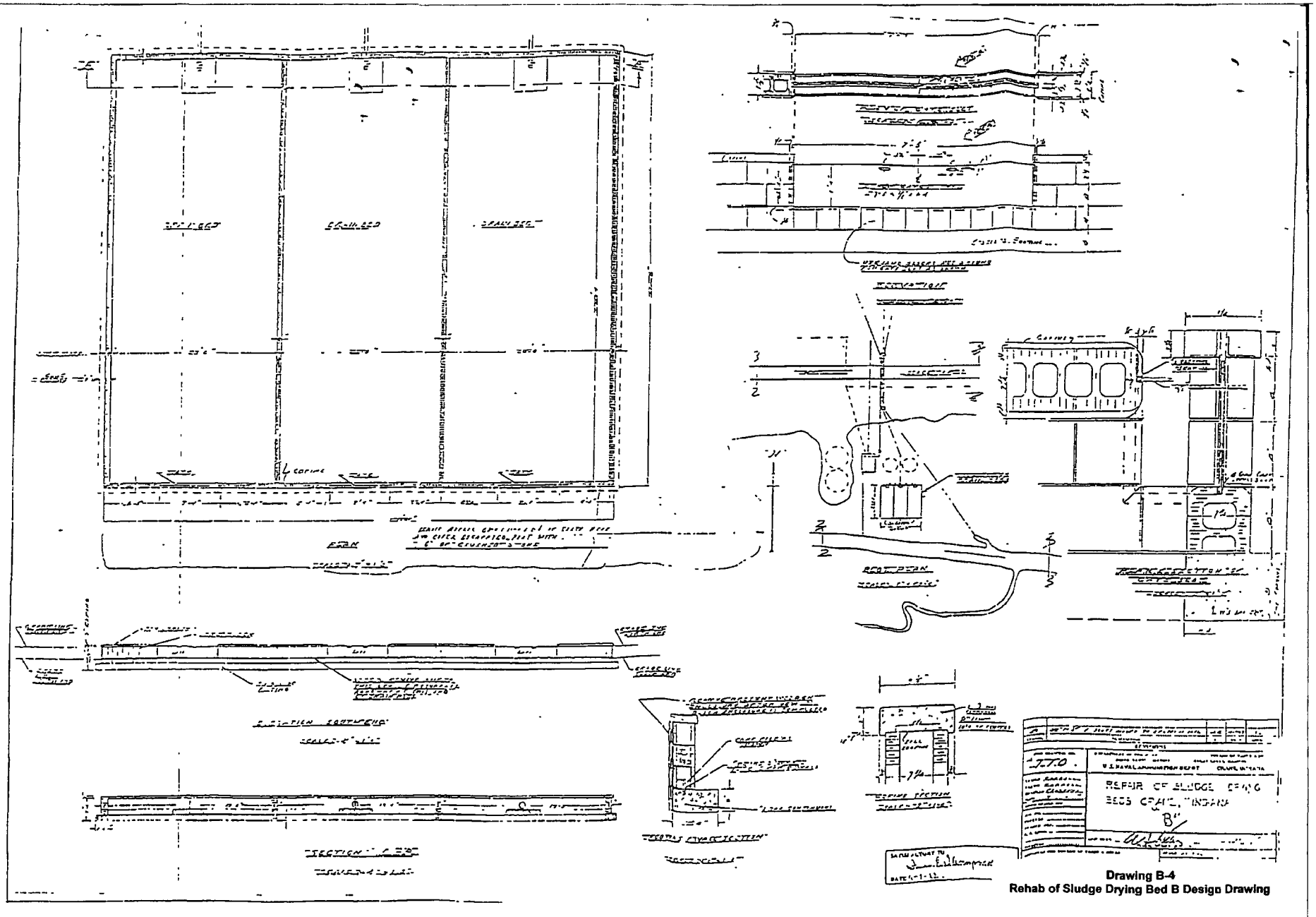
Drawing B-1
SWMU #24/00 Sludge Drying Bed A Location Map



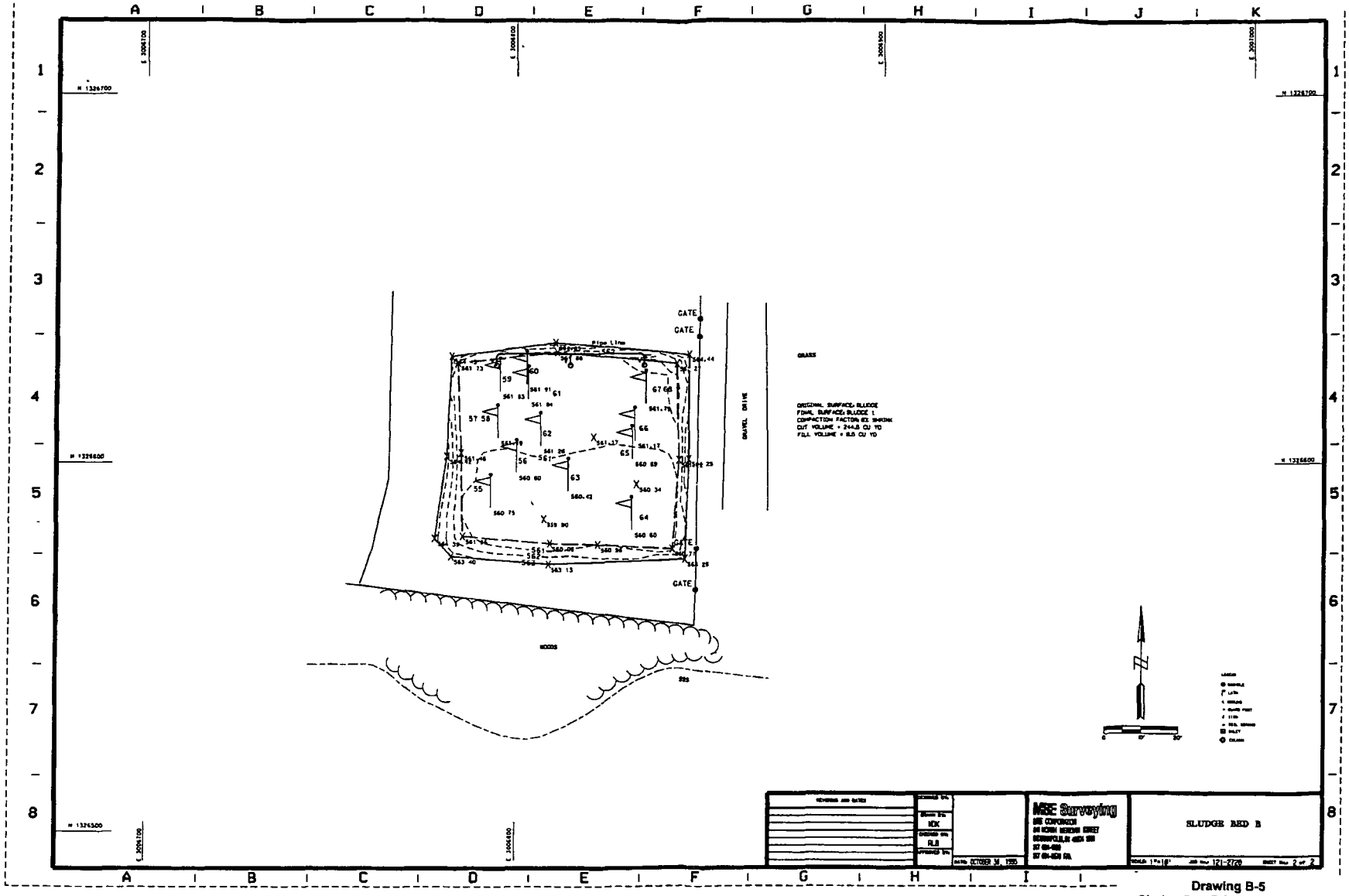
Drawing B-2
Sewage Treatment Plant Sludge Beds A



Drawing B-3
SWMU #24/00 Sludge Drying Bed B Location Map

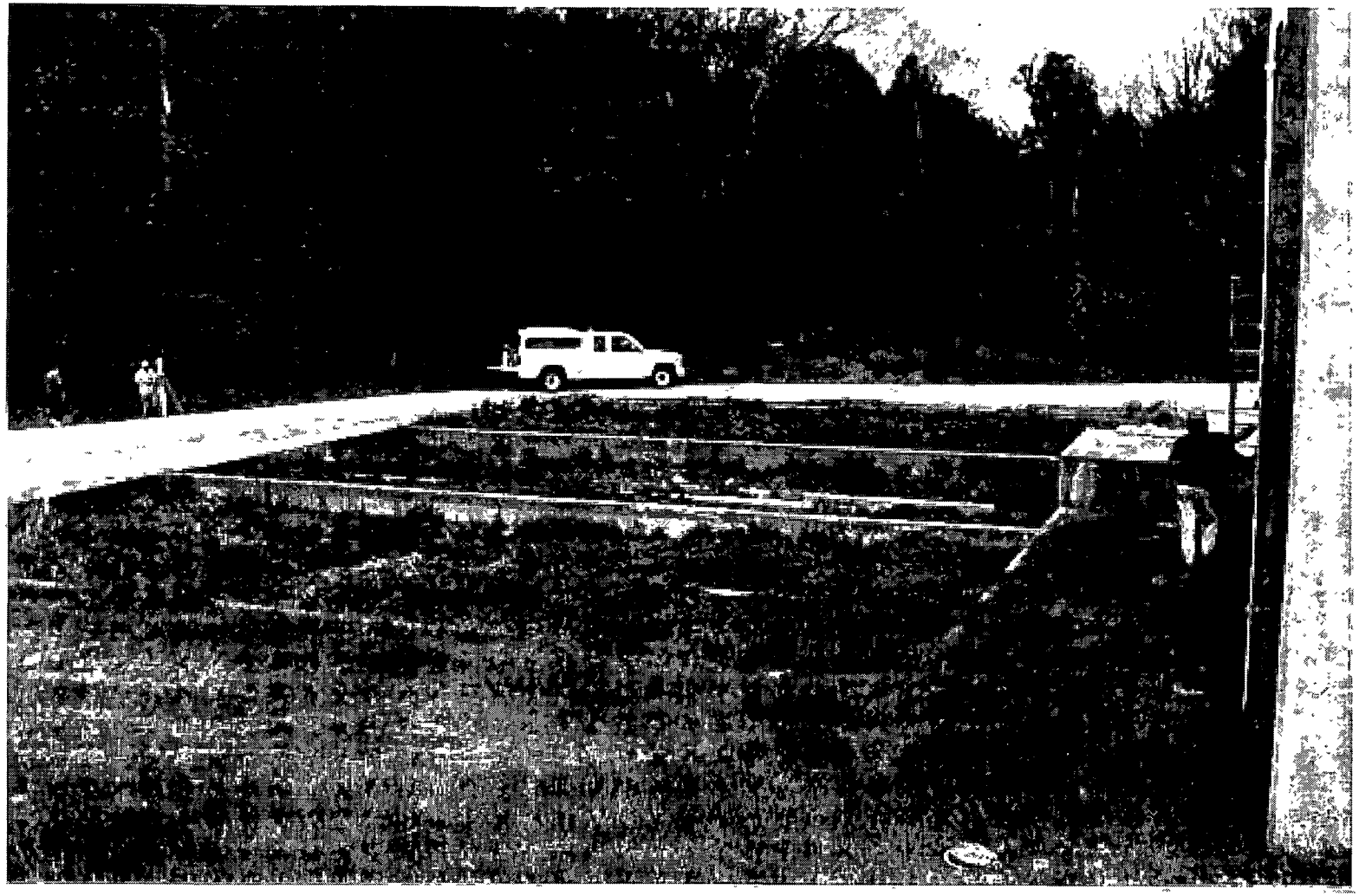


Drawing B-4
Rehab of Sludge Drying Bed B Design Drawing

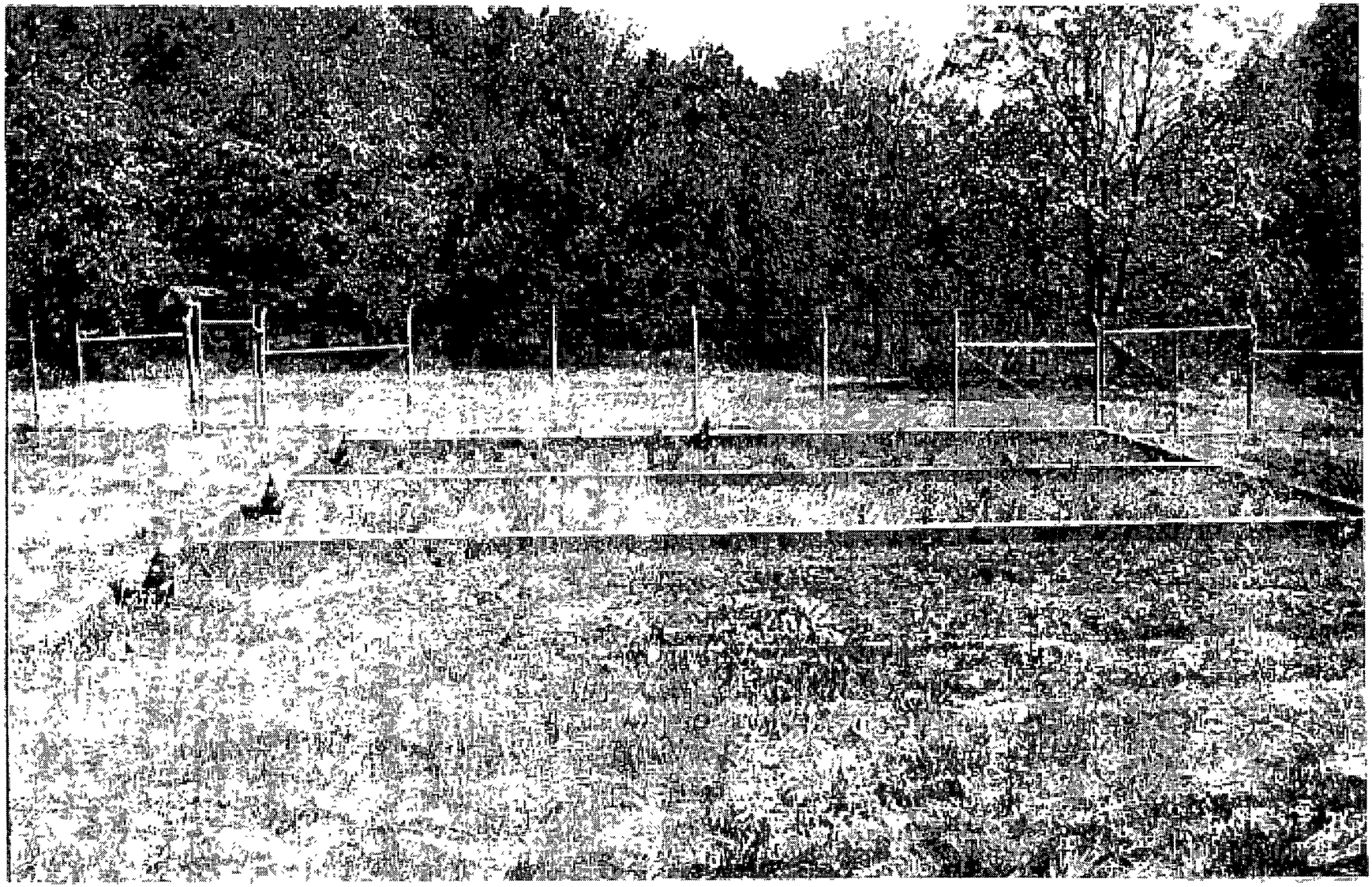


Drawing B-5
Sludge Bed B Topog. Drawing

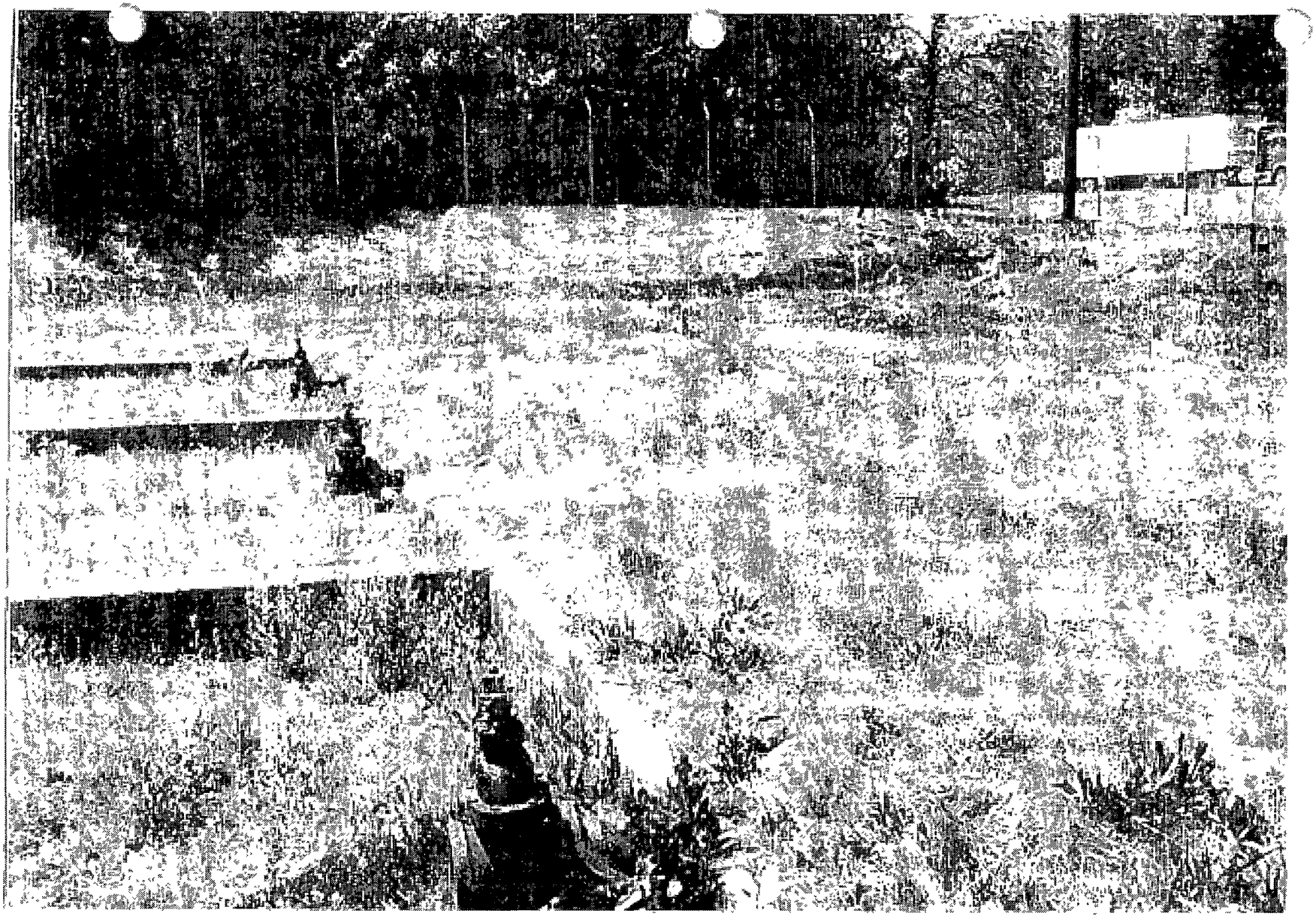
APPENDIX C
PHOTOGRAPHS



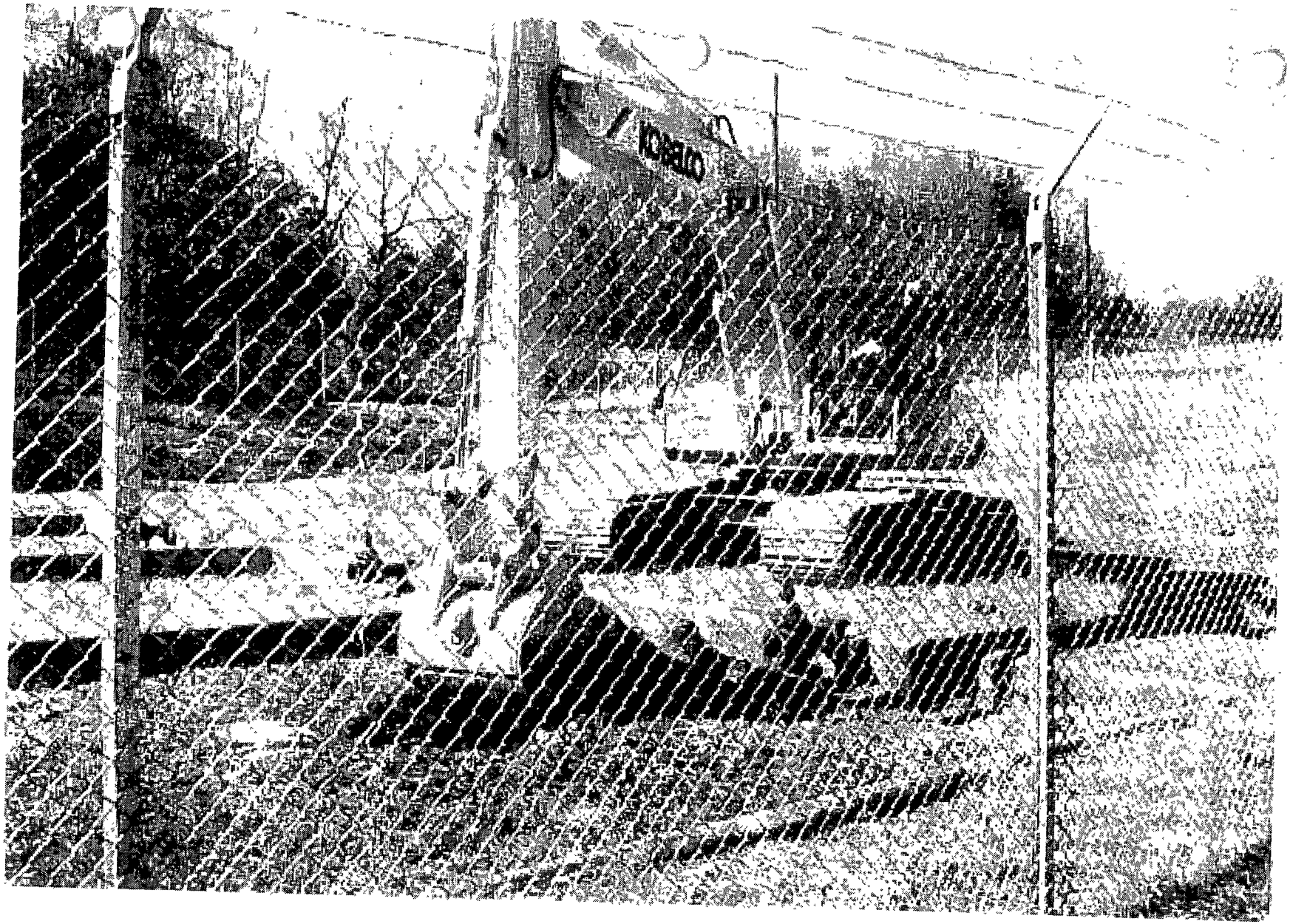
PHOTOGRAPH C-1
Looking at Sludge Bed "A". Note Due to Conformation Sample Results, No Remediation Was Performed



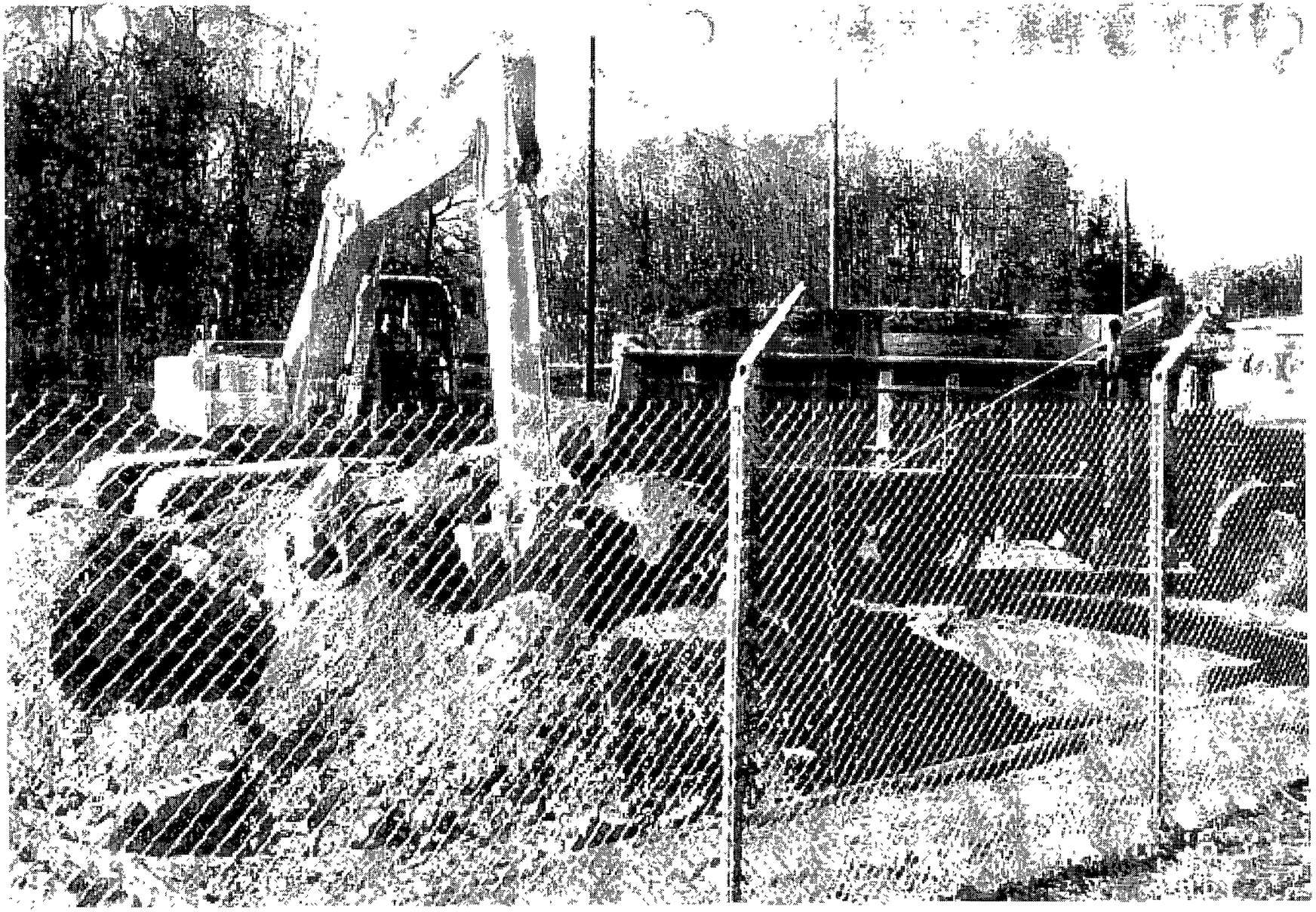
PHOTOGRAPH C-2
Looking East at Sludge Bed "B" Prior to Remediation



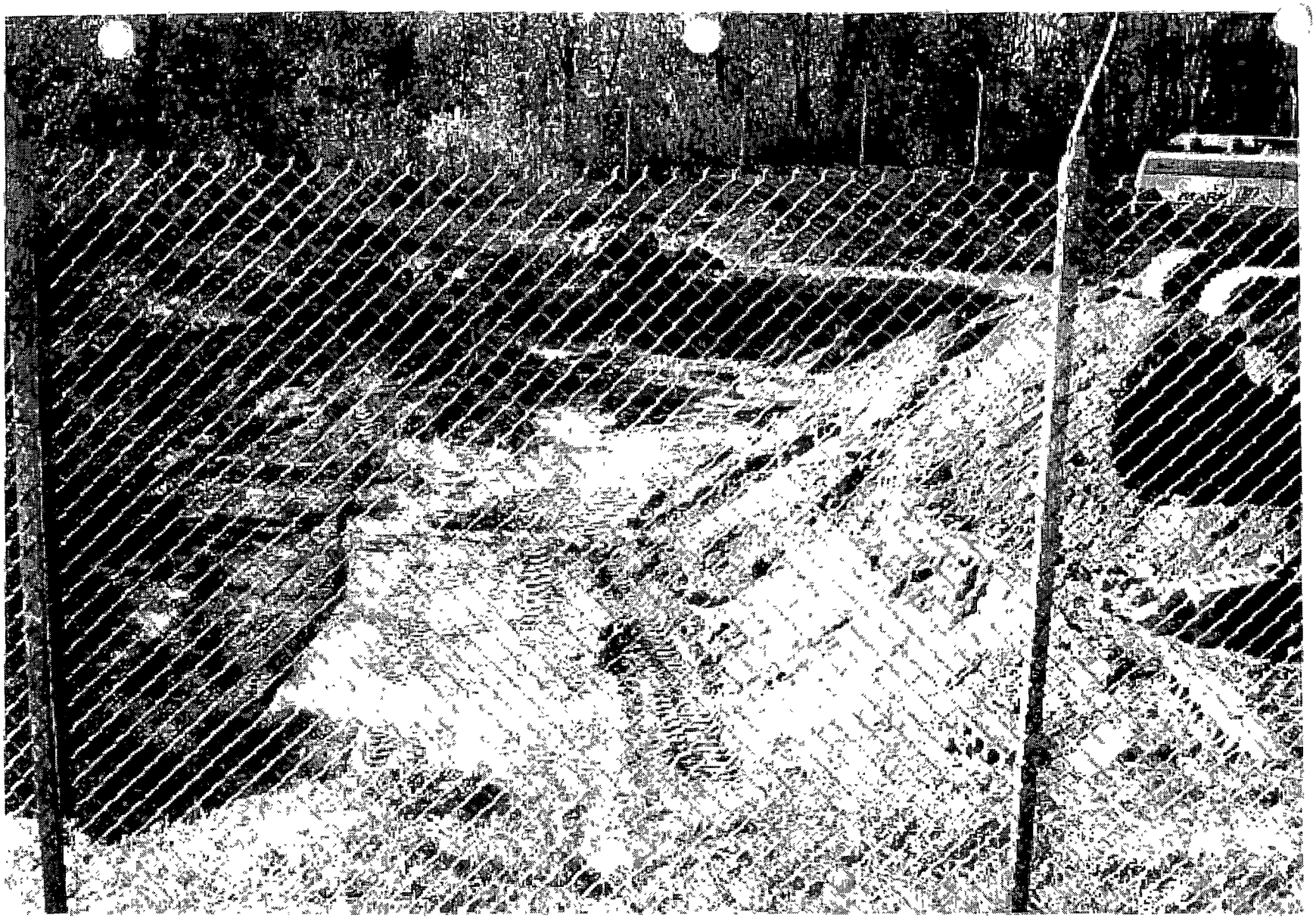
PHOTOGRAPH C-3
Looking West at Isolation Valves for Sludge Bed "B" Prior to Remediation



PHOTOGRAPH C-4
Looking Northwest While Removing Sludge From Sludge Bed "B"



PHOTOGRAPH C-5
Looking Northwest While Removing Sludge From Sludge Bed "B"



PHOTOGRAPH C-6
Looking at Excavation of Sludge Bed "B"

PHOTOGRAPH C-7
Looking South at Sludge Bed "B" After Remediation

DRAFT

Interim Measures Report
SWMU - 24/00
Sludge Drying Beds A and B

Volume 2

NSWC Crane
Crane, Indiana

Unit Identification Code: N00164
Contract No. N62467-93-D-1106

February, 1997

Southern Division
Naval Facilities Engineering Command
North Charleston, South Carolina
29419-9010

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APPENDIX D
ANALYTICAL RESULTS

APPENDIX D
ANALYTICAL RESULTS

- Table 7 Confirmation Sampling Results Evaluation (1 page)
- Cyanide Data (7 pages)
- Sulfide Data (3 pages)
- VOC Data (73 pages)
- Semi-Volatile Data (77 pages)
- Pesticides/PCBs Data (28 pages)
- Metals Data (29 pages)
- Herbicide Data (20 pages)
- Organophosphorus Data (20 pages)
- Dioxins Data (96 pages)
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- Background/Backfill Data (59 pages)
- Waste Characterization Data (33 pages)
- Chain-of-Custody Record (4 pages)

Table 7
Confirmation Sampling Result Evaluation
Sludge Drying Bed 3, SWMU 24/00

Sample Depth: 5 feet below surface

Future Use: None planned. Backfilling, seeding area and leaving in natural state.

Sample #	Constituent	Conc. (ppb)	Lab Qual	Conc. vs.DQL <=>	DQL (ppb)
24/00-073	Methylene Chloride	3.0	JB	<	11,000 ca
24/00-072	Methylene Chloride	3.0	JB	<	11,000 ca
24/00-071	Methylene Chloride	3.0	JB	<	11,000 ca
24/00-070	Methylene Chloride	4.0	JB	<	11,000 ca
24/00-069	Methylene Chloride	3.0	JB	<	11,000 ca
24/00-073	Acetone	13.0	__	<	2,000,000 nca
24/00-070	Acetone	7.0	J	<	2,000,000 nca
24/00-069	Acetone	12.0	__	<	2,000,000 nca
24/00-073	2,4-D	8.4	JB	<	650,000 nca
24/00-073	2,4,5-TP (Silvex)*	1.3	JPB	<	520,000 nca
24/00-071	2,4,5-TP (Silvex)	0.8	JPB	<	520,000 nca
24/00-070	2,4,5-TP (Silvex)	0.9	JPB	<	520,000 nca
24/00-073	2,4,5-T	1.4	JPB	<	650,000 nca
24/00-072	2,4,5-T	1.5	JPB	<	650,000 nca
24/00-071	2,4,5-T	1.5	JPB	<	650,000 nca
24/00-070	2,4,5-T	1.5	JPB	<	650,000 nca
24/00-069	2,4,5-T	0.9	JPB	<	650,000 nca
24/00-073	Sulfotepp	4.5	J	<	33,000 nca
24/00-072	Sulfotepp	4.0	J	<	33,000 nca
24/00-070	Dimethoate	3.4	J	<	13,000 nca

* (2-(2,4,5-Trichlorophenoxy) proprionic acid)

** Tetraethyl Dithiopyrophosphate

CYANIDE DATA

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2588

Report Number: 9507125
Report To: MK Corp
Project: NSWC-Crane #4324
Date: July 25, 1995
Analysis: Total Cyanide, SW846 9010

Client ID	AENI ID	%Solids	Result	Date Analyzed
NSWC-24/00-044	9507125-001	97.9	<1.0	07/20/95
NSWC-24/00-045	9507125-002	99.4	<1.0	07/20/95
NSWC-24/00-046	9507125-003	98.4	<1.0	07/20/95
NSWC-24/00-047	9507125-004	70.6	<1.4	07/20/95
NSWC-24/00-048	9507125-005	96.3	<1.0	07/20/95
NSWC-24/00-049	9507125-006	95.5	<1.0	07/20/95
NSWC-24/00-050	9507125-007	97.0	<1.0	07/20/95
NSWC-24/00-FB1	9507125-008	NA	<0.02 mg/L	07/20/95
NSWC-24/00-RB1	9507125-009	NA	<0.02 mg/L	07/20/95

(1) Results reported as mg/Kg on a dry weight basis.

(2) NA = Not Applicable

(3) Distillation Date: 07/20/95

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

Report Number: 9510199
Report To: MK Corp
Project: NSWC Crane
Date: November 01, 1995
Analysis: Total Cyanide, SW846 9010

Client ID	AENI ID	%Solids	Result, mg/Kg
NSWC24/00 RB9	9510199-001	NA	<0.02
NSWC24/00 055	9510199-002	90.8	<1.1
NSWC24/00 056	9510199-003	94.5	<1.1
NSWC24/00 057	9510199-004	89.9	<1.1
NSWC24/00 058	9510199-005	90.6	<1.1
NSWC24/00 059	9510199-006	92.5	<1.1
NSWC24/00 060	9510199-007	94.3	<1.1
NSWC24/00 061	9510199-008	90.2	<1.1
NSWC24/00 062	9510199-009	89.8	<1.1
NSWC24/00 063	9510199-010	90.1	<1.1
NSWC24/00 064	9510199-011	93.0	<1.1
NSWC24/00 065	9510199-012	88.9	<1.1
NSWC24/00 066	9510199-013	88.3	<1.1
NSWC24/00 067	9510199-014	94.5	<1.1
NSWC24/00 068	9510199-015	94.4	<1.1

(1) Results reported on a dry weight basis.
(2) NA = Not Applicable

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24-00-069

Lab Name: COMPUCHEM ENV. CORP. Contract: SW-846

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 116C

Matrix (soil/water): SOIL Lab Sample ID: 782593

Level (low/med): LOW Date Received: 02/09/96

% Solids: 84.5

Concentration Units (ug/L or mg/kg dry weight): UG/KG

CAS No.	Analyte	Concentration	C	Q	M
	Cyanide	582	U		AS

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE

24-00-070

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 116C__

Matrix (soil/water): SOIL_ Lab Sample ID: 782603

Level (low/med): LOW__ Date Received: 02/09/96

% Solids: _84.1

Concentration Units (ug/L or mg/kg dry weight): UG/KG

CAS No.	Analyte	Concentration	C	Q	M
	Cyanide	549	U		AS

Color Before: BROWN____ Clarity Before: _____ Texture: MEDI

Color After: COLORLESS Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN

ILM03

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24-00-071

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 116C__

Matrix (soil/water): SOIL_ Lab Sample ID: 782623

Level (low/med): LOW__ Date Received: 02/09/96

% Solids: _86.8

Concentration Units (ug/L or mg/kg dry weight): UG/KG

CAS No.	Analyte	Concentration	C	Q	M
	Cyanide	576	U		AS

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24-00-072

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 116C__

Matrix (soil/water): SOIL_ Lab Sample ID: 782630

Level (low/med): LOW__ Date Received: 02/09/96

% Solids: _88.4

Concentration Units (ug/L or mg/kg dry weight): UG/KG

CAS No.	Analyte	Concentration	C	Q	M
	Cyanide	562	U		AS

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24-00-073

Lab Name: COMPUCHEM ENV. CORP. Contract: SW-846

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 116C

Matrix (soil/water): SOIL Lab Sample ID: 782616

Level (low/med): LOW Date Received: 02/09/96

% Solids: 83.6

Concentration Units (ug/L or mg/kg dry weight): UG/KG

CAS No.	Analyte	Concentration	C	Q	M
	Cyanide	560	U		AS

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: Artifacts:

Comments:

SULFIDE DATA

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

Report Number: 9507125
Report To: MK Corp
Project: NSWC-Crane #4324
Date: July 25, 1995
Analysis: Total Sulfide, SW846 9030M

Client ID	AENI ID	%Solids	Result		Date Analyzed
NSWC-24/00-044	9507125-001	97.9	82		07/20/95
NSWC-24/00-045	9507125-002	99.4	<40		07/20/95
NSWC-24/00-046	9507125-003	98.4	<41		07/20/95
NSWC-24/00-047	9507125-004	70.6	57		07/20/95
NSWC-24/00-048	9507125-005	96.3	<42		07/20/95
NSWC-24/00-049	9507125-006	95.5	84		07/20/95
NSWC-24/00-050	9507125-007	97.0	41		07/20/95
NSWC-24/00-FB1	9507125-008	NA	< 1	mg/L	07/20/95
NSWC-24/00-RB1	9507125-009	NA	< 1	mg/L	07/20/95

(1) Results reported as mg/Kg on a dry weight basis.

(2) NA = Not Applicable

(3) Distillation Date: 07/20/95

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

Report Number: 9510199
Report To: MK Corp
Project: NSWC Crane
Date: Novemer 01, 1995
Analysis: Total Sulfide, SW846 9030M

Client ID	AENI ID	%Solids	Result, mg/Kg
NSWC24/00 RB9	9510199-001	NA	<1
NSWC24/00 055	9510199-002	90.8	<55
NSWC24/00 056	9510199-003	94.5	<53
NSWC24/00 057	9510199-004	89.9	<56
NSWC24/00 058	9510199-005	90.6	<55
NSWC24/00 059	9510199-006	92.5	<54
NSWC24/00 060	9510199-007	94.3	<53
NSWC24/00 061	9510199-008	90.2	<55
NSWC24/00 062	9510199-009	89.8	<56
NSWC24/00 063	9510199-010	90.1	66
NSWC24/00 064	9510199-011	93.0	<54
NSWC24/00 065	9510199-012	88.9	<56
NSWC24/00 066	9510199-013	88.3	<57
NSWC24/00 067	9510199-014	94.5	<53
NSWC24/00 068	9510199-015	94.4	<53

(1) Results reported on a dry weight basis.
(2) NA = Not Applicable

gchem.007

ACID SOLUBLE SULFIDES ANALYSIS

SUMMARY REPORT

ITEM NO	SAMPLE IDENTIFIER	COMPUCHEM NUMBER	CONCENTRATION (mg/kg)	REPORTING LIMIT (PPM)
1	24-00-069	784241	BRL	2.5
2	24-00-070	784242	BRL	2.5
3	24-00-073	784243	BRL	2.5
4	24-00-071	784244	BRL	2.5
5	24-00-072	784245	BRL	2.5

BRL = BELOW REPORTING LIMIT

Reviewed by:ID= [illegible] / 725 Date 2/21/96

Reviewed by:ID= [illegible] / 1090 Date 2/23/96

VOC DATA

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

WSWC24/00-FB1

Lab Name: AENI Contract: 3507125

Project No.: MKC70 Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID. #008

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG257.D

Level: (low/med) LOW Date Received: 7/14/96

% Moisture: not dec. 0 Date Analyzed: 7/25/96

GC Column: CAP. ID. 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	JB
67-64-1	Acetone	17	J
75-05-8	Acetonitrile	5	U
107-13-1	Acrylonitrile	1000	U
107-02-8	Acrolein	1000	U
75-69-4	Trichlorofluoromethane	5	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-4	1,1 Dichloroethane	5	U
540-59-0	trans-1,2 Dichloroethene	5	U
67-66-3	Chloroform	93	
107-06-2	1,2-Dichloroethane	5	U
75-71-8	Dichlorodifluoromethane	5	U
74-88-4	Iodomethane	5	U
107-12-0	Propionitrile	5	U
107-05-1	Allyl chloride	100	U
78-93-3	2-Butanone	12	J
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	5	U
75-27-4	Bromodichloromethane	9.6	
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
71-43-2	Benzene	5	U
124-48-1	Dibromochloromethane	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
75-25-2	Bromoform	5	U

FORM I VOA 8260/Appendix IX

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC24/00-FB1

Lab Name AENI Contract 9507125

Project No. MKC70 Site: Location. Group.

Matrix: (soil/water) WATER Lab Sample ID. #008

Sample wt/vol. 5.0 (g/mL) ML Lab File ID. EG257.D

Level: (low/med) LOW Date Received: 7/14/96

% Moisture: not dec. 0 Date Analyzed: 7/25/96

GC Column: CAP. ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
126-98-7	Methacrylonitrile	5	U
74-95-3	Dibromomethane	5	U
106-93-4	1,2-Dibromoethane (EDB)	5	U
108-10-1	4-Methyl-2-Pentanone	5.2	J
591-78 6	2-Hexanone	50	U
127 18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2 Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90 7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
108-38-3	m + p-Xylene	5	U
95-47 6	o-Xylene	5	U
80-62-6	Methyl methacrylate	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
110-57-6	trans-1,4-Dichloro-2-butene	25	U
97-63-2	Ethyl methacrylate	5	U
76-01-7	Pentachloroethane	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
78-83-1	Isobutyl Alcohol	5	U
126-99-8	Chloroprene (TIC) *	5	U
	3-Chloroprene (TIC)	5	U
123-91-1	1,4-Dioxane (TIC)	1000	U
	Methylene Chloride - Dichloromethane		
	Methyl ethyl ketone - 2-Butanone		
	Chloroprene - 2 Chloro 1,3 butadiene		
	Propionitrile - Ethyl Cyanide		
* - Reported as semiquantitative analysis only.			

FORM I VOA

8260/Appendix IX

A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC24/90-RB1

Lab Name AENI Contract: 9507125

Project No.: MKC70 Site Location Group:

Matrix (soil/water) WATER Lab Sample ID: #009

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG274.D

Level: (low/med) LOW Date Received: 7/14/96

% Moisture not dec. 0 Date Analyzed: 7/26/96

GC Column: CAP. ID: 0.53 (mm) Dilution Factor: 100.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1000	UD
74-83-9	Bromomethane	1000	UD
75-01-4	Vinyl Chloride	1000	UD
75-00-3	Chloroethane	1000	UD
75-09 2	Methylene Chloride	15000	D
67-64-1	Acetone	600	JD
75-05-8	Acetonitrile	500	UD
107-13-1	Acrylonitrile	100000	UD
107-02 8	Acrolein	100000	UD
75-69-4	Trichlorofluoromethane	500	UD
75-15-0	Carbon Disulfide	500	UD
75-35-4	1,1-Dichloroethene	500	UD
75-34-4	1,1-Dichloroethane	500	UD
540 59-0	trans 1,2-Dichloroethene	500	UD
67-66-3	Chloroform	500	UD
107-06 2	1,2-Dichloroethane	500	UD
75-71 8	Dichlorodifluoromethane	500	UD
74-88-4	Iodomethane	500	UD
107-12-0	Propionitrile	500	UD
107-05-1	Allyl chloride	10000	UD
78-93-3	2-Butanone	10000	UD
71-55-6	1,1,1-Trichloroethane	500	UD
56-23 5	Carbon Tetrachloride	500	UD
108-05-4	Vinyl Acetate	500	UD
75-27-4	Bromodichloromethane	500	UD
78 87 5	1,2-Dichloropropane	500	UD
10061-01-5	cis-1,3-Dichloropropene	500	UD
79 01-6	Trichloroethene	500	UD
71-43-2	Benzene	500	UD
124-48-1	Dibromochloromethane	500	UD
10061 02 6	trans 1,3 Dichloropropene	500	UD
79 00 5	1,1,2 Trichloroethane	500	UD
75 25 2	Bromoform	500	UD

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

SWC24/00-RB1

Lab Name: AENI Contract: 9507125

Project No.: MKC70 Site: Location: Group:

Matrix. (soil/water) WATER Lab Sample ID. #009

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EG274.D

Level: (low/med) LOW Date Received: 7/14/96

% Moisture: not dec. 0 Date Analyzed. 7/26/96

GC Column: CAP. ID: 0.53 (mm) Dilution Factor: 100.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
126-98-7	Methacrylonitrile	500	UD
74-95-3	Dibromomethane	500	UD
106-93-4	1,2-Dibromoethane (EDB)	500	UD
108-10-1	4-Methyl-2-Pentanone	5000	UD
591-78-6	2-Hexanone	5000	UD
127-18-4	Tetrachloroethene	500	UD
79-34 5	1,1,2,2-Tetrachloroethane	500	UD
108-88-3	Toluene	500	UD
108-90-7	Chlorobenzene	500	UD
100-41-4	Ethylbenzene	500	UD
100-42-5	Styrene	500	UD
108 38 3	m + p-Xylene	500	UD
95-47-6	o-Xylene	500	UD
80-62 6	Methyl methacrylate	500	UD
630-20-6	1,1,1,2-Tetrachloroethane	500	UD
96-18-4	1,2,3-Trichloropropane	500	UD
110-57-6	trans-1,4-Dichloro-2-butene	2500	UD
97-63-2	Ethyl methacrylate	500	UD
76-01-7	Pentachloroethane	500	UD
96-12-8	1,2-Dibromo 3-chloropropane	500	UD
78-83-1	Isobutyl Alcohol	100000	UD
126-99-8	Chloroprene (TIC) *	500	UD
	3-Chloroprene (TIC)	500	UD
123-91 1	1,4-Dioxane (TIC)	100000	UD
Methylene Chloride - Dichloromethane			
Methyl ethyl ketone - 2 Butanone			
Chloroprene - 2-Chloro-1,3-butadiene			
Propionitrile - Ethyl Cyanide			
* - Reported as semiquantitative analysis only.			

FORM I VOA 8260/Appendix IX

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC24/00-TB1

Lab Name: AENI Contract: 9507125

Project No.: MKC70 Site: Location: Group:

Matrix. (soil/water) WATER Lab Sample ID: #010

Sample wt/vol: 5.0 (g/mL) ML Lab File ID. EG259.D

Level: (low/med) LOW Date Received: 7/14/96

% Moisture: not dec. 0 Date Analyzed: 7/25/96

GC Column: CAP. ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00 3	Chloroethane	10	U
75-09-2	Methylene Chloride	8.3	B
67-64-1	Acetone	6.3	J
75 05-8	Acetonitrile	5	U
107-13-1	Acrylonitrile	1000	U
107-02-8	Acrolein	1000	U
75 69-4	Trichlorofluoromethane	5	U
75-15 0	Carbon Disulfide	5	U
75 35-4	1,1-Dichloroethene	5	U
75-34-4	1,1-Dichloroethane	5	U
540-59-0	trans-1,2-Dichloroethene	5	U
67 66 3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
75-71-8	Dichlorodifluoromethane	5	U
74-88-4	Iodomethane	5	U
107-12-0	Propionitrile	5	U
107-05-1	Allyl chloride	100	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1 Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
71-43-2	Benzene	5	U
124-48-1	Dibromochloromethane	5	U
10061-02 6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2 Trichloroethane	5	U
75 25 2	Bromoform	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC24 02 TB1

Lab Name: AENI Contract 95D7125

Project No. MKC70 Site Location. Group

Matrix: (soil/water) WATER Lab Sample ID. #010

Sample wt/vol. 5.0 (g/mL) ML Lab File ID EG259 D

Level: (low/med) LOW Date Received. 7/14/96

% Moisture: not dec. 0 Date Analyzed: 7/25/96

GC Column: CAP. ID: 0.53 (mm) Dilution Factor. 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
126-98-7	Methacrylonitrile	5	U
74-95-3	Dibromomethane	5	U
106-93-4	1,2-Dibromoethane (EDB)	5	U
108-10-1	4 Methyl-2-Pentanone	50	U
591 78-6	2 Hexanone	50	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
108-38-3	m + p Xylene	5	U
95-47-6	o Xylene	5	U
80-62-6	Methyl methacrylate	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
110-57-6	trans 1,4-Dichloro-2-butene	25	U
97-63-2	Ethyl methacrylate	5	U
76-01-7	Pentachloroethane	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
78-83 1	Isobutyl Alcohol	5	U
126-99-8	Chloroprene (TIC) *	5	U
	3-Chloroprene (TIC)	5	U
123-91-1	1,4-Dioxane (TIC)	1000	U
Methylene Chloride - Dichloromethane			
Methyl ethyl ketone - 2 Butanone			
Chloroprene - 2 Chloro-1,3-butadiene			
Propionitrile - Ethyl Cyanide			
* - Reported as semiquantitative analysis only.			

FORM I VOA

8260 Appendix IX

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC24/00-044

Lab Name: AEMI MD Contract: MXC

Project No.: 9507125 Site: NSWC-CRA Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #001

Sample wt/vol 5.0 (g/mL) G Lab File ID: EG250.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: not dec. 2 Date Analyzed: 7/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	12	B
67-64-1	Acetone	3.1	J
75-05-8	Acetonitrile	5.1	U
107-13-1	Acrylonitrile	1000	U
107-02-8	Acrolein	1000	U
75-69-4	Trichlorofluoromethane	5.1	U
75-15-0	Carbon Disulfide	5.1	U
75-35-4	1,1-Dichloroethene	5.1	U
75-34-4	1,1-Dichloroethane	5.1	U
540-59-0	trans-1,2-Dichloroethene	5.1	U
67-66-3	Chloroform	5.1	U
107-06-2	1,2-Dichloroethane	5.1	U
75-71-8	Dichlorodifluoromethane	5.1	U
74-88-4	Iodomethane	5.1	U
107-12-0	Propionitrile	5.1	U
107-05-1	Allyl chloride	100	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	5.1	U
56-23-5	Carbon Tetrachloride	5.1	U
108-05-4	Vinyl Acetate	5.1	U
75-27-4	Bromodichloromethane	5.1	U
78-87-5	1,2-Dichloropropane	5.1	U
10061-01-5	cis-1,3-Dichloropropene	5.1	U
79-01-6	Trichloroethene	5.1	U
71-43-2	Benzene	5.1	U
124-48-1	Dibromochloromethane	5.1	U
10061-02-6	trans-1,3-Dichloropropene	5.1	U
79-00-5	1,1,2-Trichloroethane	5.1	U
75-25-2	Bromoform	5.1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC24.00 044

Lab Name: AENI MD Contract: MXC

Project No.: 9507125 Site: NSWC CRA Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 1001

Sample wt/vol 5.0 (g/mL) G Lab File ID: EG250.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: not dec 2 Date Analyzed: 7/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound			Q
126-98-7	Methacrylonitrile		5.1	U
74-95-3	Dibromomethane		5.1	U
106-93-4	1,2-Dibromoethane (EDB)		5.1	U
108-10-1	4-Methyl 2-Pentanone		51	U
591-78-6	2-Hexanone		51	U
127-18-4	Tetrachloroethene		5.1	U
79-34-5	1,1,2,2 Tetrachloroethane		5.1	U
108-88-3	Toluene		5.1	U
108-90-7	Chlorobenzene		5.1	U
100-41-4	Ethylbenzene		5.1	U
100-42-5	Styrene		5.1	U
108-38-3	m + p-Xylene		5.1	U
95-47-6	o-Xylene		5.1	U
80-62-6	Methyl methacrylate		5.1	U
630-20-6	1,1,1,2-Tetrachloroethane		5.1	U
96-18-4	1,2,3-Trichloropropane		5.1	U
110-57-6	trans-1,4-Dichloro-2 butene		5.1	U
97-63-2	Ethyl methacrylate		5.1	U
76-01-7	Pentachloroethane		5.1	U
96-12-8	1,2-Dibromo-3-chloropropane		5.1	U
126-99-8	Chloroprene		5.1	UZ
123-91-1	1,4 Dioxane	(TIC)	1000	U
78-83-1	Isobutyl Alcohol	(TIC)	1000	U
	3 Chloroprene	(TIC)	5.1	U

FORM I VOA

SW846

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC24100-045

Lab Name AENI MD Contract MKC

Project No: 9507125 Site NSWC CRA Location Group

Matrix: (soil/water) SOIL Lab Sample ID #002

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG251.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: not dec. 1 Date Analyzed: 7/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	26	B
67-64-1	Acetone	4.1	J
75-05-8	Acetonitrile	5.1	U
107-13-1	Acrylonitrile	1000	U
107-02-8	Acrolein	1000	U
75-69-4	Trichlorofluoromethane	5.1	U
75-15-0	Carbon Disulfide	5.1	U
75-35-4	1,1-Dichloroethene	5.1	U
75-34-4	1,1-Dichloroethane	5.1	U
540-59-0	trans-1,2-Dichloroethene	5.1	U
67-66-3	Chloroform	5.1	U
107-06-2	1,2-Dichloroethane	5.1	U
75-71-8	Dichlorodifluoromethane	5.1	U
74-88-4	Iodomethane	5.1	U
107-12-0	Propionitrile	5.1	U
107-05-1	Allyl chloride	100	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	5.1	U
56-23-5	Carbon Tetrachloride	5.1	U
108-05-4	Vinyl Acetate	5.1	U
75-27-4	Bromodichloromethane	5.1	U
78-87-5	1,2-Dichloropropane	5.1	U
10061-01-5	cis-1,3-Dichloropropene	5.1	U
79-01-6	Trichloroethene	5.1	U
71-43-2	Benzene	5.1	U
124-48-1	Dibromochloromethane	5.1	U
10061-02-6	trans-1,3-Dichloropropene	5.1	U
79-00-5	1,1,2-Trichloroethane	5.1	U
75-25-2	Bromoform	5.1	U

FORM I VOA

SW846

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC24/00 045

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: NSWC CRA Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #002

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG251.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: not dec. 1 Date Analyzed: 7/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound			Q
126-98-7	Methacrylonitrile		5.1	U
74-95-3	Dibromomethane		5.1	U
106-93-4	1,2-Dibromoethane (EDB)		5.1	U
108-10-1	4-Methyl 2-Pentanone		51	U
591-78-6	2-Hexanone		51	U
127-18-4	Tetrachloroethene		5.1	U
79-34-5	1,1,2,2-Tetrachloroethane		5.1	U
108-88-3	Toluene		5.1	U
108-90-7	Chlorobenzene		5.1	U
100-41-4	Ethylbenzene		5.1	U
100-42-5	Styrene		5.1	U
108-38-3	m + p-Xylene		5.1	U
95-47-6	o-Xylene		5.1	U
80-62-6	Methyl methacrylate		5.1	U
630-20-6	1,1,1,2 Tetrachloroethane		5.1	U
96-18-4	1,2,3-Trichloropropane		5.1	U
110-57-6	trans 1,4 Dichloro-2 butene		5.1	U
97-63-2	Ethyl methacrylate		5.1	U
76-01-7	Pentachloroethane		5.1	U
96-12-8	1,2 Dibromo 3 chloropropane		5.1	U
126-99-8	Chloroprene		5.1	UZ
123-91-1	1,4 Dioxane	(TIC)	1000	U
78-83-1	Isobutyl Alcohol	(TIC)	1000	U
	3 Chloroprene	(TIC)	5.1	U

FORM I VOA

SW846

VOLATILE ORGANICS ANALYSIS DATA SHEET

#SWC24/00 046

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: NSWC CRA Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #003

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG252.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: not dec. 2 Date Analyzed: 7/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	18	B
67-64-1	Acetone	100	U
75-05-8	Acetonitrile	5.1	U
107-13-1	Acrylonitrile	1000	U
107-02-8	Acrolein	1000	U
75-69-4	Trichlorofluoromethane	5.1	U
75-15-0	Carbon Disulfide	5.1	U
75-35-4	1,1-Dichloroethene	5.1	U
75-34-4	1,1-Dichloroethane	5.1	U
540-59-0	trans 1,2-Dichloroethene	5.1	U
67-66-3	Chloroform	5.1	U
107-06-2	1,2-Dichloroethane	5.1	U
75-71-8	Dichlorodifluoromethane	5.1	U
74-88-4	Iodomethane	5.1	U
107-12-0	Propionitrile	5.1	U
107-05-1	Allyl chloride	100	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	5.1	U
56-23-5	Carbon Tetrachloride	5.1	U
108-05-4	Vinyl Acetate	5.1	U
75-27-4	Bromodichloromethane	5.1	U
78-87-5	1,2-Dichloropropane	5.1	U
10061-01-5	cis-1,3-Dichloropropene	5.1	U
79-01-6	Trichloroethene	5.1	U
71-43-2	Benzene	5.1	U
124-48-1	Dibromochloromethane	5.1	U
10061-02-6	trans 1,3-Dichloropropene	5.1	U
79-00-5	1,1,2-Trichloroethane	5.1	U
75-25-2	Bromoform	5.1	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC24;00-046

Lab Name: AENI MO Contract: MKC

Project No.: 9507125 Site: NSWC CRA Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #003

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG252 D

Level: (low/med): LOW Date Received: 7/14/95

% Moisture: not dec 2 Date Analyzed: 7/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound			Q
126-98-7	Methacrylonitrile		5.1	U
74-95-3	Dibromomethane		5.1	U
106-93-4	1,2-Dibromoethane (EDB)		5.1	U
108-10-1	4-Methyl 2 Pentanone		51	U
591-78-6	2-Hexanone		51	U
127-18-4	Tetrachloroethene		5.1	U
79-34-5	1,1,2,2-Tetrachloroethane		5.1	U
108-88-3	Toluene		5.1	U
108-90-7	Chlorobenzene		5.1	U
100-41-4	Ethylbenzene		5.1	U
100-42-5	Styrene		5.1	U
108-38-3	m + p Xylene		5.1	U
95-47-6	o-Xylene		5.1	U
80-62-6	Methyl methacrylate		5.1	U
630-20-6	1,1,1,2 Tetrachloroethane		5.1	U
96-18-4	1,2,3-Trichloropropane		5.1	U
110-57-6	trans 1,4-Dichloro-2-butene		5.1	U
97-63-2	Ethyl methacrylate		5.1	U
76-01-7	Pentachloroethane		5.1	U
96-12-8	1,2-Dibromo 3-chloropropane		5.1	U
126-99-8	Chloroprene		5.1	UZ
123-91-1	1,4-Dioxane	(TIC)	1000	U
78-83-1	Isobutyl Alcohol	(TIC)	1000	U
	3-Chloroprene	(TIC)	5.1	U

FORM I VOA

SW846

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC24/00 047

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site NSWC-CRA Location: Group

Matrix: (soil/water) SOIL Lab Sample ID: #004

Sample wt/vol: 5.0 (g/mL) G Lab File ID EG253.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: not dec. 29 Date Analyzed: 7/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume 1 (uL)

CAS No.	Compound	Concentration Units (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	14	U
74-83 9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	15	B
67-64-1	Acetone	8.4	J
75-05-8	Acetonitrile	7	U
107-13-1	Acrylonitrile	1400	U
107-02-8	Acrolein	1400	U
75-69-4	Trichlorofluoromethane	7	U
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75 34-4	1,1-Dichloroethane	7	U
540 59-0	trans 1,2 Dichloroethene	7	U
67 66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
75-71-8	Dichlorodifluoromethane	7	U
74-88-4	Iodomethane	7	U
107 12-0	Propionitrile	7	U
107-05 1	Allyl chloride	140	U
78-93 3	2-Butanone	140	U
71 55 6	1,1,1 Trichloroethane	7	U
56-23 5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	7	U
75-27-4	Bromodichloromethane	7	U
78-87 5	1,2 Dichloropropane	7	U
10061-01 5	cis 1,3-Dichloropropene	7	U
79 01-6	Trichloroethene	7	U
71-43-2	Benzene	7	U
124-48-1	Dibromochloromethane	7	U
10061-02 6	trans 1,3 Dichloropropene	7	U
79-00-5	1,1,2 Trichloroethane	7	U
75 25-2	Bromoform	7	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC24-00-047

Lab Name: AFNI MD Contract: MKC

Project No.: 9507125 Site: NSWC CRA Location: Group:

Matrix: (soil/water): SOIL Lab Sample ID: #004

Sample wt/vol.: 5.0 (g/mL) G Lab File ID: EG253 D

Level: (low/med): LOW Date Received: 7/14/95

% Moisture: not dec.: 29 Date Analyzed: 7/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
126-98-7	Methacrylonitrile	7	U
74 95-3	Dibromomethane	7	U
106 93-4	1,2-Dibromoethane (EDB)	7	U
108 10-1	4-Methyl-2-Pentanone	70	U
591-78-6	2 Hexanone	70	U
127 18-4	Tetrachloroethene	7	U
79-34 5	1,1,2,2-Tetrachloroethane	7	U
108-88 3	Toluene	7	U
108 90 7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42 5	Styrene	7	U
108 38-3	m + p-Xylene	7	U
95-47 6	o Xylene	7	U
80-62-6	Methyl methacrylate	7	U
630 20 6	1,1,1,2-Tetrachloroethane	7	U
96-18-4	1,2,3-Trichloropropane	7	U
110-57-6	trans 1,4-Dichloro-2-butene	7	U
97 63 2	Ethyl methacrylate	7	U
76-01 7	Pentachloroethane	7	U
96 12 8	1,2-Dibromo-3-chloropropane	7	U
126 99 8	Chloroprene	7	UZ
123 91 1	1,4-Dioxane (TIC)	1400	U
78 83 1	Isobutyl Alcohol (TIC)	1400	U
	3 Chloroprene (TIC)	7	U

FORM I VOA SW846

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC2400 048

Lab Name: AENI MD Contract: MKC

Project No: 9507125 Site NSWC CRA Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #005

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG254 D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: not dec. 4 Date Analyzed: 7/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	11	B
67-64 1	Acetone	6.1	J
75-05-8	Acetonitrile	5.2	U
107-13 1	Acrylonitrile	1000	U
107-02 8	Acrolein	1000	U
75-69-4	Trichlorofluoromethane	5.2	U
75-15-0	Carbon Disulfide	5.2	U
75-35-4	1,1-Dichloroethene	5.2	U
75-34-4	1,1-Dichloroethane	5.2	U
540 59-0	trans 1,2-Dichloroethene	5.2	U
67-66-3	Chloroform	5.2	U
107-06-2	1,2-Dichloroethane	5.2	U
75-71-8	Dichlorodifluoromethane	5.2	U
74-88-4	Iodomethane	5.2	U
107 12-0	Propionitrile	5.2	U
107-05-1	Allyl chloride	100	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	5.2	U
56-23 5	Carbon Tetrachloride	5.2	U
108-05-4	Vinyl Acetate	5.2	U
75-27-4	Bromodichloromethane	5.2	U
78-87 5	1,2-Dichloropropane	5.2	U
10061 01 5	cis-1,3 Dichloropropene	5.2	U
79-01 6	Trichloroethene	5.2	U
71-43 2	Benzene	5.2	U
124-48-1	Dibromochloromethane	5.2	U
10061 02 6	trans 1,3 Dichloropropene	5.2	U
79-00-5	1,1,2 Trichloroethane	5.2	U
75 25-2	Bromoform	5.2	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC24:00 048

Lab Name AEMI MO Contract MKC

Project No. 9507125 Site NSWC-CRA Location Group

Matrix (soil/water) SOIL Lab Sample ID #005

Sample wt/vol: 5.0 (g/mL) 6 Lab File ID. EG254.D

Level (low/med) LOW Date Received. 7/14/95

% Moisture, not dec. 4 Date Analyzed. 7/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume 1 (uL)

CAS No.	Compound	Concentration Units (ug/L or ug/Kg) ug/Kg	Q
126-98-7	Methacrylonitrile	5.2	U
74-95-3	Dibromomethane	5.2	U
106-93-4	1,2-Dibromoethane (EDB)	5.2	U
108-10-1	4-Methyl 2-Pentanone	52	U
591-78-6	2-Hexanone	52	U
127-18-4	Tetrachloroethene	5.2	U
79-34-5	1,1,2,2-Tetrachloroethane	5.2	U
108-88-3	Toluene	5.2	U
108-90-7	Chlorobenzene	5.2	U
100-41-4	Ethylbenzene	5.2	U
100-42-5	Styrene	5.2	U
108 38-3	m + p-Xylene	5.2	U
95-47-6	o Xylene	5.2	U
80-62-6	Methyl methacrylate	5.2	U
630-20-6	1,1,1,2-Tetrachloroethane	5.2	U
96-18-4	1,2,3-Trichloropropane	5.2	U
110-57-6	trans 1,4-Dichloro 2-butene	5.2	U
97-63-2	Ethyl methacrylate	5.2	U
76-01-7	Pentachloroethane	5.2	U
96-12-8	1,2-Dibromo-3-chloropropane	5.2	U
126-99-8	Chloroprene	5.2	UZ
123-91 1	1,4-Dioxane (TIC)	1000	U
78 83 1	Isobutyl Alcohol (TIC)	1000	U
	3-Chloroprene (TIC)	5.2	U

FORM I VOA SW846

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC24/00-049

Lab Name AENI MO Contract: MKC

Project No. 9507125 Site NSWC CRA Location Group.

Matrix: (soil/water) SOIL Lab Sample ID. #006

Sample wt/vol: 5.0 (g/mL) G Lab File ID: E6255.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: not dec. 4 Date Analyzed: 7/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	19	B
67-64-1	Acetone	6.7	J
75-05-8	Acetonitrile	5.2	U
107-13-1	Acrylonitrile	1000	U
107-02-8	Acrolein	1000	U
75-69-4	Trichlorofluoromethane	5.2	U
75-15-0	Carbon Disulfide	5.2	U
75-35-4	1,1-Dichloroethene	5.2	U
75-34-4	1,1-Dichloroethane	5.2	U
540-59-0	trans-1,2 Dichloroethene	5.2	U
67-66-3	Chloroform	5.2	U
107-06-2	1,2-Dichloroethane	5.2	U
75-71-8	Dichlorodifluoromethane	5.2	U
74-88-4	Iodomethane	5.2	U
107-12-0	Propionitrile	5.2	U
107-05-1	Allyl chloride	100	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	5.2	U
56-23-5	Carbon Tetrachloride	5.2	U
108-05-4	Vinyl Acetate	5.2	U
75-27-4	Bromodichloromethane	5.2	U
78-87-5	1,2 Dichloropropane	5.2	U
10061-01-5	cis-1,3-Dichloropropene	5.2	U
79-01-6	Trichloroethene	5.2	U
71-43-2	Benzene	5.2	U
124-48-1	Dibromochloromethane	5.2	U
10061-02-6	trans 1,3 Dichloropropene	5.2	U
79-00-5	1,1,2 Trichloroethane	5.2	U
75-25-2	Bromoform	5.2	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC24:00 049

Lab Name: AENI MO Contract: MXE

Project No.: 9507125 Site: NSWC-CRA Location Group

Matrix (soil/water): SOIL Lab Sample ID: #006

Sample wt/vol: 5.0 (g/mL) G Lab File ID: E6255.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: not dec 4 Date Analyzed: 7/25/95

GC Column: CAP ID 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No	Compound	Concentration Units (ug/L or ug/Kg) ug/Kg	Q
126-98-7	Methacrylonitrile	5.2	U
74-95-3	Dibromomethane	5.2	U
106-93-4	1,2 Dibromoethane (EDB)	5.2	U
108-10-1	4-Methyl-2-Pentanone	52	U
591 78-6	2-Hexanone	52	U
127-18-4	Tetrachloroethene	5.2	U
79-34 5	1,1,2,2 Tetrachloroethane	5.2	U
108-88 3	Toluene	5.2	U
108 90-7	Chlorobenzene	5.2	U
100-41-4	Ethylbenzene	5.2	U
100-42 5	Styrene	5.2	U
108 38 3	m + p Xylene	5.2	U
95-47 6	o Xylene	5.2	U
80 62 6	Methyl methacrylate	5.2	U
630-20 6	1,1,1,2 Tetrachloroethane	5.2	U
96-18-4	1,2,3-Trichloropropane	5.2	U
110 57 6	trans 1,4 Dichloro 2-butene	5.2	U
97 63 2	Ethyl methacrylate	5.2	U
76-01 7	Pentachloroethane	5.2	U
96-12 8	1,2-Dibromo 3 chloropropane	5.2	U
126 99 8	Chloroprene	5.2	UZ
123 91 1	1,4 Dioxane (TIC)	1000	U
78 83 1	Isobutyl Alcohol (TIC)	1000	U
	3 Chloroprene (TIC)	5.2	U

FORM I VOA

SW846

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC24/00 050

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: NSWC CRA Location: Group:

Matrix: (soil/water): SOIL Lab Sample ID: #007

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG256.D

Level: (low/med): LOW Date Received: 7/14/95

% Moisture: not dec. 3 Date Analyzed: 7/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	13	B
67-64-1	Acetone	4.4	J
75-05-8	Acetonitrile	5.2	U
107-13-1	Acrylonitrile	1000	U
107-02-8	Acrolein	1000	U
75-69-4	Trichlorofluoromethane	5.2	U
75-15-0	Carbon Disulfide	5.2	U
75-35-4	1,1-Dichloroethene	5.2	U
75-34-4	1,1-Dichloroethane	5.2	U
540-59-0	trans 1,2-Dichloroethene	5.2	U
67-66-3	Chloroform	5.2	U
107-06-2	1,2-Dichloroethane	5.2	U
75-71-8	Dichlorodifluoromethane	5.2	U
74-88-4	Iodomethane	5.2	U
107-12-0	Propionitrile	5.2	U
107-05-1	Allyl chloride	100	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	5.2	U
56-23-5	Carbon Tetrachloride	5.2	U
108-05-4	Vinyl Acetate	5.2	U
75-27-4	Bromodichloromethane	5.2	U
78-87-5	1,2-Dichloropropane	5.2	U
10061-01-5	cis 1,3-Dichloropropene	5.2	U
79-01-6	Trichloroethene	5.2	U
71-43-2	Benzene	5.2	U
124-48-1	Dibromochloromethane	5.2	U
10061-02-6	trans 1,3-Dichloropropene	5.2	U
79-00-5	1,1,2-Trichloroethane	5.2	U
75-25-2	Bromoform	5.2	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC24-00 050

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: NSWC CRA Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #007

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG256.D

Level (low/med): LOW Date Received: 7/14/95

% Moisture: not dec. 3 Date Analyzed: 7/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
126-98 7	Methacrylonitrile	5.2	U
74-95-3	Dibromomethane	5.2	U
106-93-4	1,2-Dibromoethane (EDB)	5.2	U
108-10-1	4-Methyl-2-Pentanone	52	U
591-78-6	2-Hexanone	52	U
127-18-4	Tetrachloroethene	5.2	U
79 34-5	1,1,2,2-Tetrachloroethane	5.2	U
108-88-3	Toluene	5.2	U
108 90 7	Chlorobenzene	5.2	U
100-41-4	Ethylbenzene	5.2	U
100-42 5	Styrene	5.2	U
108-38 3	m + p-Xylene	5 2	U
95-47 6	o-Xylene	5.2	U
80-62-6	Methyl methacrylate	5.2	U
630 20-6	1,1,1,2-Tetrachloroethane	5 2	U
96-18-4	1,2,3-Trichloropropane	5.2	U
110 57-6	trans 1,4-Dichloro-2-butene	5.2	U
97-63 2	Ethyl methacrylate	5 2	U
76-01 7	Pentachloroethane	5 2	U
96-12-8	1,2 Dibromo-3-chloropropane	5.2	U
126-99 8	Chloroprene	5 2	UZ
123 91-1	1,4 Dioxane (TIC)	1000	U
78 83 1	Isobutyl Alcohol (TIC)	1000	U
	3 Chloroprene (TIC)	5.2	U

FORM I VOA SW846

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 055

Lab Name: AENI Contract: 95'0'99

Project No.: MKC70 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #002

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FJ360 D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: not dec. 9 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units. (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	8	
67-64-1	Acetone	23	J
75-05-8	Acetonitrile	5.5	U
107-13-1	Acrylonitrile	1100	U
107-02-8	Acrolein	1100	U
75-69-4	Trichlorofluoromethane	5.5	U
75-15-0	Carbon Disulfide	5.5	U
75-35-4	1,1-Dichloroethene	5.5	U
75-34-4	1,1-Dichloroethane	5.5	U
540-59-0	trans-1,2-Dichloroethene	5.5	U
67-66-3	Chloroform	5.5	U
107-06-2	1,2-Dichloroethane	5.5	U
75-71-8	Dichlorodifluoromethane	5.5	U
74-88-4	Iodomethane	5.5	U
107-12-0	Propionitrile	5.5	U
107-05-1	Allyl chloride	110	U
78-93-3	2-Butanone	110	U
71-55-6	1,1,1-Trichloroethane	5.5	U
56-23-5	Carbon Tetrachloride	5.5	U
108-05-4	Vinyl Acetate	5.5	U
75-27-4	Bromodichloromethane	5.5	U
78-87-5	1,2-Dichloropropane	5.5	U
10061-01-5	cis-1,3-Dichloropropene	5.5	U
79-01-6	Trichloroethene	5.5	U
71-43-2	Benzene	5.5	U
124-48-1	Dibromochloromethane	5.5	U
10061-02-6	trans-1,3-Dichloropropene	5.5	U
79-00-5	1,1,2-Trichloroethane	5.5	U
75-25-2	Bromoform	5.5	U

FORM I VOA 8260/Appendix IX

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 055

Lab Name: AENI Contract: 9510199

Project No.: MKC70 Site: Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #002

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FJ360 D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: not dec. 9 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
126-98-7	Methacrylonitrile	5.5	U
74-95-3	Dibromomethane	5.5	U
106-93-4	1,2-Dibromoethane (EDB)	5.5	U
108-10-1	4-Methyl-2-Pentanone	55	U
591-78-6	2-Hexanone	55	U
127-18-4	Tetrachloroethene	5.1	J
79-34-5	1,1,2,2-Tetrachloroethane	5.5	U
108-88-3	Toluene	5.5	U
108-90-7	Chlorobenzene	5.5	U
100-41-4	Ethylbenzene	5.5	U
100-42-5	Styrene	5.5	U
108-38-3	m + p Xylene	5.5	U
95-47-6	o-Xylene	5.5	U
80-62-6	Methyl methacrylate	5.5	U
630-20-6	1,1,1,2-Tetrachloroethane	5.5	U
96-18-4	1,2,3-Trichloropropane	5.5	U
110-57-6	trans 1,4-Dichloro-2-butene	27	U
97-63-2	Ethyl methacrylate	5.5	U
76-01-7	Pentachloroethane	5.5	U
96-12-8	1,2-Dibromo-3-chloropropane	5.5	U
78-83-1	Isobutyl Alcohol	5.5	U
126-99-8	Chloroprene (TIC)	5.5	UZ
	3-Chloroprene (TIC)	5.5	U
123-91-1	1,4-Dioxane (TIC)	1100	U
Methylene Chloride - Dichloromethane			
Methyl ethyl ketone - 2-Butanone			
Chloroprene - 2-Chloro-1,3-butadiene			
Propionitrile - Ethyl Cyanide			

FORM I VOA

8260/Appendix IX

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC 24/00 056

Lab Name: AENI Contract: 9510199

Project No MKC70 Site Location Group

Matrix. (soil/water) SOIL Lab Sample ID #003

Sample wt/vol: 5.0 (g/mL) G Lab File ID. FJ361.D

Level (low/med) LOW Date Received: 10/18/95

% Moisture: not dec. 6 Date Analyzed: 10/24/95

GC Column. CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume. 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	5.3	U
67-64-1	Acetone	110	U
75-05-8	Acetonitrile	5.3	U
107-13-1	Acrylonitrile	1100	U
107-02-8	Acrolein	1100	U
75-69-4	Trichlorofluoromethane	5.3	U
75-15-0	Carbon Disulfide	5.3	U
75-35-4	1,1-Dichloroethene	5.3	U
75-34-4	1,1-Dichloroethane	5.3	U
540-59-0	trans 1,2-Dichloroethene	5.3	U
67-66-3	Chloroform	5.3	U
107-06-2	1,2-Dichloroethane	5.3	U
75-71-8	Dichlorodifluoromethane	5.3	U
74-88-4	Iodomethane	5.3	U
107-12-0	Propionitrile	5.3	U
107-05-1	Allyl chloride	110	U
78-93-3	2-Butanone	110	U
71-55-6	1,1,1-Trichloroethane	5.3	U
56-23-5	Carbon Tetrachloride	5.3	U
108-05-4	Vinyl Acetate	5.3	U
75-27-4	Bromodichloromethane	5.3	U
78-87-5	1,2-Dichloropropane	5.3	U
10061-01-5	cis 1,3-Dichloropropene	5.3	U
79-01-6	Trichloroethene	4	J
71-43-2	Benzene	5.3	U
124-48-1	Dibromochloromethane	5.3	U
10061-02-6	trans 1,3 Dichloropropene	5.3	U
79-00-5	1,1,2-Trichloroethane	5.3	U
75-25-2	Bromoform	5.3	U

FORM I VOA

8260/Appendix IX

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 056

Lab Name: AENI Contract: 95C199

Project No.: MKC70 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #003

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FJ361.D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: not dec. 6 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
126-98-7	Methacrylonitrile	5.3	U
74-95-3	Dibromomethane	5.3	U
106-93-4	1,2-Dibromoethane (EDB)	5.3	U
108-10-1	4-Methyl 2-Pentanone	53	U
591-78-6	2 Hexanone	53	U
127-18-4	Tetrachloroethene	13	
79-34-5	1,1,2,2-Tetrachloroethane	5.3	U
108-88-3	Toluene	5.3	U
108-90-7	Chlorobenzene	5.3	U
100-41-4	Ethylbenzene	5.3	U
100-42-5	Styrene	5.3	U
108-38-3	m + p Xylene	5.3	U
95-47-6	o-Xylene	5.3	U
80-62-6	Methyl methacrylate	5.3	U
630-20-6	1,1,1,2-Tetrachloroethane	5.3	U
96-18-4	1,2,3 Trichloropropane	5.3	U
110-57-6	trans 1,4-Dichloro-2-butene	27	U
97-63-2	Ethyl methacrylate	5.3	U
76-01-7	Pentachloroethane	5.3	U
96-12-8	1,2-Dibromo-3-chloropropane	5.3	U
78-83-1	Isobutyl Alcohol	5.3	U
126-99-8	Chloroprene (TIC)	5.3	UZ
	3-Chloroprene (TIC)	5.3	U
123-91-1	1,4 Dioxane (TIC)	1100	U
Methylene Chloride - Dichloromethane			
Methyl ethyl ketone - 2 Butanone			
Chloroprene - 2-Chloro-1,3 butadiene			
Propionitrile - Ethyl Cyanide			

FORM I VOA

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC 24/00 057

Lab Name: AENI Contract: 9510199

Project No. MKC70 Site: Location: Group:

Matrix (soil/water) SOIL Lab Sample ID #004

Sample wt/vol 5.0 (g/mL) G Lab File ID. FJ362.D

Level: (low/med) LOW Date Received. 10/18/95

% Moisture. not dec. 10 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75 01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75 09 2	Methylene Chloride	3.8	J
67-64-1	Acetone	17	J
75-05-8	Acetonitrile	5 6	U
107 13-1	Acrylonitrile	1100	U
107 02 8	Acrolein	1100	U
75-69-4	Trichlorofluoromethane	5.6	U
75-15 0	Carbon Disulfide	5.6	U
75-35-4	1,1 Dichloroethene	5.6	U
75-34-4	1,1-Dichloroethane	5.6	U
540 59 0	trans 1,2-Dichloroethene	5 6	U
67 66 3	Chloroform	5.6	U
107 06 2	1,2 Dichloroethane	5.6	U
75 71 8	Dichlorodifluoromethane	5.6	U
74-88-4	Iodomethane	5.6	U
107-12 0	Propionitrile	5.6	U
107 05-1	Allyl chloride	110	U
78-93 3	2-Butanone	110	U
71 55 6	1,1,1-Trichloroethane	5.6	U
56-23-5	Carbon Tetrachloride	5.6	U
108 05-4	Vinyl Acetate	5.6	U
75-27-4	Bromodichloromethane	5.6	U
78-87 5	1,2 Dichloropropane	5.6	U
10061 01 5	cis 1,3-Dichloropropene	5.6	U
79 01 6	Trichloroethene	4.7	J
71-43-2	Benzene	5.6	U
124-48 1	Dibromochloromethane	5.6	U
10061 02 6	trans 1 3 Dichloropropene	5.6	U
79 00-5	1,1,2 Trichloroethane	5.6	U
75 25-2	Bromoform	5.6	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 057

Lab Name: AENI Contract: 9510199

Project No MKC70 Site Location Group

Matrix: (soil/water) SOIL Lab Sample ID #004

Sample wt/vol 5.0 (g/mL) G Lab File ID: FJ362.D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: not dec. 10 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound			Q
126-98-7	Methacrylonitrile		5.6	U
74-95-3	Dibromomethane		5.6	U
106-93-4	1,2-Dibromoethane (EDB)		5.6	U
108-10-1	4-Methyl-2-Pentanone		56	U
591-78-6	2-Hexanone		56	U
127-18-4	Tetrachloroethene		15	
79-34-5	1,1,2,2-Tetrachloroethane		5.6	U
108-88-3	Toluene		5.6	U
108-90-7	Chlorobenzene		5.6	U
100-41-4	Ethylbenzene		5.6	U
100-42-5	Styrene		5.6	U
108-38-3	m + p-Xylene		5.6	U
95-47-6	o-Xylene		5.6	U
80-62-6	Methyl methacrylate		5.6	U
630-20-6	1,1,1,2-Tetrachloroethane		5.6	U
96-18-4	1,2,3-Trichloropropane		5.6	U
110-57-6	trans-1,4-Dichloro-2-butene		28	U
97-63-2	Ethyl methacrylate		5.6	U
76-01-7	Pentachloroethane		5.6	U
96-12-8	1,2-Dibromo-3-chloropropane		5.6	U
78-83-1	Isobutyl Alcohol		5.6	U
126-99-8	Chloroprene	(TIC)	5.6	UZ
	3-Chloroprene	(TIC)	5.6	U
123-91-1	1,4-Dioxane	(TIC)	1100	U
Methylene Chloride - Dichloromethane				
Methyl ethyl ketone - 2-Butanone				
Chloroprene - 2-Chloro-1,3-butadiene				
Propionitrile - Ethyl Cyanide				

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VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 058

Lab Name: AENI Contract: 9510139

Project No.: MKC70 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #005

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FJ373 0

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: not dec. 9 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1 0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75 01-4	Vinyl Chloride	11	U
75 00-3	Chloroethane	11	U
75 09-2	Methylene Chloride	5.5	U
67 64-1	Acetone	19	J
75-05 8	Acetonitrile	5.5	U
107-13-1	Acrylonitrile	1100	U
107-02-8	Acrolein	1100	U
75-69-4	Trichlorofluoromethane	5.5	U
75-15-0	Carbon Disulfide	5.5	U
75-35-4	1,1 Dichloroethene	5.5	U
75-34-4	1,1 Dichloroethane	5 5	U
540-59 0	trans 1,2-Dichloroethene	5.5	U
67-66 3	Chloroform	5.5	U
107-06 2	1,2 Dichloroethane	5.5	U
75-71 8	Dichlorodifluoromethane	5.5	U
74-88-4	Iodomethane	5.5	U
107-12 0	Propionitrile	5.5	U
107-05-1	Allyl chloride	110	U
78-93-3	2 Butanone	110	U
71 55-6	1,1,1-Trichloroethane	5 5	U
56-23 5	Carbon Tetrachloride	5.5	U
108-05-4	Vinyl Acetate	5.5	U
75-27-4	Bromodichloromethane	5.5	U
78-87-5	1,2 Dichloropropane	5.5	U
10061 01-5	cis 1,3 Dichloropropene	5.5	U
79-01 6	Trichloroethene	5.5	U
71-43 2	Benzene	5.5	U
124-48 1	Dibromochloromethane	5.5	U
10061 02 6	trans 1,3 Dichloropropene	5.5	U
79 00 5	1 1,2 Trichloroethane	5.5	U
75 25 2	Bromoform	5 5	U

FORM I VOA

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VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 058

Lab Name: AENI Contract: 95IC199

Project No.: MKC79 Site: Location: Group

Matrix: (soil/water) SOIL Lab Sample ID #005

Sample wt/vol. 5.0 (g/mL) G Lab File ID FJ373.D

Level (low/med) LOW Date Received: 10/18/95

% Moisture, not dec. 9 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound			Q
126 98-7	Methacrylonitrile		5.5	U
74-95 3	Dibromomethane		5.5	U
106-93-4	1,2-Dibromoethane (EDB)		5.5	U
108-10-1	4-Methyl-2-Pentanone		55	U
591-78 6	2-Hexanone		55	U
127 18-4	Tetrachloroethene		5.9	
79-34-5	1,1,2,2-Tetrachloroethane		5.5	U
108-88-3	Toluene		12	
108 90-7	Chlorobenzene		5.5	U
100-41-4	Ethylbenzene		5.5	U
100-42 5	Styrene		5.5	U
108 38 3	m - p Xylene		5.5	U
95-47 6	o Xylene		5.5	U
80 62 6	Methyl methacrylate		5.5	U
630-20-6	1,1,1,2-Tetrachloroethane		5.5	U
96-18-4	1,2,3-Trichloropropane		5.5	U
110-57-6	trans 1,4-Dichloro 2 butene		27	U
97 63-2	Ethyl methacrylate		5.5	U
76-01-7	Pentachloroethane		5.5	U
96-12 8	1,2-Dibromo-3-chloropropane		5.5	U
78-83-1	Isobutyl Alcohol		5.5	U
126 99 8	Chloroprene	(TIC)	5.5	UZ
	3-Chloroprene	(TIC)	5.5	U
123 91-1	1,4 Dioxane	(TIC)	1100	U
Methylene Chloride - Dichloromethane				
Methyl ethyl ketone - 2 Butanone				
Chloroprene - 2 Chloro-1,3 butadiene				
Propionitrile - Ethyl Cyanide				

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VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 059

Lab Name: AENI Contract: 95-0199

Project No: MKC70 Site Location Group

Matrix: (soil/water) SOIL Lab Sample ID: #006

Sample wt/vol. 5.0 (g/mL) G Lab File ID: FJ374.D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: not dec 8 Date Analyzed: 10/24/95

GC Column: CAP ID 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	5.7	
67-64-1	Acetone	11	J
75-05-8	Acetonitrile	5.4	U
107-13-1	Acrylonitrile	1100	U
107-02-8	Acrolein	1100	U
75-69-4	Trichlorofluoromethane	5.4	U
75-15-0	Carbon Disulfide	5.4	U
75-35-4	1,1-Dichloroethene	5.4	U
75-34-4	1,1-Dichloroethane	5.4	U
540-59-0	trans-1,2-Dichloroethene	5.4	U
67-66-3	Chloroform	5.4	U
107-06-2	1,2-Dichloroethane	5.4	U
75-71-8	Dichlorodifluoromethane	5.4	U
74-88-4	Iodomethane	5.4	U
107-12-0	Propionitrile	5.4	U
107-05-1	Allyl chloride	110	U
78-93-3	2-Butanone	110	U
71-55-6	1,1,1-Trichloroethane	5.4	U
56-23-5	Carbon Tetrachloride	5.4	U
108-05-4	Vinyl Acetate	5.4	U
75-27-4	Bromodichloromethane	5.4	U
78-87-5	1,2-Dichloropropane	5.4	U
10061-01-5	cis-1,3-Dichloropropene	5.4	U
79-01-6	Trichloroethene	1.8	J
71-43-2	Benzene	5.4	U
124-48-1	Dibromochloromethane	5.4	U
10061-02-6	trans-1,3-Dichloropropene	5.4	U
79-00-5	1,1,2-Trichloroethane	5.4	U
75-25-2	Bromoform	5.4	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 2400 059

Lab Name: AENI Contract: 95T0199

Project No. MKC70 Site Location Group

Matrix: (soil/water) SOIL Lab Sample ID. 4006

Sample wt/vol. 5.0 (g/mL) G Lab File ID FJ374.D

Level: (low/med) LOW Date Received. 10/18/95

% Moisture. not dec. 8 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor. 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound			Q
126-98-7	Methacrylonitrile		5.4	U
74-95-3	Dibromomethane		5.4	U
106-93-4	1,2-Dibromoethane (EDB)		5.4	U
108-10-1	4-Methyl 2 Pentanone		54	U
591 78-6	2-Hexanone		54	U
127-18-4	Tetrachloroethene		3.7	J
79-34-5	1,1,2,2 Tetrachloroethane		5.4	U
108 88 3	Toluene		5.4	U
108-90-7	Chlorobenzene		5.4	U
100-41-4	Ethylbenzene		5.4	U
100-42-5	Styrene		5.4	U
108-38 3	m - p-Xylene		5.4	U
95-47-6	o Xylene		5.4	U
80 62-6	Methyl methacrylate		5.4	U
630-20-6	1,1,1,2-Tetrachloroethane		5.4	U
96 18-4	1,2,3-Trichloropropane		5.4	U
110 57-6	trans-1,4 Dichloro-2-butene		27	U
97 63 2	Ethyl methacrylate		5.4	U
76 01 7	Pentachloroethane		5.4	U
96-12 8	1,2-Dibromo-3 chloropropane		5.4	U
78 83-1	Isobutyl Alcohol		5.4	U
126 99 8	Chloroprene	(TIC)	5.4	UZ
	3-Chloroprene	(TIC)	5 4	U
123 91-1	1,4-Dioxane	(TIC)	1100	U
Methylene Chloride - Dichloromethane				
Methyl ethyl ketone - 2-Butanone				
Chloroprene - 2 Chloro 1,3 butadiene				
Propionitrile - Ethyl Cyanide				

FORM I VOA

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE No.

NSWC 24/00 060

Lab Name: AENI Contract: 9510199

Project No.: MKC70 Site: Location Group:

Matrix: (soil/water) SOIL Lab Sample ID: #007

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FJ375 D

Level: (low/med) LOW Date Received 10/18/95

% Moisture: not dec. 6 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	5.1	J
67-64-1	Acetone	10	J
75-05-8	Acetonitrile	5.3	U
107-13-1	Acrylonitrile	1100	U
107-02-8	Acrolein	1100	U
75-69-4	Trichlorofluoromethane	5.3	U
75-15-0	Carbon Disulfide	5.3	U
75-35-4	1,1-Dichloroethene	5.3	U
75-34-4	1,1-Dichloroethane	5.3	U
540-59-0	trans-1,2-Dichloroethene	5.3	U
67-66-3	Chloroform	5.3	U
107-06-2	1,2-Dichloroethane	5.3	U
75-71-8	Dichlorodifluoromethane	5.3	U
74-88-4	Iodomethane	5.3	U
107-12-0	Propionitrile	5.3	U
107-05-1	Allyl chloride	110	U
78-93-3	2-Butanone	110	U
71-55-6	1,1,1-Trichloroethane	5.3	U
56-23-5	Carbon Tetrachloride	5.3	U
108-05-4	Vinyl Acetate	5.3	U
75-27-4	Bromodichloromethane	5.3	U
78-87-5	1,2-Dichloropropane	5.3	U
10061-01-5	cis-1,3-Dichloropropene	5.3	U
79-01-6	Trichloroethene	19	
71-43-2	Benzene	5.3	U
124-48-1	Dibromochloromethane	5.3	U
10061-02-6	trans-1,3-Dichloropropene	5.3	U
79-00-5	1,1,2-Trichloroethane	5.3	U
75-25-2	Bromoform	5.3	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24-00 060

Lab Name: AENI Contract: 95[illegible]99

Project No: MKC70 Site: Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #007

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FJ375.D

Level (low/med): LOW Date Received: 10/18/95

% Moisture: not dec. 6 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units (ug/L or ug/Kg) ug/Kg	Q
126-98-7	Methacrylonitrile	5.3	U
74-95-3	Dibromomethane	5.3	U
106-93-4	1,2-Dibromoethane (EDB)	5.3	U
108-10-1	4-Methyl-2-Pentanone	53	U
591-78-6	2-Hexanone	53	U
127-18-4	Tetrachloroethene	2.1	J
79-34-5	1,1,2,2-Tetrachloroethane	5.3	U
108-88-3	Toluene	5.3	U
108-90-7	Chlorobenzene	5.3	U
100-41-4	Ethylbenzene	5.3	U
100-42-5	Styrene	5.3	U
108-38-3	m - p Xylene	5.3	U
95-47-6	o Xylene	5.3	U
80-62-6	Methyl methacrylate	5.3	U
630-20-6	1,1,1,2-Tetrachloroethane	5.3	U
96-18-4	1,2,3-Trichloropropane	5.3	U
110-57-6	trans-1,4-Dichloro-2-butene	27	U
97-63-2	Ethyl methacrylate	5.3	U
76-01-7	Pentachloroethane	5.3	U
96-12-8	1,2-Dibromo-3-chloropropane	5.3	U
78-83-1	Isobutyl Alcohol	5.3	U
126-99-8	Chloroprene (TIC)	5.3	UZ
	3-Chloroprene (TIC)	5.3	U
123-91-1	1,4-Dioxane (TIC)	1100	U
	Methylene Chloride - Dichloromethane		
	Methyl ethyl ketone - 2-Butanone		
	Chloroprene - 2-Chloro-1,3-butadiene		
	Propionitrile - Ethyl Cyanide		

FORM I VOA

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VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 061

Lab Name: AENI Contract: 9510199

Project No.: MKC70 Site: ____ Location: ____ Group: ____

Matrix: (soil/water) SOIL Lab Sample ID: #008

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FJ376.D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: not dec. 10 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	4.8	J
67-64-1	Acetone	15	J
75-05-8	Acetonitrile	5.6	U
107-13-1	Acrylonitrile	1100	U
107-02-8	Acrolein	1100	U
75-69-4	Trichlorofluoromethane	5.6	U
75-15-0	Carbon Disulfide	5.6	U
75-35-4	1,1-Dichloroethene	5.6	U
75-34-3	1,1-Dichloroethane	5.6	U
540-59-0	trans-1,2-Dichloroethene	5.6	U
67-66-3	Chloroform	5.6	U
107-06-2	1,2-Dichloroethane	5.6	U
75-71-8	Dichlorodifluoromethane	5.6	U
74-88-4	Iodomethane	5.6	U
107-12-0	Propionitrile	5.6	U
107-05-1	Allyl chloride	110	U
78-93-3	2-Butanone	110	U
71-55-6	1,1,1-Trichloroethane	5.6	U
56-23-5	Carbon Tetrachloride	5.6	U
108-05-4	Vinyl Acetate	5.6	U
75-27-4	Bromodichloromethane	5.6	U
78-87-5	1,2-Dichloropropane	5.6	U
10061-01-5	cis-1,3-Dichloropropene	5.6	U
79-01-6	Trichloroethene	2.2	J
71-43-2	Benzene	5.6	U
124-48-1	Dibromochloromethane	5.6	U
10061-02-6	trans-1,3-Dichloropropene	5.6	U
79-00-5	1,1,2-Trichloroethane	5.6	U
75-25-2	Bromoform	5.6	U

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Lab Name: AENI Contract: 9510199

Project No.: MKC70 Site: Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #008

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FJ376.D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: not dec 10 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound			Q
126-98-7	Methacrylonitrile		5.6	U
74-95-3	Dibromomethane		5.6	U
106-93-4	1,2-Dibromoethane (EDB)		5.6	U
108-10-1	4-Methyl-2-Pentanone		56	U
591-78-6	2-Hexanone		56	U
127-18-4	Tetrachloroethene		4	J
79-34-5	1,1,2,2-Tetrachloroethane		5.6	U
108-88-3	Toluene		5.6	U
108-90-7	Chlorobenzene		5.6	U
100-41-4	Ethylbenzene		5.6	U
100-42-5	Styrene		5.6	U
108-38-3	m + p Xylene		5.6	U
95-47-6	o Xylene		5.6	U
80-62-6	Methyl methacrylate		5.6	U
630-20-6	1,1,1,2-Tetrachloroethane		5.6	U
96-18-4	1,2,3-Trichloropropane		5.6	U
110-57-6	trans 1,4-Dichloro-2-butene		28	U
97-63-2	Ethyl methacrylate		5.6	U
76-01-7	Pentachloroethane		5.6	U
96-12-8	1,2-Dibromo-3-chloropropane		5.6	U
78-83-1	Isobutyl Alcohol		5.6	U
126-99-8	Chloroprene	(TIC)	5.6	UZ
	3-Chloroprene	(TIC)	5.6	U
123-91-1	1,4-Dioxane	(TIC)	1100	U
Methylene Chloride - Dichloromethane				
Methyl ethyl ketone - 2-Butanone				
Chloroprene - 2-Chloro-1,3-butadiene				
Propionitrile - Ethyl Cyanide				

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 062

Lab Name: AENI Contract: 9510199

Project No.: MKC70 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #009

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FJ377.D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: not dec. 10 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	3.9	J
67-64-1	Acetone	13	J
75-05-8	Acetonitrile	5.6	U
107-13-1	Acrylonitrile	1100	U
107-02-8	Acrolein	1100	U
75-69-4	Trichlorofluoromethane	5.6	U
75-15-0	Carbon Disulfide	5.6	U
75-35-4	1,1-Dichloroethene	5.6	U
75-34-4	1,1-Dichloroethane	5.6	U
540-59-0	trans-1,2-Dichloroethene	5.6	U
67-66-3	Chloroform	5.6	U
107-06-2	1,2-Dichloroethane	5.6	U
75-71-8	Dichlorodifluoromethane	5.6	U
74-88-4	Iodomethane	5.6	U
107-12-0	Propionitrile	5.6	U
107-05-1	Allyl chloride	110	U
78-93-3	2-Butanone	110	U
71-55-6	1,1,1-Trichloroethane	5.6	U
56-23-5	Carbon Tetrachloride	5.6	U
108-05-4	Vinyl Acetate	5.6	U
75-27-4	Bromodichloromethane	5.6	U
78-87-5	1,2-Dichloropropane	5.6	U
10061-01-5	cis-1,3-Dichloropropene	5.6	U
79-01-6	Trichloroethene	5.6	U
71-43-2	Benzene	5.6	U
124-48-1	Dibromochloromethane	5.6	U
10061-02-6	trans-1,3-Dichloropropene	5.6	U
79-00-5	1,1,2-Trichloroethane	5.6	U
75-25-2	Bromoform	5.6	U

FORM I VOA

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VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 062

Lab Name: AENI Contract: 95T0199

Project No.: MKC70 Site: Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: 4009

Sample wt/vol: 5.0 g/mL) G Lab File ID: FJ377.D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture, not dec: 10 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
126-98-7	Methacrylonitrile	5.6	U
74-95-3	Dibromomethane	5.6	U
106-93-4	1,2-Dibromoethane (EDB)	5.6	U
108-10-1	4-Methyl-2 Pentanone	56	U
591-78-6	2 Hexanone	56	U
127-18-4	Tetrachloroethene	3.4	J
79 34-5	1,1,2,2-Tetrachloroethane	5.6	U
108 88-3	Toluene	5 6	U
108 90 7	Chlorobenzene	5.6	U
100-41-4	Ethylbenzene	5.6	U
100-42 5	Styrene	5.6	U
108 38 3	m + p-Xylene	5.6	U
95-47-6	o Xylene	5.6	U
80 62 6	Methyl methacrylate	5.6	U
630 20 6	1,1,1,2-Tetrachloroethane	5.6	U
96-18-4	1,2,3 Trichloropropane	5.6	U
110 57-6	trans-1,4-Dichloro-2 butene	28	U
97-63 2	Ethyl methacrylate	5.6	U
76-01 7	Pentachloroethane	5.6	U
96-12-8	1,2 Dibromo-3 chloropropane	5 6	U
78 83 1	Isobutyl Alcohol	5.6	U
126 99 8	Chloroprene (TIC)	5.6	UZ
	3 Chloroprene (TIC)	5.6	U
123 91 1	1,4-Dioxane (TIC)	1100	U
Methylene Chloride - Dichloromethane			
Methyl ethyl ketone - 2 Butanone			
Chloroprene - 2-Chloro-1,3 butadiene			
Propionitrile - Ethyl Cyanide			

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 063

Lab Name: AENI Contract: 9510199

Project No.: MKC70 Site Location. Group

Matrix: (soil/water) SOIL Lab Sample ID: #010

Sample wt/vol: 5 0 (g/mL) G Lab File ID: FJ378 0

Level. (low/med) LOW Date Received: 10/18/95

% Moisture: not dec. 10 Date Analyzed: 10/24/95

GC Column: CAP ID: 0 53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	14	
67 64-1	Acetone	18	J
75-05-8	Acetonitrile	5.6	U
107-13-1	Acrylonitrile	1100	U
107-02 8	Acrolein	1100	U
75-69-4	Trichlorofluoromethane	5.6	U
75-15-0	Carbon Disulfide	5.6	U
75 35-4	1,1 Dichloroethene	5.6	U
75 34-4	1,1 Dichloroethane	5.6	U
540-59-0	trans-1,2 Dichloroethene	5.6	U
67-66-3	Chloroform	5.6	U
107-06-2	1,2-Dichloroethane	5.6	U
75-71 8	Dichlorodifluoromethane	5.6	U
74-88-4	Iodomethane	5.6	U
107-12-0	Propionitrile	5.6	U
107-05-1	Allyl chloride	110	U
78-93 3	2 Butanone	110	U
71 55 6	1,1,1-Trichloroethane	5.6	U
56 23-5	Carbon Tetrachloride	5.6	U
108 05-4	Vinyl Acetate	5.6	U
75-27-4	Bromodichloromethane	5.6	U
78-87 5	1,2 Dichloropropane	5.6	U
10061-01 5	cis 1,3-Dichloropropene	5.6	U
79 01-6	Trichloroethene	30	
71-43-2	Benzene	5.6	U
124-48-1	Dibromochloromethane	5.6	U
10061-02 6	trans 1,3 Dichloropropene	5.6	U
79-00 5	1,1,2-Trichloroethane	5.6	U
75 25-2	Bromoform	5.6	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 063

Lab Name: AENI Contract: 95/0199

Project No.: MKC70 Site Location Group

Matrix: (soil/water) SOIL Lab Sample ID: 4010

Sample wt/vol. 5.0 (g/mL) G Lab File ID: FJ373 D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: not dec 10 Date Analyzed: 10/24/95

GC Column: CAP ID. 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound			Q
126-98-7	Methacrylonitrile		5.6	U
74-95-3	Dibromomethane		5.6	U
106-93-4	1,2-Dibromoethane (EDB)		5.6	U
108-10-1	4-Methyl-2-Pentanone		56	U
591-78-6	2-Hexanone		56	U
127-18-4	Tetrachloroethene		9.1	
79-34-5	1,1,2,2-Tetrachloroethane		5.6	U
108-88-3	Toluene		5.6	U
108-90-7	Chlorobenzene		5.6	U
100-41-4	Ethylbenzene		5.6	U
100-42-5	Styrene		5.6	U
108-38-3	m + p-Xylene		5.6	U
95-47-6	o-Xylene		5.6	U
80-62-6	Methyl methacrylate		5.6	U
630-20-6	1,1,1,2-Tetrachloroethane		5.6	U
96-18-4	1,2,3-Trichloropropane		5.6	U
110-57-6	trans 1,4-Dichloro-2-butene		28	U
97-63-2	Ethyl methacrylate		5.6	U
76-01-7	Pentachloroethane		5.6	U
96-12-8	1,2-Dibromo-3-chloropropane		5.6	U
78-83-1	Isobutyl Alcohol		5.6	U
126-99-8	Chloroprene	(TIC)	5.6	UZ
	3-Chloroprene	(TIC)	5.6	U
123-91-1	1,4-Dioxane	(TIC)	1100	U
Methylene Chloride - Dichloromethane				
Methyl ethyl ketone - 2-Butanone				
Chloroprene - 2 Chloro-1,3 butadiene				
Propionitrile - Ethyl Cyanide				

FORM I VOA

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SWC 24/00 064

Lab Name: AENI Contract 9510199

Project No MKC70 Site: Location Group:

Matrix: (soil/water) SOIL Lab Sample ID. #011

Sample wt/vol. 5.0 (g/mL) G Lab File ID: FJ379 D

Level: (low/med) LOW Date Received 10/18/95

% Moisture: not dec. 7 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units. (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	11	U
74-83 9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75 00-3	Chloroethane	11	U
75 09-2	Methylene Chloride	3.6	J
67-64-1	Acetone	9.1	J
75-05 8	Acetonitrile	5.4	U
107-13-1	Acrylonitrile	1100	U
107-02-8	Acrolein	1100	U
75-69-4	Trichlorofluoromethane	5.4	U
75-15-0	Carbon Disulfide	5.4	U
75-35-4	1,1-Dichloroethene	5.4	U
75-34-4	1,1-Dichloroethane	5 4	U
540-59 0	trans-1,2 Dichloroethene	5 4	U
67 66 3	Chloroform	5 4	U
107-06-2	1,2-Dichloroethane	5.4	U
75-71 8	Dichlorodifluoromethane	5.4	U
74-88-4	Iodomethane	5.4	U
107-12-0	Propionitrile	5.4	U
107-05 1	Allyl chloride	110	U
78 93 3	2-Butanone	110	U
71 55 6	1,1,1-Trichloroethane	5 4	U
56 23 5	Carbon Tetrachloride	5.4	U
108-05-4	Vinyl Acetate	5.4	U
75-27-4	Bromodichloromethane	5.4	U
78-87-5	1,2 Dichloropropane	5.4	U
10061 01 5	cis 1,3-Dichloropropene	5.4	U
79 01-6	Trichloroethene	5.4	U
71-43-2	Benzene	5 4	U
124-48-1	Dibromochloromethane	5.4	U
10061 02 6	trans 1,3-Dichloropropene	5 4	U
79 00 5	1,1,2-Trichloroethane	5.4	U
75-25 2	Bromoform	5.4	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24:00 064

Lab Name: AENI Contract: 95:0:99

Project No.: MKC70 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 4011

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FJ379.D

Level (low/med) LOW Date Received: 10/18/95

% Moisture: not dec. 7 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No	Compound			Q
126-98-7	Methacrylonitrile		5.4	U
74-95-3	Dibromomethane		5.4	U
106-93-4	1,2 Dibromoethane (EDB)		5.4	U
108-10-1	4 Methyl-2-Pentanone		54	U
591-78-6	2 Hexanone		54	U
127-18-4	Tetrachloroethene		5.4	U
79-34-5	1,1,2,2 Tetrachloroethane		5.4	U
108 88-3	Toluene		5.4	U
108-90 7	Chlorobenzene		5.4	U
100-41-4	Ethylbenzene		5.4	U
100-42 5	Styrene		5.4	U
108 38-3	m + p Xylene		5 4	U
95-47 6	o-Xylene		5 4	U
80 62 6	Methyl methacrylate		5.4	U
630-20-6	1,1,1,2 Tetrachloroethane		5 4	U
96-18-4	1,2,3-Trichloropropane		5.4	U
110 57 6	trans-1,4-Dichloro-2-butene		27	U
97-63 2	Ethyl methacrylate		5 4	U
76 01-7	Pentachloroethane		5.4	U
96-12 8	1,2 Dibromo-3-chloropropane		5.4	U
78 83-1	Isobutyl Alcohol		5 4	U
126 99 8	Chloroprene	(TIC)	5.4	UZ
	3-Chloroprene	(TIC)	5 4	U
123 91 1	1,4 Dioxane	(TIC)	1100	U
Methylene Chloride - Dichloromethane				
Methyl ethyl ketone - 2 Butanone				
Chloroprene - 2 Chloro-1,3 butadiene				
Propionitrile - Ethyl Cyanide				

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VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 065

Lab Name: AENI Contract: 95101199

Project No.: MKC70 Site: Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #012

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FJ380 0

Level (low/med): LOW Date Received: 10/18/95

% Moisture, not dec.: 11 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	
67-64-1	Acetone	24	J
75-05-8	Acetonitrile	5.6	U
107-13-1	Acrylonitrile	1100	U
107-02-8	Acrolein	1100	U
75-69-4	Trichlorofluoromethane	5.6	U
75-15-0	Carbon Disulfide	5.6	U
75-35-4	1,1-Dichloroethene	5.6	U
75-34-4	1,1-Dichloroethane	5.6	U
540-59-0	trans-1,2-Dichloroethene	5.6	U
67-66-3	Chloroform	5.6	U
107-06-2	1,2-Dichloroethane	5.6	U
75-71-8	Dichlorodifluoromethane	5.6	U
74-88-4	Iodomethane	5.6	U
107-12-0	Propionitrile	5.6	U
107-05-1	Allyl chloride	110	U
78-93-3	2-Butanone	110	U
71-55-6	1,1,1-Trichloroethane	5.6	U
56-23-5	Carbon Tetrachloride	5.6	U
108-05-4	Vinyl Acetate	5.6	U
75-27-4	Bromodichloromethane	5.6	U
78-87-5	1,2-Dichloropropane	5.6	U
10061-01-5	cis-1,3-Dichloropropene	5.6	U
79-01-6	Trichloroethene	5	J
71-43-2	Benzene	5.6	U
124-48-1	Dibromochloromethane	5.6	U
10061-02-6	trans-1,3-Dichloropropene	5.6	U
79-00-5	1,1,2-Trichloroethane	5.6	U
75-25-2	Bromoform	5.6	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 065

Lab Name: AENI Contract: 95'0'99

Project No MKC70 Site Location Group

Matrix: (soil/water) SOIL Lab Sample ID #012

Sample wt/vol: 5.0 (g/mL) G Lab File ID FJ380 D

Level: (low/med) LOW Date Received 10/18/95

% Moisture not dec 11 Date Analyzed: 10/24/95

GC Column CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
126-98-7	Methacrylonitrile	5.6	U
74-95 3	Dibromomethane	5.6	U
106-93-4	1,2-Dibromoethane (EDB)	5.6	U
108 10-1	4-Methyl-2-Pentanone	56	U
591-78-6	2-Hexanone	56	U
127-18-4	Tetrachloroethene	7	
79-34 5	1,1,2,2-Tetrachloroethane	5.6	U
108-88-3	Toluene	5.6	U
108 90 7	Chlorobenzene	5.6	U
100-41-4	Ethylbenzene	5.6	U
100-42 5	Styrene	5.6	U
108 38 3	m + p-Xylene	5.6	U
95-47 6	o-Xylene	5.6	U
80 62 6	Methyl methacrylate	5.6	U
630-20 6	1,1,1,2-Tetrachloroethane	5.6	U
96-18-4	1,2,3 Trichloropropane	5.6	U
110-57 6	trans-1,4-Dichloro-2 butene	28	U
97-63 2	Ethyl methacrylate	5.6	U
76 01 7	Pentachloroethane	5.6	U
96-12 8	1,2 Dibromo-3 chloropropane	5.6	U
78-83-1	Isobutyl Alcohol	5.6	U
126 99 8	Chloroprene (TIC)	5.6	UZ
	3 Chloroprene (TIC)	5.6	U
123 91 1	1,4-Dioxane (TIC)	1100	U
Methylene Chloride - Dichloromethane			
Methyl ethyl ketone - 2 Butanone			
Chloroprene - 2 Chloro 1 3-butadiene			
Propionitrile - Ethyl Cyanide			

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC 24/00 066

Lab Name: AENI Contract: 95'0'99

Project No.: MKC70 Site _____ Location _____ Group _____

Matrix: (soil/water) SOIL Lab Sample ID: #013

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FJ383.D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: not dec. 12 Date Analyzed: 10/24/95

GC Column: CAP ID 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	15	
67-64-1	Acetone	22	J
75-05-8	Acetonitrile	5.7	U
107-13-1	Acrylonitrile	1100	U
107-02-8	Acrolein	1100	U
75-69-4	Trichlorofluoromethane	5.7	U
75-15-0	Carbon Disulfide	5.7	U
75-35-4	1,1-Dichloroethene	5.7	U
75-34-4	1,1-Dichloroethane	5.7	U
540-59-0	trans-1,2-Dichloroethene	5.7	U
67-66-3	Chloroform	5.7	U
107-06-2	1,2-Dichloroethane	5.7	U
75-71-8	Dichlorodifluoromethane	5.7	U
74-88-4	Iodomethane	5.7	U
107-12-0	Propionitrile	5.7	U
107-05-1	Allyl chloride	110	U
78-93-3	2-Butanone	110	U
71-55-6	1,1,1-Trichloroethane	5.7	U
56-23-5	Carbon Tetrachloride	5.7	U
108-05-4	Vinyl Acetate	5.7	U
75-27-4	Bromodichloromethane	5.7	U
78-87-5	1,2-Dichloropropane	5.7	U
10061-01-5	cis-1,3-Dichloropropene	5.7	U
79-01-6	Trichloroethene	7.3	
71-43-2	Benzene	5.7	U
124-48-1	Dibromochloromethane	5.7	U
10061-02-6	trans-1,3-Dichloropropene	5.7	U
79-00-5	1,1,2-Trichloroethane	5.7	U
75-25-2	Bromoform	5.7	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 066

Lab Name: AENI Contract: 95'0199

Project No. MKC70 Site Location Group:

Matrix (soil/water) SOIL Lab Sample ID #013

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FJ383.D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: not dec. 12 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
126-98-7	Methacrylonitrile	5.7	U
74-95-3	Dibromomethane	5.7	U
106-93-4	1,2-Dibromoethane (EDB)	5.7	U
108-10-1	4-Methyl-2-Pentanone	57	U
591-78-6	2-Hexanone	57	U
127-18-4	Tetrachloroethene	3.4	J
79-34-5	1,1,2,2-Tetrachloroethane	5.7	U
108-88-3	Toluene	5.7	U
108-90-7	Chlorobenzene	5.7	U
100-41-4	Ethylbenzene	5.7	U
100-42-5	Styrene	5.7	U
108-38-3	m + p-Xylene	5.7	U
95-47-6	o Xylene	5.7	U
80-62-6	Methyl methacrylate	5.7	U
630-20-6	1,1,1,2-Tetrachloroethane	5.7	U
96-18-4	1,2,3-Trichloropropane	5.7	U
110-57-6	trans-1,4-Dichloro-2-butene	28	U
97-63-2	Ethyl methacrylate	5.7	U
76-01-7	Pentachloroethane	5.7	U
96-12-8	1,2-Dibromo-3-chloropropane	5.7	U
78-83-1	Isobutyl Alcohol	5.7	U
126-99-8	Chloroprene (TIC)	5.7	UZ
	3-Chloroprene (TIC)	5.7	U
123-91-1	1,4-Dioxane (TIC)	1100	U
Methylene Chloride - Dichloromethane			
Methyl ethyl ketone - 2 Butanone			
Chloroprene - 2 Chloro-1,3 butadiene			
Propionitrile - Ethyl Cyanide			

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VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 067

Lab Name: AENI Contract: 9510199

Project No.: MKC70 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #014

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FJ384 D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: not dec. 6 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
74-87-3	Chloromethane	11	U
74-83 9	Bromomethane	11	U
75 01-4	Vinyl Chloride	11	U
75-00 3	Chloroethane	11	U
75-09 2	Methylene Chloride	18	
67 64-1	Acetone	110	U
75 05 8	Acetonitrile	5.3	U
107-13 1	Acrylonitrile	1100	U
107-02 8	Acrolein	1100	U
75 69-4	Trichlorofluoromethane	5.3	U
75-15 0	Carbon Disulfide	5.3	U
75-35-4	1,1 Dichloroethene	5.3	U
75 34-4	1,1-Dichloroethane	5.3	U
540-59 0	trans 1,2-Dichloroethene	5.3	U
67 66 3	Chloroform	5.3	U
107-06 2	1,2-Dichloroethane	5.3	U
75 71 8	Dichlorodifluoromethane	5.3	U
74 88-4	Iodomethane	5.3	U
107-12 0	Propionitrile	5.3	U
107-05-1	Allyl chloride	110	U
78 93 3	2-Butanone	110	U
71 55 6	1,1,1-Trichloroethane	5.3	U
56 23-5	Carbon Tetrachloride	5.3	U
108-05-4	Vinyl Acetate	5.3	U
75 27-4	Bromodichloromethane	5.3	U
78-87 5	1,2 Dichloropropane	5.3	U
10061 01 5	cis 1,3-Dichloropropene	5 3	U
79-01 6	Trichloroethene	25	
71-43 2	Benzene	5 3	U
124-48-1	Dibromochloromethane	5.3	U
10061 02 6	trans 1,3-Dichloropropene	5.3	U
79 00 5	1,1,2-Trichloroethane	5.3	U
75 25 2	Bromoform	5.3	U

FORM I VOA 8260/Appendix IX

NSWC 24-00 067

Lab Name: AENI Contract: 95101199

Project No.: MKC70 Site: ____ Location: ____ Group: ____

Matrix: (soil/water) SOIL Lab Sample ID: #014

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FJ384 D

Level (low/med) LOW Date Received: 10/18/95

% Moisture not dec. 6 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound			Q
126-98-7	Methacrylonitrile		5.3	U
74-95-3	Dibromomethane		5.3	U
106 93-4	1,2 Dibromoethane (EDB)		5.3	U
108 10-1	4-Methyl 2-Pentanone		53	U
591-78-6	2-Hexanone		53	U
127-18-4	Tetrachloroethene		26	
79 34 5	1,1,2,2-Tetrachloroethane		5.3	U
108-88-3	Toluene		3 9	J
108-90 7	Chlorobenzene		5.3	U
100-41-4	Ethylbenzene		5.3	U
100-42-5	Styrene		5.3	U
108 38 3	m + p Xylene		5.3	U
95-47-6	o-Xylene		5.3	U
80-62-6	Methyl methacrylate		5.3	U
630-20-6	1,1,1,2-Tetrachloroethane		5.3	U
96-18-4	1,2,3-Trichloropropane		5.3	U
110-57-6	trans-1,4-Dichloro 2-butene		27	U
97-63-2	Ethyl methacrylate		5.3	U
76-01-7	Pentachloroethane		5.3	U
96-12-8	1,2 Dibromo-3-chloropropane		5.3	U
78-83-1	Isobutyl Alcohol		5.3	U
126-99-8	Chloroprene	(TIC)	5.3	UZ
	3 Chloroprene	(TIC)	5.3	U
123-91-1	1,4-Dioxane	(TIC)	1100	U
Methylene Chloride - Dichloromethane				
Methyl ethyl ketone - 2-Butanone				
Chloroprene - 2 Chloro-1,3 butadiene				
Propionitrile - Ethyl Cyanide				

FORM I VOA 8260/Appendix IX

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 068

Lab Name AENI Contract: 3510199

Project No.. MKC70 Site Location Group

Matrix: (soil/water) SOIL Lab Sample ID #015

Sample wt/vol: 5.0 (g/mL) G Lab File ID FJ385.D

Level: (low/med) LOW Date Received 10/18/95

% Moisture: not dec. 6 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09 2	Methylene Chloride	13	
67-64-1	Acetone	110	U
75-05-8	Acetonitrile	5.3	U
107-13-1	Acrylonitrile	1100	U
107-02-8	Acrolein	1100	U
75-69-4	Trichlorofluoromethane	5.3	U
75-15-0	Carbon Disulfide	5 3	U
75-35-4	1,1-Dichloroethene	5.3	U
75-34-4	1,1-Dichloroethane	5.3	U
540-59-0	trans-1,2-Dichloroethene	5.3	U
67-66-3	Chloroform	5.3	U
107-06-2	1,2-Dichloroethane	5.3	U
75-71-8	Dichlorodifluoromethane	5 3	U
74-88-4	Iodomethane	5.3	U
107 12 0	Propionitrile	5.3	U
107-05-1	Allyl chloride	110	U
78-93-3	2-Butanone	110	U
71-55-6	1,1,1-Trichloroethane	5.3	U
56-23 5	Carbon Tetrachloride	5.3	U
108 05-4	Vinyl Acetate	5.3	U
75-27-4	Bromodichloromethane	5.3	U
78-87 5	1,2 Dichloropropane	5.3	U
10061-01-5	cis-1,3-Dichloropropene	5 3	U
79-01-6	Trichloroethene	35	
71-43-2	Benzene	5.3	U
124-48-1	Dibromochloromethane	5.3	U
10061 02 6	trans-1,3 Dichloropropene	5.3	U
79 00 5	1,1,2 Trichloroethane	5.3	U
75-25 2	Bromoform	5.3	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC 24/00 068

Lab Name: AENI Contract: 3510199

Project No.: MKC70 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID. #015

Sample wt/vol: 5.0 (g/mL) G Lab File ID FJ385.D

Level: (low/med) LOW Date Received. 10/18/95

% Moisture: not dec. 6 Date Analyzed. 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
126-98-7	Methacrylonitrile	5.3	U
74-95-3	Dibromomethane	5.3	U
106-93-4	1,2-Dibromoethane (EDB)	5.3	U
108-10-1	4-Methyl-2 Pentanone	13	J
591-78-6	2-Hexanone	53	U
127-18-4	Tetrachloroethene	6.6	
79-34-5	1,1,2,2-Tetrachloroethane	5.3	U
108-88 3	Toluene	5.3	U
108-90-7	Chlorobenzene	5.3	U
100-41-4	Ethylbenzene	5 3	U
100-42 5	Styrene	5.3	U
108 38-3	m + p Xylene	5.3	U
95-47 6	o Xylene	5 3	U
80 62-6	Methyl methacrylate	5.3	U
630-20 6	1,1,1,2-Tetrachloroethane	5.3	U
96-18-4	1,2,3-Trichloropropane	5.3	U
110 57 6	trans 1,4-Dichloro-2 butene	27	U
97-63 2	Ethyl methacrylate	5.3	U
76-01 7	Pentachloroethane	5.3	U
96 12-8	1,2 Dibromo-3-chloropropane	5.3	U
78 83-1	Isobutyl Alcohol	5.3	U
126-99-8	Chloroprene (TIC)	5.3	UZ
	3-Chloroprene (TIC)	5.3	U
123 91 1	1,4 Dioxane (TIC)	1100	U
Methylene Chloride - Dichloromethane			
Methyl ethyl ketone - 2 Butanone			
Chloroprene - 2 Chloro-1 3 butadiene			
Propionitrile - Ethyl Cyanide			

FORM I VOA

8260/Appendix IX

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-069

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0096C

Matrix: (soil/water) SOIL Lab Sample ID: 782604

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH082604B54.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: not dec. 17 Date Analyzed: 02/11/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	3	JB
67-64-1	Acetone	12	
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (Total)	12	U
75-05-8	acetonitrile	240	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-069

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0096C

Matrix: (soil/water) SOIL Lab Sample ID: 782604

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH082604594.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: not dec. 17 Date Analyzed: 02/11/96

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107-02-8	acrolein	280	U
107-05-1	3-chloropropene	18	U
106-93-4	1,2-dibromoethane	18	U
74-95-3	dibromomethane	24	U
110-57-6	trans-1,4-dichloro-2-butene	18	U
75-71-8	dichlorodifluoromethane	24	U
123-91-1	1,4-dioxane	61000	U
107-12-0	propionitrile(ethylcyanide)	710	U
97-63-2	ethyl methacrylate	30	U
74-88-4	iodomethane	12	U
78-83-1	isobutyl alcohol	16000	U
126-98-7	methacrylonitrile	24	U
80-62-6	methyl methacrylate	60	U
630-20-6	1,1,1,2-tetrachloroethane	24	U
96-18-4	1,2,3-trichloropropane	24	U
108-05-4	vinyl acetate	24	U
96-12-8	1,2-dibromo-3-chloropropane	60	U
75-69-4	trichlorofluoromethane	24	U
107-13-1	acrylonitrile	250	U
156-60-5	trans-1,2-Dichloroethene	12	U

FORM I VOA

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO

24-00-069

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No : 0096C

Matrix: (soil/water) SOIL Lab Sample ID: 782604

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH082604B54.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: not dec. 17 Date Analyzed: 02/11/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.60	450	JB
2.	LABORATORY ARTIFACT	14.17	14	JB
3.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-070

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0096C

Matrix: (soil/water) SOIL Lab Sample ID. 782609

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH082609354.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: not dec. 15 Date Analyzed: 02/11/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	4	JB
67-64-1	Acetone	7	J
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (Total)	12	U
75-05-8	acetonitrile	240	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-070

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0096C

Matrix: (soil/water) SOIL Lab Sample ID: 782609

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH082609B54.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: not dec. 15 Date Analyzed: 02/11/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107-02-8	acrolein	270	U
107-05-1	3-chloropropene	18	U
106-93-4	1,2-dibromoethane	18	U
74-95-3	dibromomethane	24	U
110-57-6	trans-1,4-dichloro-2-butene	18	U
75-71-8	dichlorodifluoromethane	24	U
123-91-1	1,4-dioxane	60000	U
107-12-0	propionitrile(ethylcyanide)	690	U
97-63-2	ethyl methacrylate	29	U
74-88-4	iodomethane	12	U
78-83-1	isobutyl alcohol	15000	U
126-98-7	methacrylonitrile	24	U
80-62-6	methyl methacrylate	59	U
630-20-6	1,1,1,2-tetrachloroethane	24	U
96-18-4	1,2,3-trichloropropane	24	U
108-05-4	vinyl acetate	24	U
96-12-8	1,2-dibromo-3-chloropropane	59	U
75-69-4	trichlorofluoromethane	24	U
107-13-1	acrylonitrile	250	U
156-60-5	trans-1,2-Dichloroethene	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

24-00-070

Lab Name: COMPUCHEM ENV. CORP Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No : 0096C

Matrix: (soil/water) SOIL Lab Sample ID: 782609

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH082609B54 D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: not dec. 15 Date Analyzed: 02/11/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.92	59	JB
2.	LABORATORY ARTIFACT	14.12	9	JB
3.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

24-00-071

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0096C

Matrix: (soil/water) SOIL Lab Sample ID: 782617

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH082617B54.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: not dec. 14 Date Analyzed: 02/11/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	3	JB
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (Total)	12	U
75-05-8	acetonitrile	230	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-071

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0096C

Matrix: (soil/water) SOIL Lab Sample ID: 782617

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH082617B54.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: not dec. 14 Date Analyzed: 02/11/96

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107-02-8	acrolein	270	U
107-05-1	3-chloropropene	17	U
106-93-4	1,2-dibromoethane	17	U
74-95-3	dibromomethane	23	U
110-57-6	trans-1,4-dichloro-2-butene	17	U
75-71-8	dichlorodifluoromethane	23	U
123-91-1	1,4-dioxane	59000	U
107-12-0	propionitrile(ethylcyanide)	690	U
97-63-2	ethyl methacrylate	29	U
74-88-4	iodomethane	12	U
78-83-1	isobutyl alcohol	15000	U
126-98-7	methacrylonitrile	23	U
80-62-6	methyl methacrylate	58	U
630-20-6	1,1,1,2-tetrachloroethane	23	U
96-18-4	1,2,3-trichloropropane	23	U
108-05-4	vinyl acetate	23	U
96-12-8	1,2-dibromo-3-chloropropane	58	U
75-69-4	trichlorofluoromethane	23	U
107-13-1	acrylonitrile	240	U
156-60-5	trans-1,2-Dichloroethene	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

24-00-071

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0096C

Matrix: (soil/water) SOIL Lab Sample ID: 782617

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH082617B54.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: not dec. 14 Date Analyzed: 02/11/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.57	760	JB
2.	LABORATORY ARTIFACT	14.13	7	JB
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-072

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0096C

Matrix: (soil/water) SOIL Lab Sample ID: 782624

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH082624B54.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: not dec. 11 Date Analyzed: 02/11/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	3	JB
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (Total)	11	U
75-05-8	acetonitrile	220	U

FORM I VOA

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-072

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0096C

Matrix: (soil/water) SOIL Lab Sample ID: 782624

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH082624B54.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: not dec. 11 Date Analyzed: 02/11/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107-02-8	acrolein	260	U
107-05-1	3-chloropropene	17	U
106-93-4	1,2-dibromoethane	17	U
74-95-3	dibromomethane	22	U
110-57-6	trans-1,4-dichloro-2-butene	17	U
75-71-8	dichlorodifluoromethane	22	U
123-91-1	1,4-dioxane	57000	U
107-12-0	propionitrile(ethylcyanide)	660	U
97-63-2	ethyl methacrylate	28	U
74-88-4	iodomethane	11	U
78-83-1	isobutyl alcohol	15000	U
126-98-7	methacrylonitrile	22	U
80-62-6	methyl methacrylate	56	U
630-20-6	1,1,1,2-tetrachloroethane	22	U
96-18-4	1,2,3-trichloropropane	22	U
108-05-4	vinyl acetate	22	U
96-12-8	1,2-dibromo-3-chloropropane	56	U
75-69-4	trichlorofluoromethane	22	U
107-13-1	acrylonitrile	240	U
156-60-5	trans-1,2-Dichloroethene	11	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

24-00-072

Lab Name. COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0096C

Matrix: (soil/water) SOIL Lab Sample ID: 782624

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH082624B54.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: not dec. 11 Date Analyzed: 02/11/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.57	710	JB
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-073

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0096C

Matrix: (soil/water) SOIL Lab Sample ID: 782610

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH082610B54.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: not dec. 14 Date Analyzed: 02/11/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	3	JB
67-64-1	Acetone	13	
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (Total)	12	U
75-05-8	acetonitrile	230	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-073

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0096C

Matrix: (soil/water) SOIL Lab Sample ID: 782610

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH082610B54.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: not dec. 14 Date Analyzed: 02/11/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107-02-8	acrolein	270	U
107-05-1	3-chloropropene	17	U
106-93-4	1,2-dibromoethane	17	U
74-95-3	dibromomethane	23	U
110-57-6	trans-1,4-dichloro-2-butene	17	U
75-71-8	dichlorodifluoromethane	23	U
123-91-1	1,4-dioxane	59000	U
107-12-0	propionitrile(ethylcyanide)	690	U
97-63-2	ethyl methacrylate	29	U
74-88-4	iodomethane	12	U
78-83-1	isobutyl alcohol	15000	U
126-98-7	methacrylonitrile	23	U
80-62-6	methyl methacrylate	58	U
630-20-6	1,1,1,2-tetrachloroethane	23	U
96-18-4	1,2,3-trichloropropane	23	U
108-05-4	vinyl acetate	23	U
96-12-8	1,2-dibromo-3-chloropropane	58	U
75-69-4	trichlorofluoromethane	23	U
107-13-1	acrylonitrile	240	U
156-60-5	trans-1,2-Dichloroethene	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO

24-00-073

Lab Name: COMPUCHEM ENV CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0096C

Matrix: (soil/water) SOIL Lab Sample ID: 782610

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH082610B54.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: not dec. 14 Date Analyzed: 02/11/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.60	480	JB
2.	LABORATORY ARTIFACT	14.14	9	JB
3.				
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VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC24.00 FB1

Lab Name: AENI MD Contract: MKC

Project No: 9507125 Site: NSWC CRA Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #008

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG257 D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: not dec. 0 Date Analyzed: 7/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	JB
67-64-1	Acetone	17	J
75-05-8	Acetonitrile	5	U
107-13-1	Acrylonitrile	1000	U
107-02-8	Acrolein	1000	U
75 69-4	Trichlorofluoromethane	5	U
75 15-0	Carbon Disulfide	5	U
75 35-4	1,1 Dichloroethene	5	U
75-34-4	1,1 Dichloroethane	5	U
540 59-0	trans 1,2 Dichloroethene	5	U
67 66-3	Chloroform	93	
107-06-2	1,2 Dichloroethane	5	U
75-71-8	Dichlorodifluoromethane	5	U
74-88-4	Iodomethane	5	U
107 12-0	Propionitrile	5	U
107-05-1	Allyl chloride	100	U
78 93-3	2 Butanone	12	J
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	5	U
75 27-4	Bromodichloromethane	9.6	
78 87 5	1,2 Dichloropropane	5	U
10061-01 5	cis 1,3-Dichloropropene	5	U
79 01-6	Trichloroethene	5	U
71-43 2	Benzene	5	U
124-48 1	Dibromochloromethane	5	U
10061-02-6	trans 1,3-Dichloropropene	5	U
79 00 5	1,1,2 Trichloroethane	5	U
75 25 2	Bromoform	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC24.00 FB1

Lab Name AENI MD Contract: WXC

Project No. 9507125 Site NSWC CRA Location Group

Matrix: (soil/water) SOIL Lab Sample ID 1008

Sample wt/vol: 5.0 (g/mL) G Lab File ID EG257.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: not dec. 0 Date Analyzed: 7/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume 1 (uL) Soil Aliquot Volume 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
126-98-7	Methacrylonitrile	5	U
74-95-3	Dibromomethane	5	U
106-93-4	1,2-Dibromoethane (EDB)	5	U
108-10-1	4-Methyl-2-Pentanone	5.2	J
591-78-6	2-Hexanone	50	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
108-38-3	m + p Xylene	5	U
95-47-6	o-Xylene	5	U
80-62-6	Methyl methacrylate	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
110-57-6	trans 1,4-Dichloro-2-butene	5	U
97-63-2	Ethyl methacrylate	5	U
76-01-7	Pentachloroethane	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
126-99-8	Chloroprene	5	UZ
123-91-1	1,4-Dioxane (TIC)	1000	U
78-83-1	Isobutyl Alcohol (TIC)	1000	U
	3-Chloroprene (TIC)	5	U

FORM I VOA

SW846

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC24/00-RB1

Lab Name: AENI MO Contract: MKC

Project No.: 9507125 Site: NSWC CRA Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 1009

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG274.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: not dec. 0 Date Analyzed: 7/26/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 100.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No	Compound	Concentration	Q
74-87-3	Chloromethane	1000	UD
74-83-9	Bromomethane	1000	UD
75-01-4	Vinyl Chloride	1000	UD
75-00-3	Chloroethane	1000	UD
75-09-2	Methylene Chloride	15000	D
67-64-1	Acetone	600	JD
75-05-8	Acetonitrile	500	UD
107 13-1	Acrylonitrile	100000	UD
107-02-8	Acrolein	100000	UD
75-69-4	Trichlorofluoromethane	500	UD
75-15-0	Carbon Disulfide	500	UD
75-35-4	1,1-Dichloroethene	500	UD
75-34-4	1,1-Dichloroethane	500	UD
540-59-0	trans 1,2 Dichloroethene	500	UD
67-66-3	Chloroform	500	UD
107-06-2	1,2-Dichloroethane	500	UD
75-71-8	Dichlorodifluoromethane	500	UD
74-88-4	Iodomethane	500	UD
107-12-0	Propionitrile	500	UD
107-05 1	Allyl chloride	10000	UD
78-93-3	2-Butanone	10000	UD
71-55-6	1,1,1-Trichloroethane	500	UD
56-23-5	Carbon Tetrachloride	500	UD
108-05-4	Vinyl Acetate	500	UD
75 27-4	Bromodichloromethane	500	UD
78 87-5	1,2 Dichloropropane	500	UD
10061-01-5	cis 1,3 Dichloropropene	500	UD
79-01-6	Trichloroethene	500	UD
71-43 2	Benzene	500	UD
124-48-1	Dibromochloromethane	500	UD
10061-02 6	trans 1,3 Dichloropropene	500	UD
79-00 5	1,1,2 Trichloroethane	500	UD
75-25-2	Bromoform	500	UD

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC2400 RB1

Lab Name: AENI MO Contract: MKC

Project No.: 9507125 Site: NSWC CRA Location: Group:

Matrix: (soil/water): SOIL Lab Sample ID.: #009

Sample wt/vol: 5.0 (g/mL) 6 Lab File ID: EG274.D

Level: (low/med): LOW Date Received: 7/14/95

% Moisture: not dec.: 0 Date Analyzed: 7/26/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 100.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound			Q
126-98-7	Methacrylonitrile		500	UD
74-95-3	Dibromomethane		500	UD
106-93-4	1,2-Dibromoethane (EDB)		500	UD
108-10-1	4-Methyl-2-Pentanone		5000	UD
591-78-6	2-Hexanone		5000	UD
127-18-4	Tetrachloroethene		500	UD
79-34-5	1,1,2,2-Tetrachloroethane		500	UD
108-88-3	Toluene		500	UD
108-90-7	Chlorobenzene		500	UD
100-41-4	Ethylbenzene		500	UD
100-42-5	Styrene		500	UD
108-38-3	m + p-Xylene		500	UD
95-47-6	o-Xylene		500	UD
80-62-6	Methyl methacrylate		500	UD
630-20-6	1,1,1,2-Tetrachloroethane		500	UD
96-18-4	1,2,3-Trichloropropane		500	UD
110-57-6	trans 1,4 Dichloro-2 butene		500	UD
97-63-2	Ethyl methacrylate		500	UD
76-01-7	Pentachloroethane		500	UD
96-12-8	1,2-Dibromo-3-chloropropane		500	UD
126-99-8	Chloroprene		500	UZ
123-91-1	1,4 Dioxane	(TIC)	100000	U
78-83-1	Isobutyl Alcohol	(TIC)	100000	U
	3 Chloroprene	(TIC)	500	U

FORM I VOA

SW846

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 RB9

Lab Name: AENI Contract: 95C0199

Project No.: MKC70 Site: Location: Group:

Matrix (soil/water): WATER Lab Sample ID: 4001

Sample wt/vol: 5.0 (g/mL) Mg Lab File ID: FJ069.D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: not dec Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	100	U
75-05-8	Acetonitrile	5	U
107-13-1	Acrylonitrile	1000	U
107-02-8	Acrolein	1000	U
75-69-4	Trichlorofluoromethane	5	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-4	1,1-Dichloroethane	5	U
540-59-0	trans-1,2 Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2 Dichloroethane	5	U
75-71-8	Dichlorodifluoromethane	5	U
74-88-4	Iodomethane	5	U
107-12-0	Propionitrile	5	U
107-05-1	Allyl chloride	100	U
78-93-3	2 Butanone	100	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3 Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
71-43-2	Benzene	5	U
124-48-1	Dibromochloromethane	5	U
10061-02-6	trans 1,3 Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
75-25-2	Bromoform	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 RB9

Lab Name: AENI Contract: 95'0'99

Project No.: MKC70 Site: ____ Location: ____ Group: ____

Matrix (soil/water): WATER Lab Sample ID: #001

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: FJ369.D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: not dec. ____ Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ____ (uL) Soil Aliquot Volume: ____ (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
126-98-7	Methacrylonitrile	5	U
74-95-3	Dibromomethane	5	U
106-93-4	1,2-Dibromoethane (EDB)	5	U
108-10-1	4-Meth-2-Pentanone	50	U
591-78-6	2-Hexanone	50	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
108-38-3	m + p-Xylene	5	U
95-47-6	o-Xylene	5	U
80-62-6	Methyl methacrylate	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
110-57-6	trans-1,4-Dichloro-2-butene	25	U
97-63-2	Ethyl methacrylate	5	U
76-01-7	Pentachloroethane	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
78-83-1	Isobutyl Alcohol	5	U
126-99-8	Chloroprene (TIC)	5	UZ
	3-Chloroprene (TIC)	5	U
123-91-1	1,4-Dioxane (TIC)	1000	U
Methylene Chloride - Dichloromethane			
Methyl ethyl ketone - 2-Butanone			
Chloroprene - 2-Chloro-1,3-butadiene			
Propionitrile - Ethyl Cyanide			

FORM I VOA

8260/Appendix IX

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC24.00 TB1

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: NSWC CRA Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #010

Sample wt/vol.: 5.0 (g/mL) G Lab File ID: EG259.D

Level (low/med): LOW Date Received: 7/14/95

% Moisture, not dec.: 0 Date Analyzed: 7/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No	Compound		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	8.3	B
67-64-1	Acetone	6.3	J
75-05-8	Acetonitrile	5	U
107-13-1	Acrylonitrile	1000	U
107-02-8	Acrolein	1000	U
75-69-4	Trichlorofluoromethane	5	U
75-15-0	Carbon Disulfide	5	U
75 35-4	1,1-Dichloroethene	5	U
75 34-4	1,1-Dichloroethane	5	U
540 59-0	trans 1,2 Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
75-71-8	Dichlorodifluoromethane	5	U
74-88-4	Iodomethane	5	U
107 12-0	Propionitrile	5	U
107-05-1	Allyl chloride	100	U
78-93-3	2-Butanone	100	U
71 55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108 05-4	Vinyl Acetate	5	U
75 27-4	Bromodichloromethane	5	U
78 87 5	1,2-Dichloropropane	5	U
10061-01 5	cis 1,3-Dichloropropene	5	U
79 01-6	Trichloroethene	5	U
71-43 2	Benzene	5	U
124-48 1	Dibromochloromethane	5	U
10061-02 6	trans 1,3 Dichloropropene	5	U
79 00 5	1,1,2 Trichloroethane	5	U
75-25 2	Bromoform	5	U

FORM I VOA SW846

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC24:00 TB1

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: NSWC CRA Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #010

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG259.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: not dec. 0 Date Analyzed: 7/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound			Q
126-98 7	Methacrylonitrile		5	U
74-95-3	Dibromomethane		5	U
106-93-4	1,2 Dibromoethane (EDB)		5	U
108-10-1	4-Methyl-2 Pentanone		50	U
591-78-6	2-Hexanone		50	U
127 18-4	Tetrachloroethene		5	U
79-34 5	1,1,2,2-Tetrachloroethane		5	U
108-88-3	Toluene		5	U
108-90-7	Chlorobenzene		5	U
100-41-4	Ethylbenzene		5	U
100-42 5	Styrene		5	U
108-38 3	m + p-Xylene		5	U
95-47-6	o Xylene		5	U
80-62 6	Methyl methacrylate		5	U
630-20-6	1,1,1,2-Tetrachloroethane		5	U
96-18-4	1,2,3-Trichloropropane		5	U
110-57 6	trans 1,4-Dichloro-2-butene		5	U
97 63 2	Ethyl methacrylate		5	U
76-01 7	Pentachloroethane		5	U
96-12 8	1,2-Dibromo 3-chloropropane		5	U
126-99 8	Chloroprene		5	UZ
123-91-1	1,4-Dioxane	(TIC)	1000	U
78-83-1	Isobutyl Alcohol	(TIC)	1000	U
	3 Chloroprene	(TIC)	5	U

FORM I VOA

SW846

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 TB6

Lab Name: AENI Contract: 95/0199

Project No.: MKC70 Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: #016

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: FJ385.0

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: not dec. _____ Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2.6	J
67-64-1	Acetone	100	U
75-05-8	Acetonitrile	5	U
107-13-1	Acrylonitrile	1000	U
107-02-8	Acrolein	1000	U
75-69-4	Trichlorofluoromethane	5	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-4	1,1-Dichloroethane	5	U
540-59-0	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
75-71-8	Dichlorodifluoromethane	5	U
74-88-4	Iodomethane	5	U
107-12-0	Propionitrile	5	U
107-05-1	Allyl chloride	100	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
71-43-2	Benzene	5	U
124-48-1	Dibromochloromethane	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
75-25-2	Bromoform	5	U

FORM I VOA

8260/Appendix IX

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 2400 TB6

Lab Name: AENI Contract: 9510199

Project No.: MKC70 Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID. #016

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: FJ386 D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: not dec. Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
126-98-7	Methacrylonitrile	5	U
74-95-3	Dibromomethane	5	U
106-93-4	1,2 Dibromoethane (EDB)	5	U
108-10-1	4-Methyl-2 Pentanone	50	U
591-78-6	2 Hexanone	50	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
108-38-3	m + p-Xylene	5	U
95-47-6	o-Xylene	5	U
80-62-6	Methyl methacrylate	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
110-57-6	trans 1,4-Dichloro-2 butene	25	U
97-63-2	Ethyl methacrylate	5	U
76-01-7	Pentachloroethane	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
78-83-1	Isobutyl Alcohol	5	U
126-99-8	Chloroprene (TIC)	5	UZ
	3-Chloroprene (TIC)	5	U
123-91-1	1,4 Dioxane (TIC)	1000	U
Methylene Chloride - Dichloromethane			
Methyl ethyl ketone - 2 Butanone			
Chloroprene - 2 Chloro-1,3 butadiene			
Propionitrile - Ethyl Cyanide			

FORM I VOA 8260/Appendix IX

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 TB7

Lab Name: AENI Contract: 9510199

Project No.: MKC70 Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: #017

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: FJ387.D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture, not dec. Date Analyzed: 10/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	4.2	J
67-64-1	Acetone	100	U
75-05-8	Acetonitrile	5	U
107-13-1	Acrylonitrile	1000	U
107-02-8	Acrolein	1000	U
75-69-4	Trichlorofluoromethane	5	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-4	1,1-Dichloroethane	5	U
540-59-0	trans-1,2 Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
75-71-8	Dichlorodifluoromethane	5	U
74-88-4	Iodomethane	5	U
107-12-0	Propionitrile	5	U
107-05-1	Allyl chloride	100	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3 Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
71-43-2	Benzene	5	U
124-48-1	Dibromochloromethane	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
75-25-2	Bromoform	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24.00 TB7

Lab Name: AENI Contract: 9510199

Project No. MKC70 Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: #017

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: FJ387 D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture not dec. Date Analyzed: 10/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No	Compound			Q
126-98-7	Methacrylonitrile		5	U
74-95-3	Dibromomethane		5	U
106-93-4	1,2-Dibromoethane (EDB)		5	U
108-10-1	4-Methyl-2-Pentanone		50	U
591-78-6	2-Hexanone		50	U
127-18-4	Tetrachloroethene		5	U
79-34-5	1,1,2,2-Tetrachloroethane		5	U
108-88-3	Toluene		5	U
108-90-7	Chlorobenzene		5	U
100-41-4	Ethylbenzene		5	U
100-42-5	Styrene		5	U
108-38-3	m + p-Xylene		5	U
95-47-6	o-Xylene		5	U
80-62-6	Methyl methacrylate		5	U
630-20-6	1,1,1,2-Tetrachloroethane		5	U
96-18-4	1,2,3-Trichloropropane		5	U
110-57-6	trans-1,4-Dichloro-2-butene		25	U
97-63-2	Ethyl methacrylate		5	U
76-01-7	Pentachloroethane		5	U
96-12-8	1,2-Dibromo-3-chloropropane		5	U
78-83-1	Isobutyl Alcohol		5	U
126-99-8	Chloroprene	(TIC)	5	UZ
	3-Chloroprene	(TIC)	5	U
123-91-1	1,4-Dioxane	(TIC)	1000	U
Methylene Chloride - Dichloromethane				
Methyl ethyl ketone - 2-Butanone				
Chloroprene - 2-Chloro-1,3-butadiene				
Propionitrile - Ethyl Cyanide				

SEMI-VOLATILE DATA

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SWC-24/00-044

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: _____ Location: _____ Group: _____

Matrix: (soil/water): SOIL Lab Sample ID: #001

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 06353.D

Level: (low/med): LOW Date Received: 7/14/95

% Moisture: 2 decanted: (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N): N pH: _____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62 75-9	N-Nitroso-Di-Methylamine	340	U
111-44-4	bis(2-Chloroethyl)ether	340	U
108-95 2	Phenol	340	U
95-57-8	2-Chlorophenol	340	U
541 73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2 Dichlorobenzene	340	U
100-51-6	Benzyl alcohol	670	U
108-60-1	bis(2-chloroisopropyl)ether	340	U
95-48-7	2-Methylphenol	340	U
67-72 1	Hexachloroethane	340	U
621 64-7	N Nitroso-di-n-propylamine	340	U
106-44-5	4 Methylphenol	340	U
110-86-1	Pyridine	340	U
109-06-8	2-Picoline	340	U
62-53-3	Aniline	340	U
10595 95 6	N Nitrosomethylethylamine	340	U
66-27-3	Methyl methanesulfonate	340	U
55-18-5	N Nitrosodiethylamine	340	U
62-50-0	Ethyl methanesulfonate	340	U
108-39-4	3-Methylphenol	340	U
930-55-2	N-Nitrosopyrrolidine	340	U
95-53-4	o-Toluidine	340	U
59-89 2	N-Nitrosomorpholine	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88 75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111 91 1	bis(2 Chloroethoxy)methane	340	U
120-83-2	2,4 Dichlorophenol	340	U
120-82 1	1,2,4-Trichlorobenzene	340	U
91-20 3	Naphthalene	340	U
106-47-8	4-Chloroaniline	670	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00-044

Lab Name: AENI MD Contract: MXC

Project No.: 9507125 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #001

Sample wt/vol: 30.3 (g/mL) G Lab File ID: DG353.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 2 decanted: (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91 57-6	2 Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
98-86-2	Acetophenone	340	U
122-09-8	a,a,a-Dimethylphenethylamine	340	U
1888-71-7	Hexachloropropene	340	U
87-65-0	2,6-Dichlorophenol	340	U
924-16-3	N-Nitrosodibutylamine	340	U
100-75-4	N-Nitrosopiperidine	340	U
130-15-4	1,4-Naphthoquinone	340	U
126-68-1	o,o,o-Triethyl phosphorothioate	340	U
120-58-1	Isosafrole	340	U
106-50-3	p-Phenylenediamine	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	340	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2 Nitroaniline	1700	U
208-96-8	Acenaphthylene	340	U
131-11-3	Dimethylphthalate	340	U
606-20-2	2,6-Dinitrotoluene	340	U
83-32 9	Acenaphthene	340	U
99-09-2	3 Nitroaniline	1700	U
51-28-5	2,4-Dinitrophenol	1700	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
100-02-7	4-Nitrophenol	340	U
86-73-7	Fluorene	340	U
7005-72 3	4 Chlorophenyl phenylether	340	U
84-66-2	Diethylphthalate	340	U
100-01-6	4-Nitroaniline	1700	U
95-94-3	1,2,4,5-Tetrachlorobenzene	340	U
99-65-0	1,3 Dinitrobenzene	340	U

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

SWC-24/00-044

Lab Name: AENI MO Contract: MKC

Project No.: 9507125 Site: ____ Location: ____ Group: ____

Matrix: (soil/water): SOIL Lab Sample ID: #001

Sample wt/vol: 30.3 (g/mL) G Lab File ID: D6353.D

Level: (low/med): LOW Date Received: 7/14/95

% Moisture: 2 decanted (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N): N pH: ____

CAS No.	Compound	Concentration Units. (ug/L or ug/Kg) ug/Kg	Q
608-93-5	Pentachlorobenzene	340	U
91-59-8	2-Naphthylamine	340	U
134 32 7	1-Naphthylamine	340	U
58 90-2	2,3,4,6-Tetrachlorophenol	340	U
297-97-2	Thionazin	340	U
99-55-8	5-Nitro-o-toluidine	340	U
94-59-7	Safrole	340	U
56-57 5	4-Nitroquinoline 1-oxide	340	U
534-52 1	4,6-Dinitro 2-methylphenol	1700	U
86-30-6	n-Nitrosodiphenylamine	340	U
101 55-3	4-Bromophenyl-phenylether	340	U
118 74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
84-74 2	Di-n-butylphthalate	340	U
206-44-0	Fluoranthene	340	U
122-39-4	Diphenylamine	340	U
99 35-4	sym-Trinitrobenzene	340	U
62-44 2	Phenacetin	340	U
92-67-1	4-Aminobiphenyl	340	U
91-80-5	Methapyrilene	340	U
129-00-0	Pyrene	340	U
85 68 7	Butylbenzylphthalate	340	U
91-94 1	3,3' Dichlorobenzidine	670	U
56 55 3	Benzo(a)anthracene	340	U
218-01 9	Chrysene	340	U
117-81-7	bis(2 Ethylhexyl)phthalate	340	U
60 11 7	p-Dimethylaminoazobenzene	340	U
140 57-8	Aramite	340	U
119 93-7	3,3' Dimethylbenzidine	340	U
53 96-3	2-Acetylaminofluorene	340	U
117-84-0	Di-n-octylphthalate	340	U

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

MSWC 24100-044

Lab Name: AENI MD Contract: MKC

Project No: 9507125 Site: ____ Location: ____ Group: ____

Matrix: (soil/water) SOIL Lab Sample ID: #001

Sample wt/vol: 30.3 (g/mL) G Lab File ID: DG353 D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 2 decanted: (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
205-99-2	Benzo(b)fluoranthene	340	U
207-08-9	Benzo(k)fluoranthene	340	U
50-32-8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	340	U
53-70-3	Dibenz(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U
57-97-6	7,12-Dimethylbenz(a)anthracene	340	U
56-49-5	3-Methylcholanthrene	340	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MSWC 24/00-045

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: ____ Location: ____ Group: ____

Matrix: (soil/water) SOIL Lab Sample ID: #002

Sample wt/vol: 30.5 (g/mL) G Lab File ID: DG354.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 1 decanted (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9-	N-Nitroso-Di-Methylamine	330	U
111-44-4	bis(2-Chloroethyl)ether	330	U
108-95-2	Phenol	330	U
95 57-8	2-Chlorophenol	330	U
541 73 1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
100-51-6	Benzyl alcohol	660	U
108-60 1	bis(2-chloroisopropyl)ether	330	U
95-48-7	2-Methylphenol	330	U
67 72-1	Hexachloroethane	330	U
621-64 7	N-Nitroso-di n propylamine	330	U
106-44 5	4-Methylphenol	330	U
110-86-1	Pyridine	330	U
109-06-8	2-Picoline	330	U
62-53-3	Aniline	330	U
10595-95 6	N-Nitrosomethylethylamine	330	U
66-27 3	Methyl methanesulfonate	330	U
55-18 5	N-Nitrosodiethylamine	330	U
62-50-0	Ethyl methanesulfonate	330	U
108-39-4	3-Methylphenol	330	U
930-55-2	N-Nitrosopyrrolidine	330	U
95-53-4	o-Toluidine	330	U
59 89 2	N-Nitrosomorpholine	330	U
98 95-3	Nitrobenzene	330	U
78-59 1	Isophorone	330	U
88-75 5	2-Nitrophenol	330	U
105-67 9	2,4-Dimethylphenol	330	U
111 91 1	bis(2 Chloroethoxy)methane	330	U
120 83 2	2,4-Dichlorophenol	330	U
120 82-1	1,2,4-Trichlorobenzene	330	U
91-20 3	Naphthalene	330	U
106-47 8	4-Chloroaniline	660	U

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

MSWC 24/00-045

Lab Name: AENI MO Contract: MXC

Project No.: 9507125 Site: Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #002

Sample wt/vol.: 30.5 (g/mL) G Lab File ID: DG354.D

Level (low/med): LOW Date Received: 7/14/95

% Moisture: 1 decanted: (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-methylphenol	330	U
91-57-6	2 Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
98-86-2	Acetophenone	330	U
122-09-8	a,a,a-Dimethylphenethylamine	330	U
1888-71-7	Hexachloropropene	330	U
87-65-0	2,6-Dichlorophenol	330	U
924-16-3	N-Nitrosodibutylamine	330	U
100-75-4	N-Nitrosopiperidine	330	U
130-15-4	1,4-Naphthoquinone	330	U
126-68-1	o,o,o-Triethyl phosphorothioate	330	U
120-58-1	Isosafrole	330	U
106-50-3	p-Phenylenediamine	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95 95-4	2,4,5-Trichlorophenol	330	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2 Nitroaniline	1700	U
208-96-8	Acenaphthylene	330	U
131-11-3	Dimethylphthalate	330	U
606-20-2	2,6-Dinitrotoluene	330	U
83-32-9	Acenaphthene	330	U
99-09-2	3-Nitroaniline	1700	U
51 28-5	2,4 Dinitrophenol	1700	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
100-02-7	4 Nitrophenol	330	U
86-73-7	Fluorene	330	U
7005-72 3	4 Chlorophenyl phenylether	330	U
84-66-2	Diethylphthalate	330	U
100-01-6	4-Nitroaniline	1700	U
95-94-3	1,2,4,5-Tetrachlorobenzene	330	U
99-65-0	1,3 Dinitrobenzene	330	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SWC 24/00-045

Lab Name: AENI MO Contract: MKC

Project No.: 9507125 Site: ____ Location: ____ Group: ____

Matrix: (soil/water): SOIL Lab Sample ID: #002

Sample wt/vol: 30.5 (g/mL) G Lab File ID: DG354.D

Level: (low/med): LOW Date Received: 7/14/95

% Moisture: 1 decanted: (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N): N pH: ____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
608-93-5	Pentachlorobenzene	330	U
91-59-8	2-Naphthylamine	330	U
134-32-7	1-Naphthylamine	330	U
58-90-2	2,3,4,6-Tetrachlorophenol	330	U
297-97-2	Thionazin	330	U
99-55-8	5-Nitro-o-toluidine	330	U
94-59-7	Safrole	330	U
56-57-5	4-Nitroquinoline 1-oxide	330	U
534-52-1	4,6-Dinitro-2-methylphenol	1700	U
86-30-6	n-Nitrosodiphenylamine	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
84-74-2	Di-n-butylphthalate	330	U
206-44-0	Fluoranthene	330	U
122-39-4	Diphenylamine	330	U
99-35-4	sym-Trinitrobenzene	330	U
62-44-2	Phenacetin	330	U
92-67-1	4-Aminobiphenyl	330	U
91-80-5	Methapyrilene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	660	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	330	U
60-11-7	p-Dimethylaminoazobenzene	330	U
140-57-8	Aramite	330	U
119-93-7	3,3'-Dimethylbenzidine	330	U
53-96-3	2-Acetylaminofluorene	330	U
117-84-0	Di-n-octylphthalate	330	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MSWC-24100-045

Lab Name: AENI MO Contract: MKC

Project No: 9507125 Site: ____ Location: ____ Group: ____

Matrix (soil/water): SOIL Lab Sample ID: #002

Sample wt/vol.: 30.5 (g/mL) G Lab File ID: DG354.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 1 decanted (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenz(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U
57-97-6	7,12 Dimethylbenz(a)anthracene	330	U
56-49-5	3 Methylcholanthrene	330	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00-046

Lab Name: AENI MO Contract: MKC

Project No.: 9507125 Site: Location: Group

Matrix: (soil/water) SOIL Lab Sample ID: f003

Sample wt/vol: 30.2 (g/mL) G Lab File ID: OG355.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 2 decanted: (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-Nitroso-Di-Methylamine	340	U
111-44-4	bis(2-Chloroethyl)ether	340	U
108-95-2	Phenol	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
100-51-6	Benzyl alcohol	680	U
108-60-1	bis(2-chloroisopropyl)ether	340	U
95-48-7	2-Methylphenol	340	U
67 72-1	Hexachloroethane	340	U
621-64-7	N-Nitroso-di-n-propylamine	340	U
106-44-5	4 Methylphenol	340	U
110-86-1	Pyridine	340	U
109-06-8	2-Picoline	340	U
62-53-3	Aniline	340	U
10595-95-6	N-Nitrosomethylethylamine	340	U
66-27 3	Methyl methanesulfonate	340	U
55-18-5	N-Nitrosodiethylamine	340	U
62-50-0	Ethyl methanesulfonate	340	U
108-39-4	3 Methylphenol	340	U
930-55-2	N-Nitrosopyrrolidine	340	U
95-53-4	o-Toluidine	340	U
59-89-2	N Nitrosomorpholine	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88 75-5	2 Nitrophenol	340	U
105-67 9	2,4-Dimethylphenol	340	U
111 91 1	bis(2-Chloroethoxy)methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4 Chloroaniline	680	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC-2400-046

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 0003

Sample wt/vol: 30.2 (g/mL) G Lab File ID: D6355.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 2 decanted: (Y/N) N Date Extracted: 7/20/95

Concentrated Extract Volume 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
98-86-2	Acetophenone	340	U
122-09-8	a,a,a-Dimethylphenethylamine	340	U
1888-71-7	Hexachloropropene	340	U
87-65-0	2,6-Dichlorophenol	340	U
924-16-3	N-Nitrosodibutylamine	340	U
100-75-4	N-Nitrosopiperidine	340	U
130-15-4	1,4-Naphthoquinone	340	U
126-68-1	o,o,o-Triethyl phosphorothioate	340	U
120-58-1	Isosafrole	340	U
106-50-3	p-Phenylenediamine	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	340	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	1700	U
208-96-8	Acenaphthylene	340	U
131-11-3	Dimethylphthalate	340	U
606-20-2	2,6-Dinitrotoluene	340	U
83-32-9	Acenaphthene	340	U
99-09-2	3-Nitroaniline	1700	U
51-28-5	2,4-Dinitrophenol	1700	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
100-02-7	4-Nitrophenol	340	U
86-73-7	Fluorene	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
84-66-2	Diethylphthalate	340	U
100-01-6	4-Nitroaniline	1700	U
95-94-3	1,2,4,5-Tetrachlorobenzene	340	U
99-65-0	1,3-Dinitrobenzene	340	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MSWC 24/00-046

Lab Name: AENO MO Contract: MKC

Project No.: 9507125 Site: Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #003

Sample wt/vol: 30.2 (g/mL) G Lab File ID: DG355 D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 2 decanted: (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
608-93-5	Pentachlorobenzene	340	U
91-59-8	2-Naphthylamine	340	U
134-32-7	1-Naphthylamine	340	U
58-90-2	2,3,4,6-Tetrachlorophenol	340	U
297-97-2	Thionazin	340	U
99-55-8	5-Nitro-o-toluidine	340	U
94-59-7	Safrole	340	U
56-57-5	4-Nitroquinoline 1-oxide	340	U
534-52-1	4,6-Dinitro-2-methylphenol	1700	U
86-30-6	n-Nitrosodiphenylamine	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
84-74-2	Di-n-butylphthalate	340	U
206-44-0	Fluoranthene	340	U
122-39-4	Diphenylamine	340	U
99-35-4	sym-Trinitrobenzene	340	U
62-44-2	Phenacetin	340	U
92-67-1	4-Aminobiphenyl	340	U
91-80-5	Methapyrilene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	680	U
56-55-3	Benzo(a)anthracene	340	U
218-01-9	Chrysene	340	U
117-81-7	bis(2-Ethylhexyl)phthalate	340	U
60-11-7	p-Dimethylaminoazobenzene	340	U
140-57-8	Aramite	340	U
119-93-7	3,3'-Dimethylbenzidine	340	U
53-96-3	2-Acetylaminofluorene	340	U
117-84-0	Di-n-octylphthalate	340	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 2400 046

Lab Name: AENI MD Contract: MKC

Project No: 95071125 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 0003

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 0G355 D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 2 decanted: (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup (Y/N) N pH:

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
205-99-2	Benzo(b)fluoranthene	340	U
207-08-9	Benzo(k)fluoranthene	340	U
50-32-8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	340	U
53-70-3	Dibenz(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U
57-97-6	7,12 Dimethylbenz(a)anthracene	340	U
56-49-5	3 Methylcholanthrene	340	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00-047

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: ____ Location: ____ Group: ____

Matrix: (soil/water) SOIL Lab Sample ID: #004

Sample wt/vol: 30.6 (g/mL) G Lab File ID: DG356.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 29 decanted (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-Nitroso-Di-Methylamine	460	U
111-44-4	bis(2-Chloroethyl)ether	460	U
108-95-2	Phenol	460	U
95-57-8	2-Chlorophenol	460	U
541-73-1	1,3-Dichlorobenzene	460	U
106-46-7	1,4 Dichlorobenzene	460	U
95-50-1	1,2-Dichlorobenzene	460	U
100-51-6	Benzyl alcohol	920	U
108-60-1	bis(2-chloroisopropyl)ether	460	U
95-48 7	2-Methylphenol	460	U
67-72 1	Hexachloroethane	460	U
621-64-7	N-Nitroso-di-n-propylamine	460	U
106-44-5	4-Methylphenol	460	U
110-86-1	Pyridine	460	U
109-06-8	2-Picoline	460	U
62-53-3	Aniline	460	U
10595-95-6	N-Nitrosomethylethylamine	460	U
66-27 3	Methyl methanesulfonate	460	U
55-18-5	N-Nitrosodiethylamine	460	U
62-50-0	Ethyl methanesulfonate	460	U
108 39-4	3-Methylphenol	460	U
930-55-2	N-Nitrosopyrrolidine	460	U
95 53-4	o-Toluidine	460	U
59-89 2	N-Nitrosomorpholine	460	U
98 95-3	Nitrobenzene	460	U
78 59-1	Isophorone	460	U
88 75 5	2-Nitrophenol	460	U
105-67 9	2,4 Dimethylphenol	460	U
111 91 1	bis(2-Chloroethoxy)methane	460	U
120 83-2	2,4 Dichlorophenol	460	U
120-82 1	1,2,4-Trichlorobenzene	460	U
91 20-3	Naphthalene	460	U
106-47-8	4-Chloroaniline	920	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00-047

Lab Name: AES[illegible] MD Contract: MKC

Project No.: 958[illegible]7125 Site: Location: Group

Matrix: SOIL Lab Sample ID: [illegible]004

Sample weight: 30.6 (g/mL) G Lab File ID: DG356.D

Level: LOW Date Received: 7/14/95

% Moisture: 29 decanted: (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
87-68-3	Hexachlorobutadiene	460	U
59-50-7	4-Chloro-3-methylphenol	460	U
91-57-6	2-Methylnaphthalene	460	U
77-47-4	Hexachlorocyclopentadiene	460	U
98-86-2	Acetophenone	460	U
1122-09-8	a,a,a-Dimethylphenethylamine	460	U
1888-71-7	Hexachloropropene	460	U
87-65-0	2,6-Dichlorophenol	460	U
924-16-3	N-Nitrosodibutylamine	460	U
100-75-4	N Nitrosopiperidine	460	U
130-15-4	1,4-Naphthoquinone	460	U
126-68-1	o,o,o-Triethyl phosphorothioate	460	U
120-58-1	Isosafrole	460	U
106-50-3	p-Phenylenediamine	460	U
88-06-2	2,4,6-Trichlorophenol	460	U
95-95-4	2,4,5-Trichlorophenol	460	U
91-58-7	2-Chloronaphthalene	460	U
88-74-4	2 Nitroaniline	2300	U
208-96-8	Acenaphthylene	460	U
131-11-3	Dimethylphthalate	460	U
606-20-2	2,6-Dinitrotoluene	460	U
83-32-9	Acenaphthene	460	U
99-09-2	3-Nitroaniline	2300	U
51-28-5	2,4-Dinitrophenol	2300	U
132-64-9	Dibenzofuran	460	U
121-14-2	2,4-Dinitrotoluene	460	U
100-02 7	4-Nitrophenol	460	U
86-73-7	Fluorene	460	U
7005-72-3	4 Chlorophenyl phenylether	460	U
84-66-2	Diethylphthalate	460	U
100-01 6	4 Nitroaniline	2300	U
95-94-3	1,2,4,5-Tetrachlorobenzene	460	U
99 65-0	1,3-Dinitrobenzene	460	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00-047

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #004

Sample wt/vol. 30.6 (g/mL) G Lab File ID: DG356.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 29 decanted: (Y/N) N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
608-93-5	Pentachlorobenzene	460	U
91-59-8	2-Naphthylamine	460	U
134-32-7	1-Naphthylamine	460	U
58-90-2	2,3,4,6-Tetrachlorophenol	460	U
297-97-2	Thionazin	460	U
99-55-8	5-Nitro-o-toluidine	460	U
94-59-7	Safrole	460	U
56-57-5	4-Nitroquinoline 1-oxide	460	U
534-52-1	4,6-Dinitro-2-methylphenol	2300	U
86-30-6	n-Nitrosodiphenylamine	460	U
101-55-3	4-Bromophenyl-phenylether	460	U
118-74-1	Hexachlorobenzene	460	U
87-86-5	Pentachlorophenol	2300	U
85-01-8	Phenanthrene	460	U
120-12-7	Anthracene	460	U
84-74-2	Di-n-butylphthalate	460	U
206-44-0	Fluoranthene	460	U
122-39-4	Diphenylamine	460	U
99-35-4	sym-Trinitrobenzene	460	U
62-44-2	Phenacetin	460	U
92-67-1	4-Aminobiphenyl	460	U
91-80-5	Methapyrilene	460	U
129-00-0	Pyrene	460	U
85-68-7	Butylbenzylphthalate	460	U
91-94-1	3,3'-Dichlorobenzidine	920	U
56-55-3	Benzo(a)anthracene	460	U
218-01-9	Chrysene	460	U
117-81-7	bis(2-Ethylhexyl)phthalate	460	U
60-11-7	p-Dimethylaminoazobenzene	460	U
140-57-8	Aramite	460	U
119-93-7	3,3'-Dimethylbenzidine	460	U
53-96-3	2-Acetylaminofluorene	460	U
117-84-0	Di-n-octylphthalate	460	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SWC 24:00 047

Lab Name: AENI MO Contract: MKC

Project No.: 9507125 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #004

Sample wt/vol: 30.6 (g/mL) G Lab File ID: DG356 D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 29 decanted: (Y/N) N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
205-99-2	Benzo(b)fluoranthene	460	U
207-08-9	Benzo(k)fluoranthene	460	U
50-32-8	Benzo(a)pyrene	460	U
193-39-5	Indeno(1,2,3-cd)pyrene	460	U
53-70-3	Dibenz(a,h)anthracene	460	U
191-24-2	Benzo(g,h,i)perylene	460	U
57-97-6	7,12-Dimethylbenz(a)anthracene	460	U
56-49-5	3-Methylcholanthrene	460	U

FORM I SV

SW846

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC-24/00-043

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #005

Sample wt/vol: 30.7 (g/mL) G Lab File ID: DG357.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 4 decanted: (Y/N) N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-Nitroso-Di-Methylamine	340	U
111-44-4	bis(2-Chloroethyl)ether	340	U
108-95-2	Phenol	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
100-51-6	Benzyl alcohol	680	U
108-60-1	bis(2-chloroisopropyl)ether	340	U
95-48-7	2 Methylphenol	340	U
67-72-1	Hexachloroethane	340	U
621-64-7	N Nitroso-di-n-propylamine	340	U
106-44-5	4-Methylphenol	340	U
110-86-1	Pyridine	340	U
109-06-8	2-Picoline	340	U
62-53-3	Aniline	340	U
10595-95-6	N-Nitrosomethylethylamine	340	U
66-27-3	Methyl methanesulfonate	340	U
55-18-5	N-Nitrosodiethylamine	340	U
62 50-0	Ethyl methanesulfonate	340	U
108 39-4	3-Methylphenol	340	U
930-55-2	N-Nitrosopyrrolidine	340	U
95 53-4	o-Toluidine	340	U
59-89 2	N-Nitrosomorpholine	340	U
98 95-3	Nitrobenzene	340	U
78 59-1	Isophorone	340	U
88-75-5	2 Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111 91-1	bis(2-Chloroethoxy)methane	340	U
120-83 2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4 Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47 8	4-Chloroaniline	680	U

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

MSWC 2400-048

Lab Name: AENT MD Contract: MXC

Project No.: 9507125 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #005

Sample wt/vol: 30.7 (g/mL) G Lab File ID: DG357.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 4 decanted: (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
98-86-2	Acetophenone	340	U
122-09-8	a,a,a-Dimethylphenethylamine	340	U
1888-71-7	Hexachloropropene	340	U
87-65-0	2,6-Dichlorophenol	340	U
924-16-3	N-Nitrosodibutylamine	340	U
100-75-4	N-Nitrosopiperidine	340	U
130-15-4	1,4-Naphthoquinone	340	U
126-68-1	o,o,o-Triethyl phosphorothioate	340	U
120-58-1	Isosafrole	340	U
106-50-3	p-Phenylenediamine	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	340	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	1700	U
208-96-8	Acenaphthylene	340	U
131-11-3	Dimethylphthalate	340	U
606-20-2	2,6-Dinitrotoluene	340	U
83-32-9	Acenaphthene	340	U
99-09-2	3-Nitroaniline	1700	U
51-28-5	2,4-Dinitrophenol	1700	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
100-02-7	4-Nitrophenol	340	U
86-73-7	Fluorene	340	U
7005-72-3	4-Chlorophenyl phenylether	340	U
84-66-2	Diethylphthalate	340	U
100-01-6	4-Nitroaniline	1700	U
95-94-3	1,2,4,5-Tetrachlorobenzene	340	U
99-65-0	1,3-Dinitrobenzene	340	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SWC-24/00-048

Lab Name: AENI MO Contract: MKC

Project No.: 9507125 Site: Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #005

Sample wt/vol.: 30.7 (g/mL) G Lab File ID: D6357.D

Level (low/med): LOW Date Received: 7/14/95

% Moisture: 4 decanted: (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
608-93-5	Pentachlorobenzene	340	U
91-59-8	2-Naphthylamine	340	U
134-32-7	1-Naphthylamine	340	U
58-90-2	2,3,4,6-Tetrachlorophenol	340	U
297-97-2	Thionazin	340	U
99-55-8	5-Nitro-o-toluidine	340	U
94-59-7	Safrole	340	U
56-57-5	4-Nitroquinoline 1-oxide	340	U
534-52-1	4,6-Dinitro-2-methylphenol	1700	U
86-30-6	n-Nitrosodiphenylamine	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
84-74-2	Di-n-butylphthalate	340	U
206-44-0	Fluoranthene	340	U
122-39-4	Diphenylamine	340	U
99-35-4	sym-Trinitrobenzene	340	U
62-44-2	Phenacetin	340	U
92-67-1	4-Aminobiphenyl	340	U
91-80-5	Methapyrilene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3' Dichlorobenzidine	680	U
56-55-3	Benzo(a)anthracene	340	U
218-01-9	Chrysene	340	U
117-81-7	bis(2-Ethylhexyl)phthalate	340	U
60-11-7	p-Dimethylaminoazobenzene	340	U
140-57-8	Aramite	340	U
119-93-7	3,3'-Dimethylbenzidine	340	U
53-96-3	2-Acetylaminofluorene	340	U
117-84-0	Di-n-octylphthalate	340	U

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24:00-048

Lab Name: AENI MD Contract: MXC

Project No.: 9507125 Site: Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: 1005

Sample wt/vol: 30.7 (g/mL) G Lab File ID: DG357.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 4 decanted: (Y/N) N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units (ug/L or ug/Kg) ug/Kg	Q
205-99-2	Benzo(b)fluoranthene	340	U
207-08-9	Benzo(k)fluoranthene	340	U
50-32-8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	340	U
53-70-3	Dibenz(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U
57-97-6	7,12-Dimethylbenz(a)anthracene	340	U
56-49-5	3-Methylcholanthrene	340	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SWC-24/00-049

Lab Name: AENI MD Contract: MKC

Project No. 9507125 Site: Location Group:

Matrix: (soil/water) SOIL Lab Sample ID: #006

Sample wt/vol: 30.5 (g/mL) G Lab File ID: DG358.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 4 decanted: (Y/N) N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-Nitroso-Di-Methylamine	340	U
111-44-4	bis(2-Chloroethyl)ether	340	U
108 95-2	Phenol	340	U
95 57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50 1	1,2-Dichlorobenzene	340	U
100 51-6	Benzyl alcohol	680	U
108-60-1	bis(2 chloroisopropyl)ether	340	U
95-48 7	2-Methylphenol	340	U
67-72-1	Hexachloroethane	340	U
621-64-7	N-Nitroso-di-n-propylamine	340	U
106-44-5	4-Methylphenol	340	U
110-86-1	Pyridine	340	U
109-06-8	2-Picoline	340	U
62 53-3	Aniline	340	U
10595-95-6	N Nitrosomethylethylamine	340	U
66-27 3	Methyl methanesulfonate	340	U
55-18-5	N Nitrosodiethylamine	340	U
62-50-0	Ethyl methanesulfonate	340	U
108 39-4	3-Methylphenol	340	U
930-55 2	N Nitrosopyrrolidine	340	U
95-53-4	o-Toluidine	340	U
59-89-2	N Nitrosomorpholine	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88 75-5	2-Nitrophenol	340	U
105 67 9	2,4-Dimethylphenol	340	U
111 91-1	bis(2 Chloroethoxy)methane	340	U
120-83-2	2,4 Dichlorophenol	340	U
120 82 1	1,2,4 Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4 Chloroaniline	680	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MSWC-24/00-049

Lab Name: AENI MO Contract: MKC

Project No. 9507125 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: f006

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 06358.D

Level: (low/med) LOW Date Received 7/14/95

% Moisture: 4 decanted: (Y/N) N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
98-86-2	Acetophenone	340	U
122-09 8	a,a,a-Dimethylphenethylamine	340	U
1888-71-7	Hexachloropropene	340	U
87-65-0	2,6-Dichlorophenol	340	U
924-16-3	N-Nitrosodibutylamine	340	U
100-75-4	N Nitrosopiperidine	340	U
130 15-4	1,4-Naphthoquinone	340	U
126-68-1	o,o,o-Triethyl phosphorothioate	340	U
120-58 1	Isosafrole	340	U
106-50-3	p-Phenylenediamine	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95 95-4	2,4,5-Trichlorophenol	340	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	1700	U
208-96-8	Acenaphthylene	340	U
131-11-3	Dimethylphthalate	340	U
606-20-2	2,6-Dinitrotoluene	340	U
83-32-9	Acenaphthene	340	U
99-09-2	3-Nitroaniline	1700	J
51-28-5	2,4-Dinitrophenol	1700	U
132 64 9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
100-02 7	4 Nitrophenol	340	U
86-73 7	Fluorene	340	U
7005-72 3	4 Chlorophenyl phenylether	340	U
84-66-2	Diethylphthalate	340	U
100-01 6	4 Nitroaniline	1700	U
95 94-3	1,2,4,5 Tetrachlorobenzene	340	U
99-65-0	1 3-Dinitrobenzene	340	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00-049

Lab Name: AENI MO Contract: MKC

Project No.: 9507125 Site: Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: 1006

Sample wt/vol: 30.5 (g/mL) G Lab File ID: DG358.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 4 decanted: (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup. (Y/N) N pH.

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
608-93-5	Pentachlorobenzene	340	U
91-59-8	2-Naphthylamine	340	U
134-32-7	1 Naphthylamine	340	U
58-90-2	2,3,4,6-Tetrachlorophenol	340	U
297-97-2	Thionazin	340	U
99-55-8	5-Nitro-o-toluidine	340	U
94-59-7	Safrole	340	U
56-57-5	4-Nitroquinoline 1-oxide	340	U
534-52-1	4,6-Dinitro-2-methylphenol	1700	U
86-30-6	n-Nitrosodiphenylamine	340	U
101 55-3	4 Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
84-74-2	Di-n-butylphthalate	340	U
206-44-0	Fluoranthene	340	U
122-39-4	Diphenylamine	340	U
99-35-4	sym-Trinitrobenzene	340	U
62-44-2	Phenacetin	340	U
92-67-1	4-Aminobiphenyl	340	U
91-80-5	Methapyrilene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3' Dichlorobenzidine	680	U
56-55-3	Benzo(a)anthracene	340	U
218-01 9	Chrysene	340	U
117-81-7	bis(2-Ethylhexyl)phthalate	340	U
60-11-7	p Dimethylaminoazobenzene	340	U
140-57-8	Aramite	340	U
119-93 7	3,3' Dimethylbenzidine	340	U
53 96-3	2 Acetylaminofluorene	340	U
117 84-0	Di-n-octylphthalate	340	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24;00-049

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: ____ Location: ____ Group: ____

Matrix (soil/water): SOIL Lab Sample ID: #006

Sample wt/vol.: 30.5 (g/mL) G Lab File ID: DG358 D

Level (low/med): LOW Date Received: 7/14/95

% Moisture: 4 decanted. (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
205-99-2	Benzo(b)fluoranthene	340	U
207-08-9	Benzo(k)fluoranthene	340	U
50-32-8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	340	U
53-70-3	Dibenz(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U
57-97-6	7,12-Dimethylbenz(a)anthracene	340	U
56-49-5	3-Methylcholanthrene	340	U

FORM I SV SW846

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24100-050

Lab Name: AEMI MO Contract: MKC

Project No.: 95071125 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #007

Sample wt/vol: 30.6 (g/mL) G Lab File ID: DG359 D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 8 decanted: (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75-9	N-Nitroso-Di-Methylamine	360	U
111-44-4	bis(2-Chloroethyl)ether	360	U
108-95-2	Phenol	360	U
95-57-8	2-Chlorophenol	360	U
541-73-1	1,3-Dichlorobenzene	360	U
106-46-7	1,4-Dichlorobenzene	360	U
95-50-1	1,2 Dichlorobenzene	360	U
100-51-6	Benzyl alcohol	710	U
108-60-1	bis(2-chloroisopropyl)ether	360	U
95-48-7	2-Methylphenol	360	U
67-72 1	Hexachloroethane	360	U
621-64-7	N-Nitroso-di n propylamine	360	U
106-44-5	4-Methylphenol	360	U
110-86-1	Pyridine	360	U
109-06-8	2-Picoline	360	U
62-53-3	Aniline	360	U
10595-95-6	N-Nitrosomethylethylamine	360	U
66-27 3	Methyl methanesulfonate	360	U
55-18-5	N Nitrosodiethylamine	360	U
62-50-0	Ethyl methanesulfonate	360	U
108-39-4	3-Methylphenol	360	U
930-55-2	N-Nitrosopyrrolidine	360	U
95-53-4	o Toluidine	360	U
59-89-2	N-Nitrosomorpholine	360	U
98-95-3	Nitrobenzene	360	U
78-59-1	Isophorone	360	U
88-75-5	2-Nitrophenol	360	U
105-67-9	2,4-Dimethylphenol	360	U
111 91-1	bis(2-Chloroethoxy)methane	360	U
120-83-2	2,4 Dichlorophenol	360	U
120-82 1	1,2,4 Trichlorobenzene	360	U
91-20-3	Naphthalene	360	U
106-47-8	4 Chloroaniline	710	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00-050

Lab Name: AENI MD Contract: MKC

Project No 9507125 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID #007

Sample wt/vol: 30.6 (g/mL) G Lab File ID: DG359.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 8 decanted: (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
87-68-3	Hexachlorobutadiene	360	U
59-50-7	4-Chloro-3-methylphenol	360	U
91-57-6	2-Methylnaphthalene	360	U
77-47-4	Hexachlorocyclopentadiene	360	U
98-86-2	Acetophenone	360	U
122-09-8	a,a,a-Dimethylphenethylamine	360	U
1888-71-7	Hexachloropropene	360	U
87-65-0	2,6-Dichlorophenol	360	U
924-16-3	N-Nitrosodibutylamine	360	U
100-75-4	N-Nitrosopiperidine	360	U
130-15-4	1,4-Naphthoquinone	360	U
126-68-1	o,o,o-Triethyl phosphorothioate	360	U
120-58-1	Isosafrole	360	U
106-50-3	p-Phenylenediamine	360	U
88-06-2	2,4,6-Trichlorophenol	360	U
95-95-4	2,4,5-Trichlorophenol	360	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	1800	U
208-96-8	Acenaphthylene	360	U
131-11-3	Dimethylphthalate	360	U
606-20-2	2,6-Dinitrotoluene	360	U
83-32-9	Acenaphthene	360	U
99-09-2	3-Nitroaniline	1800	U
51-28-5	2,4-Dinitrophenol	1800	U
132-64-9	Dibenzofuran	360	U
121-14-2	2,4-Dinitrotoluene	360	U
100-02-7	4-Nitrophenol	360	U
86-73-7	Fluorene	360	U
7005-72-3	4-Chlorophenyl-phenylether	360	U
84-66-2	Diethylphthalate	360	U
100-01-6	4-Nitroaniline	1800	U
95-94-3	1,2,4,5-Tetrachlorobenzene	360	U
99-65-0	1,3-Dinitrobenzene	360	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00-050

Lab Name: AENI MO Contract: MXC

Project No.: 9507125 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #007

Sample wt/vol: 30.6 (g/mL) G Lab File ID: DG359.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 8 decanted: (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units (ug/L or ug/Kg) ug/Kg	Q
608-93-5	Pentachlorobenzene	360	U
91-59-8	2-Naphthylamine	360	U
134-32-7	1-Naphthylamine	360	U
58-90-2	2,3,4,6-Tetrachlorophenol	360	U
297-97-2	Thionazin	360	U
99-55-8	5-Nitro-o-toluidine	360	U
94-59-7	Safrole	360	U
56-57-5	4-Nitroquinoline 1-oxide	360	U
534-52-1	4,6-Dinitro-2-methylphenol	1800	U
86-30-6	n-Nitrosodiphenylamine	360	U
101-55-3	4-Bromophenyl-phenylether	360	U
118-74-1	Hexachlorobenzene	360	U
87-86-5	Pentachlorophenol	1800	U
85-01-8	Phenanthrene	360	U
120-12-7	Anthracene	360	U
84-74-2	Di-n-butylphthalate	360	U
206-44-0	Fluoranthene	360	U
122-39-4	Diphenylamine	360	U
99-35-4	sym-Trinitrobenzene	360	U
62-44-2	Phenacetin	360	U
92-67-1	4-Aminobiphenyl	360	U
91-80-5	Methapyrilene	360	U
129-00-0	Pyrene	360	U
85-68-7	Butylbenzylphthalate	360	U
91-94-1	3,3'-Dichlorobenzidine	710	U
56-55-3	Benzo(a)anthracene	360	U
218-01-9	Chrysene	360	U
117-81-7	bis(2-Ethylhexyl)phthalate	360	U
60-11-7	p-Dimethylaminoazobenzene	360	U
140-57-8	Aramite	360	U
119-93-7	3,3'-Dimethylbenzidine	360	U
53-96-3	2-Acetylaminofluorene	360	U
117-84-0	Di-n-octylphthalate	360	U

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24.00 050

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #007

Sample wt/vol: 30.6 (g/mL) G Lab File ID: DG359.D

Level: (low/med) LOW Date Received: 7/14/95

% Moisture: 8 decanted: (Y/N): N Date Extracted: 7/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
205-99-2	Benzo(b)fluoranthene	360	U
207-08-9	Benzo(k)fluoranthene	360	U
50-32-8	Benzo(a)pyrene	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	360	U
53-70-3	Dibenz(a,h)anthracene	360	U
191-24-2	Benzo(g,h,i)perylene	360	U
57-97-6	7,12-Dimethylbenz(a)anthracene	360	U
56-49-5	3-Methylcholanthrene	360	U

FORM I SV

SW846

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 055

Lab Name: AENI Contract: 95T0199

Project No.: MKC70 Site: ____ Location: ____ Group: ____

Matrix: (soil/water): SOIL Lab Sample ID: #002

Sample wt/vol: 30.8 (g/mL) G Lab File ID: OJ397.D

Level: (low/med): LOW Date Received: 10/18/95

% Moisture: 9 decanted (Y/N): N Date Extracted: 10/24/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/27/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N): N pH: ____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
91-20-3	Naphthalene	360	U
91-57-6	2-Methylnaphthalene	360	U
91-58-7	2-Chloronaphthalene	360	U
208-96-8	Acenaphthylene	360	U
83-32-9	Acenaphthene	360	U
132-64-9	Dibenzofuran	360	U
86-73-7	Fluorene	360	U
85-01-8	Phenanthrene	360	U
120-12-7	Anthracene	360	U
206-44-0	Fluoranthene	360	U
129-00-0	Pyrene	360	U
56-55-3	Benzo(a)anthracene	360	U
218-01-9	Chrysene	360	U
205-99-2	Benzo(b)fluoranthene	360	U
207-08-9	Benzo(k)fluoranthene	360	U
50-32-8	Benzo(a)pyrene	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	360	U
53-70-3	Dibenz(a,h)anthracene	360	U
191-24-2	Benzo(g,h,i)perylene	360	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 056

Lab Name: AENI Contract: 95T0139

Project No: MKC70 Site: Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #003

Sample wt/vol: 31.0 (g/mL) G Lab File ID: DJ0982.D

Level: (low/med) LOW Date Received: 10/13/95

% Moisture: 6 decanted (Y/N) N Date Extracted: 10/24/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/27/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
91-20-3	Naphthalene	340	U
91-57-6	2-Methylnaphthalene	340	U
91-58-7	2-Chloronaphthalene	340	U
208-96-8	Acenaphthylene	340	U
83-32-9	Acenaphthene	340	U
132-64-9	Dibenzofuran	340	U
86-73-7	Fluorene	340	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
56-55-3	Benzo(a)anthracene	340	U
218-01-9	Chrysene	340	U
205-99-2	Benzo(b)fluoranthene	340	U
207-08-9	Benzo(k)fluoranthene	340	U
50-32-8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	340	U
53-70-3	Dibenz(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC 24/00 057

Lab Name AENI Contract: 95'0'99

Project No · MKC70 Site· Location Group.

Matrix (soil/water) SOIL Lab Sample ID #004

Sample wt/vol: 30.5 (gm/L) G Lab File ID· DJ401.D

Level: (low/med) LOW Date Received· 10/18/95

% Moisture: 10 decanted (Y/N). N Date Extracted: 10/24/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/27/95

Injection Volume· 1.0 (uL) Dilution Factor· 1.0

GPC Cleanup· (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
91-20-3	Naphthalene	360	U
91-57 6	2-Methylnaphthalene	360	U
91-58-7	2-Chloronaphthalene	360	U
208 96 8	Acenaphthylene	360	U
83-32 9	Acenaphthene	360	U
132-64-9	Dibenzofuran	360	U
86-73 7	Fluorene	360	U
85-01 8	Phenanthrene	360	U
120-12-7	Anthracene	360	U
206-44-0	Fluoranthene	360	U
129 00 0	Pyrene	360	U
56 55-3	Benzo(a)anthracene	360	U
218-01 9	Chrysene	360	U
205 99 2	Benzo(b)fluoranthene	360	U
207-08 9	Benzo(k)fluoranthene	360	U
50-32 8	Benzo(a)pyrene	360	U
193-39 5	Indeno(1,2,3-cd)pyrene	360	U
53 70 3	Dibenz(a,h)anthracene	360	U
191-24 2	Benzo(g,h,i)perylene	360	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC 24/00 058

Lab Name: AENI Contract: 3510199

Project No.: MKC70 Site: Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #005

Sample wt/vol: 30.1 (g/mL) G Lab File ID: OJ402.D

Level: (low/med): LOW Date Received: 10/18/95

% Moisture: 9 decanted: (Y/N): N Date Extracted: 10/24/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/27/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
91-20-3	Naphthalene	360	U
91-57-6	2 Methylnaphthalene	360	U
91 58-7	2-Chloronaphthalene	360	U
208-96-8	Acenaphthylene	360	U
83-32 9	Acenaphthene	360	U
132 64-9	Dibenzofuran	360	U
86 73-7	Fluorene	360	U
85-01 8	Phenanthrene	77	J
120-12-7	Anthracene	360	U
206-44-0	Fluoranthene	78	J
129 00 0	Pyrene	87	J
56 55 3	Benzo(a)anthracene	39	J
218 01 9	Chrysene	360	U
205 99-2	Benzo(b)fluoranthene	360	U
207-08 9	Benzo(k)fluoranthene	360	U
50 32 8	Benzo(a)pyrene	360	U
193 39 5	Indeno(1,2,3 cd)pyrene	360	U
53-70-3	Dibenz(a,h)anthracene	360	U
191 24-2	Benzo(g,h,i)perylene	360	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC 24:00 059

Lab Name: AENI Contract: 95IC139

Project No.: MKC73 Site: ____ Location: ____ Group: ____

Matrix: (soil/water): SOIL Lab Sample ID: #006

Sample wt/vol.: 30.1 (g/mL) G Lab File ID: DJ403.D

Level: (low/med): LOW Date Received: 10/18/95

% Moisture: 8 decanted: (Y/N): N Date Extracted: 10/24/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/27/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N): N pH: ____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
91-20-3	Naphthalene	360	U
91-57-6	2-Methylnaphthalene	360	U
91-58-7	2-Chloronaphthalene	360	U
208-96-8	Acenaphthylene	360	U
83-32-9	Acenaphthene	360	U
132-64-9	Dibenzofuran	360	U
86-73-7	Fluorene	360	U
85-01-8	Phenanthrene	37	J
120-12-7	Anthracene	360	U
206-44-0	Fluoranthene	360	U
129-00-0	Pyrene	360	U
56-55-3	Benzo[a]anthracene	360	U
218-01-9	Chrysene	360	U
205-99-2	Benzo[b]fluoranthene	360	U
207-08-9	Benzo[k]fluoranthene	360	U
50-32-8	Benzo[a]pyrene	360	U
193-39-5	Indeno[1,2,3-cd]pyrene	360	U
53-70-3	Dibenz[a,h]anthracene	360	U
191-24-2	Benzo[g,h,i]perylene	360	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24.00 060

Lab Name: AENI Contract: 95102199

Project No: MKC70 Site: Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #007

Sample wt/vol: 30.4 (g/mL) G Lab File ID: DJ404.D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: 6 decanted: (Y/N) N Date Extracted: 10/24/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/27/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
91-20-3	Naphthalene	350	U
91-57-6	2-Methylnaphthalene	350	U
91-58-7	2-Chloronaphthalene	350	U
208-96-8	Acenaphthylene	350	U
83-32-9	Acenaphthene	350	U
132-64-9	Dibenzofuran	350	U
86-73-7	Fluorene	350	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
206-44-0	Fluoranthene	81	J
129-00-0	Pyrene	67	J
56-55-3	Benzo(a)anthracene	350	U
218-01-9	Chrysene	44	J
205-99-2	Benzo(b)fluoranthene	350	U
207-08-9	Benzo(k)fluoranthene	350	U
50-32-8	Benzo(a)pyrene	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	350	U
53-70-3	Dibenz(a,h)anthracene	350	U
191-24-2	Benzo(g,h,i)perylene	350	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC 24/00 061

Lab Name: AENI Contract: 9510199

Project No: MKC70 Site: Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #008

Sample wt/vol.: 30.8 (g/mL) G Lab File ID: DJ405.0

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: 10 decanted (Y/N): N Date Extracted: 10/24/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/27/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
91 20-3	Naphthalene	360	U
91-57 6	2 Methylnaphthalene	360	U
91 58 7	2 Chloronaphthalene	360	U
208-96-8	Acenaphthylene	360	U
83-32 9	Acenaphthene	360	U
132-64-9	Dibenzofuran	360	U
86-73 7	Fluorene	360	U
85 01-8	Phenanthrene	360	U
120-12-7	Anthracene	360	U
206-44 0	Fluoranthene	360	U
129 00 0	Pyrene	360	U
56-55 3	Benzo(a)anthracene	360	U
218-01-9	Chrysene	360	U
205-99 2	Benzo(b)fluoranthene	360	U
207-08 9	Benzo(k)fluoranthene	360	U
50-32-8	Benzo(a)pyrene	360	U
193-39 5	Indeno(1,2,3 cd)pyrene	360	U
53 70-3	Dibenz(a,h)anthracene	360	U
191 24 2	Benzo(g,h,i)perylene	360	U

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24.00 062

Lab Name: AENI Contract: 35103-99

Project No.: MKC70 Site: ____ Location: ____ Group: ____

Matrix (soil/water): SOIL Lab Sample ID: #009

Sample wt/vol: 30.7 (g/mL) G Lab File ID: OJ406.D

Level (low/med): LOW Date Received: 10/18/95

% Moisture: 10 decanted: (Y/N) N Date Extracted: 10/24/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/27/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS No.	Compound	Concentration Units (ug/L or ug/Kg) ug/Kg	Q
91-20-3	Naphthalene	360	U
91-57-6	2-Methylnaphthalene	360	U
91-58-7	2-Chloronaphthalene	360	U
208-96-8	Acenaphthylene	360	U
83-32-9	Acenaphthene	360	U
132-64-9	Dibenzofuran	360	U
86-73-7	Fluorene	360	U
85-01-8	Phenanthrene	360	U
120-12-7	Anthracene	360	U
206-44-0	Fluoranthene	360	U
129-00-0	Pyrene	360	U
56-55-3	Benzo(a)anthracene	360	U
218-01-9	Chrysene	360	U
205-99-2	Benzo(b)fluoranthene	360	U
207-08-9	Benzo(k)fluoranthene	360	U
50-32-8	Benzo(a)pyrene	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	360	U
53-70-3	Dibenz(a,h)anthracene	360	U
191-24-2	Benzo(g,h,i)perylene	360	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC 24100 062RE

Lab Name AENI Contract 9510199

Project No MKC70 Site Location Group

Matrix: (soil/water) SOIL Lab Sample ID 4009RE

Sample wt/vol. 30.7 (g/mL) G Lab File ID: DK011.D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture. 10 decanted: (Y/N) N Date Extracted: 10/24/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/1/95

Injection Volume. 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units. (ug/L or ug/Kg) ug/Kg	Q
91-20-3	Naphthalene	360	U
91-57-6	2-Methylnaphthalene	360	U
91-58-7	2-Chloronaphthalene	360	U
208-96-8	Acenaphthylene	360	U
83-32-9	Acenaphthene	360	U
132-64-9	Dibenzofuran	360	U
86-73-7	Fluorene	360	U
85-01-8	Phenanthrene	360	U
120-12-7	Anthracene	360	U
206-44-0	Fluoranthene	360	U
129-00-0	Pyrene	360	U
56-55-3	Benzo(a)anthracene	360	U
218-01-9	Chrysene	360	U
205-99-2	Benzo(b)fluoranthene	360	U
207-08-9	Benzo(k)fluoranthene	360	U
50-32-8	Benzo(a)pyrene	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	360	U
53-70-3	Dibenz(a,h)anthracene	360	U
191-24-2	Benzo(g,h,i)perylene	360	U

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 063

Lab Name: AENI Contract: 9510199

Project No.: MKC73 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #010

Sample wt/vol: 30.5 (g/mL) G Lab File ID: DJ407.D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: 10 decanted: (Y/N): N Date Extracted: 10/24/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/27/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
91-20-3	Naphthalene	360	U
91-57-6	2-Methylnaphthalene	360	U
91-58-7	2-Chloronaphthalene	360	U
208-96-8	Acenaphthylene	360	U
83-32-9	Acenaphthene	360	U
132-64-9	Dibenzofuran	360	U
86-73-7	Fluorene	360	U
85-01-8	Phenanthrene	360	U
120-12-7	Anthracene	360	U
206-44-0	Fluoranthene	360	U
129-00-0	Pyrene	360	U
56-55-3	Benzo(a)anthracene	360	U
218-01-9	Chrysene	360	U
205-99-2	Benzo(b)fluoranthene	360	U
207-08-9	Benzo(k)fluoranthene	360	U
50-32-8	Benzo(a)pyrene	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	360	U
53-70-3	Dibenz(a,h)anthracene	360	U
191-24-2	Benzo(g,h,i)perylene	360	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC 24/00 064

Lab Name: AENI Contract: 95'0'99

Project No MKC70 Site Location Group.

Matrix: (soil/water) SOIL Lab Sample ID: #011

Sample wt/vol: 30 7 (g/mL) G Lab File ID: DJ408 0

Level (low/med) LOW Date Received: 10/18/95

% Moisture 7 decanted: (Y N): N Date Extracted: 10/24/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/27/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
91-20-3	Naphthalene	350	U
91-57 6	2 Methylnaphthalene	350	U
91-58 7	2-Chloronaphthalene	350	U
208-96 8	Acenaphthylene	350	U
83-32 9	Acenaphthene	350	U
132 64 9	Dibenzofuran	350	U
86-73 7	Fluorene	350	U
85 01 8	Phenanthrene	350	U
120-12 7	Anthracene	350	U
206-44-0	Fluoranthene	350	U
129 00 0	Pyrene	350	U
56 55 3	Benzo(a)anthracene	350	U
218 01 9	Chrysene	350	U
205 99 2	Benzo(b)fluoranthene	350	U
207 08 9	Benzo(k)fluoranthene	350	U
50-32 8	Benzo(a)pyrene	350	U
193 39 5	Indeno(1,2,3-cd)pyrene	350	U
53-70 3	Dibenz(a,h)anthracene	350	U
191-24 2	Benzo(g,h,i)perylene	350	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MSWC 24/00 065

Lab Name: AENI Contract: 95-C-99

Project No.: MKC70 Site: Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #012

Sample wt/vol: 30.3 (g/mL) G Lab File ID: DJ409.D

Level: (low/med) LOW Date Received: 10/18/95

% Moisture: 11 decanted: (Y/N) N Date Extracted: 10/24/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/27/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
91-20-3	Naphthalene	370	U
91-57-6	2-Methylnaphthalene	370	U
91-58-7	2-Chloronaphthalene	370	U
208-96-8	Acenaphthylene	370	U
83-32-9	Acenaphthene	370	U
132-64-9	Dibenzofuran	370	U
86-73-7	Fluorene	370	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
206-44-0	Fluoranthene	370	U
129-00-0	Pyrene	370	U
56-55-3	Benzo(a)anthracene	370	U
218-01-9	Chrysene	370	U
205-99-2	Benzo(b)fluoranthene	370	U
207-08-9	Benzo(k)fluoranthene	370	U
50-32-8	Benzo(a)pyrene	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	370	U
53-70-3	Dibenz(a,h)anthracene	370	U
191-24-2	Benzo(g,h,i)perylene	370	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 066

Lab Name AENI Contract: 95IC199

Project No MKC70 Site _____ Location _____ Group _____

Matrix (soil/water) SOIL Lab Sample ID #013

Sample wt/vol. 30.3 (g/mL) G Lab File ID. DJ410 D

Level (low/med) LOW Date Received. 10/18/95

% Moisture: 12 decanted. (Y/N) N Date Extracted. 10/24/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed 10/27/95

Injection Volume: 1.0 (uL) Dilution Factor 1.0

GPC Cleanup: (Y/N) N pH. _____

Concentration Units:

CAS No	Compound	(ug/L or ug/Kg) ug/Kg	Q
91-20-3	Naphthalene	370	U
91-57-6	2-Methylnaphthalene	370	U
91-58 7	2-Chloronaphthalene	370	U
208 96-8	Acenaphthylene	370	U
83-32 9	Acenaphthene	370	U
132-64-9	Dibenzofuran	370	U
86-73-7	Fluorene	370	U
85-01-8	Phenanthrene	370	U
120-12 7	Anthracene	370	U
206-44-0	Fluoranthene	370	U
129 00 0	Pyrene	370	U
56 55 3	Benzo(a)anthracene	370	U
218 01 9	Chrysene	370	U
205-99-2	Benzo(b)fluoranthene	370	U
207 08 9	Benzo(k)fluoranthene	370	U
50-32 8	Benzo(a)pyrene	370	U
193 39 5	Indeno(1,2,3-cd)pyrene	370	U
53-70-3	Dibenz(a,h)anthracene	370	U
191 24 2	Benzo(g,h,i)perylene	370	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 067

Lab Name: AENI Contract: 95103 99

Project No.: MKC70 Site: Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #014

Sample wt/vol: 30 8 (gm/L) G Lab File ID: DJ413 0

Level (low/med): LOW Date Received: 10/18/95

% Moisture: 6 decanted. (Y/N): N Date Extracted: 10/24/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/27/95

Injection Volume: 1 0 (uL) Dilution Factor: 1 0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
91 28-3	Naphthalene	340	U
91-57 6	2 Methylnaphthalene	340	U
91-58-7	2-Chloronaphthalene	340	U
208 96 8	Acenaphthylene	340	U
83-32-9	Acenaphthene	340	U
132 64-9	Dibenzofuran	340	U
86 73-7	Fluorene	340	U
85-01 8	Phenanthrene	68	J
120-12 7	Anthracene	340	U
206-44 0	Fluoranthene	63	J
129 00 0	Pyrene	66	J
56 55 3	Benzo(a)anthracene	340	U
218 01 9	Chrysene	340	U
205-99 2	Benzo(b)fluoranthene	340	U
207 08 9	Benzo(k)fluoranthene	340	U
50-32 8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3 cd)pyrene	340	U
53-70 3	Dibenz(a,h)anthracene	340	U
191 24-2	Benzo(g,h,i)perylene	340	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24;00 068

Lab Name: AENI Contract: 9510199

Project No.: MKC70 Site: ____ Location: ____ Group: ____

Matrix (soil/water): SOIL Lab Sample ID: #015

Sample wt/vol.: 30.7 (g/mL) G Lab File ID: DJ414 D

Level: (low/med): LOW Date Received: 10/18/95

% Moisture: 6 decanted: (Y/N): N Date Extracted: 10/24/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/27/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N): N pH: ____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
91-20-3	Naphthalene	350	U
91-57-6	2-Methylnaphthalene	350	U
91-58-7	2-Chloronaphthalene	350	U
208-96-8	Acenaphthylene	350	U
83-32-9	Acenaphthene	350	U
132-64-9	Dibenzofuran	350	U
86-73-7	Fluorene	350	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
206-44-0	Fluoranthene	41	J
129-00-0	Pyrene	36	J
56-55-3	Benzo(a)anthracene	350	U
218-01-9	Chrysene	350	U
205-99-2	Benzo(b)fluoranthene	350	U
207-08-9	Benzo(k)fluoranthene	350	U
50-32-8	Benzo(a)pyrene	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	350	U
53-70-3	Dibenz(a,h)anthracene	350	U
191-24-2	Benzo(g,h,i)perylene	350	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-069

Lab Name: COMPUCHEM ENV CORP Contract: 501019

Lab Code: COMPU Case No 11903 SAS No : SDG No.. 01310

Matrix: soil/water SOIL Lab Sample ID: 782563

Sample wt/vol: 30 1 g mL. G Lab File ID: GH082563A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 17 decanted. Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
62-75-9	N-Nitrosodimethylamine	310	U
110-86-1	Pyridine	660	U
109-06-8	2-Picoline	1400	U
10595-95-6	Nitrosomethylethylamine	290	U
66-27-3	Methyl Methanesulfonate	840	U
55-18-5	N-Nitrosodiethylamine	270	U
62-50-0	Ethyl Methanesulfonate	720	U
108-95-2	Phenol	680	U
62-53-3	Aniline	670	U
111-44-4	Bis 2-chloroethyl)ether	340	U
95-57-8	2-Chlorophenol	760	U
541-73-1	1,3-Dichlorobenzene	610	U
106-46-7	1,4-Dichlorobenzene	620	U
100-51-6	Benzyl Alcohol	660	U
95-50-1	1,2-Dichlorobenzene	710	U
95-48-7	2-Methylphenol	780	U
39638-32-9	bis(2-Chloroisopropyl)ether	780	U
108-39-4	3-Methylphenol	1600	U
106-44-5	4-Methylphenol	1600	U
930-55-2	N-Nitrosopyrrolidine	640	U
621-64-7	N-Nitroso-di-N-propylamine	290	U
98-86-2	Acetophenone	790	U
59-89-2	N-Nitrosomorpholine	900	U
636-21-5	o-Toluidine hydrochloride	2400	U
67-72-1	Hexachloroethane	720	U
98-95-3	Nitrobenzene	820	U
100-75-4	N-Nitrosopiperidine	890	U
78-59-1	Isophorone	820	U
88-75-5	2-Nitrophenol	740	U
105-67-9	2,4-Dimethylphenol	730	U
126-68-1	o,o,o-Triethylphosphorothioa	6400	U
111-91-1	Bis(2-chloroethoxy)methane	800	U
120-83-2	2,4-Dichlorophenol	660	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

24-00-069

Lab Name COMPUCHEM ENV CORP Contract 501019

Lab Code COMPU Case No 31923 SAS No SDG No.: 01310

Matrix (soil/water) SOIL Lab Sample ID. 782563

Sample wt/vol. 30.1 g/mL) G Lab File ID: GH082563A60 D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 17 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 02/15/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
120-82-1	1,2,4-Trichlorobenzene	660	U
91-20-3	Naphthalene	790	U
106-47-8	4-Chloroaniline	830	U
87-65-0	2,6-Dichlorophenol	1400	U
1888-71-7	Hexachloropropene	680	U
87-68-3	Hexachlorobutadiene	670	U
924-16-3	N-Nitroso-di-n-butylamine	180	U
59-50-7	4-Chloro-3-methylphenol	230	U
94-59-7	Safrole	700	U
91-57-6	2-Methylnapnthalene	1000	U
77-47-4	Hexachlorocyclopentadiene	790	U
95-94-3	1,2,4,5-Tetrachlorobenzene	1600	U
88-06-2	2,4,6-Trichlorophenol	1600	U
95-95-4	2,4,5-Trichlorophenol	1600	U
120-58-1	Isosafrole	1600	U
91-58-7	2-Chloronapnthalene	1200	U
88-74-4	2-Nitroaniline	1300	U
130-15-4	1,4-Napthoquinone	1900	U
131-11-3	Dimethylp: thalate	1200	U
99-65-0	1,3-Dinitrobenzene	670	U
606-20-2	2,6-Dinitrotoluene	900	U
208-96-8	Acenaphthylene	800	U
99-09-2	3-Nitroaniline	830	U
83-32-9	Acenaphthene	790	U
51-28-5	2,4-Dinitrophenol	2000	U
100-02-7	4-Nitrophenol	830	U
608-93-5	Pentachlorobenzene	790	U
121-14-2	2,4-Dinitrotoluene	790	U
132-64-9	Dibenzofuran	830	U
91-59-8	2-Naphthylamine	1000	U
58-90-2	2,3,4,6-Tetrachlorophenol	1700	U
134-32-7	1-Naphthylamine	1700	U
84-66-2	Diethylphthalate	860	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

24-00-063

Lab Name: COMPUCHEM ENV. CORP. Contract: 501013

Lab Code: COMPU Case No.: 31903 SAS No.: SDG No.: 01011

Matrix: (soil/water) SOIL Lab Sample ID: 782563

Sample wt/vol: 30.1 g/mL) G Lab File ID: GH082563A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 17 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
7005-72-3	4-Chlorophenyl-phenylether	720	U
99-55-8	5-Nitro-o-toluidine	1200	U
86-73-7	Fluorene	830	U
100-01-6	4-Nitroaniline	1300	U
534-52-1	4,6-Dinitro-2-methylphenol	2200	U
86-30-6	N-Nitrosodiphenylamine (1)	1700	U
122-39-4	Diphenylamine	1700	U
99-35-4	1,3,5-Trinitrobenzene	1100	U
2303-16-4	Diallate (trans isomer)	790	U
62-44-2	Phenacetin	730	U
2303-16-4	Diallate (cis isomer)	790	U
101-55-3	4-Bromophenyl-phenylether	900	U
118-74-1	Hexachlorobenzene	920	U
92-67-1	4-Aminobiphenyl	490	U
87-86-5	Pentachlorophenol	1700	U
23950-58-5	Pronamide	780	U
85-01-8	Phenanthrene	740	U
120-12-7	Anthracene	890	U
84-74-2	Di-n-butylphthalate	920	U
56-57-5	4-Nitroquinoline-1-oxide	5800	U
91-80-5	Methapyrilene	1600	U
465-73-6	Isodrin	1100	U
206-44-0	Fluoranthene	1100	U
129-00-0	Pyrene	880	U
140-57-8	Aramite	790	U
60-11-7	p-Dimethylaminoazobenzene	800	U
510-15-6	Chlorobenzilate	850	U
85-68-7	Butylbenzylphthalate	820	U
119-93-7	3,3'-Dimethylbenzidine	540	U
117-81-7	bis(2-ethylhexyl)Phthalate	900	U
91-94-1	3,3'-Dichlorobenzidine	600	U
56-55-3	Benzo(a)Anthracene	790	U
218-01-9	Chrysene	650	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-069

Lab Name: COMPUCHEM ENV CORP Contract: 501019

Lab Code: COMPU Case No: 31923 SAS No.: SDG No.: 01310

Matrix: (soil/water) SOIL Lab Sample ID: 782563

Sample wt/vol: 30.1 (g/mL) G Lab File ID: GH082563A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 17 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
117-84-0	Di-n-octylphthalate	580	U
57-97-6	7,12-Dimethylbenz(a)anthrace	490	U
205-99-2	Benzo(b)fluoranthene	920	U
207-08-9	Benzo(k)fluoranthene	740	U
193-39-5	Indeno(1,2,3-c,d)pyrene	550	U
53-70-3	Dibenzo(a,h)anthracene	220	U
191-24-2	Benzo(g,h,i)perylene	740	U
122-09-08	a,a-Dimethylphenethylamine	790	U
106-50-3	p-Phenylenediamine	790	U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO

24-00-069

Lab Name: COMPUCHEM EMT CORP Contract 801019

Lab Code: COMPU Case No.: 01903 SAS No. SDG No.: 0131

Matrix: soil/water SOIL Lab Sample ID: 782563

Sample wt/vol. 30.1 (g/mL) G Lab File ID: GH082563A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 17 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	3.97	370	JAB
2	UNKNOWN (BC)	4.16	1500	JB
3.	ALDOL (BC)	4.43	15000	JAB
4.	UNKNOWN (BC)	4.61	200	J
5.	UNKNOWN (BC)	5.16	1000	
6	SURROGATE COMPOUND	6.05	1400	J
7.	SURROGATE COMPOUND	6.64	1300	J
8. 822-86-6	CYCLOHEXANE, 1,2-DICHLORO-,	7.17	240	NJB
9.				
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11.				
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-070

Lab Name: COMPUCHEM ENV CORP Contract: 501019

Lab Code: COMPU Case No.: 31903 SAS No.: SDG No.: 01310

Matrix: (soil/water) SOIL Lab Sample ID: 782566

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH082566A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 15 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
62-75-9	N-Nitrosodimethylamine	310	U
110-86-1	Pyridine	650	U
109-06-8	2-Picoline	1400	U
10595-95-6	Nitrosomethylethylamine	280	U
66-27-3	Methyl Methanesulfonate	820	U
55-18-5	N-Nitrosodiethylamine	260	U
62-50-0	Ethyl Methanesulfonate	710	U
108-95-2	Phenol	670	U
62-53-3	Aniline	660	U
111-44-4	Bis(2-chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	740	U
541-73-1	1,3-Dichlorobenzene	600	U
106-46-7	1,4-Dichlorobenzene	610	U
100-51-6	Benzyl Alcohol	650	U
95-50-1	1,2-Dichlorobenzene	690	U
95-48-7	2-Methylphenol	760	U
39638-32-9	bis(2-Chloroisopropyl)ether	760	U
108-39-4	3-Methylphenol	1500	U
106-44-5	4-Methylphenol	1500	U
930-55-2	N-Nitrosopyrrolidine	620	U
621-64-7	N-Nitroso-di-N-propylamine	280	U
98-86-2	Acetophenone	780	U
59-89-2	N-Nitrosomorpholine	880	U
636-21-5	o-Toluidine hydrochloride	2400	U
67-72-1	Hexachloroethane	710	U
98-95-3	Nitrobenzene	800	U
100-75-4	N-Nitrosopiperidine	870	U
78-59-1	Isophorone	800	U
88-75-5	2-Nitrophenol	730	U
105-67-9	2,4-Dimethylphenol	720	U
126-68-1	o,o,o-Triethylphosphorothioa	6200	U
111-91-1	Bis(2-chloroethoxy)methane	790	U
120-83-2	2,4-Dichlorophenol	650	U

1E
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-070

Lab Name: COMPUCHEM ENV. CORP. Contract: 501010

Lab Code: COMPU Case No.: 01903 SAS No. SDG No.: 01311

Matrix: (soil/water) SOIL Lab Sample ID: 782566

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH082566A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 15 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
120-82-1	1,2,4-Trichlorobenzene	650	U
91-20-3	Naphthalene	780	U
106-47-8	4-Chloroaniline	810	U
87-65-0	2,6-Dichlorophenol	1400	U
1888-71-7	Hexachloropropene	670	U
87-68-3	Hexachlorobutadiene	660	U
924-16-3	N-Nitroso-di-n-butylamine	180	U
59-50-7	4-Chloro-3-methylphenol	220	U
94-59-7	Safrole	680	U
91-57-6	2-Methylnaphthalene	990	U
77-47-4	Hexachlorocyclopentadiene	780	U
95-94-3	1,2,4,5-Tetrachlorobenzene	1500	U
88-06-2	2,4,6-Trichlorophenol	1500	U
95-95-4	2,4,5-Trichlorophenol	1500	U
120-58-1	Isosafrole	1500	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1300	U
130-15-4	1,4-Napthoquinone	1900	U
131-11-3	Dimethylphthalate	1100	U
99-65-0	1,3-Dinitrobenzene	660	U
606-20-2	2,6-Dinitrotoluene	880	U
208-96-8	Acenaphthylene	790	U
99-09-2	3-Nitroaniline	810	U
83-32-9	Acenaphthene	780	U
51-28-5	2,4-Dinitrophenol	2000	U
100-02-7	4-Nitrophenol	810	U
608-93-5	Pentachlorobenzene	780	U
121-14-2	2,4-Dinitrotoluene	780	U
132-64-9	Dibenzofuran	810	U
91-59-8	2-Napthylamine	1000	U
58-90-2	2,3,4,6-Tetrachlorophenol	1600	U
134-32-7	1-Napthylamine	1600	U
84-66-2	Diethylphthalate	850	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-070

Lab Name COMPUCHEM ENV CORP Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0131C

Matrix: (soil/water) SOIL Lab Sample ID: 782566

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH082566A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 15 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
7005-72-3	4-Chlorophenyl-phenylether	710	U
99-55-8	5-Nitro-o-toluidine	1200	U
86-73-7	Fluorene	810	U
100-01-6	4-Nitroaniline	1300	U
534-52-1	4,6-Dinitro-2-methylphenol	2100	U
86-30-6	N-Nitrosodiphenylamine (1)	1600	U
122-39-4	Diphenylamine	1600	U
99-35-4	1,3,5-Trinitrobenzene	1100	U
2303-16-4	Diallate (trans isomer)	780	U
62-44-2	Phenacetin	720	U
2303-16-4	Diallate (cis isomer)	780	U
101-55-3	4-Bromophenyl-phenylether	880	U
118-74-1	Hexachlorobenzene	910	U
92-67-1	4-Aminobiphenyl	480	U
87-86-5	Pentachlorophenol	1600	U
23950-58-5	Pronamide	760	U
85-01-8	Phenanthrene	730	U
120-12-7	Anthracene	870	U
84-74-2	Di-n-butylphthalate	910	U
56-57-5	4-Nitroquinoline-1-oxide	5600	U
91-80-5	Methapyrilene	1500	U
465-73-6	Isosafrole	1100	U
206-44-0	Fluoranthene	1100	U
129-00-0	Pyrene	860	U
140-57-8	Aramite	780	U
60-11-7	p-Dimethylaminoazobenzene	790	U
510-15-6	Chlorobenzilate	840	U
85-68-7	Butylbenzylphthalate	800	U
119-93-7	3,3'-Dimethylbenzidine	530	U
117-81-7	bis(2-ethylhexyl)Phthalate	880	U
91-94-1	3,3'-Dichlorobenzidine	590	U
56-55-3	Benzo(a)Anthracene	780	U
218-01-9	Chrysene	640	U

10

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-070

Lab Name: COMPUCHEM ENV CORP Contract 501019

Lab Code: COMPU Case No 31903 SAS No.: SDG No . 01310

Matrix: (soil/water) SOIL Lab Sample ID: 782566

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH082566A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 15 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
117-84-0	Di-n-octylphthalate	560	U
57-97-6	7,12-Dimethylbenz(a)anthrace	480	U
205-99-2	Benzo(b)fluoranthene	910	U
207-08-9	Benzo(k)fluoranthene	730	U
193-39-5	Indeno(1,2,3-c,d)pyrene	540	U
53-70-3	Dibenzo(a,h)anthracene	210	U
191-24-2	Benzo(g,h,i)perylene	730	U
122-09-08	a,a-Dimethylphenethylamine	780	U
106-50-3	p-Phenylenediamine	780	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

24-00-070

Lab Name: COMPUCHEM ENV. CORP Contract: 501019

Lab Code: COMPU Case No.: 31303 SAS No.: SDG No.: 01310

Matrix: (soil/water) SOIL Lab Sample ID: 782566

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH082566A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 15 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

Number TICs found: 9

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL (BC)	3.92	390	JAB
2.		UNKNOWN (BC)	4.13	1600	JB
3.		ALDOL (BC)	4.40	16000	JAB
4.		UNKNOWN (BC)	4.58	210	JB
5.		UNKNOWN (BC)	5.14	1100	JB
6.		SURROGATE COMPOUND	6.05	1600	J
7.		SURROGATE COMPOUND	6.64	1300	J
8.	822-86-6	CYCLOHEXANE, 1,2-DICHLORO-,	7.17	270	NJB
9.		UNKNOWN	31.41	920	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

24-00-171

Lab Name: COMPUCHEM ENV CORP Contract 501019

Lab Code: COMPU Case No. 11903 SAS No SDG No : 0131

Matrix: (soil/water) SOIL Lab Sample ID: 782568

Sample wt/vol 30.0 (g/ml) G Lab File ID: GH082568A61.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 14 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
62-75-9	N-Nitrosodimethylamine	300	U
110-86-1	Pyridine	640	U
109-06-8	2-Picoline	1400	U
10595-95-6	Nitrosomethylethylamine	280	U
66-27-3	Methyl Methanesulfonate	810	U
55-18-5	N-Nitrosodiethylamine	260	U
62-50-0	Ethyl Methanesulfonate	700	U
108-95-2	Phenol	660	U
62-53-3	Aniline	650	U
111-44-4	Bis(2-chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	730	U
541-73-1	1,3-Dichlorobenzene	590	U
106-46-7	1,4-Dichlorobenzene	600	U
100-51-6	Benzyl Alcohol	640	U
95-50-1	1,2-Dichlorobenzene	690	U
95-48-7	2-Methylphenol	760	U
39638-32-9	bis(2-Chloroisopropyl)ether	760	U
108-39-4	3-Methylphenol	1500	U
106-44-5	4-Methylphenol	1500	U
930-55-2	N-Nitrosopyrrolidine	620	U
621-64-7	N-Nitroso-di-N-propylamine	280	U
98-86-2	Acetophenone	770	U
59-89-2	N-Nitrosomorpholine	870	U
636-21-5	o-Toluidine hydrochloride	2300	U
67-72-1	Hexachloroethane	700	U
98-95-3	Nitrobenzene	790	U
100-75-4	N-Nitrosopiperidine	860	U
78-59-1	Isophorone	790	U
88-75-5	2-Nitrophenol	720	U
105-67-9	2,4-Dimethylphenol	710	U
126-68-1	o,o,o-Triethylphosphorothioa	6200	U
111-91-1	Bis(2-chloroethoxy)methane	780	U
120-83-2	2,4-Dichlorophenol	640	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE No.

24-00-071

Lab Name: COMPUCHEM ENV CORP Contract 501019

Lab Code: COMPU Case No.: 31903 SAS No.: SDG No.: 01310

Matrix: (soil/water) SOIL Lab Sample ID: 782568

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH082568A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 14 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 02/15/96

Injection Volume 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
120-82-1	1,2,4-Trichlorobenzene	640	U
91-20-3	Naphthalene	770	U
106-47-8	4-Chloroaniline	800	U
87-65-0	2,6-Dichlorophenol	1400	U
1888-71-7	Hexachloropropene	660	U
87-68-3	Hexachlorobutadiene	650	U
924-16-3	N-Nitroso-di-n-butylamine	170	U
59-50-7	4-Chloro-3-methylphenol	220	U
94-59-7	Safrole	670	U
91-57-6	2-Methylnaphthalene	980	U
77-47-4	Hexachlorocyclopentadiene	770	U
95-94-3	1,2,4,5-Tetrachlorobenzene	1500	U
88-06-2	2,4,6-Trichlorophenol	1500	U
95-95-4	2,4,5-Trichlorophenol	1500	U
120-58-1	Isosafrole	1500	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1300	U
130-15-4	1,4-Napthoquinone	1900	U
131-11-3	Dimethylphthalate	1100	U
99-65-0	1,3-Dinitrobenzene	650	U
606-20-2	2,6-Dinitrotoluene	870	U
208-96-8	Acenaphthylene	780	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	770	U
51-28-5	2,4-Dinitrophenol	2000	U
100-02-7	4-Nitrophenol	800	U
608-93-5	Pentachlorobenzene	770	U
121-14-2	2,4-Dinitrotoluene	770	U
132-64-9	Dibenzofuran	800	U
91-59-8	2-Naphthylamine	1000	U
58-90-2	2,3,4,6-Tetrachlorophenol	1600	U
134-32-7	1-Naphthylamine	1600	U
84-66-2	Diethylphthalate	840	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

24-00-171

Lab Name: COMPUCHEM ENV CORP Contract: 501019

Lab Code: COMPU Case No.: 31903 SAS No.: SDG No.: 0131

Matrix: (soil/water) SOIL Lab Sample ID: 782568

Sample wt/vol: 30.0 g/mL G Lab File ID: GH082568A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 14 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
7005-72-3	4-Chlorophenyl-phenylether	700	U
99-55-8	5-Nitro-o-toluidine	1200	U
86-73-7	Fluorene	800	U
100-01-6	4-Nitroaniline	1300	U
534-52-1	4,6-Dinitro-2-methylphenol	2100	U
86-30-6	N-Nitrosodiphenylamine (1)	1600	U
122-39-4	Diphenylamine	1600	U
99-35-4	1,3,5-Trinitrobenzene	1100	U
2303-16-4	Diallate (trans isomer)	770	U
62-44-2	Phenacetin	710	U
2303-16-4	Diallate (cis isomer)	770	U
101-55-3	4-Bromophenyl-phenylether	870	U
118-74-1	Hexachlorobenzene	900	U
92-67-1	4-Aminobiphenyl	480	U
87-86-5	Pentachlorophenol	1600	U
23950-58-5	Pronamide	760	U
85-01-8	Phenanthrene	720	U
120-12-7	Anthracene	860	U
84-74-2	Di-n-butylphthalate	900	U
56-57-5	4-Nitroquinoline-1-oxide	5600	U
91-80-5	Methapyrilene	1500	U
465-73-6	Isodrin	1100	U
206-44-0	Fluoranthene	1100	U
129-00-0	Pyrene	850	U
140-57-8	Aramite	770	U
60-11-7	p-Dimethylaminoazobenzene	780	U
510-15-6	Chlorobenzilate	830	U
85-68-7	Butylbenzylphthalate	790	U
119-93-7	3,3'-Dimethylbenzidine	520	U
117-81-7	bis(2-ethylhexyl)Phthalate	870	U
91-94-1	3,3'-Dichlorobenzidine	580	U
56-55-3	Benzo(a)Anthracene	770	U
218-01-9	Chrysene	630	U

FORM I SV-3

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-071

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No 31903 SAS No.: SDG No : 01310

Matrix: (soil/water) SOIL Lab Sample ID: 782568

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH082568A60 D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 14 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
117-84-0	Di-n-octylphthalate	560	U
57-97-6	7,12-Dimethylbenz(a)anthrace	480	U
205-99-2	Benzo(b)fluoranthene	900	U
207-08-9	Benzo(k)fluoranthene	720	U
193-39-5	Indeno(1,2,3-c,d)pyrene	530	U
53-70-3	Dibenzo(a,h)anthracene	210	U
191-24-2	Benzo(g,h,i)perylene	720	U
122-09-08	a,a-Dimethylphenethylamine	770	U
106-50-3	p-Phenylenediamine	770	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

04-00-071

Lab Name: COMPUCHEM ENV CORP Contract: 501019

Lab Code: COMPU Case No: 01903 SAS No: SDG No: 0131

Matrix: (soil/water) SOIL Lab Sample ID: 782568

Sample wt/vol: 30.0 (g/ml) G Lab File ID: GH082568A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 14 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(ul) Date Analyzed: 02/15/96

Injection Volume: 1.0(ul) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

Number TICs found: 8

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL (BC)	4.12	250	JAB
2.		UNKNOWN (BC)	4.29	1200	JB
3.		ALDOL (BC)	4.54	13000	JAB
4.		UNKNOWN (BC)	5.23	840	JB
5.		SURROGATE COMPOUND	6.09	1300	
6.		SURROGATE COMPOUND	6.66	1000	
7.	822-86-6	CYCLOHEXANE, 1,2-DICHLORO-,	7.18	200	NJB
8.		UNKNOWN	31.26	1400	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

04-00-072

Lab Name: COMPUCHEM ENV CORP. Contract: 501019

Lab Code: COMPU Case No.: 31313 SAS No.: SDG No.: 31310

Matrix: (soil/water) SOIL Lab Sample ID: 782569

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH082569A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 11 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

CAS NO.	COMPOUND	CONCENTRATION UNITS. (ug/L or ug/Kg) UG/KG	Q
62-75-9	N-Nitrosodimethylamine	290	U
110-86-1	Pyridine	620	U
109-06-8	2-Picoline	1300	U
10595-95-6	Nitrosomethylethylamine	270	U
66-27-3	Methyl Methanesulfonate	790	U
55-18-5	N-Nitrosodiethylamine	250	U
62-50-0	Ethyl Methanesulfonate	670	U
108-95-2	Phenol	640	U
62-53-3	Aniline	630	U
111-44-4	Bis(2-chloroethyl)ether	310	U
95-57-8	2-Chlorophenol	710	U
541-73-1	1,3-Dichlorobenzene	570	U
106-46-7	1,4-Dichlorobenzene	580	U
100-51-6	Benzyl Alcohol	620	U
95-50-1	1,2-Dichlorobenzene	660	U
95-48-7	2-Methylphenol	730	U
39638-32-9	bis(2-Chloroisopropyl)ether	730	U
108-39-4	3-Methylphenol	1500	U
106-44-5	4-Methylphenol	1500	U
930-55-2	N-Nitrosopyrrolidine	600	U
621-64-7	N-Nitroso-di-N-propylamine	270	U
98-86-2	Acetophenone	740	U
59-89-2	N-Nitrosomorpholine	840	U
636-21-5	o-Toluidine hydrochloride	2200	U
67-72-1	Hexachloroethane	670	U
98-95-3	Nitrobenzene	760	U
100-75-4	N-Nitrosopiperidine	830	U
78-59-1	Isophorone	760	U
88-75-5	2-Nitrophenol	700	U
105-67-9	2,4-Dimethylphenol	690	U
126-68-1	o,o,o-Triethylphosphorothioa	6000	U
111-91-1	Bis(2-chloroethoxy)methane	750	U
120-83-2	2,4-Dichlorophenol	620	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

04-00-072

Lab Name: COMPUCHEM ENV. CORP Contract: 501019

Lab Code: COMPU Case No.: 01900 SAS No. SDG No.: 01310

Matrix: (soil/water) SOIL Lab Sample ID: 782569

Sample wt/vol: 30.0 (g/ml) G Lab File ID: GH082569A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 11 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
120-82-1	1,2,4-Trichlorobenzene	620	U
91-20-3	Naphthalene	740	U
106-47-8	4-Chloroaniline	780	U
87-65-0	2,6-Dichlorophenol	1300	U
1888-71-7	Hexachloropropene	640	U
87-68-3	Hexachlorobutadiene	630	U
924-16-3	N-Nitroso-di-n-butylamine	170	U
59-50-7	4-Chloro-3-methylphenol	210	U
94-59-7	Safrole	650	U
91-57-6	2-Methylnaphthalene	940	U
77-47-4	Hexachlorocyclopentadiene	740	U
95-94-3	1,2,4,5-Tetrachlorobenzene	1500	U
88-06-2	2,4,6-Trichlorophenol	1500	U
95-95-4	2,4,5-Trichlorophenol	1500	U
120-58-1	Isosafrole	1500	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1200	U
130-15-4	1,4-Napthoquinone	1800	U
131-11-3	Dimethylphthalate	1100	U
99-65-0	1,3-Dinitrobenzene	630	U
606-20-2	2,6-Dinitrotoluene	840	U
208-96-8	Acenaphthylene	750	U
99-09-2	3-Nitroaniline	780	U
83-32-9	Acenaphthene	740	U
51-28-5	2,4-Dinitrophenol	1900	U
100-02-7	4-Nitrophenol	780	U
608-93-5	Pentachlorobenzene	740	U
121-14-2	2,4-Dinitrotoluene	740	U
132-64-9	Dibenzofuran	780	U
91-59-8	2-Naphthylamine	970	U
58-90-2	2,3,4,6-Tetrachlorophenol	1600	U
134-32-7	1-Naphthylamine	1600	U
84-66-2	Diethylphthalate	810	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

34-00-072

Lab Name: COMPUCHEM ENV. CORP Contract: 501019

Lab Code: COMPU Case No: 31903 SAS No.: SDG No.: 01010

Matrix: (soil/water) SOIL Lab Sample ID: 782569

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH082569A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 11 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

CAS NO.	COMPOUND	CONCENTRATION UNITS. (ug/L or ug/Kg) UG/KG	Q.
7005-72-3	4-Chlorophenyl-phenylether	670	U
99-55-8	5-Nitro-o-toluidine	1100	U
86-73-7	Fluorene	780	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	2000	U
86-30-6	N-Nitrosodiphenylamine (1)	1600	U
122-39-4	Diphenylamine	1600	U
99-35-4	1,3,5-Trinitrobenzene	1000	U
2303-16-4	Diallate (trans isomer)	740	U
62-44-2	Phenacetin	690	U
2303-16-4	Diallate (cis isomer)	740	U
101-55-3	4-Bromophenyl-phenylether	840	U
118-74-1	Hexachlorobenzene	870	U
92-67-1	4-Aminobiphenyl	460	U
87-86-5	Pentachlorophenol	1600	U
23950-58-5	Pronamide	730	U
85-01-8	Phenanthrene	700	U
120-12-7	Anthracene	830	U
84-74-2	Di-n-butylphthalate	870	U
56-57-5	4-Nitroquinoline-1-oxide	5400	U
91-80-5	Methapyrilene	1500	U
465-73-6	Isodrin	1000	U
206-44-0	Fluoranthene	1000	U
129-00-0	Pyrene	820	U
140-57-8	Aramite	740	U
60-11-7	p-Dimethylaminoazobenzene	750	U
510-15-6	Chlorobenzilate	800	U
85-68-7	Butylbenzylphthalate	760	U
119-93-7	3,3'-Dimethylbenzidine	510	U
117-81-7	bis(2-ethylhexyl)Phthalate	840	U
91-94-1	3,3'-Dichlorobenzidine	560	U
56-55-3	Benzo(a)Anthracene	740	U
218-01-9	Chrysene	610	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

04-00-[illegible]

Lab Name: COMPUCHEM ENV. CORP Contract: 501013

Lab Code: COMPU Case No.: 01311 SAS No.: SDG No.: 01310

Matrix: (soil/water) SOIL Lab Sample ID: 782569

Sample wt/vol: 30.0 (g/ml) G Lab File ID: GH082569A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 11 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(ul) Date Analyzed: 02/15/96

Injection Volume: 1.0(ul) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
117-84-0	Di-n-octylphthalate	540	U
57-97-6	7,12-Dimethylbenz(a)anthrace	460	U
205-99-2	Benzo(b)fluoranthene	870	U
207-08-9	Benzo(k)fluoranthene	700	U
193-39-5	Indeno(1,2,3-c,d)pyrene	520	U
53-70-3	Dibenzo(a,h)anthracene	200	U
191-24-2	Benzo(g,h,i)perylene	700	U
122-09-08	a,a-Dimethylphenethylamine	740	U
106-50-3	p-Phenylenediamine	740	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

24-00-172

Lab Name: COMPUCHEM ENV CORP Contract: 501019

Lab Code: COMPU Case No. 31903 SAS No.: SDG No.: 01310

Matrix: (soil/water) SOIL Lab Sample ID: 782569

Sample wt/vol: 30.0 (g/ml) G Lab File ID: GH082569A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 11 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

Number TICs found: 9

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	3.90	260	JAB
2.	UNKNOWN (BC)	4.09	1300	JB
3.	ALDOL (BC)	4.37	14000	JAB
4.	UNKNOWN (BC)	4.56	160	JB
5.	UNKNOWN (BC)	5.13	930	JB
6.	SURROGATE COMPOUND	6.03	1300	J
7	SURROGATE COMPOUND	6.63	1100	J
8. 822-86-6	CYCLOHEXANE, 1,2-DICHLORO-,	7.16	210	NJB
9.	UNKNOWN	31.39	680	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

04-00-073

Lab Name: COMPUCHEM ENV CORP Contract: 501019

Lab Code: COMPU Case No: 31903 SAS No.: SDG No.: 01012

Matrix: (soil/water) SOIL Lab Sample ID: 782567

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH082567A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 14 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
62-75-9	N-Nitrosodimethylamine	300	U
110-86-1	Pyridine	640	U
109-06-8	2-Picoline	1400	U
10595-95-6	Nitrosomethylethylamine	280	U
66-27-3	Methyl Methanesulfonate	810	U
55-18-5	N-Nitrosodiethylamine	260	U
62-50-0	Ethyl Methanesulfonate	700	U
108-95-2	Phenol	660	U
62-53-3	Aniline	650	U
111-44-4	Bis(2-chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	730	U
541-73-1	1,3-Dichlorobenzene	590	U
106-46-7	1,4-Dichlorobenzene	600	U
100-51-6	Benzyl Alcohol	640	U
95-50-1	1,2-Dichlorobenzene	690	U
95-48-7	2-Methylphenol	760	U
39638-32-9	bis(2-Chloroisopropyl)ether	760	U
108-39-4	3-Methylphenol	1500	U
106-44-5	4-Methylphenol	1500	U
930-55-2	N-Nitrosopyrrolidine	620	U
621-64-7	N-Nitroso-di-N-propylamine	280	U
98-86-2	Acetophenone	770	U
59-89-2	N-Nitrosomorpholine	870	U
636-21-5	o-Toluidine hydrochloride	2300	U
67-72-1	Hexachloroethane	700	U
98-95-3	Nitrobenzene	790	U
100-75-4	N-Nitrosopiperidine	860	U
78-59-1	Isophorone	790	U
88-75-5	2-Nitrophenol	720	U
105-67-9	2,4-Dimethylphenol	710	U
126-68-1	O,O,O-Triethylphosphorothioa	6200	U
111-91-1	Bis(2-chloroethoxy)methane	780	U
120-83-2	2,4-Dichlorophenol	640	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-073

Lab Name: COMPUCHEM ENV CORP Contract: 501019

Lab Code: COMPU Case No.: 31903 SAS No.: SDG No.: 01310

Matrix: (soil/water) SOIL Lab Sample ID: 782567

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH082567A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 14 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
120-82-1	1,2,4-Trichlorobenzene	640	U
91-20-3	Naphthalene	770	U
106-47-8	4-Chloroaniline	800	U
87-65-0	2,6-Dichlorophenol	1400	U
1888-71-7	Hexachloropropene	660	U
87-68-3	Hexachlorobutadiene	650	U
924-16-3	N-Nitroso-di-n-butylamine	170	U
59-50-7	4-Chloro-3-methylphenol	220	U
94-59-7	Safrole	670	U
91-57-6	2-Methylnaphthalene	980	U
77-47-4	Hexachlorocyclopentadiene	770	U
95-94-3	1,2,4,5-Tetrachlorobenzene	1500	U
88-06-2	2,4,6-Trichlorophenol	1500	U
95-95-4	2,4,5-Trichlorophenol	1500	U
120-58-1	Isosafrole	1500	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	1300	U
130-15-4	1,4-Napthoquinone	1900	U
131-11-3	Dimethylphthalate	1100	U
99-65-0	1,3-Dinitrobenzene	650	U
606-20-2	2,6-Dinitrotoluene	870	U
208-96-8	Acenaphthylene	780	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	770	U
51-28-5	2,4-Dinitrophenol	2000	U
100-02-7	4-Nitrophenol	800	U
608-93-5	Pentachlorobenzene	770	U
121-14-2	2,4-Dinitrotoluene	770	U
132-64-9	Dibenzofuran	800	U
91-59-8	2-Napnthylamine	1000	U
58-90-2	2,3,4,6-Tetrachlorophenol	1600	U
134-32-7	1-Napnthylamine	1600	U
84-66-2	Diethylphthalate	840	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

24-00-073

Lab Name: COMPUCHEM ENV CORP Contract: 501019

Lab Code: COMPU Case No 31903 SAS No.. SDG No 01310

Matrix: soil/water SOIL Lab Sample ID: 782567

Sample wt/vol: 30.0 (g/ml) G Lab File ID: GH082567A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 14 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(ul) Date Analyzed: 02/15/96

Injection Volume: 1.0(ul) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
7005-72-3	4-Chlorophenyl-phenylether	700	U
99-55-8	5-Nitro-o-toluidine	1200	U
86-73-7	Fluorene	800	U
100-01-6	4-Nitroaniline	1300	U
534-52-1	4,6-Dinitro-2-methylphenol	2100	U
86-30-6	N-Nitrosodiphenylamine (1)	1600	U
122-39-4	Diphenylamine	1600	U
99-35-4	1,3,5-Trinitrobenzene	1100	U
2303-16-4	Diallate (trans isomer)	770	U
62-44-2	Phenacetin	710	U
2303-16-4	Diallate (cis isomer)	770	U
101-55-3	4-Bromophenyl-phenylether	870	U
118-74-1	Hexachlorobenzene	900	U
92-67-1	4-Aminobiphenyl	480	U
87-86-5	Pentachlorophenol	1600	U
23950-58-5	Pronamide	760	U
85-01-8	Phenanthrene	720	U
120-12-7	Anthracene	860	U
84-74-2	Di-n-butylphthalate	900	U
56-57-5	4-Nitroquinoline-1-oxide	5600	U
91-80-5	Methapyrilene	1500	U
465-73-6	Isodrin	1100	U
206-44-0	Fluoranthene	1100	U
129-00-0	Pyrene	850	U
140-57-8	Aramite	770	U
60-11-7	p-Dimethylaminoazobenzene	780	U
510-15-6	Chlorobenzilate	830	U
85-68-7	Butylbenzylphthalate	790	U
119-93-7	3,3'-Dimethylbenzidine	520	U
117-81-7	bis 2-ethylhexyl) Phthalate	870	U
91-94-1	3,3'-Dichlorobenzidine	580	U
56-55-3	Benzo(a)Anthracene	770	U
218-01-9	Chrysene	630	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

04-00-073

Lab Name: COMPUCHEM ENV CORP Contract: 501019

Lab Code: COMPU Case No 31903 SAS No SDG No 01310

Matrix: soil/water: SOIL Lab Sample ID: 782567

Sample wt/vol: 30.0 g mL, 0 Lab File ID: GH082567A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 14 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
117-84-0	Di-n-octylphthalate	560	U
57-97-6	7,12-Dimethylbenz(a)anthrace	480	U
205-99-2	Benzo(b)fluoranthene	900	U
207-08-9	Benzo(k)fluoranthene	720	U
193-39-5	Indeno(1,2,3-c,d)pyrene	530	U
53-70-3	Dibenzo(a,h)anthracene	210	U
191-24-2	Benzo(g,h,i)perylene	720	U
122-09-08	a,a-Dimethylphenethylamine	770	U
106-50-3	p-Phenylenediamine	770	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO

04-00-073

Lab Name: COMPUCHEM ENV CORP Contract: 501019

Lab Code: COMPU Case No 31900 SAS No. SDG No.: 01310

Matrix: (soil/water) SOIL Lab Sample ID: 782567

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH082567A60.D

Level: (low/med) LOW Date Received: 02/09/96

% Moisture: 14 decanted: (Y/N) N Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.3

Number TICs found: 9

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL (BC)	3.93	400	JAB
2.		UNKNOWN (BC)	4.13	1900	JB
3.		ALDOL (BC)	4.41	18000	JAB
4.		UNKNOWN (BC)	4.58	220	J
5.		UNKNOWN (BC)	5.14	1300	J
6.		SURROGATE COMPOUND	6.04	1700	J
7.		SURROGATE COMPOUND	6.63	1400	J
8.	822-86-6	CYCLOHEXANE, 1,2-DICHLORO-,	7.16	190	NJB
9.		UNKNOWN	31.37	420	J
10.					
11.					
12.					
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00-FB1

Lab Name: AENI MD Contract: MKC

Project No.: 95071Z5 Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: #008

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: DG369.D

Level: (low/med) Date Received: 7/14/95

% Moisture: 100 decanted: (Y/N) N Date Extracted: 7/19/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-Nitroso-Di-Methylamine	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
108-95-2	Phenol	10	U
95-57-8	2-Chlorophenol	10	U
541 73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	20	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
95-48-7	2-Methylphenol	10	U
67-72-1	Hexachloroethane	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
106-44-5	4-Methylphenol	10	U
110-86-1	Pyridine	10	U
109-06-8	2-Picoline	10	U
62-53-3	Aniline	10	U
10595 95-6	N-Nitrosomethylethylamine	10	U
66-27-3	Methyl methanesulfonate	10	U
55-18-5	N-Nitrosodiethylamine	10	U
62-50-0	Ethyl methanesulfonate	10	U
108-39-4	3-Methylphenol	10	U
930-55-2	N-Nitrosopyrrolidine	10	U
95-53-4	o-Toluidine	10	U
59-89-2	N-Nitrosomorpholine	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67 9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4 Dichlorophenol	10	U
120-82-1	1,2,4 Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	20	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SWC 24.00-FB1

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: ____ Location: ____ Group: ____

Matrix (soil/water): WATER Lab Sample ID: 7008

Sample wt/vol.: 1000.0 (g/mL) ML Lab File ID: DG369.D

Level (low/med): ____ Date Received: 7/14/95

% Moisture: 100 decanted. (Y/N): N Date Extracted: 7/19/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No	Compound		Q
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
98-86-2	Acetophenone	10	U
122-09-8	a,a,a Dimethylphenethylamine	10	U
1888 71-7	Hexachloropropene	10	U
87-65-0	2,6-Dichlorophenol	10	U
924-16-3	N Nitrosodibutylamine	10	U
100-75-4	N-Nitrosopiperidine	10	U
130-15-4	1,4-Naphthoquinone	10	U
126-68-1	o,o,o-Triethyl phosphorothioate	10	U
120-58-1	Isosafrole	10	U
106-50-3	p-Phenylenediamine	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5 Trichlorophenol	10	U
91 58 7	2 Chloronaphthalene	10	U
88-74-4	2 Nitroaniline	50	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
83-32 9	Acenaphthene	10	U
99-09 2	3-Nitroaniline	50	U
51-28 5	2,4 Dinitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
100-02-7	4 Nitrophenol	10	U
86-73-7	Fluorene	10	U
7005-72 3	4 Chlorophenyl phenylether	10	U
84 66-2	Diethylphthalate	10	U
100-01-6	4 Nitroaniline	50	U
95-94 3	1,2,4,5-Tetrachlorobenzene	10	U
99 65-0	1,3 Dinitrobenzene	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MSWC-24/00-FB1

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: Location: Group:

Matrix: (soil/water) WATER Lab Sample ID: #008

Sample wt/vol. 1000.0 (g/mL) ML Lab File ID: DG369.D

Level (low/med) Date Received: 7/14/95

% Moisture: 100 decanted: (Y/N) N Date Extracted: 7/19/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
608-93-5	Pentachlorobenzene	10	U
91-59-8	2-Naphthylamine	10	U
134-32-7	1-Naphthylamine	10	U
58-90-2	2,3,4,6-Tetrachlorophenol	10	U
297-97-2	Thionazin	10	U
99-55-8	5-Nitro-o-toluidine	10	U
94-59-7	Safrole	10	U
56-57-5	4-Nitroquinoline 1-oxide	10	U
534-52-1	4,6-Dinitro 2-methylphenol	50	U
86 30-6	n-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12 7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
122-39-4	Diphenylamine	10	U
99-35-4	sym-Trinitrobenzene	10	U
62-44-2	Phenacetin	10	U
92-67-1	4-Aminobiphenyl	10	U
91-80-5	Methapyrilene	10	U
129-00-0	Pyrene	10	U
85-68 7	Butylbenzylphthalate	10	U
91 94-1	3,3'-Dichlorobenzidine	20	U
56-55 3	Benzo(a)anthracene	10	U
218-01 9	Chrysene	10	U
117 81-7	bis(2-Ethylhexyl)phthalate	10	U
60-11 7	p-Dimethylaminoazobenzene	10	U
140 57-8	Aramite	10	U
119 93-7	3,3'-Dimethylbenzidine	10	U
53 96 3	2-Acetylaminofluorene	10	U
117-84-0	Di-n-octylphthalate	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 FB1

Lab Name: AENI MD Contract: NSWC

Project No.: 9507125 Site: Location: Group:

Matrix: (soil/water): WATER Lab Sample ID: #008

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: DG369.D

Level: (low/med) Date Received: 7/14/95

% Moisture: 100 decanted: (Y/N) N Date Extracted: 7/19/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U
57-97-6	7,12-Dimethylbenz(a)anthracene	10	U
56-49-5	3-Methylcholanthrene	10	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

SWC 24/00-RB1

Lab Name: AENI MD Contract: MXC

Project No.: 9507125 Site: ____ Location: ____ Group: ____

Matrix: (soil/water) WATER Lab Sample ID: #009

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 06370.D

Level: (low/med) ____ Date Received: 7/14/95

% Moisture: 100 decanted: (Y/N) N Date Extracted: 7/19/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
62-75-9	N-Nitroso-Di-Methylamine	10	U
111-44-4	bis(2 Chloroethyl)ether	10	U
108-95-2	Phenol	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	20	U
108-60-1	bis(2-chloroisopropyl)ether	10	U
95-48-7	2 Methylphenol	10	U
67-72-1	Hexachloroethane	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
106-44-5	4-Methylphenol	10	U
110-86-1	Pyridine	10	U
109-06-8	2-Picoline	10	U
62-53-3	Aniline	10	U
10595-95-6	N-Nitrosomethylethylamine	10	U
66-27-3	Methyl methanesulfonate	10	U
55-18-5	N-Nitrosodiethylamine	10	U
62-50-0	Ethyl methanesulfonate	10	U
108-39-4	3-Methylphenol	10	U
930-55-2	N Nitrosopyrrolidine	10	U
95-53-4	o-Toluidine	10	U
59-89-2	N-Nitrosomorpholine	10	U
98 95-3	Nitrobenzene	10	U
78-59 1	Isophorone	10	U
88-75 5	2 Nitrophenol	10	U
105-67 9	2,4-Dimethylphenol	10	U
111 91 1	bis(2 Chloroethoxy)methane	10	U
120-83-2	2,4 Dichlorophenol	10	U
120-82 1	1,2,4-Trichlorobenzene	10	U
91 20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	20	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00-RB1

Lab Name: AENI MD Contract: MKC

Project No. 9507125 Site: Location: Group

Matrix (soil/water) WATER Lab Sample ID #009

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: DG370.D

Level: (low/med) Date Received 7/14/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 7/19/95

Concentrated Extract Volume 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
98-86-2	Acetophenone	10	U
122-09-8	a,a,a-Dimethylphenethylamine	10	U
1888-71-7	Hexachloropropene	10	U
87-65-0	2,6-Dichlorophenol	10	U
924-16-3	N-Nitrosodibutylamine	10	U
100-75-4	N-Nitrosopiperidine	10	U
130-15-4	1,4-Naphthoquinone	10	U
126-68-1	o,o,o-Triethyl phosphorothioate	10	U
120-58-1	Isosafrole	10	U
106-50-3	p-Phenylenediamine	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
83-32-9	Acenaphthene	10	U
99-09-2	3-Nitroaniline	50	U
51-28-5	2,4-Dinitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
100-02-7	4-Nitrophenol	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl phenylether	10	U
84-66-2	Diethylphthalate	10	U
100-01-6	4-Nitroaniline	50	U
95-94-3	1,2,4,5-Tetrachlorobenzene	10	U
99-65-0	1,3-Dinitrobenzene	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SWC 24/00-RB1

Lab Name: AENI MO Contract: MKC

Project No.: 9507125 Site: ____ Location: ____ Group: ____

Matrix: (soil/water): WATER Lab Sample ID: 1009

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 06370.D

Level: (low/med): ____ Date Received: 7/14/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 7/19/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N): N pH: 2

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
608-93-5	Pentachlorobenzene	10	U
91-59-8	2-Naphthylamine	10	U
134-32-7	1-Naphthylamine	10	U
58-90-2	2,3,4,6-Tetrachlorophenol	10	U
297-97-2	Thionazin	10	U
99-55-8	5-Nitro-o-toluidine	10	U
94-59-7	Safrole	10	U
56-57-5	4-Nitroquinoline 1-oxide	10	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	n-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
122-39-4	Diphenylamine	10	U
99-35-4	sym-Trinitrobenzene	10	U
62-44-2	Phenacetin	10	U
92-67-1	4-Aminobiphenyl	10	U
91-80-5	Methapyrilene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
60-11-7	p-Dimethylaminoazobenzene	10	U
140-57-8	Aramite	10	U
119-93-7	3,3'-Dimethylbenzidine	10	U
53-96-3	2-Acetylaminofluorene	10	U
117-84-0	Di-n-octylphthalate	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24:00-RB1

Lab Name: AENI MO Contract: MKC

Project No.: 9507125 Site: _____ Location: _____ Group: _____

Matrix (soil/water): WATER Lab Sample ID: #009

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: DG370.D

Level: (low/med) _____ Date Received: 7/14/95

% Moisture: 100 decanted: (Y/N): N Date Extracted: 7/19/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 2

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U
57-97-6	7,12-Dimethylbenz(a)anthracene	10	U
56-49-5	3-Methylcholanthrene	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24/00 RB9

Lab Name: AENI Contract: 35T0199

Project No.: MKC70 Site: ____ Location: ____ Group: ____

Matrix (soil/water): WATER Lab Sample ID: 001

Sample wt/vol: 945.0 (g/mL) ML Lab File ID: DJ396.D

Level: (low/med): ____ Date Received: 10/18/95

% Moisture: ____ decanted (Y/N): N Date Extracted: 10/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/27/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No	Compound		Q
91-20-3	Naphthalene	11	U
91-57-6	2-Methylnaphthalene	11	U
91-58-7	2-Chloronaphthalene	11	U
208-96-8	Acenaphthylene	11	U
83-32-9	Acenaphthene	11	U
132-64-9	Dibenzofuran	11	U
86-73-7	Fluorene	11	U
85-01-8	Phenanthrene	11	U
120-12-7	Anthracene	11	U
206-44-0	Fluoranthene	11	U
129-00-0	Pyrene	11	U
56-55-3	Benzo(a)anthracene	11	U
218-01-9	Chrysene	11	U
205-99-2	Benzo(b)fluoranthene	11	U
207-08-9	Benzo(k)fluoranthene	11	U
50-32-8	Benzo(a)pyrene	11	U
193-39-5	Indeno(1,2,3-cd)pyrene	11	U
53-70-3	Dibenz(a,h)anthracene	11	U
191-24-2	Benzo(g,h,i)perylene	11	U

PESTICIDES/PCBs DATA

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

Pesticide/PCBs

Case No.:——— 9507125

Project Name:——— NSWC-CRANE #4324

Client Name ——— MK CORP

Sample Number
NSWC-24/00-044

AENI # 9507125-001

Concentration.——— Low

Date Sampled.——— 7/12/95

Date Received.——— 7/14/95

Date Ext Prepared·—— 7/21/95

Date Analyzed.——— 7/25/95

Conc/Dil Factor:——— 1

Method. ——— 8080

GPC Cleanup | | Yes | X | No

Seperatory Funnel Extraction | | Yes

Continuous Liquid - Liquid Extraction | | Yes

Percent Moisture 2.1

Matrix: SOIL

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.7	U
319-85-7	beta-BHC		1.7	U
319-86-8	delta-BHC		1.7	U
58-89-9	gamma-BHC (Lindane)		3.3	U
75-44-8	Heptachlor		1.7	U
309-00-2	Aldrin		1.7	U
1024-57-3	Heptachlor epoxide		1.7	U
959-98-8	Endosulfan I		1.7	U
60-57-1	Dieldrin		3.3	U
75-55-9	4, 4'-DDE		3.3	U
72-20-8	Endrin		3.3	U
33213-65-9	Endosulfan II		3.3	U
72-54-8	4, 4'-DDD		3.3	U
1031-07-8	Endosulfan Sulfate		3.3	U
50-29-3	4, 4'-DDT		3.3	U
72-43-5	Methoxychlor		17	U
53494-70-5	Endrin Ketone		3.3	U
7421-36-3	Endrin aldehyde		3.3	U
57-74-9	Chlordane	33	33	
8001-35-2	Toxaphene		170	U
12674-11-2	Aroclor-1016		33	U
11104-28-2	Aroclor-1221		67	U
11141-16-5	Aroclor-1232		33	U
53469-21-9	Aroclor-1242		33	U
12672-29-6	Aroclor-1248		33	U
11097-69-1	Aroclor-1254		33	U
11096-82-5	Aroclor-1260		33	U
510-15-6	Chlorobenzilate		0.67	U
2303-16-4	Diallate		3.3	U
465-73-6	Isodrin		0.08	U
143-50-0	Kepone		0.33	U
82-68-8	Pentachloronitrobenzene		0.07	U

Vi - Volume of extract injected (ul) - _____ 5

Vs - Volume of Water extracted (ml) - _____ N/A

Ws - Weight of sample extracted (g) - _____ 30.52

Vt - Volume of total extract (ul) - _____ 10,000

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

Pesticide/PCBs

Case No.: 9507125

Project Name NSWC-CRANE #4324

Client Name MK CORP

Sample Number
NSWC-24/00-045

AEN # 9507125-002

Concentration. Low

Date Sampled 7/12/95

Date Received. 7/14/95

Date Ext Prepared. 7/21/95

Date Analyzed: 7/25/95

Conc/Dil Factor: 1

Method: 8080

GPC Cleanup | | Yes | X | No

Seperatory Funnel Extraction | | Yes

Continuous Liquid - Liquid Extraction | | Yes

Percent Moisture 0.6

Matrix. SOIL

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.7	U
319-85-7	beta-BHC		1.7	U
319-86-8	delta-BHC		1.7	U
58-89-9	gamma-BHC (Lindane)		3.3	U
75-44-8	Heptachlor		1.7	U
309-00-2	Aldrin		1.7	U
1024-57-3	Heptachlor epoxide		1.7	U
959-98-8	Endosulfan I		1.7	U
60-57-1	Dieldrin		3.3	U
75-55-9	4, 4'-DDE		3.3	U
72-20-8	Endrin		3.3	U
33213-65-9	Endosulfan II		3.3	U
72-54-8	4, 4'-DDD		3.3	U
1031-07-8	Endosulfan Sulfate		3.3	U
50-29-3	4, 4'-DDT		3.3	U
72-43-5	Methoxychlor		17	U
53494-70-5	Endrin Ketone		3.3	U
7421-36-3	Endrin aldehyde		3.3	U
57-74-9	Chlordane		33	U
8001-35-2	Toxaphene		170	U
12674-11-2	Aroclor-1016		33	U
11104-28-2	Aroclor-1221		66	U
11141-16-5	Aroclor-1232		33	U
53469-21-9	Aroclor-1242		33	U
12672-29-6	Aroclor-1248		33	U
11097-69-1	Aroclor-1254		33	U
11096-82-5	Aroclor-1260		33	U
510-15-6	Chlorobenzilate		0.66	U
2303-16-4	Diallate		3.3	U
465-73-6	Isodrin		0.06	U
143-50-0	Kepone		0.33	U
82-68-8	Pentachloronitrobenzene		0.07	U

Vi - Volume of extract injected (ul) - 5

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.47

Vt - Volume of total extract (ul) - 10,000

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

Pesticide/PCBs

Case No ——— 9507125

Project Name: ——— NSWC-CRANE # 4324

Client Name ——— MK CORP

Sample Number

NSWC-24/00-046

AENI # 9507125-003

Concentration ——— Low

Date Sampled ——— 7/12/95

Date Received. ——— 7/14/95

Date Ext Prepared. ——— 7/21/95

Date Analyzed: ——— 7/25/95

Conc/Dil Factor: ——— 1

Method. ——— 8080

GPC Cleanup | | Yes | X | No

Seperatory Funnel Extraction | | Yes

Continuous Liquid - Liquid Extraction | | Yes

Percent Moisture 1 6

Matrix SOIL

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.7	U
319-85-7	beta-BHC		1.7	U
319-86-8	delta-BHC		1 7	U
58-89-9	gamma-BHC (Lindane)		3 3	U
76-44-8	Heptachlor		1.7	U
309-00-2	Aldrin		1.7	U
1024-57-3	Heptachlor epoxide		1 7	U
959-98-8	Endosulfan I		1 7	U
60-57-1	Dieldrin		3 3	U
72-55-9	4, 4'-DDE		3.3	U
72-20-8	Endrin		3 3	U
33213-65-9	Endosulfan II		3 3	U
72-54-8	4, 4'-DDD		3 3	U
1031-07-8	Endosulfan Sulfate		3 3	U
50-29-3	4, 4'-DDT		3.3	U
72-43-5	Methoxychlor		17	U
53494-70-5	Endrin Ketone		3.3	U
7421-36-3	Endrin aldehyde		3 3	U
57-74-9	Chlordane		33	U
8001-35-2	Toxaphene		170	U
12674-11-2	Aroclor-1016		33	U
11104-28-2	Aroclor-1221		66	U
11141-16-5	Aroclor-1232		33	U
53469-21-9	Aroclor-1242		33	U
12672-29-6	Aroclor-1248		33	U
11097-69-1	Aroclor-1254		33	U
11096-82-5	Aroclor-1260		33	U
510-15-6	Chlorobenzilate		0 66	U
2303-16-4	Diallate		3 3	U
465-73-6	Isodrin		0 08	U
143-50-0	Kepone		0 33	U
82-68-8	Pentachloronitrobenzene		0 07	U

Vi - Volume of extract injected (ul) - 5

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.57

Vt - Volume of total extract (ul) - 10,000

FORM I

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analyses Data Sheet

Pesticide/PCBs

Case No ——— 9507125

Project Name ——— NSWC-CRANE #4324

Client Name: ——— MK CORP

Sample Number
NSWC-24/00-047

AENI # 9507125-004

Concentration ——— Low

Date Sampled ——— 7/12/95

Date Received ——— 7/14/95

Date Ext Prepared ——— 7/21/95

Date Analyzed ——— 7/25/95

Conc/Dil Factor ——— 1

Method: ——— 8080

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extraction		Yes
Percent Moisture	29.4	
Matrix:	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		2.3	U
319-85-7	beta-BHC		2.3	U
319-86-8	delta-BHC		2.3	U
58-89-9	gamma-BHC (Lindane)		4.7	U
75-44-8	Heptachlor		2.3	U
309-00-2	Aldrin		2.3	U
1024-57-3	Heptachlor epoxide		2.3	U
959-98-8	Endosulfan I		2.3	U
60-57-1	Dieldrin	4.1	4.7	J
75-55-9	4, 4'-DDE	5.1	4.7	
72-20-8	Endrin		4.7	U
33213-65-9	Endosulfan II		4.7	U
72-54-8	4, 4'-DDD	5.7	4.7	P
1031-07-8	Endosulfan Sulfate		4.7	U
50-29-3	4, 4'-DDT	8.5	4.7	P
72-43-5	Methoxychlor		23	U
53494-70-5	Endrin Ketone		4.7	U
7421-36-3	Endrin aldehyde		4.7	U
57-74-9	Chlordane	47	47	
8001-35-2	Toxaphene		230	U
12674-11-2	Aroclor-1016		47	U
11104-28-2	Aroclor-1221		93	U
11141-16-5	Aroclor-1232		47	U
53469-21-9	Aroclor-1242		47	U
12672-29-6	Aroclor-1248		47	U
11097-69-1	Aroclor-1254		47	U
11096-82-5	Aroclor-1260		47	U
510-15-6	Chlorobenzilate		0.93	U
2303-16-4	Diallate		4.7	U
465-73-6	Isodrin		0.12	U
143-50-0	Kepone		0.47	U
82-68-8	Pentachloronitrobenzene		0.09	U

Vi - Volume of extract injected (ul) - 5

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.31

Vt - Volume of total extract (ul) - 10,000

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

Pesticide/PCBs

Case No.: 9507125

Project Name: NSWC-CRANE #4324

Client Name: MK CORP

Sample Number
NSWC-24/00-048

AEN # 9507125-005

Concentration: Low

Date Sampled: 7/12/95

Date Received: 7/14/95

Date Ext Prepared: 7/21/95

Date Analyzed: 7/25/95

Conc/Dil Factor: 1

Method: 8080

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extraction		Yes
Percent Moisture	3.7	
Matrix:	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.7	U
319-85-7	beta-BHC		1.7	U
319-86-8	delta-BHC		1.7	U
58-89-9	gamma-BHC (Lindane)		3.4	U
75-44-8	Heptachlor		1.7	U
309-00-2	Aldrin		1.7	U
1024-57-3	Heptachlor epoxide		1.7	U
959-98-8	Endosulfan I		1.7	U
60-57-1	Dieldrin		3.4	U
75-55-9	4, 4'-DDE		3.4	U
72-20-8	Endrin		3.4	U
33213-65-9	Endosulfan II		3.4	U
72-54-8	4, 4'-DDD		3.4	U
1031-07-8	Endosulfan Sulfate		3.4	U
50-29-3	4, 4'-DDT		3.4	U
72-43-5	Methoxychlor		17	U
53494-70-5	Endrin Ketone		3.4	U
7421-36-3	Endrin aldehyde		3.4	U
57-74-9	Chlordane	53	34	
8001-35-2	Toxaphene		170	U
12674-11-2	Aroclor-1016		34	U
11104-28-2	Aroclor-1221		68	U
11141-16-5	Aroclor-1232		34	U
53469-21-9	Aroclor-1242		34	U
12672-29-6	Aroclor-1248		34	U
11097-69-1	Aroclor-1254		34	U
11096-82-5	Aroclor-1260		34	U
510-15-6	Chlorobenzilate		0.68	U
2303-16-4	Diallate		3.4	U
465-73-6	Isodrin		0.09	U
143-50-0	Kepone		0.34	U
82-68-8	Pentachloronitrobenzene		0.07	U

Vi - Volume of extract injected (ul) - 5

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.4

Vt - Volume of total extract (ul) - 10,000

FORM I

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analyses Data Sheet

Pesticide/PCBs

Case No ——— 9507125

Project Name ——— NSWC-CRANE #4324

Client Name ——— MK CORP

Sample Number
NSWC-24/00-049

AENI # 9507125-006

Concentration ——— Low

Date Sampled ——— 7/12/95

Date Received ——— 7/14/95

Date Ext Prepared ——— 7/21/95

Date Analyzed ——— 7/25/95

Conc/Dil Factor ——— 1

Method ——— 8080

GPC Cleanup | | Yes | X | No

Seperatory Funnel Extraction | | Yes

Continuous Liquid - Liquid Extraction | | Yes

Percent Moisture 4.5

Matrix SOIL

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.7	U
319-85-7	beta-BHC		1.7	U
319-86-8	delta-BHC		1.7	U
58-89-9	gamma-BHC (Lindane)		3.4	U
76-44-8	Heptachlor		1.7	U
309-00-2	Aldrin		1.7	U
1024-57-3	Heptachlor epoxide		1.7	U
959-98-8	Endosulfan I		1.7	U
60-57-1	Dieldrin		3.4	U
75-55-9	4, 4'-DDE	6.3	3.4	
72-20-8	Endrin		3.4	U
33213-65-9	Endosulfan II		3.4	U
72-54-8	4, 4'-DDD	15	3.4	P
1031-07-8	Endosulfan Sulfate		3.4	U
50-29-3	4, 4'-DDT	7.1	3.4	P
72-43-5	Methoxychlor		17	U
53494-70-5	Endrin Ketone		3.4	U
7421-36-3	Endrin aldehyde		3.4	U
57-74-9	Chlordane	34	34	
8001-35-2	Toxaphene		170	U
12674-11-2	Aroclor-1016		34	U
11104-28-2	Aroclor-1221		69	U
11141-16-5	Aroclor-1232		34	U
53469-21-9	Aroclor-1242		34	U
12672-29-6	Aroclor-1248		34	U
11097-69-1	Aroclor-1254		34	U
11096-82-5	Aroclor-1260		34	U
510-15-6	Chlorobenzilate		0.69	U
2303-16-4	Diallate		3.4	U
465-73-6	Isodrin		0.09	U
143-50-0	Kepone		0.34	U
82-68-8	Pentachloronitrobenzene		0.07	U

Vi - Volume of extract injected (ul) - 5

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.47

Vt - Volume of total extract (ul) - 10,000

AMERICAN ENVIRONMENTAL NETWORK INC

Organic Analysis Data Sheet

Pesticide/PCBs

Case No ——— 9507125

Project Name ——— NSWC-CRANE #4324

Client Name ——— MK CORP

Sample Number
NSWC-24/00-050

AENI # 9507125-007

Concentration ——— Low

Date Sampled ——— 7/12/95

Date Received ——— 7/14/95

Date Ext Prepared ——— 7/21/95

Date Analyzed ——— 7/25/95

Conc/Dil Factor ——— 1

Method ——— 8080

GPC Cleanup | | Yes | X | No

Seperatory Funnel Extraction | | Yes

Continuous Liquid - Liquid Extraction | | Yes

Percent Moisture 3

Matrix: SOIL

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.7	U
319-85-7	beta-BHC		1.7	U
319-86-8	delta-BHC		1.7	U
58-89-9	gamma-BHC (Lindane)		3.4	U
75-44-8	Heptachlor		1.7	U
309-00-2	Aldrin		1.7	U
1024-57-3	Heptachlor epoxide		1.7	U
959-98-8	Endosulfan I		1.7	U
60-57-1	Dieldrin		3.4	U
75-55-9	4, 4'-DDE	5.2	3.4	
72-20-8	Endrin		3.4	U
33213-65-9	Endosulfan II		3.4	U
72-54-8	4, 4'-DDD	12	3.4	P
1031-07-8	Endosulfan Sulfate		3.4	U
50-29-3	4, 4'-DDT	6.8	3.4	P
72-43-5	Methoxychlor		17	U
53494-70-5	Endrin Ketone		3.4	U
7421-36-3	Endrin aldehyde		3.4	U
57-74-9	Chlordane	48	34	
8001-35-2	Toxaphene		170	U
12674-11-2	Aroclor-1016		34	U
11104-28-2	Aroclor-1221		68	U
11141-16-5	Aroclor-1232		34	U
53469-21-9	Aroclor-1242		34	U
12672-29-6	Aroclor-1248		34	U
11097-69-1	Aroclor-1254		34	U
11096-82-5	Aroclor-1260		34	U
510-15-6	Chlorobenzilate		0.68	U
2303-16-4	Diallate		3.4	U
465-73-6	Isodrin		0.09	U
143-50-0	Kepone		0.34	U
82-68-8	Pentachloronitrobenzene		0.07	U

Vi - Volume of extract injected (ul) - 5

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.22

Vt - Volume of total extract (ul) - 10.000

FORM I

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

Pesticide/PCBs

Case No ——— 9507125

Project Name ——— NSWC-CRANE #4324

Client Name ——— MK CORP

Sample Number
NSWC-24/00-FB1

AENI # 9507125-008

Concentration ——— Low

Date Sampled ——— 7/13/95

Date Received ——— 7/14/95

Date Ext Prepared ——— 7/18/95

Date Analyzed: ——— 7/25/95

Conc/Dil Factor: ——— 1

Method ——— 8080

GPC Cleanup		Yes	X	No
Seperatory Funnel Extraction			X	Yes
Continuous Liquid - Liquid Extraction				Yes
Percent Moisture	N/A			
Matrix	WATER			

CAS Number	Compound	Concentration ug/L	Detection Limit	Qualifier
319-84-6	alpha-BHC		0.05	U
319-85-7	beta BHC		0.05	U
319-86-8	delta-BHC		0.05	U
58-89-9	gamma BHC (Lindane)		0.10	U
75-44-8	Heptachlor		0.05	U
309-00-2	Aldrin		0.05	U
1024-57-3	Heptachlor epoxide		0.05	U
959-98-8	Endosulfan I		0.05	U
60-57-1	Dieldrin		0.10	U
75-55-9	4, 4'-DDE		0.10	U
72-20-8	Endrin		0.10	U
33213-65-9	Endosulfan II		0.10	U
72-54-8	4, 4'-DDD		0.10	U
1031-07-8	Endosulfan Sulfate		0.10	U
50-29-3	4, 4'-DDT		0.10	U
72-43-5	Methoxychlor		0.52	U
53494-70-5	Endrin Ketone		0.10	U
7421-36-3	Endrin aldehyde		0.10	U
57-74-9	Chlordane		1.0	U
8001-35-2	Toxaphene		5.2	U
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		2.1	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
510-15-6	Chlorobenzilate		2.1	U
2303-16-4	Diallate		10	U
465-73-6	Isodrin		0.26	U
143-50-0	Kepone		1.0	U
82-68-8	Pentachloronitrobenzene		0.21	U

Vi - Volume of extract injected (ul) - _____ 5

Vs - Volume of Water extracted (ml) - _____ 960

Ws Weight of sample extracted (g) - _____ N.A

Vt - Volume of total extract (ul) - _____ 10,000

FORM I

AMERICAN ENVIRONMENTAL NETWORK INC

Organic Analysis Data Sheet

Pesticide/PCBs

Case No. — 9507125

Project Name — NSWC-CRANE #4324

Client Name — MK CORP

Sample Number
NSWC-24/00-R81

AENI # 9507125-009

Concentration — Low

Date Sampled — 7/13/95

Date Received — 7/14/95

Date Ext Prepared: — 7/18/95

Date Analyzed — 7/25/95

Conc/Dil Factor — 1

Method: — 8080

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		X Yes
Continuous Liquid - Liquid Extraction		Yes

Percent Moisture — N/A

Matrix: — WATER

CAS Number	Compound	Concentration ug/L	Detection Limit	Qualifier
319-84-6	alpha-BHC		0.05	U
319-85-7	beta-BHC		0.05	U
319-86-8	delta-BHC		0.05	U
58-89-9	gamma BHC (Lindane)		0.11	U
76-44-8	Heptachlor		0.05	U
309-00-2	Aldrin		0.05	U
1024-57-3	Heptachlor epoxide		0.05	U
959-98-8	Endosulfan I		0.05	U
60-57-1	Dieldrin		0.11	U
75-55-9	4, 4'-DDE		0.11	U
72-20-8	Endrin		0.11	U
33213-65-9	Endosulfan II		0.11	U
72-54-8	4, 4'-DDD		0.11	U
1031-07-8	Endosulfan Sulfate		0.11	U
50-29-3	4, 4'-DDT		0.11	U
72-43-5	Methoxychlor		0.53	U
53494-70-5	Endrin Ketone		0.11	U
7421-36-3	Endrin aldehyde		0.11	U
57-74-9	Chlordane		1.1	U
8001-35-2	Toxaphene		5.3	U
12674-11-2	Aroclor-1016		1.1	U
11104-28-2	Aroclor-1221		2.1	U
11141-16-5	Aroclor-1232		1.1	U
53469-21-9	Aroclor-1242		1.1	U
12672-29-6	Aroclor-1248		1.1	U
11097-69-1	Aroclor-1254		1.1	U
11096-82-5	Aroclor-1260		1.1	U
510-15-6	Chlorobenzilate		2.1	U
2303-16-4	Diallate		11	U
465-73-6	Isodrin		0.26	U
143-50-0	Kepone		1.1	U
82-68-8	Pentachloronitrobenzene		0.21	U

Vi - Volume of extract injected (ul) - 5

Vs - Volume of Water extracted (ml) - 950

Ws - Weight of sample extracted (g) - N/A

Vt - Volume of total extract (ul) - 10 000

FORM I

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Pesticide/PCBs

Case No.: 9510199

Account #: MKC70

Client Name: MK CORP

Sample Number
NSWC 24/00 055

AENI # 9510199-002

Concentration: Low

Date Sampled: 10/17/95

Date Received: 10/18/95

Date Ext Prepared: 10/24/95

Date Analyzed: 10/27/95

Conc/Dil Factor: 1

Method: 8080

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extraction		Yes
Percent Moisture	9.2	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.8	U
319-85-7	beta-BHC		1.8	U
319-86-8	delta-BHC		1.8	U
58-89-9	gamma-BHC (Lindane)		3.6	U
76-44-8	Heptachlor		1.8	U
309-00-2	Aldrin		1.8	U
1024-57-3	Heptachlor epoxide		1.8	U
959-98-8	Endosulfan I		1.8	U
60-57-1	Dieldrin		3.6	U
75-55-9	4, 4'-DDE		3.6	U
72-20-8	Endrin		3.6	U
33213-65-9	Endosulfan II		3.6	U
72-54-8	4, 4'-DDD		3.6	U
1031-07-8	Endosulfan Sulfate		3.6	U
50-29-3	4, 4'-DDT		3.6	U
72-43-5	Methoxychlor		18	U
53494-70-5	Endrin Ketone		3.6	U
7421-36-3	Endrin aldehyde		3.6	U
57-74-9	Chlordane		36	U
8001-35-2	Toxaphene		180	U
12674-11-2	Aroclor-1016		36	U
11104-28-2	Aroclor-1221		72	U
11141-16-5	Aroclor-1232		36	U
53469-21-9	Aroclor-1242		36	U
12672-29-6	Aroclor-1248		36	U
11097-69-1	Aroclor-1254		36	U
11096-82-5	Aroclor-1260		36	U
510-15-6	Chlorobenzilate		72	U
2303-16-4	Diallate		360	U
465-73-6	Isodrin		9.0	U
143-50-0	Kepone		36	U
82-68-8	Pentachloronitrobenzene		7.2	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.58

Vt - Volume of total extract (ul) - 10,000

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Pesticide/PCBs

Case No.: 9510199
Account # MKC70
Client Name: MK CORP

Sample Number
NSWC 24/00 056

AENI # 9510199-003

Concentration: Low
Date Sampled: 10/17/95
Date Received: 10/18/95
Date Ext Prepared: 10/24/95
Date Analyzed: 10/27/95
Conc/Dil Factor: 1
Method: 8080

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extraction		Yes
Percent Moisture	5.5	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.7	U
319-85-7	beta-BHC		1.7	U
319-86-8	delta-BHC		1.7	U
58-89-9	gamma-BHC (Lindane)		3.5	U
76-44-8	Heptachlor		1.7	U
309-00-2	Aldrin		1.7	U
1024-57-3	Heptachlor epoxide		1.7	U
959-98-8	Endosulfan I		1.7	U
60-57-1	Dieldrin		3.5	U
72-55-9	4, 4'-DDE		3.5	U
72-20-8	Endrin		3.5	U
33213-65-9	Endosulfan II		3.5	U
72-54-8	4, 4'-DDD		3.5	U
1031-07-8	Endosulfan Sulfate		3.5	U
50-29-3	4, 4'-DDT		3.5	U
72-43-5	Methoxychlor		17	U
53494-70-5	Endrin Ketone		3.5	U
7421-36-3	Endrin aldehyde		3.5	U
57-74-9	Chlordane		35	U
8001-35-2	Toxaphene		170	U
12674-11-2	Aroclor-1016		35	U
11104-28-2	Aroclor-1221		70	U
11141-16-5	Aroclor-1232		35	U
53469-21-9	Aroclor-1242		35	U
12672-29-6	Aroclor-1248		35	U
11097-69-1	Aroclor-1254		35	U
11096-82-5	Aroclor-1260		35	U
510-15-6	Chlorobenzilate		70	U
2303-16-4	Diallate		350	U
465-73-6	Isodrin		8.7	U
143-50-0	Kepone		35	U
82-68-8	Pentachloronitrobenzene		7.0	U

Vi - Volume of extract Injected (ul) - 1
Vs - Volume of Water extracted (ml) - N/A
Ws - Weight of sample extracted (g) - 30.24
Vt - Volume of total extract (ul) - 10,000

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

Pesticide/PCBs

Case No.. 9510199

Account # MKC70

Client Name. MK CORP

Sample Number

NSWC 24/00 057

AENI # 9510199-004

Concentration: Low

Date Sampled: 10/17/95

Date Received. 10/18/95

Date Ext Prepared: 10/24/95

Date Analyzed: 10/27/95

Conc/Dil Factor: 1

Method: 8080

GPC Cleanup		Yes	X No
Separatory Funnel Extraction			Yes
Continuous Liquid - Liquid Extraction			Yes
Percent Moisture	10.1		
Matrix	SOIL		

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.8	U
319-85-7	beta-BHC		1.8	U
319-86-8	delta-BHC		1.8	U
58-89-9	gamma-BHC (Lindane)		3.7	U
75-44-8	Heptachlor		1.8	U
309-00-2	Aldrin		1.8	U
1024-57-3	Heptachlor epoxide		1.8	U
959-98-8	Endosulfan I		1.8	U
60-57-1	Dieldrin		3.7	U
75-55-9	4, 4'-DDE		3.7	U
72-20-8	Endrin		3.7	U
33213-65-9	Endosulfan II		3.7	U
72-54-8	4, 4'-DDD		3.7	U
1031-07-8	Endosulfan Sulfate		3.7	U
50-29-3	4, 4'-DDT		3.7	U
72-43-5	Methoxychlor		18	U
53494-70-5	Endrin Ketone		3.7	U
7421-36-3	Endrin aldehyde		3.7	U
57-74-9	Chlordane		37	U
8001-35-2	Toxaphene		180	U
12674-11-2	Aroclor-1016		37	U
11104-28-2	Aroclor-1221		73	U
11141-16-5	Aroclor-1232		37	U
53469-21-9	Aroclor-1242		37	U
12672-29-6	Aroclor-1248		37	U
11097-69-1	Aroclor-1254		37	U
11096-82-5	Aroclor-1260		37	U
510-15-6	Chlorobenzilate		73	U
2303-16-4	Diallate		367	U
465-73-6	Isodrin		9.2	U
143-50-0	Kepone		37	U
82-68-8	Pentachloronitrobenzene		7.3	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.32

Vt - Volume of total extract (ul) - 10,000

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

Pesticide/PCBs

Case No. ——— 9510199

Account # ——— MKC70

Client Name ——— MK CORP

Sample Number
NSWC 24/00 058

AEN # 9510199-005

Concentration ——— Low

Date Sampled ——— 10/17/95

Date Received: ——— 10/18/95

Date Ext Prepared: ——— 10/24/95

Date Analyzed. ——— 10/27/95

Conc/Dil Factor: ——— 1

Method: ——— 8080

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extraction		Yes
Percent Moisture	9.4	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.8	U
319-85-7	beta-BHC		1.8	U
319-86-8	delta-BHC		1.8	U
58-89-9	gamma-BHC (Lindane)		3.6	U
76-44-8	Heptachlor		1.8	U
309-00-2	Aldrin		1.8	U
1024-57-3	Heptachlor epoxide		1.8	U
959-98-8	Endosulfan I		1.8	U
60-57-1	Dieldrin		3.6	U
72-55-9	4, 4'-DDE		3.6	U
72-20-8	Endrin		3.6	U
33213-65-9	Endosulfan II		3.6	U
72-54-8	4, 4'-DDD		3.6	U
1031-07-8	Endosulfan Sulfate		3.6	U
50-29-3	4, 4'-DDT		3.6	U
72-43-5	Methoxychlor		18	U
53494-70-5	Endrin Ketone		3.6	U
7421-36-3	Endrin aldehyde		3.6	U
57-74-9	Chlordane		36	U
8001-35-2	Toxaphene		180	U
12674-11-2	Aroclor-1016		36	U
11104-28-2	Aroclor-1221		72	U
11141-16-5	Aroclor-1232		36	U
53469-21-9	Aroclor-1242		36	U
12672-29-6	Aroclor-1248		36	U
11097-69-1	Aroclor-1254		36	U
11096-82-5	Aroclor-1260		36	U
510-15-6	Chlorobenzilate		72	U
2303-16-4	Diallate		358	U
465-73-6	Isodrin		9.0	U
143-50-0	Kepone		36	U
82-68-8	Pentachloronitrobenzene		7.2	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.79

Vt - Volume of total extract (ul) - 10,000

FORM I

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

Pesticide/PCBs

Case No. — 9510199

Account #. — MKC70

Client Name. — MK CORP

Sample Number
NSWC 24/00 059

AENI # 9510199-006

Concentration. — Low

Date Sampled: — 10/17/95

Date Received: — 10/18/95

Date Ext Prepared: — 10/24/95

Date Analyzed. — 10/27/95

Conc/Dil Factor: — 1

Method. — 8080

GPC Cleanup	Yes	X No
Separatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extraction		Yes
Percent Moisture	7.5	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.8	U
319-85-7	beta-BHC		1.8	U
319-86-8	delta-BHC		1.8	U
58-89-9	gamma-BHC (Lindane)		3.6	U
76-44-8	Heptachlor		1.8	U
309-00-2	Aldrin		1.8	U
1024-57-3	Heptachlor epoxide		1.8	U
959-98-8	Endosulfan I	2.2	1.8	P
60-57-1	Dieldrin		3.6	U
72-55-9	4, 4 -DDE		3.6	U
72-20-8	Endrin		3.6	U
33213-65-9	Endosulfan II		3.6	U
72-54-8	4, 4'-DDD		3.6	U
1031-07-8	Endosulfan Sulfate		3.6	U
50-29-3	4, 4'-DDT		3.6	U
72-43-5	Methoxychlor		18	U
53494-70-5	Endrin Ketone		3.6	U
7421-36-3	Endrin aldehyde		3.6	U
57-74-9	Chlordane		36	U
8001-35-2	Toxaphene		180	U
12674-11-2	Aroclor-1016		36	U
11104-28-2	Aroclor-1221		72	U
11141-16-5	Aroclor-1232		36	U
53469-21-9	Aroclor-1242		36	U
12672-29-6	Aroclor-1248		36	U
11097-69-1	Aroclor-1254		36	U
11096-82-5	Aroclor-1260		36	U
510-15-6	Chlorobenzilate		72	U
2303-16-4	Diallate		359	U
465-73-6	Isodrin		9.0	U
143-50-0	Kepone		36	U
82-68-8	Pentachloronitrobenzene		7.2	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.09

Vt - Volume of total extract (ul) - 10,000

FORM I

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

Pesticide/PCBs

Case No.: 9510199

Account #: MKC70

Client Name: MK CORP

Sample Number

NSWC 24/00 060

AEN # 95'0199-007

Concentration: Low

Date Sampled: 10/17/95

Date Received: 10/18/95

Date Ext Prepared: 10/24/95

Date Analyzed: 10/27/95

Conc/Dil Factor: 5

Method: 8080

GPC Cleanup: | | Yes | X | No

Seperatory Funnel Extraction: | | Yes

Continuous Liquid - Liquid Extraction: | | Yes

Percent Moisture: 5.7

Matrix: SOIL

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		8.7	U
319-85-7	beta-BHC		8.7	U
319-86-8	delta-BHC		8.7	U
58-89-9	gamma-BHC (Lindane)		17	U
76-44-8	Heptachlor		8.7	U
309-00-2	Aldrin		8.7	U
1024-57-3	Heptachlor epoxide		8.7	U
959-98-8	Endosulfan I		8.7	U
60-57-1	Dieldrin		17	U
75-55-9	4, 4'-DDE	19	17	
72-20-8	Endrin		17	U
33213-65-9	Endosulfan II		17	U
72-54-8	4, 4'-DDD		17	U
1031-07-8	Endosulfan Sulfate		17	U
50-29-3	4, 4'-DDT		17	U
72-43-5	Methoxychlor		87	U
53494-70-5	Endrin Ketone		17	U
7421-36-3	Endrin aldehyde		17	U
57-74-9	Chlordane		170	U
8001-35-2	Toxaphene		870	U
12674-11-2	Aroclor-1016		170	U
11104-28-2	Aroclor-1221		350	U
11141-16-5	Aroclor-1232		170	U
53469-21-9	Aroclor-1242		170	U
12672-29-6	Aroclor-1248		170	U
11097-69-1	Aroclor-1254		170	U
11096-82-5	Aroclor-1260		170	U
510-15-6	Chlorobenzilate		350	U
2303-16-4	Diallate		1748	U
465-73-6	Isodrin		44	U
143-50-0	Kepone		175	U
82-68-8	Pentachloronitrobenzene		35	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.34

Vt - Volume of total extract (ul) - 10,000

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Pesticide/PCBs

Case No. ——— 9510199

Account #. ——— MKC70

Client Name: ——— MK CORP

Sample Number
NSWC 24/00 061

AENI # 9510199-006

Concentration: ——— Low

Date Sampled: ——— 10/17/95

Date Received: ——— 10/18/95

Date Ext Prepared: ——— 10/24/95

Date Analyzed: ——— 10/27/95

Conc/Dil Factor: ——— 1

Method: ——— 8080

GPC Cleanup		Yes	X	No
Seperatory Funnel Extraction				Yes
Continuous Liquid - Liquid Extraction				Yes
Percent Moisture	9.8			
Matrix	SOIL			

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.8	U
319-85-7	beta-BHC		1.8	U
319-86-8	delta-BHC		1.8	U
58-89-9	gamma-BHC (Lindane)		3.6	U
75-44-8	Heptachlor		1.8	U
309-00-2	Aldrin		1.8	U
1024-57-3	Heptachlor epoxide		1.8	U
959-98-8	Endosulfan I		1.8	U
60-57-1	Dieldrin		3.6	U
75-55-9	4, 4'-DDE		3.6	U
72-20-8	Endrin		3.6	U
33213-65-9	Endosulfan II		3.6	U
72-54-8	4, 4'-DDD		3.6	U
1031-07-8	Endosulfan Sulfate		3.6	U
50-29-3	4, 4'-DDT		3.6	U
72-43-5	Methoxychlor		18	U
53494-70-5	Endrin Ketone		3.6	U
7421-36-3	Endrin aldehyde		3.6	U
57-74-9	Chlordane		36	U
8001-35-2	Toxaphene		180	U
12674-11-2	Aroclor-1016		36	U
11104-28-2	Aroclor-1221		73	U
11141-16-5	Aroclor-1232		36	U
53469-21-9	Aroclor-1242		36	U
12672-29-6	Aroclor-1248		36	U
11097-69-1	Aroclor-1254		36	U
11096-82-5	Aroclor-1260		36	U
510-15-6	Chlorobenzilate		73	U
2303-16-4	Diallate		363	U
465-73-6	Isodrin		9.1	U
143-50-0	Kepone		36	U
82-68-8	Pentachloronitrobenzene		7.3	U

Vi - Volume of extract injected (ul) - _____ 1

Vs - Volume of Water extracted (ml) - _____ N/A

Ws - Weight of sample extracted (g) - _____ 30.58

Vt - Volume of total extract (ul) - _____ 10,000

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

Pesticide/PCBs

Case No.. 9510199

Account # MKC70

Client Name MK CORP

Sample Number
NSWC 24/00 062

AEN # 9510199-009

Concentration: Low

Date Sampled: 10/17/95

Date Received: 10/18/95

Date Ext Prepared: 10/24/95

Date Analyzed: 10/27/95

Conc/Dil Factor: 1

Method: 8080

GPC Cleanup		Yes	X No
Separatory Funnel Extraction			Yes
Continuous Liquid - Liquid Extraction			Yes
Percent Moisture	10.2		
Matrix	SOIL		

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.8	U
319-85-7	beta-BHC		1.8	U
319-86-8	delta-BHC		1.8	U
58-89-9	gamma-BHC (Lindane)		3.6	U
76-44-8	Heptachlor		1.8	U
309-00-2	Aldrin		1.8	U
1024-57-3	Heptachlor epoxide		1.8	U
959-98-8	Endosulfan I		1.8	U
60-57-1	Dieldrin		3.6	U
72-55-9	4, 4'-DDE		3.6	U
72-20-8	Endrin		3.6	U
33213-65-9	Endosulfan II		3.6	U
72-54-8	4, 4'-DDD		3.6	U
1031-07-8	Endosulfan Sulfate		3.6	U
50-29-3	4, 4'-DDT		3.6	U
72-43-5	Methoxychlor		18	U
53494-70-5	Endrin Ketone		3.6	U
7421-36-3	Endrin aldehyde		3.6	U
57-74-9	Chlordane		36	U
8001-35-2	Toxaphene		180	U
12674-11-2	Aroclor-1016		36	U
11104-28-2	Aroclor-1221		72	U
11141-16-5	Aroclor-1232		36	U
53469-21-9	Aroclor-1242		36	U
12672-29-6	Aroclor-1248		36	U
11097-69-1	Aroclor-1254		36	U
11096-82-5	Aroclor-1260		36	U
510-15-6	Chlorobenzilate		72	U
2303-16-4	Diallate		362	U
465-73-6	Isodrin		9.1	U
143-50-0	Kepone		36	U
82-68-8	Pentachloronitrobenzene		7.2	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.72

Vt - Volume of total extract (ul) - 10,000

FORM I

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analyses Data Sheet

Pesticide/PCBs

Case No :——— 9510199

Account # ——— MKC70

Client Name.——— MK CORP

Concentration:——— Low

Date Sampled.——— 10/17/95

Date Received ——— 10/18/95

Date Ext Prepared:——— 10/24/95

Date Analyzed:——— 10/28/95

Conc/Dil Factor:——— 1

Method: ——— 8080

Sample Number
NSWC 24/00 063

AENI # 9510199-010

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extraction		Yes
Percent Moisture	9.9	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.8	U
319-85-7	beta-BHC		1.8	U
319-86-8	delta-BHC		1.8	U
58-89-9	gamma-BHC (Lindane)		3.6	U
75-44-8	Heptachlor		1.8	U
309-00-2	Aldrin		1.8	U
1024-57-3	Heptachlor epoxide		1.8	U
959-98-8	Endosulfan I		1.8	U
60-57-1	Dieldrin		3.6	U
75-55-9	4, 4'-DDE		3.6	U
72-20-8	Endrin		3.6	U
33213-65-9	Endosulfan II		3.6	U
72-54-8	4, 4'-DDD		3.6	U
1031-07-8	Endosulfan Sulfate		3.6	U
50-29-3	4, 4'-DDT		3.6	U
72-43-5	Methoxychlor		18	U
53494-70-5	Endrin Ketone		3.6	U
7421-36-3	Endrin aldehyde		3.6	U
57-74-9	Chlordane		36	U
8001-35-2	Toxaphene		180	U
12674-11-2	Aroclor-1016		36	U
11104-28-2	Aroclor-1221		72	U
11141-16-5	Aroclor-1232		36	U
53469-21-9	Aroclor-1242		36	U
12672-29-6	Aroclor-1248		36	U
11097-69-1	Aroclor-1254		36	U
11096-82-5	Aroclor-1260		36	U
510-15-6	Chlorobenzilate		72	U
2303-16-4	Diallate		360	U
465-73-6	Isodrin		9.0	U
143-50-0	Kepone		36	U
82-68-8	Pentachloronitrobenzene		7.2	U

Vi - Volume of extract injected (ul) - _____ 1

Ve - Volume of Water extracted (ml) - _____ N/A

Ws - Weight of sample extracted (g) - _____ 30.86

Vt - Volume of total extract (ul) - _____ 10,000

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analyses Data Sheet

Pesticide/PCBs

Case No.: 9510199

Account #: MKC70

Client Name: MK CORP

Sample Number
NSWC 24/00 064

AENI # 9510199-011

Concentration: Low

Date Sampled: 10/17/95

Date Received: 10/18/95

Date Ext Prepared: 10/24/95

Date Analyzed: 10/28/95

Conc/Dil Factor: 1

Method: 8080

GPC Cleanup		Yes	X	No
Seperatory Funnel Extraction				Yes
Continuous Liquid - Liquid Extraction				Yes
Percent Moisture	7			
Matrix	SOIL			

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.8	U
319-85-7	beta-BHC		1.8	U
319-86-8	delta-BHC		1.8	U
58-89-9	gamma-BHC (Lindane)		3.5	U
75-44-8	Heptachlor		1.8	U
309-00-2	Aldrin		1.8	U
1024-57-3	Heptachlor epoxide		1.8	U
959-98-8	Endosulfan I		1.8	U
60-57-1	Dieldrin		3.5	U
75-55-9	4, 4'-DDE		3.5	U
72-20-8	Endrin		3.5	U
33213-65-9	Endosulfan II		3.5	U
72-54-8	4, 4'-DDD		3.5	U
1031-07-8	Endosulfan Sulfate		3.5	U
50-29-3	4, 4'-DDT		3.5	U
72-43-5	Methoxychlor		18	U
53494-70-5	Endrin Ketone		3.5	U
7421-36-3	Endrin aldehyde		3.5	U
57-74-9	Chlordane		35	U
8001-35-2	Toxaphene		180	U
12674-11-2	Aroclor-1016		35	U
11104-28-2	Aroclor-1221		71	U
11141-16-5	Aroclor-1232		35	U
53469-21-9	Aroclor-1242		35	U
12672-29-6	Aroclor-1248		35	U
11097-69-1	Aroclor-1254		35	U
11096-82-5	Aroclor-1260		35	U
510-15-6	Chlorobenzilate		71	U
2303-16-4	Diallate		354	U
465-73-6	Isodrin		8.8	U
143-50-0	Kepone		35	U
82-68-8	Pentachloronitrobenzene		7.1	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.38

Vt - Volume of total extract (ul) - 10,000

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analyses Data Sheet

Pesticide/PCBs

Case No. ——— 9510199

Account # ——— MKC70

Client Name ——— MK CORP

Sample Number
NSWC 24/00 065

AENI # 9510199-012

Concentration ——— Low

Date Sampled: ——— 10/17/95

Date Received: ——— 10/18/95

Date Ext Prepared: ——— 10/24/95

Date Analyzed: ——— 10/28/95

Conc/Dil Factor: ——— 1

Method: ——— 8080

GPC Cleanup | | Yes | X | No

Separatory Funnel Extraction | | Yes

Continuous Liquid - Liquid Extraction | | Yes

Percent Moisture 11.1

Matrix: SOIL

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.8	U
319-85-7	beta-BHC		1.8	U
319-86-8	delta-BHC		1.8	U
58-89-9	gamma-BHC (Lindane)		3.7	U
76-44-8	Heptachlor		1.8	U
309-00-2	Aldrin		1.8	U
1024-57-3	Heptachlor epoxide		1.8	U
959-98-8	Endosulfan I		1.8	U
60-57-1	Dieldrin		3.7	U
72-55-9	4, 4'-DDE		3.7	U
72-20-8	Endrin		3.7	U
33213-65-9	Endosulfan II		3.7	U
72-54-8	4, 4'-DDD		3.7	U
1031-07-8	Endosulfan Sulfate		3.7	U
50-29-3	4, 4'-DDT		3.7	U
72-43-5	Methoxychlor		18	U
53494-70-5	Endrin Ketone		3.7	U
7421-36-3	Endrin aldehyde		3.7	U
57-74-9	Chlordane		37	U
8001-35-2	Toxaphene		180	U
12674-11-2	Aroclor-1016		37	U
11104-28-2	Aroclor-1221		73	U
11141-16-5	Aroclor-1232		37	U
53469-21-9	Aroclor-1242		37	U
12672-29-6	Aroclor-1248		37	U
11097-69-1	Aroclor-1254		37	U
11096-82-5	Aroclor-1260		37	U
510-15-6	Chlorobenzilate		73	U
2303-16-4	Diallate		367	U
465-73-6	Isodrin		9.2	U
143-50-0	Kepone		37	U
82-68-8	Pentachloronitrobenzene		7.3	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.66

Vt - Volume of total extract (ul) - 10 000

FORM I

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

Pesticide/PCBs

Case No. ——— 9510199

Account # ——— MKC70

Client Name ——— MK CORP

Sample Number

NSWC 24/00 066

AENI # 9510199-013

Concentration. ——— Low

Date Sampled: ——— 10/17/95

Date Received: ——— 10/18/95

Date Ext Prepared: ——— 10/24/95

Date Analyzed. ——— 10/28/95

Conc/Dil Factor: ——— 1

Method: ——— 8080

GPC Cleanup | Yes | X | No

Seperatory Funnel Extraction | Yes

Continuous Liquid - Liquid Extraction | Yes

Percent Moisture 11.7

Matrix: SOIL

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.9	U
319-85-7	beta-BHC		1.9	U
319-86-8	delta-BHC		1.9	U
58-89-9	gamma-BHC (Lindane)		3.8	U
76-44-8	Heptachlor		1.9	U
309-00-2	Aldrin		1.9	U
1024-57-3	Heptachlor epoxide		1.9	U
959-98-8	Endosulfan I		1.9	U
60-57-1	Dieldrin		3.8	U
72-55-9	4, 4'-DDE	4.4	3.8	P
72-20-8	Endrin		3.8	U
33213-65-9	Endosulfan II		3.8	U
72-54-8	4, 4'-DDD		3.8	U
1031-07-8	Endosulfan Sulfate		3.8	U
50-29-3	4, 4'-DDT		3.8	U
72-43-5	Methoxychlor		19	U
53494-70-5	Endrin Ketone		3.8	U
7421-36-3	Endrin aldehyde		3.8	U
57-74-9	Chlordane		38	U
8001-35-2	Toxaphene		190	U
12674-11-2	Aroclor-1016		38	U
11104-28-2	Aroclor-1221		75	U
11141-16-5	Aroclor-1232		38	U
53469-21-9	Aroclor-1242		38	U
12672-29-6	Aroclor-1248		38	U
11097-69-1	Aroclor-1254		38	U
11096-82-5	Aroclor-1260		38	U
510-15-6	Chlorobenzilate		75	U
2303-16-4	Diallate		375	U
465-73-6	Isodrin		9.4	U
143-50-0	Kepone		38	U
82-68-8	Pentachloronitrobenzene		7.5	U

Vi - Volume of extract injected (ul) - 1

Ve - Volume of Water extracted (ml) - N/A

We - Weight of sample extracted (g) - 30.2

Vt - Volume of total extract (ul) - 10,000

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Pesticide/PCBs

Case No. ——— 9510199

Account # ——— MKC70

Client Name ——— MK CORP

Sample Number
NSWC 24/00 067

AENI # 9510199-014

Concentration ——— Low

Date Sampled ——— 10/17/95

Date Received ——— 10/18/95

Date Ext Prepared: ——— 10/24/95

Date Analyzed ——— 10/28/95

Conc/Dil Factor ——— 5

Method: ——— 8080

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extraction		Yes
Percent Moisture	5.5	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		8.5	U
319-85-7	beta-BHC		8.5	U
319-86-8	delta-BHC		8.5	U
58-89-9	gamma-BHC (Lindane)		17	U
76-44-8	Heptachlor		8.5	U
309-00-2	Aldrin		8.5	U
1024-57-3	Heptachlor epoxide		8.5	U
959-98-8	Endosulfan I	8.6	8.5	P
60-57-1	Dieldrin		17	U
72-55-9	4, 4'-DDE		17	U
72-20-8	Endrin		17	U
33213-65-9	Endosulfan II		17	U
72-54-8	4, 4'-DDD		17	U
1031-07-8	Endosulfan Sulfate		17	U
50-29-3	4, 4'-DDT		17	U
72-43-5	Methoxychlor		85	U
53494-70-5	Endrin Ketone		17	U
7421-36-3	Endrin aldehyde		17	U
57-74-9	Chlordane		170	U
8001-35-2	Toxaphene		850	U
12674-11-2	Aroclor-1016		170	U
11104-28-2	Aroclor-1221		340	U
11141-16-5	Aroclor-1232		170	U
53469-21-9	Aroclor-1242		170	U
12672-29-6	Aroclor-1248		170	U
11097-69-1	Aroclor-1254		170	U
11096-82-5	Aroclor-1260		170	U
510-15-6	Chlorobenzilate		339	U
2303-16-4	Diallate		1693	U
465-73-6	Isodrin		42	U
143-50-0	Kepone		169	U
82-68-8	Pentachloronitrobenzene		34	U

Vi - Volume of extract injected (ul) - _____ 1

Vs - Volume of Water extracted (ml) - _____ N/A

Ws - Weight of sample extracted (g) - _____ 31.25

Vt - Volume of total extract (ul) - _____ 10,000

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

Pesticide/PCBs

Case No :——— 9510199

Account # ——— MKC70

Client Name ——— MK CORP

Sample Number
NSWC 24/00 068

AENI # 9510199-015

Concentration: ——— Low

Date Sampled: ——— 10/17/95

Date Received: ——— 10/18/95

Date Ext Prepared ——— 10/24/95

Date Analyzed: ——— 10/28/95

Conc/Dil Factor: ——— 2

Method: ——— 8080

GPC Cleanup | | Yes | X | No

Separatory Funnel Extraction | | Yes

Continuous Liquid - Liquid Extraction | | Yes

Percent Moisture 15.6

Matrix: SOIL

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		3.9	U
319-85-7	beta-BHC		3.9	U
319-86-8	delta-BHC		3.9	U
58-89-9	gamma-BHC (Lindane)		7.9	U
76-44-8	Heptachlor		3.9	U
309-00-2	Aldrin		3.9	U
1024-57-3	Heptachlor epoxide		3.9	U
959-98-8	Endosulfan I		3.9	U
60-57-1	Dieldrin		7.9	U
75-55-9	4, 4'-DDE	9.1	7.9	
72-20-8	Endrin		7.9	U
33213-65-9	Endosulfan II		7.9	U
72-54-8	4, 4'-DDD		7.9	U
1031-07-8	Endosulfan Sulfate		7.9	U
50-29-3	4, 4'-DDT	12	7.9	P
72-43-5	Methoxychlor		39	U
53494-70-5	Endrin Ketone		7.9	U
7421-36-3	Endrin aldehyde		7.9	U
57-74-9	Chlordane	12	79	P
8001-35-2	Toxaphene		390	U
12674-11-2	Aroclor-1016		79	U
11104-28-2	Aroclor-1221		160	U
11141-16-5	Aroclor-1232		79	U
53469-21-9	Aroclor-1242		79	U
12672-29-6	Aroclor-1248		79	U
11097-69-1	Aroclor-1254		79	U
11096-82-5	Aroclor-1260		79	U
510-15-6	Chlorobenzilate		157	U
2303-16-4	Diallate		787	U
465-73-6	Isodrin		20	U
143-50-0	Kepone		79	U
82-68-8	Pentachloronitrobenzene		16	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.12

Vt - Volume of total extract (ul) - 10,000

ORGANOCHLORINE PESTICIDES AND PCBs ANALYSIS DATA SHEET

SAMPLE NO

24-01-069

Name: COMPUCHEM, PTP Contract

Lab Code: COMPU Case No.: 31903 SAS No. SDG No.: 21010

Matrix: (soil/water) SOIL Lab Sample ID: 783572

Sample wt/vol: 30.50 (g/ml) G Lab File ID:

% Moisture: 17 decanted: (Y/N) N Date Received: 02/09/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 02/19/96

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 02/22/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 9.2 Sulfur Cleanup: (Y/N) N

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

CAS NO.	COMPOUND		C
58-89-9	gamma-BHC (Lindane)	1.2	U
76-44-8	Heptachlor	1.2	U
309-00-2	Aldrin	1.2	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	0.33	U
33213-65-9	Endosulfan II	4.1	U
50-29-3	4,4'-DDT	4.1	U
72-43-5	Methoxychlor	0.74	U
319-84-6	alpha-BHC	1.2	U
319-85-7	beta-BHC	1.2	U
319-86-8	delta-BHC	1.2	U
1024-57-3	Heptachlor epoxide	1.2	U
72-55-9	4,4'-DDE	0.20	JP
72-20-8	Endrin	3.0	U
72-54-8	4,4'-DDD	4.1	U
7421-93-4	Endrin aldehyde	1.2	U
1031-07-8	Endosulfan sulfate	2.4	U
11096-82-5	Aroclor-1260	24	U
12674-11-2	Aroclor-1016	24	U
11104-28-2	Aroclor-1221	24	U
11141-16-5	Aroclor-1232	24	U
53469-21-9	Aroclor-1242	24	U
12672-29-6	Aroclor-1248	24	U
11097-69-1	Aroclor-1254	24	U
8001-35-2	Toxaphene	24	U
57-74-9	Chlordane (Technical)	4.7	U

FORM I 8080

1D

ORGANOCHLORINE PESTICIDES AND PCBs ANALYSIS DATA SHEET

SAMPLE NO

24-00-070

Name: COMPUCHEM, RTP Contract:

Lab Code: COMPU Case No.: 31933 SAS No.: SDG No.: 0101C

Matrix: (soil/water) SOIL Lab Sample ID: 782598

Sample wt/vol: 30.50 (g/ml) G Lab File ID:

% Moisture: 15 decanted: (Y/N) N Date Received: 02/09/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 02/19/96

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 02/22/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.1 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
58-89-9	gamma-BHC (Lindane)	1.2	U
76-44-8	Heptachlor	1.2	U
309-00-2	Aldrin	1.2	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	0.11	JP
33213-65-9	Endosulfan II	0.16	JP
50-29-3	4,4'-DDT	0.18	JP
72-43-5	Methoxychlor	0.41	JP
319-84-6	alpha-BHC	1.2	U
319-85-7	beta-BHC	1.2	U
319-86-8	delta-BHC	0.088	JP
1024-57-3	Heptachlor epoxide	1.2	U
72-55-9	4,4'-DDE	0.35	J
72-20-8	Endrin	2.9	U
72-54-8	4,4'-DDD	4.1	U
7421-93-4	Endrin aldehyde	1.2	U
1031-07-8	Endosulfan sulfate	2.3	U
11096-82-5	Aroclor-1260	23	U
12674-11-2	Aroclor-1016	23	U
11104-28-2	Aroclor-1221	23	U
11141-16-5	Aroclor-1232	23	U
53469-21-9	Aroclor-1242	23	U
12672-29-6	Aroclor-1248	23	U
11097-69-1	Aroclor-1254	23	U
8001-35-2	Toxaphene	23	U
57-74-9	Chlordane (Technical)	4.6	U

FORM I 8080

1D

ORGANOCHLORINE PESTICIDES AND PCBs ANALYSIS DATA SHEET

SAMPLE NO

24-00-171

b Name COMPUCHEM RTP Contract.

Lab Code: COMPU Case No : 31933 SAS No : SDG No.. 01012

Matrix: (soil/water) SOIL Lab Sample ID: 782618

Sample wt/vol: 30.00 g (ml) G Lab File ID:

% Moisture. 14 decanted: (Y/N) N Date Received: 02/09/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 02/19/96

Concentrated Extract Volume 2000 (uL) Date Analyzed: 02/22/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.6 Sulfur Cleanup. (Y/N) N

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

CAS NO.	COMPOUND		C
58-89-9	gamma-BHC (Lindane)	1.2	U
76-44-8	Heptachlor	1.2	U
309-00-2	Aldrin	1.2	U
959-98-8	Endosulfan I	0.13	JH
60-57-1	Dieldrin	0.089	JP
33213-65-9	Endosulfan II	4.1	U
50-29-3	4,4'-DDT	0.27	J
72-43-5	Methoxychlor	4.1	U
319-84-6	alpha-BHC	1.2	U
319-85-7	beta-BHC	1.2	U
319-86-8	delta-BHC	0.081	J
1024-57-3	Heptachlor epoxide	1.2	U
72-55-9	4,4'-DDE	0.19	JP
72-20-8	Endrin	2.9	U
72-54-8	4,4'-DDD	0.18	JP
7421-93-4	Endrin aldehyde	1.2	U
1031-07-8	Endosulfan sulfate	2.3	U
11096-82-5	Aroclor-1260	23	U
12674-11-2	Aroclor-1016	23	U
11104-28-2	Aroclor-1221	23	U
11141-16-5	Aroclor-1232	23	U
53469-21-9	Aroclor-1242	23	U
12672-29-6	Aroclor-1248	23	U
11097-69-1	Aroclor-1254	23	U
8001-35-2	Toxaphene	23	U
57-74-9	Chlordane (Technical)	4.7	U

FORM I 8080

1D

ORGANOCHLORINE PESTICIDES AND PCBs ANALYSIS DATA SHEET

SAMPLE NO.

24-00-072

Lab Name: COMPUCHEM RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0101C

Matrix: (soil/water) SOIL Lab Sample ID: 782625

Sample wt/vol: 30.20 (g/ml) G Lab File ID:

% Moisture: 0 decanted: (Y/N) N Date Received: 02/09/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 02/19/96

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 02/22/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

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

CAS NO.	COMPOUND		Q
58-89-9	gamma-BHC (Lindane)	0.99	U
76-44-8	Heptachlor	0.99	U
309-00-2	Aldrin	0.99	U
959-98-8	Endosulfan I	1.5	U
60-57-1	Dieldrin	1.5	U
33213-65-9	Endosulfan II	3.5	U
50-29-3	4,4'-DDT	3.5	U
72-43-5	Methoxychlor	3.5	U
319-84-6	alpha-BHC	0.10	JP
319-85-7	beta-BHC	0.99	U
319-86-8	delta-BHC	0.99	U
1024-57-3	Heptachlor epoxide	0.99	U
72-55-9	4,4'-DDE	3.5	U
72-20-8	Endrin	2.5	U
72-54-8	4,4'-DDD	3.5	U
7421-93-4	Endrin aldehyde	0.99	U
1031-07-8	Endosulfan sulfate	2.0	U
11096-82-5	Aroclor-1260	20	U
12674-11-2	Aroclor-1016	20	U
11104-28-2	Aroclor-1221	20	U
11141-16-5	Aroclor-1232	20	U
53469-21-9	Aroclor-1242	20	U
12672-29-6	Aroclor-1248	20	U
11097-69-1	Aroclor-1254	20	U
8001-35-2	Toxaphene	20	U
57-74-9	Chlordane (Technical)	4.0	U

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ORGANOCHLORINE PESTICIDES AND PCBs ANALYSIS DATA SHEET

SAMPLE NO

24-00-073

Name: COMPUCHEM RTP Contract

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 21212

Matrix: (soil/water) SOIL Lab Sample ID: 782611

Sample wt/vol. 30.00 (g/ml) G Lab File ID:

% Moisture: 14 decanted. (Y/N) N Date Received: 02/09/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 02/19/96

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 02/22/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.3 Sulfur Cleanup: (Y/N) N

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

CAS NO.	COMPOUND		C
58-89-9	gamma-BHC (Lindane)	1.2	U
76-44-8	Heptachlor	0.074	JP
309-00-2	Aldrin	1.2	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	0.082	JP
33213-65-9	Endosulfan II	4.1	U
50-29-3	4,4'-DDT	4.1	U
72-43-5	Methoxychlor	0.29	JP
319-84-6	alpha-BHC	1.2	U
319-85-7	beta-BHC	1.2	U
319-86-8	delta-BHC	0.068	J
1024-57-3	Heptachlor epoxide	0.059	JP
72-55-9	4,4'-DDE	0.19	JP
72-20-8	Endrin	2.9	U
72-54-8	4,4'-DDD	4.1	U
7421-93-4	Endrin aldehyde	1.2	U
1031-07-8	Endosulfan sulfate	2.3	U
11096-82-5	Aroclor-1260	23	U
12674-11-2	Aroclor-1016	23	U
11104-28-2	Aroclor-1221	23	U
11141-16-5	Aroclor-1232	23	U
53469-21-9	Aroclor-1242	23	U
12672-29-6	Aroclor-1248	23	U
11097-69-1	Aroclor-1254	23	U
8001-35-2	Toxaphene	23	U
57-74-9	Chlordane (Technical)	4.7	U

FORM I 8080

METALS DATA

U.S. EPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

00-044

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___
Lab Code: _____ Case No.. 95071 SAS No.: _____ SDG No.: 507125
Matrix (soil/water). SOIL_ Lab Sample ID: 950712501
Level (low/med): LOW__ Date Received: 07/14/95
% Solids· _97.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_		_		NR
7440-36-0	Antimony_	2.1	U		P_
7440-38-2	Arsenic__	1.5	_		P_
7440-39-3	Barium___	28.6	_		P_
7440-41-7	Beryllium	0.21	U		P_
7440-43-9	Cadmium__	0.45	_		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_	10	_		P_
7440-48-4	Cobalt___	4.6	_		P_
7440-50-8	Copper___	13.1	_		P_
7439-89-6	Iron_____		_		NR
7439-92-1	Lead_____	9.1	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury__	0.30	_		AV
7440-02-0	Nickel___	7.5	_		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	0.52	U		P_
7440-22-4	Silver___	7.9	_		P_
7440-23-5	Sodium___		_		NR
7440-28-0	Thallium_	1.0	U		P_
7440-62-2	Vanadium_	3.6	_		P_
7440-66-6	Zinc_____	61.6	_		P_
	Cyanide__		_		NR
7440-31-5_	Tin_____	0.26	U		P_
7439-93-2_	Lithium__		_		NR
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			_		
			_		
			_		
			_		
			_		

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

ments:
CLIENT_ID: __NSWC-24/00-044

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

00-045

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___
Lab Code _____ Case No. 95071 SAS No.: _____ SDG No.: 507125
Matrix (soil/water): SOIL_ Lab Sample ID: 950712502
Level (low/med): LOW__ Date Received: 07/14/95
% Solids: _99.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_		_		NR
7440-36-0	Antimony_	2.2	_		P_
7440-38-2	Arsenic__	2.3	_		P_
7440-39-3	Barium___	66.1	_		P_
7440-41-7	Beryllium	0.21	U		P_
7440-43-9	Cadmium__	0.92	_		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_	8.1	_		P_
7440-48-4	Cobalt___	5 0	_		P_
7440-50-8	Copper___	17.9	_		P_
7439-89-6	Iron____		_		NR
7439-92-1	Lead____	12.9	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury__	0.07	U		AV
7440-02-0	Nickel___	8.1	_		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	0.54	U		P_
7440-22-4	Silver___	11.0	_		P_
7440-23-5	Sodium___		_		NR
7440-28-0	Thallium_	1.1	U		P_
7440-62-2	Vanadium_	5.2	_		P_
7440-66-6	Zinc____	48.8	_		P_
	Cyanide__		_		NR
7440-31-5_	Tin____	0.25	U		P_
7439-93-2_	Lithium__		_		NR
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			_		
			_		
			_		
			_		
			_		
			_		

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
CLIENT_ID: __NSWC-24/00-045

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

00-046

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___
Lab Code: _____ Case No.: 95071 SAS No.: _____ SDG No.: 507125
Matrix (soil/water): SOIL_ Lab Sample ID: 950712503
Level (low/med): LOW__ Date Received: 07/14/95
% Solids: _98.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_		_		NR
7440-36-0	Antimony_	2.2	U		P_
7440-38-2	Arsenic__	2.3	_		P_
7440-39-3	Barium___	20.5	_		P_
7440-41-7	Beryllium	0.22	U		P_
7440-43-9	Cadmium__	0.43	U		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_	5.7	_		P_
7440-48-4	Cobalt___	5.1	_		P_
7440-50-8	Copper___	13.1	_		P_
7439-89-6	Iron_____		_		NR
7439-92-1	Lead_____	6.8	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury__	0.10	U		AV
7440-02-0	Nickel___	7.7	_		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	0.54	U		P_
7440-22-4	Silver___	4.4	_		P_
7440-23-5	Sodium___		_		NR
7440-28-0	Thallium_	1.1	U		P_
7440-62-2	Vanadium_	5.1	_		P_
7440-66-6	Zinc_____	27.6	_		P_
	Cyanide__		_		NR
7440-31-5_	Tin_____	0.25	U		P_
7439-93-2_	Lithium__		_		NR
			_		
			_		
			_		
			_		
			_		
			_		
			_		

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
CLIENT_ID: __NSWC-24/00-046

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

00-047

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___
Lab Code: _____ Case No.: 95071 SAS No.: _____ SDG No.: 507125
Matrix (soil/water): SOIL_ Lab Sample ID: 950712504
Level (low/med): LOW__ Date Received: 07/14/95
% Solids: _70.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	2.3			P
7440-39-3	Barium	16.5			P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	0.59	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	8.6			P
7440-48-4	Cobalt	4.8			P
7440-50-8	Copper	56.4			P
7439-89-6	Iron				NR
7439-92-1	Lead	9.5			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.28			AV
7440-02-0	Nickel	9.2			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.74	U		P
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.5	U		P
7440-62-2	Vanadium	9.3			P
7440-66-6	Zinc	72.0			P
	Cyanide				NR
7440-31-5	Tin	0.35	U		P
7439-93-2	Lithium				NR

Color Before _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After _____ Artifacts: _____

Comments
CLIENT_ID: __NSWC-24/00-047

FORM I - IN ILM02.1

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

00-048

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 95071 SAS No.: _____ SDG No 507125

Matrix (soil/water): SOIL_ Lab Sample ID: 950712505

Level (low/med): LOW__ Date Received: 07/14/95

% Solids. _96.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_	1.9	U		P_
7440-38-2	Arsenic__	1.7			P_
7440-39-3	Barium___	12.2			P_
7440-41-7	Beryllium	0 19	U		P_
7440-43-9	Cadmium__	0.39	U		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	6.2			P_
7440-48-4	Cobalt___	3.5			P_
7440-50-8	Copper___	9.2			P_
7439-89-6	Iron_____				NR
7439-92-1	Lead_____	4 8			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.08	U		AV
7440-02-0	Nickel___	6.1			P_
7440-09-7	Potassium				NR
7782-49-2	Selenium_	0.49	U		P_
7440-22-4	Silver___	0.78	U		P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_	0.97	U		P_
7440-62-2	Vanadium_	6.0			P_
7440-66-6	Zinc_____	29.1			P_
	Cyanide__				NR
7440-31-5_	Tin_____	0.26	U		P_
7439-93-2_	Lithium__				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

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CLIENT_ID: __NSWC-24/00-048

FORM I - IN

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

00-049

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract. MK_CORP___

Lab Code: _____ Case No.: 95071 SAS No. _____ SDG No : 507125

Matrix (soil/water): SOIL_ Lab Sample ID: 950712506

Level (low/med): LOW__ Date Received: 07/14/95

% Solids: _95.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_		_		NR
7440-36-0	Antimony_	2.0	U		P_
7440-38-2	Arsenic__	1.6	_		P_
7440-39-3	Barium___	14.0	_		P_
7440-41-7	Beryllium	0.20	U		P_
7440-43-9	Cadmium__	0.40	U		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_	4.9	_		P_
7440-48-4	Cobalt___	4.8	_		P_
7440-50-8	Copper___	7.2	_		P_
7439-89-6	Iron____		_		NR
7439-92-1	Lead____	4.7	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury__	0.17	_		AV
7440-02-0	Nickel___	7.6	_		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	0.50	U		P_
7440-22-4	Silver___	0.81	U		P_
7440-23-5	Sodium___		_		NR
7440-28-0	Thallium_	1.0	U		P_
7440-62-2	Vanadium_	5.2	_		P_
7440-66-6	Zinc____	25.2	_		P_
	Cyanide__		_		NR
7440-31-5_	Tin____	0.26	U		P_
7439-93-2_	Lithium__		_		NR
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Color Before: _____ Clarity Before _____ Texture: _____

Color After. _____ Clarity After: _____ Artifacts: _____

Comments:

CLIENT_ID: __NSWC-24/00-049

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

00-050

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___
Lab Code: _____ Case No.. 95071 SAS No.. _____ SDG No.: 507125
Matrix (soil/water): SOIL_ Lab Sample ID: 950712507
Level (low/med): LOW__ Date Received: 07/14/95
% Solids: _97.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_		_		NR
7440-36-0	Antimony_	1.9	U		P_
7440-38-2	Arsenic__	1.5	_		P_
7440-39-3	Barium___	17.7	_		P_
7440-41-7	Beryllium	0.19	U		P_
7440-43-9	Cadmium__	0.39	U		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_	6.0	_		P_
7440-48-4	Cobalt___	4.4	_		P_
7440-50-8	Copper___	8.9	_		P_
7439-89-6	Iron____		_		NR
7439-92-1	Lead____	5.6	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury__	0.10	U		AV
7440-02-0	Nickel___	8.3	_		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	0.49	U		P_
7440-22-4	Silver___	0.78	U		P_
7440-23-5	Sodium___		_		NR
7440-28-0	Thallium_	0.97	U		P_
7440-62-2	Vanadium_	5.2	_		P_
7440-66-6	Zinc____	32.1	_		P_
	Cyanide__		_		NR
7440-31-5_	Tin_____	0 26	U		P_
7439-93-2_	Lithium__		_		NR
			_		
			_		
			_		
			_		
			_		
			_		
			_		

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

mments:
CLIENT_ID: __NSWC-24/00-050

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24/00 055

Lab Name: AENI Contract: 9510199

Lab Code: Case No.: MKC70 SAS No.: SDG No.: 24/00

Matrix (soil/water): SOIL Lab Sample ID: 951019902

Level (low/med): LOW Date Received: 10/18/95

% Solids: 90.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.1	U	N	P
7440-38-2	Arsenic	1.7		N	P
7440-39-3	Barium	27.8			P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.42	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	9.9			P
7440-48-4	Cobalt	1.4			P
7440-50-8	Copper	5.0			P
7439-89-6	Iron				NR
7439-92-1	Lead	6.0			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.08	U		AV
7440-02-0	Nickel	4.7			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.52	U		P
7440-22-4	Silver	0.84	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.0	U		P
7440-62-2	Vanadium	14.7			P
7440-66-6	Zinc	18.5			P
	Cyanide				NR
7440-31-5	Tin	21.0	U		P
7439-93-2	Lithium	10.5	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CLIENT_ID: NSWC_24/00_055

U.S. EPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24/00 056

Lab Name: AENI Contract: 9510199

Lab Code: Case No.: MKC70 SAS No.: SDG No.: 24/00

Matrix (soil/water): SOIL Lab Sample ID: 951019903

Level (low/med): LOW Date Received: 10/18/95

% Solids: 94.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.1	U	N	P
7440-38-2	Arsenic	2.9		N	P
7440-39-3	Barium	26.2			P
7440-41-7	Beryllium	0.27			P
7440-43-9	Cadmium	0.42	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	13.9			P
7440-48-4	Cobalt	3.3			P
7440-50-8	Copper	7.0			P
7439-89-6	Iron				NR
7439-92-1	Lead	7.6			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.08	U		AV
7440-02-0	Nickel	7.9			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.53	U		P
7440-22-4	Silver	0.85	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	17.8			P
7440-66-6	Zinc	26.3			P
	Cyanide				NR
7440-31-5	Tin	21.1	U		P
7439-93-2	Lithium	10.6	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CLIENT_ID: NSWC_24/00_056

U.S. EPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24/00 057

Lab Name: AENI Contract: 9510199

Lab Code: Case No.: MKCTO SAS No.: SDG No.: 24/00

Matrix (soil/water): SOIL Lab Sample ID: 951019904

Level (low/med): LOW Date Received: 10/18/95

% Solids: 89.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.2	U	N	P
7440-38-2	Arsenic	4.3		N	P
7440-39-3	Barium	84.3			P
7440-41-7	Beryllium	0.46			P
7440-43-9	Cadmium	0.44	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	20.7			P
7440-48-4	Cobalt	2.2			P
7440-50-8	Copper	8.0			P
7439-89-6	Iron				NR
7439-92-1	Lead	43.8			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.08	U		AV
7440-02-0	Nickel	7.8			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.56	U		P
7440-22-4	Silver	0.89	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	23.3			P
7440-66-6	Zinc	27.5			P
	Cyanide				NR
7440-31-5	Tin	22.2	U		P
7439-93-2	Lithium	11.1	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

C ents:

LIENT_ID: NSWC_24/00_057

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24/00 058

Lab Name: AENI Contract: 9510199
Lab Code: Case No.: MRC70 SAS No.: SDG No.: 24/00
Matrix (soil/water): SOIL Lab Sample ID: 951019905
Level (low/med): LOW Date Received: 10/18/95
% Solids: 90.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.2	U	N	P
7440-38-2	Arsenic	4.0		N	P
7440-39-3	Barium	36.1			P
7440-41-7	Beryllium	0.37			P
7440-43-9	Cadmium	0.44	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	21.2			P
7440-48-4	Cobalt	3.0			P
7440-50-8	Copper	9.0			P
7439-89-6	Iron				NR
7439-92-1	Lead	8.7			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.11	U		AV
7440-02-0	Nickel	10.2			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.55	U		P
7440-22-4	Silver	0.88	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	23.5			P
7440-66-6	Zinc	34.3			P
	Cyanide				NR
7440-31-5	Tin	21.9	U		P
7439-93-2	Lithium	11.0	U		P

Color Before: Clarity Before: Texture:
Color After: Clarity After: Artifacts:

ents:
LIENT_ID: NSWC_24/00_058

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24/00 059

Lab Name: AENI Contract: 9510199

Lab Code: Case No.: MKCTO SAS No.: SDG No.: 24/00

Matrix (soil/water): SOIL Lab Sample ID: 951019906

Level (low/med): LOW Date Received: 10/18/95

% Solids: 92.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.0	U	N	P
7440-38-2	Arsenic	3.1		N	P
7440-39-3	Barium	26.6			P
7440-41-7	Beryllium	0.26			P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	9.3			P
7440-48-4	Cobalt	3.8			P
7440-50-8	Copper	8.3			P
7439-89-6	Iron				NR
7439-92-1	Lead	6.9			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.07	U		AV
7440-02-0	Nickel	6.1			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.50	U		P
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.0	U		P
7440-62-2	Vanadium	13.6			P
7440-66-6	Zinc	28.9			P
	Cyanide				NR
7440-31-5	Tin	20.1	U		P
7439-93-2	Lithium	10.0	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CLIENT_ID: NSWC_24/00_059

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24/00 060

Lab Name: AENI Contract: 9510199

Lab Code: Case No.: MKC70 SAS No.: SDG No.: 24/00

Matrix (soil/water): SOIL Lab Sample ID: 951019907

Level (low/med): LOW Date Received: 10/18/95

% Solids: 94.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.1	U	N	P
7440-38-2	Arsenic	3.7		N	P
7440-39-3	Barium	43.8			P
7440-41-7	Beryllium	0.25			P
7440-43-9	Cadmium	0.47			P
7440-70-2	Calcium				NR
7440-47-3	Chromium	10.2			P
7440-48-4	Cobalt	4.8			P
7440-50-8	Copper	20.8			P
7439-89-6	Iron				NR
7439-92-1	Lead	16.2			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.13			AV
7440-02-0	Nickel	7.4			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.52	U		P
7440-22-4	Silver	0.84	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.0	U		P
7440-62-2	Vanadium	10.8			P
7440-66-6	Zinc	71.6			P
	Cyanide				NR
7440-31-5	Tin	21.0	U		P
7439-93-2	Lithium	10.5	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CLIENT_ID: NSWC_24/00_060

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24/00 061

Lab Name: AENI Contract: 9510199

Lab Code: Case No.: MKC70 SAS No.: SDG No.: 24/00

Matrix (soil/water): SOIL Lab Sample ID: 951019908

Level (low/med): LOW Date Received: 10/18/95

% Solids: 90.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.2	U	N	P
7440-38-2	Arsenic	3.1		N	P
7440-39-3	Barium	22.5			P
7440-41-7	Beryllium	0.27			P
7440-43-9	Cadmium	0.43	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	7.6			P
7440-48-4	Cobalt	4.4			P
7440-50-8	Copper	4.9			P
7439-89-6	Iron				NR
7439-92-1	Lead	4.6			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	4.9			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.54	U		P
7440-22-4	Silver	0.87	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	12.0			P
7440-66-6	Zinc	17.9			P
	Cyanide				NR
7440-31-5	Tin	21.7	U		P
7439-93-2	Lithium	10.8	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CLIENT_ID: NSWC_24/00_061

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24/00 062

Lab Name: AENI Contract: 9510199

Lab Code: Case No.: MRC70 SAS No.: SDG No.: 24/00

Matrix (soil/water): SOIL Lab Sample ID: 951019909

Level (low/med): LOW Date Received: 10/18/95

% Solids: 89.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.2	U	N	P
7440-38-2	Arsenic	2.8		N	P
7440-39-3	Barium	26.0			P
7440-41-7	Beryllium	0.23			P
7440-43-9	Cadmium	0.43	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	9.5			P
7440-48-4	Cobalt	2.2			P
7440-50-8	Copper	5.5			P
7439-89-6	Iron				NR
7439-92-1	Lead	5.7			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.05	U		AV
7440-02-0	Nickel	5.1			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.54	U		P
7440-22-4	Silver	0.86	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	12.8			P
7440-66-6	Zinc	20.8			P
	Cyanide				NR
7440-31-5	Tin	21.6	U		P
7439-93-2	Lithium	10.8	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CLIENT_ID: NSWC_24/00_062

U.S. EPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24/00 063

Lab Name: AENI Contract: 9510199

Lab Code: Case No.: MKC70 SAS No.: SDG No.: 24/00

Matrix (soil/water): SOIL Lab Sample ID: 951019910

Level (low/med): LOW Date Received: 10/18/95

% Solids: 90.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.2	U	N	P
7440-38-2	Arsenic	4.7		N	P
7440-39-3	Barium	26.8			P
7440-41-7	Beryllium	0.30			P
7440-43-9	Cadmium	0.44	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	12.7			P
7440-48-4	Cobalt	2.3			P
7440-50-8	Copper	6.1			P
7439-89-6	Iron				NR
7439-92-1	Lead	5.9			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	6.6			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.55	U		P
7440-22-4	Silver	0.87	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	16.9			P
7440-66-6	Zinc	22.1			P
	Cyanide				NR
7440-31-5	Tin	21.8	U		P
7439-93-2	Lithium	10.9	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

C ents:

LIENT_ID: NSWC_24/00_063

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24/00 064

Lab Name: AENI Contract: 9510199

Lab Code: Case No.: MKC70 SAS No.: SDG No.: 24/00

Matrix (soil/water): SOIL Lab Sample ID: 951019911

Level (low/med): LOW Date Received: 10/18/95

% Solids: 93.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.1	U	N	P
7440-38-2	Arsenic	1.3		N	P
7440-39-3	Barium	22.4			P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.43	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	8.4			P
7440-48-4	Cobalt	2.0			P
7440-50-8	Copper	3.5			P
7439-89-6	Iron				NR
7439-92-1	Lead	4.1			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.07	U		AV
7440-02-0	Nickel	5.2			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.53	U		P
7440-22-4	Silver	0.85	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	10.2			P
7440-66-6	Zinc	18.8			P
	Cyanide				NR
7440-31-5	Tin	21.4	U		P
7439-93-2	Lithium	10.7	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CLIENT_ID: NSWC_24/00_064

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24/00 065

Lab Name: AENI Contract: 9510199

Lab Code: Case No.: MKC70 SAS No.: SDG No.: 24/00

Matrix (soil/water): SOIL Lab Sample ID: 951019912

Level (low/med): LOW Date Received: 10/18/95

% Solids: 86.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.2	U	N	P
7440-38-2	Arsenic	5.3		N	P
7440-39-3	Barium	36.3			P
7440-41-7	Beryllium	0.41			P
7440-43-9	Cadmium	0.44	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	16.9			P
7440-48-4	Cobalt	3.4			P
7440-50-8	Copper	8.6			P
7439-89-6	Iron				NR
7439-92-1	Lead	8.4			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.08	U		AV
7440-02-0	Nickel	9.0			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.55	U		P
7440-22-4	Silver	0.88	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	21.8			P
7440-66-6	Zinc	31.4			P
	Cyanide				NR
7440-31-5	Tin	22.0	U		P
7439-93-2	Lithium	11.0	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CLIENT_ID: NSWC_24/00_065

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24/00 066

Lab Name: AENI Contract: 9510199

Lab Code: Case No.: MKC70 SAS No.: SDG No.: 24,00

Matrix (soil/water): SOIL Lab Sample ID: 951019910

Level (low/med): LOW Date Received: 10/18/95

% Solids: 88.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.2	U	N	P
7440-38-2	Arsenic	3.4		N	P
7440-39-3	Barium	39.3			P
7440-41-7	Beryllium	0.30			P
7440-43-9	Cadmium	0.45	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	12.9			P
7440-48-4	Cobalt	4.2			P
7440-50-8	Copper	7.0			P
7439-89-6	Iron				NR
7439-92-1	Lead	7.3			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.11	U		AV
7440-02-0	Nickel	7.0			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.56	U		P
7440-22-4	Silver	0.89	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	19.7			P
7440-66-6	Zinc	29.7			P
	Cyanide				NR
7440-31-5	Tin	22.3	U		P
7439-93-2	Lithium	11.2	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

ents:

LIENT_ID: NSWC_24/00_066

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24/00 067

Lab Name: AENI Contract: 9510199

Lab Code: Case No.: MKC70 SAS No.: SDG No.: 24/00

Matrix (soil/water): SOIL Lab Sample ID: 951019914

Level (low/med): LOW Date Received: 10/18/95

% Solids: 94.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.1	U	N	P
7440-38-2	Arsenic	3.4		N	P
7440-39-3	Barium	49.2			P
7440-41-7	Beryllium	0.26			P
7440-43-9	Cadmium	0.53			P
7440-70-2	Calcium				NR
7440-47-3	Chromium	12.9			P
7440-48-4	Cobalt	4.2			P
7440-50-8	Copper	20.8			P
7439-89-6	Iron				NR
7439-92-1	Lead	17.7			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.29			AV
7440-02-0	Nickel	7.8			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.52	U		P
7440-22-4	Silver	0.84	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.0	U		P
7440-62-2	Vanadium	14.0			P
7440-66-6	Zinc	83.8			P
	Cyanide				NR
7440-31-5	Tin	28.1			P
7439-93-2	Lithium	10.5	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CLIENT_ID: NSWC_24/00_067

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24/00 068

Lab Name: AENI Contract: 9510199

Lab Code: Case No.: MKC70 SAS No.: SDG No.: 24/00

Matrix (soil/water): SOIL Lab Sample ID: 951019915

Level (low/med): LOW Date Received: 10/18/95

% Solids: 94.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.0	U	N	P
7440-38-2	Arsenic	3.2		N	P
7440-39-3	Barium	46.4			P
7440-41-7	Beryllium	0.24			P
7440-43-9	Cadmium	0.49			P
7440-70-2	Calcium				NR
7440-47-3	Chromium	15.0			P
7440-48-4	Cobalt	4.3			P
7440-50-8	Copper	19.5			P
7439-89-6	Iron				NR
7439-92-1	Lead	16.5			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.32			AV
7440-02-0	Nickel	9.1			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.50	U		P
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.00	U		P
7440-62-2	Vanadium	14.4			P
7440-66-6	Zinc	79.4			P
	Cyanide				NR
7440-31-5	Tin	19.9	U		P
7439-93-2	Lithium	10	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CLIENT_ID: NSWC_24/00_068

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24-00-069

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____
Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 136C__
Matrix (soil/water): SOIL_ Lab Sample ID: 782581
Level (low/med): LOW__ Date Received: 02/09/96
% Solids: _84.5

Concentration Units (ug/L or mg/kg dry weight): UG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony_	435	B	N	P
7440-38-2	Arsenic__	5000		*	P
7440-39-3	Barium___	28100			P
7440-41-7	Beryllium	369	B		P
7440-43-9	Cadmium__	23.7	U		P
7440-47-3	Chromium_	14100		N*	P
7440-48-4	Cobalt___	1970	B		P
7440-50-8	Copper___	6930		N*	P
7439-92-1	Lead____	5880		*	P
7440-02-0	Nickel___	7090			P
7782-49-2	Selenium_	308	U	N	P
7440-22-4	Silver___	82.8	U		P
7440-28-0	Thallium_	414	U		P
7440-62-2	Vanadium_	17700		N*	P
7440-66-6	Zinc____	26200		*	P
7439-93-2	Lithium__	3450	B		P
7440-31-5	Tin_____	1530	B		P

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM
Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24-00-070

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 136C__

Matrix (soil/water): SOIL_ Lab Sample ID: 782601

Level (low/med): LOW__ Date Received: 02/09/96

% Solids: _84.1

Concentration Units (ug/L or mg/kg dry weight): UG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony_	214	U	N	P
7440-38-2	Arsenic__	2990		*	P
7440-39-3	Barium___	27500			P
7440-41-7	Beryllium	307	B		P
7440-43-9	Cadmium__	23.8	U		P
7440-47-3	Chromium_	10600		N*	P
7440-48-4	Cobalt___	844	B		P
7440-50-8	Copper___	4490		N*	P
7439-92-1	Lead____	6540		*	P
7440-02-0	Nickel___	3840	B		P
7782-49-2	Selenium_	309	U	N	P
7440-22-4	Silver___	83.2	U		P
7440-28-0	Thallium_	416	U		P
7440-62-2	Vanadium_	16100		N*	P
7440-66-6	Zinc____	11700		*	P
7439-93-2	Lithium__	2080	B		P
7440-31-5	Tin_____	1830	B		P

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24-00-071

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 136C__

Matrix (soil/water): SOIL_ Lab Sample ID: 782621

Level (low/med): LOW__ Date Received: 02/09/96

% Solids: _86.8

Concentration Units (ug/L or mg/kg dry weight): UG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	207	U	N	P
7440-38-2	Arsenic	4570		*	P
7440-39-3	Barium	38200			P
7440-41-7	Beryllium	478	B		P
7440-43-9	Cadmium	23.0	U		P
7440-47-3	Chromium	12100		N*	P
7440-48-4	Cobalt	1690	B		P
7440-50-8	Copper	11000		N*	P
7439-92-1	Lead	7240		*	P
7440-02-0	Nickel	5630			P
7782-49-2	Selenium	300	U	N	P
7440-22-4	Silver	80.6	U		P
7440-28-0	Thallium	403	U		P
7440-62-2	Vanadium	20300		N*	P
7440-66-6	Zinc	19300		*	P
7439-93-2	Lithium	4120	B		P
7440-31-5	Tin	838	B		P

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIU

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

ents:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24-00-072

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 136C__

Matrix (soil/water): SOIL_ Lab Sample ID: 782628

Level (low/med): LOW__ Date Received: 02/09/96

% Solids: _88.4

Concentration Units (ug/L or mg/kg dry weight): UG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony_	204	U	N	P
7440-38-2	Arsenic__	2530		*	P
7440-39-3	Barium___	26900			P
7440-41-7	Beryllium	245	B		P
7440-43-9	Cadmium__	22.6	U		P
7440-47-3	Chromium_	9170		N*	P
7440-48-4	Cobalt___	1890	B		P
7440-50-8	Copper___	5090		N*	P
7439-92-1	Lead____	5370		*	P
7440-02-0	Nickel___	4470	B		P
7782-49-2	Selenium_	294	U	N	P
7440-22-4	Silver___	79.2	U		P
7440-28-0	Thallium_	396	U		P
7440-62-2	Vanadium_	12300		N*	P
7440-66-6	Zinc____	16000		*	P
7439-93-2	Lithium__	3120	B		P
7440-31-5	Tin_____	1430	B		P

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24-00-073

Lab Name: COMPUCHEM ENV. CORP. Contract: SW-846

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 136C

Matrix (soil/water): SOIL Lab Sample ID: 782614

Level (low/med): LOW Date Received: 02/09/96

% Solids: 83.6

Concentration Units (ug/L or mg/kg dry weight): UG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	215	U	N	P
7440-38-2	Arsenic	4850		*	P
7440-39-3	Barium	16300	B		P
7440-41-7	Beryllium	215	B		P
7440-43-9	Cadmium	23.9	U		P
7440-47-3	Chromium	6110		N*	P
7440-48-4	Cobalt	2340	B		P
7440-50-8	Copper	3520		N*	P
7439-92-1	Lead	4140		*	P
7440-02-0	Nickel	4860			P
7782-49-2	Selenium	311	U	N	P
7440-22-4	Silver	83.7	U		P
7440-28-0	Thallium	419	U		P
7440-62-2	Vanadium	9330		N*	P
7440-66-6	Zinc	13900		*	P
7439-93-2	Lithium	1780	B		P
7440-31-5	Tin	2130	B		P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

00-FB1

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___
Lab Code: _____ Case No. 95071 SAS No.. _____ SDG No.. 507125
Matrix (soil/water): WATER Lab Sample ID: 950712508
Level (low/med): LOW__ Date Received: 07/14/95
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_	20.0	U		P_
7440-38-2	Arsenic__	10.0	U		P_
7440-39-3	Barium___	100	U		P_
7440-41-7	Beryllium	2.0	U		P_
7440-43-9	Cadmium__	4.0	U		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	10.0	U		P_
7440-48-4	Cobalt___	11.0	U		P_
7440-50-8	Copper___	25.0	U		P_
7439-89-6	Iron_____				NR
7439-92-1	Lead_____	10.0	U		P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.20	U		AV
7440-02-0	Nickel___	15.0	U		P_
7440-09-7	Potassium				NR
7782-49-2	Selenium_	5.0	U		P_
7440-22-4	Silver___	8.0	U		P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_	10.0	U		P_
7440-62-2	Vanadium_	16.0	U		P_
7440-66-6	Zinc_____	30.5			P_
	Cyanide__				NR
7440-31-5_	Tin_____	250	U		P_
7439-93-2_	Lithium__				NR

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
CLIENT_ID: __NSWC-24/00-FB1

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

00-RB1

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___
Lab Code: _____ Case No.: 95071 SAS No.: _____ SDG No : 507125
Matrix (soil/water). WATER Lab Sample ID: 950712509
Level (low/med): LOW__ Date Received: 07/14/95
% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_	20.0	U		P_
7440-38-2	Arsenic__	10.0	U		P_
7440-39-3	Barium___	100	U		P_
7440-41-7	Beryllium	2.0	U		P_
7440-43 9	Cadmium__	4.0	U		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	10.0	U		P_
7440-48-4	Cobalt___	11.0	U		P_
7440-50-8	Copper___	25.0	U		P_
7439-89-6	Iron_____				NR
7439-92-1	Lead_____	10.0	U		P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.20	U		AV
7440-02-0	Nickel___	15.0	U		P_
7440-09-7	Potassium				NR
7782-49-2	Selenium_	5.0	U		P_
7440-22-4	Silver___	8.0	U		P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_	10.0	U		P_
7440-62-2	Vanadium_	16.0	U		P_
7440-66-6	Zinc_____	20.0	U		P_
	Cyanide__				NR
7440-31-5_	Tin_____	250	U		P_
7439-93-2_	Lithium__				NR

Color Before: _____ Clarity Before: _____ Texture. _____
Color After· _____ Clarity After: _____ Artifacts: _____

Comments:
CLIENT_ID: __NSWC-24/00-RB1

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24/00 RB9

Lab Name: AENI Contract: 9510199

Lab Code: Case No.: MKC70 SAS No.: SDG No.: 24/00

Matrix (soil/water): WATER Lab Sample ID: 951019901

Level (low/med): LOW Date Received: 10/18/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	20.0	U		P
7440-38-2	Arsenic	8.0	U		P
7440-39-3	Barium	100	U		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	4.0	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	11.0	U		P
7440-50-8	Copper	25.0	U		P
7439-89-6	Iron				NR
7439-92-1	Lead	10.0	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	15.0	U		P
7440-09-7	Potassium				NR
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	8.0	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	16.0	U		P
7440-66-6	Zinc	20.0	U		P
	Cyanide				NR
7440-31-5	Tin	200	U		P
7439-93-2	Lithium				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CLIENT_ID: NSWC_24/00_RB9

FORM I - IN

HERBICIDE DATA

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC 24/00 055

Case No.: 9510199
Client Name MK CORP
Project Name. MKC70

AENI # 9510199-002

Concentration: Low
Date Sampled: 10/17/95
Date Received: 10/18/95
Date Extract Prepared: 10/26/95
Date Analyzed: 11/6/95
Conc/Dil Factor: 1
Matrix SOIL

GPC Cleanup No
Shaker: Yes
Continuous Liq-Liq Ext.: No
Percent Solid 90.8

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4 D		55	U
SILVEX		55	U
2,4,5-T		55	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) N/A
Ws - Mass of soil extracted (g) 10.10
Vt- Volume of total extract (ul) 10000

FORM I

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC 24/00 056

Case No : 9510199
Client Name: MK CORP
Project Name: MKC70

AENI # 9510199-003

Concentration: Low
Date Sampled: 10/17/95
Date Received: 10/18/95
Date Extract Prepared: 10/26/95
Date Analyzed: 11/6/95
Conc/Dil Factor: 1
Matrix SOIL

GPC Cleanup No
Shaker: Yes
Continuous Liq-Liq Ext.: No
Percent Solid 94.5

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2 4 D		51	U
SILVEX		51	U
2 4,5-T		51	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) N/A
Ws - Mass of soil extracted (g) 10.32
Vt- Volume of total extract (ul) 10000

FORM I

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC 24/00 057

Case No.. 9510199
Client Name: MK CORP
Project Name: MKC70

AENI # 9510199-004

Concentration: Low
Date Sampled: 10/17/95
Date Received: 10/18/95
Date Extract Prepared: 10/26/95
Date Analyzed: 11/6/95
Conc/Dil Factor: 1
Matrix SOIL

GPC Cleanup No
Shaker: Yes
Continuous Liq-Liq Ext.: No
Percent Solid 89.9

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4 D		56	U
SILVEX		56	U
2,4 5-T		56	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) N/A
Ws - Mass of soil extracted (g) 10.00
Vt- Volume of total extract (ul) 10000

FORM I

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC 24/00 058

Case No _____ 9510199
Client Name: _____ MK CORP
Project Name: _____ MKC70

AENI # 9510199-005

Concentration. _____ Low
Date Sampled: _____ 10/17/95
Date Received: _____ 10/18/95
Date Extract Prepared: _ 10/26/95
Date Analyzed. _____ 11/6/95
Conc/Dil Factor: _____ 1
Matrix _____ SOIL

GPC Cleanup _____ No
Shaker: _____ Yes
Continuous Liq-Liq Ext.: ___ No
Percent Solid _____ 90.6

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4 D		53	U
SILVEX		53	U
2,4,5-T		53	U

Vi - Volume of extract injected (ul) ___ 1
Vs - Volume of water extracted (ml) __ N/A
Ws - Mass of soil extracted (g) _____ 10.45
Vt- Volume of total extract (ul) _____ 10000

FORM I

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC 24/00 059

Case No.. 9510199
Client Name. MK CORP
Project Name: MKC70

AENI # 9510199-006

Concentration: Low
Date Sampled: 10/17/95
Date Received: 10/18/95
Date Extract Prepared: 10/26/95
Date Analyzed: 11/6/95
Conc/Dil Factor: 1
Matrix SOIL

GPC Cleanup No
Shaker: Yes
Continuous Liq-Liq Ext.. No
Percent Solid 92.5

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4 D		51	U
SILVEX		51	U
2,4 5-T		51	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) N/A
Ws - Mass of soil extracted (g) 10 64
Vt- Volume of total extract (ul) 10000

FORM I

AENI

ORGANIC ANALYSIS DATA SHEET

HERBICIDES METHOD 8150

Sample Number
NSWC 24/00 060

Case No : 9510199

Client Name MK CORP

Project Name MKC70

AENI # 9510199-007

Concentration: Low

Date Sampled 10/17/95

Date Received: 10/18/95

Date Extract Prepared: 10/26/95

Date Analyzed: 11/6/95

Conc/Dil Factor: 1

Matrix SOIL

GPC Cleanup No

Shaker: Yes

Continuous Liq-Liq Ext.: No

Percent Solid 94 3

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4 D		49	U
SILVEX		49	U
2,4,5-T		49	U

Vi - Volume of extract injected (ul) 1

Vs - Volume of water extracted (ml) N/A

Ws - Mass of soil extracted (g) 10 80

Vt- Volume of total extract (ul) 10000

FORM I

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC 24/00 061

Case No.: 9510199
Client Name: MK CORP
Project Name: MKC70

AENI # 9510199-008

Concentration: Low
Date Sampled: 10/17/95
Date Received: 10/18/95
Date Extract Prepared: 10/26/95
Date Analyzed: 11/6/95
Conc/Dil Factor: 1
Matrix SOIL

GPC Cleanup No
Shaker: Yes
Continuous Liq-Liq Ext: No
Percent Solid 90.2

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4 D		55	U
SILVEX		55	U
2,4,5-T		55	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) N/A
Ws - Mass of soil extracted (g) 10.02
Vt- Volume of total extract (ul) 10000

FORM I

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC 24/00 062

Case No.: 9510199
Client Name MK CORP
Project Name MKC70

AENI # 9510199-009

Concentration Low
Date Sampled: 10/17/95
Date Received: 10/18/95
Date Extract Prepared: 10/26/95
Date Analyzed: 11/6/95
Conc/Dil Factor: 1
Matrix SOIL

GPC Cleanup No
Shaker: Yes
Continuous Liq-Liq Ext. No
Percent Solid 89.8

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4-D		50	U
SILVEX		50	U
2,4,5-T		50	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) N/A
Ws - Mass of soil extracted (g) 11.07
Vt- Volume of total extract (ul) 10000

FORM I

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC 24/00 063

Case No. 9510199
Client Name. MK CORP
Project Name. MKC70

AENI # 9510199-010

Concentration: Low
Date Sampled 10/17/95
Date Received: 10/18/95
Date Extract Prepared: 10/26/95
Date Analyzed: 11/6/95
Conc/Dil Factor: 1
Matrix SOIL

GPC Cleanup No
Shaker: Yes
Continuous Liq-Liq Ext.: No
Percent Solid 90.1

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4 D		52	U
SILVEX		52	U
2,4 5-T		52	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) N/A
Ws - Mass of soil extracted (g) 10.64
Vt- Volume of total extract (ul) 10000

FOR 11

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC 24/00 064

Case No : 9510199
Client Name: MK CORP
Project Name: MKC70

AENI # 9510199-011

Concentration: Low
Date Sampled: 10/17/95
Date Received: 10/18/95
Date Extract Prepared: 10/26/95
Date Analyzed: 11/6/95
Conc/Dil Factor: 1
Matrix: SOIL

GPC Cleanup No
Shaker Yes
Continuous Liq-Liq Ext.: No
Percent Solid 93

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4 D		50	U
SILVEX		50	U
2,4,5-T		50	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) N/A
Ws - Mass of soil extracted (g) 10.76
Vt- Volume of total extract (ul) 10000

FORM I

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC 24/00 065

Case No : 9510199
Client Name: MK CORP
Project Name: MKC70

AENI # 9510199-012

Concentration: Low
Date Sampled: 10/17/95
Date Received: 10/18/95
Date Extract Prepared: 10/26/95
Date Analyzed: 11/6/95
Conc/Dil Factor: 1
Matrix SOIL

GPC Cleanup No
Shaker: Yes
Continuous Liq-Liq Ext.: No
Percent Solid 88 9

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4 D		48	U
SILVEX		48	U
2,4,5-T		48	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) N/A
Ws - Mass of soil extracted (g) 11.72
Vt- Volume of total extract (ul) 10000

FORM I

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC 24/00 068

Case No _____ 9510199
Client Name _____ MK CORP
Project Name _____ MKC70

AENI # 9510199-013

Concentration _____ Low
Date Sampled _____ 10/17/95
Date Received _____ 10/18/95
Date Extract Prepared _____ 10/26/95
Date Analyzed _____ 11/6/95
Conc/Dil Factor _____ 1
Matrix _____ SOIL

GPC Cleanup _____ No
Shaker _____ Yes
Continuous Liq-Liq Ext. _____ No
Percent Solid _____ 88.3

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4 D		57	U
SILVEX		57	U
2,4 5-T		57	U

Vi - Volume of extract injected (ul) ___ 1
Vs - Volume of water extracted (ml) ___ N/A
Ws - Mass of soil extracted (g) ___ 10 00
Vt - Volume of total extract (ul) ___ 10000

FORM I

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC 24/00 067

Case No.: 9510199
Client Name: MK CORP
Project Name: MKC70

AENI # 9510199-014

Concentration: Low
Date Sampled: 10/17/95
Date Received: 10/18/95
Date Extract Prepared: 10/26/95
Date Analyzed: 11/6/95
Conc/Dil Factor: 1
Matrix SOIL

GPC Cleanup No
Shaker: Yes
Continuous Liq-Liq Ext.: No
Percent Solid 94.4

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4-D		51	U
SILVEX		51	U
2,4,5-T		51	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) N/A
Ws - Mass of soil extracted (g) 10.41
Vt - Volume of total extract (ul) 10000

FORM I

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC 24/00 068

Case No : 9510199
Client Name: MK CORP
Project Name: MKC70

AENI # 9510199-015

Concentration: Low
Date Sampled: 10/17/95
Date Received: 10/18/95
Date Extract Prepared: 10/26/95
Date Analyzed: 11/6/95
Conc/Dil Factor: 1
Matrix SOIL

GPC Cleanup No
Shaker: Yes
Continuous Liq-Liq Ext.: No
Percent Solid 94.4

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4 D		52	U
SILVEX		52	U
2,4,5-T		52	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) N/A
Ws - Mass of soil extracted (g) 10.09
Vt- Volume of total extract (ul) 10000

FORM I

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-069

Lab Name COMPUCHEM ENV. CORP. Contract.

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0111C

Matrix: (soil/water) SOIL Lab Sample ID: 782577

Sample wt/vol: 50 0 (g/ml) G Lab File ID:

% Moisture: 16 decanted: (Y/N) N Date Received: 02/09/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 02/13/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 02/15/96

Injection Volume. 2 0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 6 8 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS. (ug/L or ug/Kg) UG/KG	Q
94-75-7	2,4-D	120	U
93-72-1	2,4,5-TP (Silvex)	30	U
93-76-5	2,4,5-T	0.90	JBP

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-070

Lab Name: COMPUCHEM ENV CORP Contract:

Lab Code COMPU Case No. 31923 SAS No.: SDG No.: 0111C

Matrix: (soil/water) SOIL Lab Sample ID: 782600

Sample wt/vol: 50.0 (g/ml) G Lab File ID:

% Moisture: 15 decanted: (Y/N) N Date Received: 02/09/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 02/13/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 02/15/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.1 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
94-75-7	2,4-D	120	U
93-72-1	2,4,5-TP (Silvex)	0 93	JPB
93-76-5	2,4,5-T	1.5	JPB

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-071

Lab Name: COMPUCHEM ENV CORP. Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0111C

Matrix: (soil/water) SOIL Lab Sample ID: 782620

Sample wt/vol: 50.4 (g/ml) G Lab File ID:

% Moisture: 14 decanted: (Y/N) N Date Received: 02/09/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 02/13/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 02/15/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.6 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
94-75-7	2,4-D	120	U
93-72-1	2,4,5-TP (Silvex)	0.75	JBP
93-76-5	2,4,5-T	1.5	JBP

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

24-00-072

Lab Name: COMPUCHEM ENV CORP. Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0111C

Matrix: (soil/water) SOIL Lab Sample ID: 782627

Sample wt/vol: 50.4 (g/ml) G Lab File ID:

% Moisture: 11 decanted: (Y/N) N Date Received: 02/09/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 02/13/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 02/15/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.1 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
94-75-7	2,4-D	110	U
93-72-1	2,4,5-TP (Silvex)	28	U
93-76-5	2,4,5-T	1.5	JPB

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

24-00-073

Lab Name: COMPUCHEM ENV CORP. Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0111C

Matrix: (soil/water) SOIL Lab Sample ID: 782613

Sample wt/vol: 50.1 (g/ml) G Lab File ID:

% Moisture: 14 decanted: (Y/N) N Date Received: 02/09/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 02/13/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 02/15/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.3 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
94-75-7	2,4-D	8.4	JP
93-72-1	2,4,5-TP (Silvex)	1.3	JPB
93-76-5	2,4,5-T	1.4	JPB

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC 24/00 RB9

Case No.: 9510199
Client Name: MK CORP
Project Name: MKC70

AENI # 9510199-001

Concentration: Low
Date Sampled: 10/17/95
Date Received: 10/18/95
Date Extract Prepared: 10/23/95
Date Analyzed: 11/3/95
Conc/Dil Factor: 1
Matrix: WATER

GPC Cleanup: No
Separatory Funnel Ext.: Yes
Continuous Liq-Liq Ext.: No
Percent Moisture (decanted): N/A

Compound	Concentration ug/L	Reporting Limit	Qualifier
2,4 D		0.30	U
SILVEX		0.30	U
2,4,5-T		0.30	U

Vi - Volume of extract injected (ul): 1
Vs - Volume of water extracted (ml): 820
Ws - Mass of soil extracted (g): N/A
Vt - Volume of total extract (ul): 5000

FORM I

ORGANOPHOSPHORUS DATA

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Organophosphorus

Case No ——— 9507125

Project Name ——— NSWC-CRANE #4324

Client Name ——— MK CORP

Sample Number
NSWC-24/00-044

AENI # 9507125-001

Concentration ——— Low

Date Sampled ——— 7/12/95

Date Received ——— 7/14/95

Date Ext Prepared ——— 7/19/95

Date Analyzed ——— 7/28/95

Conc/Dil Factor ——— 1

Method ——— 8141

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	97.9	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate	4.6	1.6	P
60-51-5	Dimethoate		3.3	U
23950-58-5	Pronamide		1.6	U
298-04-4	Disulfoton		1.6	U
298-00-0	Methyl Parathion		1.6	U
56-38-2	Ethyl Parathion		1.6	U
52-85-7	Famphur		1.6	U
3689-24-5	Tetraethyl dithiopyrophosphate		165	U

Vi - Volume of extract injected (ul) - _____ 1

Ve - Volume of Water extracted (ml) - _____ N/A

Ws - Weight of sample extracted (g) - _____ 30.97

Vt - Volume of total extract (ul) - _____ 1,000

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

Organophosphorus

Case No.: 9507125

Project Name NSWC-CRANE #4324

Client Name. MK CORP

Sample Number
NSWC-24/00-045

AENI # 9507125-002

Concentration: Low

Date Sampled. 7/12/95

Date Received: 7/14/95

Date Ext Prepared: 7/19/95

Date Analyzed: 7/28/95

Conc/Dil Factor: 1

Method: 8141

GPC Cleanup		Yes	X	No
Seperatory Funnel Extraction				Yes
Continuous Liquid - Liquid Extration				Yes
Percent Solid	99 4			
Matrix	SOIL			

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate	26	1 6	P
60-51-5	Dimethoate	7 5	3 3	P
23950-58-5	Pronamide	5 7	1 6	P
298-04-4	Disulfoton		1 6	U
298-00-0	Methyl Parathion		1.6	U
56-38-2	Ethyl Parathion		1 6	U
52-85-7	Famphur		1.6	U
3689-24-5	Tetraethyl dithiopyrophosphate		163	U

Vi - Volume of extract injected (ul) - 1

Ve - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30 94

Vt - Volume of total extract (ul) - 1,000

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Organophosphorus

Case No.: 9507125

Project Name: NSWC-CRANE #4324

Client Name: MK CORP

Sample Number
NSWC-24/00-046

AENI # 9507125-003

Concentration: Low

Date Sampled: 7/12/95

Date Received: 7/14/95

Date Ext Prepared: 7/19/95

Date Analyzed: 7/27/95

Conc/Dil Factor: 1

Method: 8141

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	98.4	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate	5.6	1.7	P
60-51-5	Dimethoate		3.4	U
23950-58-5	Pronamide	3.3	1.7	P
298-04-4	Disulfoton		1.7	U
298-00-0	Methyl Parathion		1.7	U
56-38-2	Ethyl Parathion		1.7	U
52-85-7	Famphur		1.7	U
3689-24-5	Tetraethyl dithiopyrophosphate		168	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.3

Vt - Volume of total extract (ul) - 1,000

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Organophosphorus

Case No.: 9507125

Project Name: NSWC-CRANE #4324

Client Name: MK CORP

Sample Number
NSWC-24/00-047

AENI # 9507125-004

Concentration: Low

Date Sampled: 7/12/95

Date Received: 7/14/95

Date Ext Prepared: 7/19/95

Date Analyzed: 7/27/95

Conc/Dil Factor: 1

Method: 8141

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	70 6	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		2 3	U
60-51-5	Dimethoate		4 6	U
23950-58-5	Pronamide		2 3	U
298-04-4	Disulfoton		2.3	U
298-00-0	Methyl Parathion		2 3	U
56-38-2	Ethyl Parathion		2.3	U
52-85-7	Famphur		2.3	U
3689-24-5	Tetraethyl dithiopyrophosphate		231	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.66

Vt - Volume of total extract (ul) - 1,000

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

Organophosphorus

Case No.: 9507125

Project Name: NSWC-CRANE #4324

Client Name: MK CORP

Sample Number
NSWC-24/00-048

AENI # 9507125-005

Concentration: Low

Date Sampled: 7/12/95

Date Received: 7/14/95

Date Ext Prepared: 7/19/95

Date Analyzed: 7/27/95

Conc/Dil Factor: 1

Method: 8141

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	96 3	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		1.7	U
60-51-5	Dimethoate		3 4	U
23950-58-5	Pronamide		1.7	U
298-04-4	Disulfoton		1.7	U
298-00-0	Methyl Parathion		1.7	U
56-38-2	Ethyl Parathion		1.7	U
52-85-7	Famphur		1.7	U
3689-24-5	Tetraethyl dithiopyrophosphate		172	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.27

Vt - Volume of total extract (ul) - 1,000

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Organophosphorus

Case No.: 9507125

Project Name: NSWC-CRANE #4324

Client Name: MK CORP

Sample Number
NSWC-24/00-049

AENI # 9507125-008

Concentration: Low

Date Sampled: 7/12/95

Date Received: 7/14/95

Date Ext Prepared: 7/19/95

Date Analyzed: 7/27/95

Conc/Dil Factor: 1

Method: 8141

GPC Cleanup		Yes	X	No
Seperatory Funnel Extraction				Yes
Continuous Liquid - Liquid Extration				Yes
Percent Solid	95.5			
Matrix	SOIL			

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		1.7	U
60-51-5	Dimethoate		3.4	U
23950-58-5	Pronamide		1.7	U
298-04-4	Disulfoton		1.7	U
298-00-0	Methyl Parathion		1.7	U
56-38-2	Ethyl Parathion		1.7	U
52-85-7	Famphur		1.7	U
3689-24-5	Tetraethyl dithiopyrophosphate		171	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.61

Vt - Volume of total extract (ul) - 1,000

FORM I

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

Organophosphorus

Case No.: 9507125

Project Name: NSWC-CRANE #4324

Client Name MK CORP

Sample Number
NSWC-24/00-050

AENI # 9507125-007

Concentration: Low

Date Sampled: 7/12/95

Date Received: 7/14/95

Date Ext Prepared: 7/19/95

Date Analyzed: 7/27/95

Conc/Dil Factor. 1

Method. 8141

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	97	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		1.7	U
60-51-5	Dimethoate		3.4	U
23950-58-5	Pronamide	5.8	1.7	
298-04-4	Disulfoton		1.7	U
298-00-0	Methyl Parathion		1.7	U
56-38-2	Ethyl Parathion		1.7	U
52-85-7	Famphur		1.7	U
3689-24-5	Tetraethyl dithiopyrophosphate		170	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.26

Vt - Volume of total extract (ul) - 1,000

FORM I

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

Organophosphorus

Case No.: 9507125

Project Name: NSWC-CRANE #4324

Client Name: MK CORP

Sample Number
NSWC-24/00-FB1

AENI # 9507125-008

Concentration: Low

Date Sampled: 7/13/95

Date Received: 7/14/95

Date Ext Prepared: 7/19/95

Date Analyzed: 7/27/95

Conc/Dil Factor: 1

Method: 8141

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		X Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	N/A	
Matrix	WATER	

CAS Number	Compound	Concentration ug/L	Detection Limit	Qualifier
298-02-2	Phorate		0.05	U
60-51-5	Dimethoate		0.10	U
23950-58-5	Pronamide		0.05	U
298-04-4	Disulfoton		0.05	U
298-00-0	Methyl Parathion		0.05	U
56-38-2	Ethyl Parathion		0.05	U
52-85-7	Famphur		0.05	U
3689-24-5	Tetraethyl dithiopyrophosphate		5.0	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - 1000

Ws - Weight of sample extracted (g) - N/A

Vt - Volume of total extract (ul) - 1,000

FORM I

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Organophosphorus

Case No ——— 9507125

Project Name ——— NSWC-CRANE #4324

Client Name ——— MK CORP

Sample Number
NSWC-24/00-RB1

AENI # 9507125-009

Concentration: ——— Low

Date Sampled: ——— 7/13/95

Date Received ——— 7/14/95

Date Ext Prepared ——— 7/19/95

Date Analyzed ——— 7/27/95

Conc/Dil Factor ——— 1

Method ——— 8141

GPC Cleanup		Yes	X	No
Seperatory Funnel Extraction			X	Yes
Continuous Liquid - Liquid Extration				Yes

Percent Solid N/A

Matrix WATER

CAS Number	Compound	Concentration ug/L	Detection Limit	Qualifier
298-02-2	Phorate		0.05	U
60-51-5	Dimethoate		0.10	U
23950-58-5	Pronamide		0.05	U
298-04-4	Disulfoton		0.05	U
298-00-0	Methyl Parathion		0.05	U
56-38-2	Ethyl Parathion		0.05	U
52-85-7	Famphur		0.05	U
3689-24-5	Tetraethyl dithiopyrophosphate		5.0	U

Vi - Volume of extract injected (ul) - _____ 1

Vs - Volume of Water extracted (ml) - _____ 1000

Ws - Weight of sample extracted (g) - _____ N/A

Vt - Volume of total extract (ul) - _____ 1,000

AENI

Organic Analysis Data Sheet

Organophosphorus

Case No.: 9510199

Project Name: CRANE NSWC

Client Name: MK CORP

Sample Number
NSWC 24/00 055

AENI # 9510199-002

Concentration: Low

Date Sampled: 10/17/95

Date Received: 10/18/95

Date Ext Prepared: 10/27/95

Date Analyzed: 10/31/95

Conc/Dil Factor: 1

Method: 8140

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	90 8	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		1 8	U
60-51-5	Dimethoate	4 3	3 6	
23950-58-5	Pronamide		1 8	U
298-04-4	Disulfoton		1.8	U
298-00-0	Methyl Parathion		1.8	U
56-38-2	Ethyl Parathion		1.8	U
52-85-7	Famphur		3 6	U
3689-24-5	Tetraethyl dithiopyrophosphate		181	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.5

Vt - Volume of total extract (ul) - 1,000

FORM I

AENI

Organic Analyses Data Sheet

Organophosphorus

Case No :——— 9510199

Project Name ——— CRANE NSWC

Client Name ——— MK CORP

Sample Number
NSWC 24/00 056

AENI # 9510199-003

Concentration:——— Low

Date Sampled:——— 10/17/95

Date Received.——— 10/18/95

Date Ext Prepared.— 10/27/95

Date Analyzed:——— 10/31/95

Conc/Dil Factor:——— 1

Method: ——— 8140

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	94 5	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		1.7	U
60-51-5	Dimethoate		3 5	U
23950-58-5	Pronamide		1.7	U
298-04-4	Disulfoton		1.7	U
298-00-0	Methyl Parathion		1.7	U
56-38-2	Ethyl Parathion		1 7	U
52-85-7	Famphur		3 5	U
3689-24-5	Tetraethyl dithiopyrophosphate		174	U

Vi - Volume of extract injected (ul) - _____ 1

Vs - Volume of Water extracted (ml) - _____ N/A

Ws - Weight of sample extracted (g) - _____ 30 43

Vt - Volume of total extract (ul) - _____ 1,000

FORM I

AENI

Organic Analyses Data Sheet

Organophosphorus

Case No.: 9510199

Project Name: CRANE NSWC

Client Name: MK CORP

Sample Number
NSWC 24/00 057

AENI # 9510199-004

Concentration: Low

Date Sampled: 10/17/95

Date Received: 10/18/95

Date Ext Prepared: 10/27/95

Date Analyzed: 10/31/95

Conc/Dil Factor: 1

Method: 8140

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	89.9	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate	21	1.8	P
60-51-5	Dimethoate		3.6	U
23950-58-5	Pronamide		1.8	U
298-04-4	Disulfoton		1.8	U
298-00-0	Methyl Parathion		1.8	U
56-38-2	Ethyl Parathion		1.8	U
52-85-7	Famphur		3.6	U
3689-24-5	Tetraethyl dithiopyrophosphate		181	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.74

Vt - Volume of total extract (ul) - 1,000

AENI

Organic Analyses Data Sheet

Organophosphorus

Case No :——— 9510199

Project Name.——— CRANE NSWC

Client Name·——— MK CORP

Sample Number
NSWC 24/00 058

AENI # 9510199-005

Concentration:——— Low

Date Sampled:——— 10/17/95

Date Received:——— 10/18/95

Date Ext Prepared:— 10/27/95

Date Analyzed·——— 10/31/95

Conc/Dil Factor——— 1

Method: ——— 8140

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	90.6	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		1.8	U
60-51-5	Dimethoate		3.7	U
23950-58-5	Pronamide		1.8	U
298-04-4	Disulfoton		1.8	U
298-00-0	Methyl Parathion		1.8	U
56-38-2	Ethyl Parathion		1.8	U
52-85-7	Famphur		3.7	U
3689-24-5	Tetraethyl dithiopyrophosphate		183	U

Vi - Volume of extract injected (ul) - _____ 1

Vs - Volume of Water extracted (ml) - _____ N/A

Ws - Weight of sample extracted (g) - _____ 30.12

Vt - Volume of total extract (ul) - _____ 1,000

FORM I

AENI

Organic Analyses Data Sheet

Organophosphorus

Case No.: 9510199

Project Name: CRANE NSWC

Client Name: MK CORP

Sample Number
NSWC 24/00 059

AENI # 9510199-006

Concentration: Low

Date Sampled 10/17/95

Date Received 10/18/95

Date Ext Prepared 10/27/95

Date Analyzed: 10/31/95

Conc/Dil Factor: 1

Method 8140

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	92.5	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		1.8	U
60-51-5	Dimethoate		3.5	U
23950-58-5	Pronamide		1.8	U
298-04-4	Disulfoton		1.8	U
298-00-0	Methyl Parathion		1.8	U
56-38-2	Ethyl Parathion		1.8	U
52-85-7	Famphur		3.5	U
3689-24-5	Tetraethyl dithiopyrophosphate	275	176	

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.65

Vt - Volume of total extract (ul) - 1,000

FORM I

AENI

Organic Analyses Data Sheet

Organophosphorus

Case No. ——— 9510199

Project Name: ——— CRANE NSWC

Client Name: ——— MK CORP

Sample Number
NSWC 24/00 060

AENI # 9510199-007

Concentration ——— Low

Date Sampled: ——— 10/17/95

Date Received: ——— 10/18/95

Date Ext Prepared: ——— 10/27/95

Date Analyzed: ——— 10/31/95

Conc/Dil Factor: ——— 1

Method. ——— 8140

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	94 3	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		1.7	U
60-51-5	Dimethoate		3.5	U
23950-58-5	Pronamide		1.7	U
298-04-4	Disulfoton		1.7	U
298-00-0	Methyl Parathion		1.7	U
56-38-2	Ethyl Parathion		1.7	U
52-85-7	Famphur		3 5	U
3689-24-5	Tetraethyl dithiopyrophosph rte	190	174	

Vi - Volume of extract injected (ul) - _____ 1

Ve - Volume of Water extracted (ml) - _____ N/A

Ws - Weight of sample extracted (g) - _____ 30.4

Vt - Volume of total extract (ul) - _____ 1,000

AENI

Organic Analysis Data Sheet

Organophosphorus

Case No.: 9510199

Project Name: CRANE NSWC

Client Name: MK CORP

Sample Number
NSWC 24/00 061

AENI # 9510199-008

Concentration: Low

Date Sampled: 10/17/95

Date Received: 10/18/95

Date Ext Prepared: 10/27/95

Date Analyzed: 10/31/95

Conc/Dil Factor: 1

Method: 8140

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	90.2	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate	4.2	1.8	P
60-51-5	Dimethoate		3.7	U
23950-58-5	Pronamide		1.8	U
298-04-4	Disulfoton		1.8	U
298-00-0	Methyl Parathion		1.8	U
56-38-2	Ethyl Parathion		1.8	U
52-85-7	Famphur		3.7	U
3689-24-5	Tetraethyl dithiopyrophosphate		18.3	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.28

Vt - Volume of total extract (ul) - 1,000

FORM I

AENI

Organic Analyses Data Sheet

Organophosphorus

Case No.: 9510199

Project Name: CRANE NSWC

Client Name: MK CORP

Sample Number
NSWC 24/00 062

AENI # 9510199-009

Concentration: Low

Date Sampled: 10/17/95

Date Received: 10/18/95

Date Ext Prepared: 10/27/95

Date Analyzed: 10/31/95

Conc/Dil Factor: 1

Method: 8140

GPC Cleanup		Yes	X	No
Seperatory Funnel Extraction				Yes
Continuous Liquid - Liquid Extration				Yes
Percent Solid	89.8			
Matrix	SOIL			

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		1.8	U
60-51-5	Dimethoate		3.7	U
23950-58-5	Pronamide		1.8	U
298-04-4	Disulfoton		1.8	U
298-00-0	Methyl Parathion		1.8	U
56-38-2	Ethyl Parathion		1.8	U
52-85-7	Famphur		3.7	U
3689-24-5	Tetraethyl dithiopyrophosphate		18.5	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.17

Vt - Volume of total extract (ul) - 1,000

FORM I

AENI

Organic Analysis Data Sheet

Organophosphorus

Case No.: 9510199

Project Name: CRANE NSWC

Client Name: MK CORP

Sample Number
NSWC 24/00 063

AENI # 9510199-010

Concentration: Low

Date Sampled: 10/17/95

Date Received: 10/18/95

Date Ext Prepared: 10/27/95

Date Analyzed: 10/31/95

Conc/Dil Factor: 1

Method: 8140

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	90 1	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		1 8	U
60-51-5	Dimethoate		3 6	U
23950-58-5	Pronamide		1 8	U
298-04-4	Disulfoton		1 8	U
298-00-0	Methyl Parathion		1 8	U
56-38-2	Ethyl Parathion		1 8	U
52-85-7	Famphur		3 6	U
3689-24-5	Tetraethyl dithiopyrophosphate		182	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30 56

Vt - Volume of total extract (ul) - 1,000

FORM I

AENI

Organic Analyses Data Sheet

Organophosphorus

Case No :——— 9510199

Project Name:——— CRANE NSWC

Client Name:——— MK CORP

Sample Number
NSWC 24/00 064

AENI # 9510199-011

Concentration:——— Low

Date Sampled.——— 10/17/95

Date Received:——— 10/18/95

Date Ext Prepared — 10/27/95

Date Analyzed:——— 10/31/95

Conc/Dil Factor:——— 1

Method: ——— 8140

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	93	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		1.7	U
60-51-5	Dimethoate		3.5	U
23950-58-5	Pronamide		1.7	U
298-04-4	Disulfoton		1.7	U
298-00-0	Methyl Parathion		1.7	U
56-38-2	Ethyl Parathion		1.7	U
52-85-7	Famphur		3.5	U
3689-24-5	Tetraethyl dithiopyrophosphate		174	U

Vi - Volume of extract injected (ul) - _____ 1

Vs - Volume of Water extracted (ml) - _____ N/A

Ws - Weight of sample extracted (g) - _____ 30.93

Vt - Volume of total extract (ul) - _____ 1,000

FORM I

AMERICAN ENVIRONMENTAL NETWORK INC

Organic Analyses Data Sheet

Organophosphorus

Case No.: 9510199

Project Name CRANE NSWC

Client Name: MK CORP

Sample Number
NSWC 24/00 RB9

AENI # 9510199-001

Concentration: Low

Date Sampled: 10/17/95

Date Received: 10/18/95

Date Ext Prepared: 10/20/95

Date Analyzed: 10/31/95

Conc/Dil Factor: 1

Method: 8140

GPC Cleanup		Yes	X	No
Seperatory Funnel Extraction			X	Yes
Continuous Liquid - Liquid Extration				Yes
Percent Solid	N/A			
Matrix	WATER			

CAS Number	Compound	Concentration ug/L	Detection Limit	Qualifier
298-02-2	Phorate		0.05	U
60-51-5	Dimethoate		0.10	U
23950-58-5	Pronamide		0.05	U
298-04-4	Disulfoton		0.05	U
298-00-0	Methyl Parathion		0.05	U
56-38-2	Ethyl Parathion		0.05	U
52-85-7	Famphur		0.05	U
3689-24-5	Tetraethyl dithiopyrophosphate		5.1	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - 975

Ws - Weight of sample extracted (g) - N/A

Vt - Volume of total extract (ul) - 1,000

FORM I

DIOXINS DATA

American Environmental Network

TL-RTP Project: 33451A — Method 8280 PCDD/PCDF Analysis (t
Client Sample: NSWC-24/00-044 — Analysis File: B95096
Client Project: 9507125 Indiana-Navy Project — Matrix: SOI

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.14	ND
1,2,3,7,8-PeCDD	ND	0.968	ND
1,2,3,4,7,8-HxCDD	ND	0.0699	ND
1,2,3,6,7,8-HxCDD	ND	0.21	ND
1,2,3,7,8,9-HxCDD	ND	0.21	ND
1,2,3,4,6,7,8-HpCDD	ND	0.28	ND
1,2,3,4,6,7,8,9-OCDD	0.424	0.359	ND
2,3,7,8-TCDF	ND	0.12	ND
1,2,3,7,8-PeCDF	ND	0.469	ND
2,3,4,7,8-PeCDF	ND	0.569	ND
1,2,3,4,7,8-HxCDF	ND	0.0998	ND
1,2,3,6,7,8-HxCDF	ND	0.0998	ND
2,3,4,6,7,8-HxCDF	ND	0.25	ND
1,2,3,7,8,9-HxCDF	ND	0.16	ND
1,2,3,4,6,7,8-HpCDF	ND	0.19	ND
1,2,3,4,7,8,9-HpCDF	ND	0.03	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.22	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.14
Total PeCDD	ND	0.968
Total HxCDD	ND	0.163
Total HpCDD	ND	0.28
Total TCDF	ND	0.12
Total PeCDF	ND	0.519
Total HxCDF	ND	0.153
Total HpCDF	ND	0.11

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American Environmental Network

TL-RTP Project: 33451A — Method 8280 PCDD/PCDF Analysis (b
Client Sample: NSWC-24/00-044 — Analysis File: B95

Client Project:	9507125 Indiana-Navy Project				
Sample Matrix:	SOIL	Date Received:	07/19/95	Spike File:	SP828050
TLRTP ID:	103-123-1	Date Extracted:	07/20/95	ICAL:	B855195
		Date Analyzed:	07/24/95	CONCAL:	B950958
Sample Size:	10.220 g	Dilution Factor:	n/a	% Moisture:	2.0
Dry Weight:	10.016 g	Blank File:	B950964	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DB	% Solids:	98.0

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.14				—
1,2,3,7,8-PeCDD	ND	0.968				—
1,2,3,4,7,8-HxCDD	ND	0.0699				—
1,2,3,6,7,8-HxCDD	ND	0.21				—
1,2,3,7,8,9-HxCDD	ND	0.21				—
1,2,3,4,6,7,8-HpCDD	ND	0.28				—
1,2,3,4,6,7,8,9-OCDD	0.424			0.85	39.30	—
2,3,7,8-TCDF	ND	0.12				—
1,2,3,7,8-PeCDF	ND	0.469				—
2,3,4,7,8-PeCDF	ND	0.569				—
1,2,3,4,7,8-HxCDF	ND	0.0998				—
1,2,3,6,7,8-HxCDF	ND	0.0998				—
2,3,4,6,7,8-HxCDF	ND	0.25				—
1,2,3,7,8,9-HxCDF	ND	0.16				—
1,2,3,4,6,7,8-HpCDF	ND	0.19				—
1,2,3,4,7,8,9-HpCDF	ND	0.03				—
1,2,3,4,6,7,8,9-OCDF	ND	0.22				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.676	—
Total PeCDD	ND	0	0.968		—
Total HxCDD	ND	0	0.163		—
Total HpCDD	ND	0	0.28		—
Total TCDF	ND	0	0.12		—
Total PeCDF	ND	0	0.519		—
Total HxCDF	ND	0	0.153		—
Total HpCDF	ND	0	0.11		—

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American Environmental Network

TL-RTP Project: 33451A — Method 8280 PCDD/PCDF Analysis (b)

Client Sample: NSWC-24/00-044 — Analysis File: B950965

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.29	66.0	40%-120%	0.76	24.25	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.13	62.6	40%-120%	0.81	25:06	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.34	87.0	40%-120%	1.28	32:26	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	7.59	76.1	40%-120%	1.12	34.41	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	7.27	72.8	25%-120%	0.90	39.28	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.48	59.5	40%-120%	25:07	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	24.57	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.27	32.45	—

Data Reviewer _____ 07/27/95

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American Environmental Network

TL-RTP Project: 33451A
Client Sample: NSWC-24/00-044

Toxicity Equivalents Repor
Analysis File: B

Client Project:	9507125 Indiana-Navy Project				
Sample Matrix:	SOIL	Date Received:	07/19/95	Spike File:	SP828050
TLRTP ID:	103-123-1	Date Extracted:	07/20/95	ICAL:	B855195
		Date Analyzed:	07/24/95	CONCAL:	B950958
Sample Size:	10.220 g	Dilution Factor:	n/a	% Moisture:	2.0
Dry Weight:	10.016 g	Blank File.	B950964	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DB	% Solids:	98.0

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	0.42	x	0.001	=	0.00042
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0.00042 ppb

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American Environmental Network

TL-RTP Project: 33451A — Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC-24/00-045 — Analysis File: B950966
Client Project: 9507125 Indiana-Navy Project — Matrix: SOIL

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.14	ND
1,2,3,7,8-PeCDD	ND	0.969	ND
1,2,3,4,7,8-HxCDD	ND	0.07	ND
1,2,3,6,7,8-HxCDD	ND	0.21	ND
1,2,3,7,8,9-HxCDD	ND	0.21	ND
1,2,3,4,6,7,8-HpCDD	ND	0.28	ND
1,2,3,4,6,7,8,9-OCDD	ND	0.36	ND
2,3,7,8-TCDF	ND	0.12	ND
1,2,3,7,8-PeCDF	ND	0.47	ND
2,3,4,7,8-PeCDF	ND	0.57	ND
1,2,3,4,7,8-HxCDF	ND	0.0999	ND
1,2,3,6,7,8-HxCDF	ND	0.0999	ND
2,3,4,6,7,8-HxCDF	ND	0.25	ND
1,2,3,7,8,9-HxCDF	ND	0.16	ND
1,2,3,4,6,7,8-HpCDF	ND	0.19	ND
1,2,3,4,7,8,9-HpCDF	ND	0.03	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.22	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.14
Total PeCDD	ND	0.969
Total HxCDD	ND	0.163
Total HpCDD	ND	0.28
Total TCDF	ND	0.12
Total PeCDF	ND	0.52
Total HxCDF	ND	0.153
Total HpCDF	ND	0.11

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TL-RTP Project: 33451A — Method 8280 PCDD/PCDF Analysis (b)

Client Sample. NSWC-24/00-045 — Analysis File: B9[illegible]5

Client Project:	9507125 Indiana-Navy Project				
Sample Matrix	SOIL	Date Received:	07/19/95	Spike File:	SP828050
TLRTP ID:	103-123-2	Date Extracted.	07/20/95	ICAL:	B855195
		Date Analyzed:	07/24/95	CONCAL:	B950958
Sample Size:	10.170 g	Dilution Factor:	n/a	% Moisture:	1.6
Dry Weight:	10.007 g	Blank File:	B950964	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	98.4

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.14				—
1,2,3,7,8-PeCDD	ND	0.969				—
1,2,3,4,7,8-HxCDD	ND	0.07				—
1,2,3,6,7,8-HxCDD	ND	0.21				—
1,2,3,7,8,9-HxCDD	ND	0.21				—
1,2,3,4,6,7,8-HpCDD	ND	0.28				—
1,2,3,4,6,7,8,9-OCDD	ND	0.36				—
2,3,7,8-TCDF	ND	0.12				—
1,2,3,7,8-PeCDF	ND	0.47				—
2,3,4,7,8-PeCDF	ND	0.57				—
1,2,3,4,7,8-HxCDF	ND	0.0999				—
1,2,3,6,7,8-HxCDF	ND	0.0999				—
2,3,4,6,7,8-HxCDF	ND	0.25				—
1,2,3,7,8,9-HxCDF	ND	0.16				—
1,2,3,4,6,7,8-HpCDF	ND	0.19				—
1,2,3,4,7,8,9-HpCDF	ND	0.03				—
1,2,3,4,6,7,8,9-OCDF	ND	0.22				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.667	—
Total PeCDD	ND	0	0.969		—
Total HxCDD	ND	0	0.163		—
Total HpCDD	ND	0	0.28		—
Total TCDF	ND	0	0.12		—
Total PeCDF	ND	0	0.52		—
Total HxCDF	ND	0	0.153		—
Total HpCDF	ND	0	0.11		—

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TL-RTP Project: 33451A — Method 8280 PCDD/PCDF Analysis (b
Client Sample: NSWC-24/00-045 — Analysis File: B95096(

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.1	62.1	40%-120%	0.77	24:25	—
$^{13}C_{12}$-2,3,7,8-TCDD	2.98	59.7	40%-120%	0.77	25:06	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.26	85.4	40%-120%	1.30	32:26	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	8.16	81.7	40%-120%	1.25	34.41	RO
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	7.48	74.8	25%-120%	0.87	39:29	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.48	59.1	40%-120%	25:07	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	24:56	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.19	32:46	—

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American Environmental Network

TL-RTP Project: 33451A
Client Sample: NSWC-24/00-045

Toxicity Equivalents Rep
Analysis File: B[illegible]

Client Project:	9507125 Indiana-Navy Project				
Sample Matrix:	SOIL	Date Received:	07/19/95	Spike File:	SP828050
TLRTP ID:	103-123-2	Date Extracted:	07/20/95	ICAL:	B855195
		Date Analyzed:	07/24/95	CONCAL:	B950958
Sample Size:	10.170 g	Dilution Factor:	n/a	% Moisture:	1.6
Dry Weight:	10.007 g	Blank File:	B950964	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	98.4

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	ND	x	0.001	=	0
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0 ppb

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TL-RTP Project: 33451A — Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC-24/00-046 — Analysis File: B950967
Client Project: 9507125 Indiana-Navy Project — Matrix: SOIL

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.14	ND
1,2,3,7,8-PeCDD	ND	0.97	ND
1,2,3,4,7,8-HxCDD	ND	0.07	ND
1,2,3,6,7,8-HxCDD	ND	0.21	ND
1,2,3,7,8,9-HxCDD	ND	0.21	ND
1,2,3,4,6,7,8-HpCDD	ND	0.28	ND
1,2,3,4,6,7,8,9-OCDD	ND	0.36	ND
2,3,7,8-TCDF	ND	0.12	ND
1,2,3,7,8-PeCDF	ND	0.47	ND
2,3,4,7,8-PeCDF	ND	0.57	ND
1,2,3,4,7,8-HxCDF	ND	0.1	ND
1,2,3,6,7,8-HxCDF	ND	0.1	ND
2,3,4,6,7,8-HxCDF	ND	0.25	ND
1,2,3,7,8,9-HxCDF	ND	0.16	ND
1,2,3,4,6,7,8-HpCDF	ND	0.19	ND
1,2,3,4,7,8,9-HpCDF	ND	0.03	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.22	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.14
Total PeCDD	ND	0.97
Total HxCDD	ND	0.163
Total HpCDD	ND	0.28
Total TCDF	ND	0.12
Total PeCDF	ND	0.52
Total HxCDF	ND	0.153
Total HpCDF	ND	0.11

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TL-RTP Project: 33451A — Method 8280 PCDD/PCDF Analys
Client Sample: NSWC-24/00-046 — Analysis File:

Client Project:	9507125 Indiana-Navy Project				
Sample Matrix:	SOIL	Date Received.	07/19/95	Spike File:	SP82805
TLRTP ID:	103-123-3	Date Extracted:	07/20/95	ICAL:	B855195
		Date Analyzed:	07/24/95	CONCAL:	B950958
Sample Size:	10.220 g	Dilution Factor:	n/a	% Moisture:	2.1
Dry Weight:	10.005 g	Blank File.	B950964	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	97.9

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Fl
2,3,7,8-TCDD	ND	0.14				—
1,2,3,7,8-PeCDD	ND	0.97				—
1,2,3,4,7,8-HxCDD	ND	0.07				—
1,2,3,6,7,8-HxCDD	ND	0.21				—
1,2,3,7,8,9-HxCDD	ND	0.21				—
1,2,3,4,6,7,8-HpCDD	ND	0.28				—
1,2,3,4,6,7,8,9-OCDD	ND	0.36				—
2,3,7,8-TCDF	ND	0.12				—
1,2,3,7,8-PeCDF	ND	0.47				—
2,3,4,7,8-PeCDF	ND	0.57				—
1,2,3,4,7,8-HxCDF	ND	0.1				
1,2,3,6,7,8-HxCDF	ND	0.1				
2,3,4,6,7,8-HxCDF	ND	0.25				—
1,2,3,7,8,9-HxCDF	ND	0.16				—
1,2,3,4,6,7,8-HpCDF	ND	0.19				—
1,2,3,4,7,8,9-HpCDF	ND	0.03				—
1,2,3,4,6,7,8,9-OCDF	ND	0.22				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flag
Total TCDD		0		0.673	—
Total PeCDD	ND	0	0.97		—
Total HxCDD	ND	0	0.163		—
Total HpCDD	ND	0	0.28		—
Total TCDF	ND	0	0.12		—
Total PeCDF	ND	0	0.52		—
Total HxCDF	ND	0	0.153		—
Total HpCDF	ND	0	0.11		—

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TL-RTP Project. 33451A — Method 8280 PCDD/PCDF Analysis (b)

Client Sample: NSWC-24/00-046 — Analysis File: B950967

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.12	62.4	40%-120%	0.80	24:24	—
$^{13}C_{12}$-2,3,7,8-TCDD	2.97	59.5	40%-120%	0.79	25:05	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.01	80.2	40%-120%	1.28	32:26	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	8.02	80.2	40%-120%	1.16	34:41	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	7.22	72.3	25%-120%	0.90	39:29	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.48	59.2	40%-120%	25:06	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.78	24:56	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.26	32:45	—

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American Environmental Network

TL-RTP Project: 33451A
Client Sample: NSWC-24/00-046

Toxicity Equivalents Rep
Analysis File: [illegible]

Client Project:	9507125 Indiana-Navy Project				
Sample Matrix:	SOIL	Date Received.	07/19/95	Spike File:	SP828050
TLRTP ID:	103-123-3	Date Extracted:	07/20/95	ICAL:	B855195
		Date Analyzed:	07/24/95	CONCAL:	B950958
Sample Size:	10.220 g	Dilution Factor:	n/a	% Moisture:	2.1
Dry Weight:	10.005 g	Blank File:	B950964	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	97.9

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	ND	x	0.001	=	0
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0 ppb

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TL-RTP Project: 33451A — Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC-24/00-047 — Analysis File: B950968
Client Project: - 9507125 Indiana-Navy Project — Matrix: SOIL

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.14	ND
1,2,3,7,8-PeCDD	ND	0.97	ND
1,2,3,4,7,8-HxCDD	ND	0.07	ND
1,2,3,6,7,8-HxCDD	ND	0.21	ND
1,2,3,7,8,9-HxCDD	ND	0.21	ND
1,2,3,4,6,7,8-HpCDD	ND	0.28	ND
1,2,3,4,6,7,8,9-OCDD	ND	0.36	ND
2,3,7,8-TCDF	ND	0.12	ND
1,2,3,7,8-PeCDF	ND	0.47	ND
2,3,4,7,8-PeCDF	ND	0.57	ND
1,2,3,4,7,8-HxCDF	ND	0.1	ND
1,2,3,6,7,8-HxCDF	ND	0.1	ND
2,3,4,6,7,8-HxCDF	ND	0.25	ND
1,2,3,7,8,9-HxCDF	ND	0.16	ND
1,2,3,4,6,7,8-HpCDF	ND	0.19	ND
1,2,3,4,7,8,9-HpCDF	ND	0.03	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.22	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.14
Total PeCDD	ND	0.97
Total HxCDD	ND	0.163
Total HpCDD	ND	0.28
Total TCDF	ND	0.12
Total PeCDF	ND	0.52
Total HxCDF	ND	0.153
Total HpCDF	ND	0.11

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TL-RTP Project: 33451A — Method 8280 PCDD/PCDF Analysis
Client Sample: NSWC-24/00-047 — Analysis File:

Client Project:	9507125 Indiana-Navy Project				
Sample Matrix:	SOIL	Date Received:	07/19/95	Spike File:	SP828050
TLRTP ID:	103-123-4	Date Extracted:	07/20/95	ICAL:	B855195
		Date Analyzed:	07/24/95	CONCAL:	B950958
Sample Size:	10.530 g	Dilution Factor:	n/a	% Moisture:	5.0
Dry Weight:	10.004 g	Blank File:	B950964	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	95.0

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.14				—
1,2,3,7,8-PeCDD	ND	0.97				—
1,2,3,4,7,8-HxCDD	ND	0.07				—
1,2,3,6,7,8-HxCDD	ND	0.21				—
1,2,3,7,8,9-HxCDD	ND	0.21				—
1,2,3,4,6,7,8-HpCDD	ND	0.28				—
1,2,3,4,6,7,8,9-OCDD	ND	0.36				—
2,3,7,8-TCDF	ND	0.12				—
1,2,3,7,8-PeCDF	ND	0.47				—
2,3,4,7,8-PeCDF	ND	0.57				—
1,2,3,4,7,8-HxCDF	ND	0.1				—
1,2,3,6,7,8-HxCDF	ND	0.1				—
2,3,4,6,7,8-HxCDF	ND	0.25				—
1,2,3,7,8,9-HxCDF	ND	0.16				—
1,2,3,4,6,7,8-HpCDF	ND	0.19				—
1,2,3,4,7,8,9-HpCDF	ND	0.03				—
1,2,3,4,6,7,8,9-OCDF	ND	0.22				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.661	—
Total PeCDD	ND	0	0.97		—
Total HxCDD	ND	0	0.163		—
Total HpCDD	ND	0	0.28		—
Total TCDF	ND	0	0.12		—
Total PeCDF	ND	0	0.52		—
Total HxCDF	ND	0	0.153		—
Total HpCDF	ND	0	0.11		—

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TL-RTP Project: 33451A — Method 8280 PCDD/PCDF Analysis (b)

Client Sample: NSWC-24/00-047 — Analysis File. B950968

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.28	65.6	40%-120%	0.79	24.25	___
$^{13}C_{12}$-2,3,7,8-TCDD	3.19	63.7	40%-120%	0.78	25:06	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.67	93.5	40%-120%	1.36	32:27	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	8.47	84.8	40%-120%	1.22	34:41	RO___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	8.38	83.8	25%-120%	0.89	39 29	___

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits		RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.46	58 6	40%-120%		25·07	___

Recovery Standards				Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD				0.77	24:57	___
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD				1 36	32 46	___

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TL-RTP Project 33451A
Client Sample: NSWC-24/00-047

Toxicity Equivalents Rep
Analysis File:

Client Project:	9507125 Indiana-Navy Project				
Sample Matrix:	SOIL	Date Received:	07/19/95	Spike File:	SP828050
TLRTP ID:	103-123-4	Date Extracted:	07/20/95	ICAL:	B855195
		Date Analyzed:	07/24/95	CONCAL:	B950958
Sample Size:	10.530 g	Dilution Factor:	n/a	% Moisture:	5.0
Dry Weight:	10.004 g	Blank File:	B950964	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	95.0

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	ND	x	0.001	=	0
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0 ppb

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	Initial	Date	
B-File/Header Changes	VG	7/27/95	Calculated Noise Area MDLs Used
Manual Integrations		/ /	Channel
Transcription		/ /	Initials.
dBASE Corrections		/ /	Date

Page No 1 Listing of B950968B dbf
07/27/95 Matched GC Peaks / Ratio / Ret. Time

```
Compound/
M_Z.... QC Log Omit Why ..RT  OK Ratio Total.Area... Area Peak.1.. Area.Peak.2 . Rel RT Compound.Name.. ID.

TCDF                          0.65-0.89                                    0.872-1.076
304-306          DC  <M  24:57 RO  1.92        197.73                          1.022
                 DC  <M  25:06 RO  2.44         24.85                          1.028
                 DC  WH  29:14     0 78         20.06                          1.197
304-306               0 Peaks                    0.00

13C12-TCDF                    0.65-0.89                                    0.994-1 007
316-318          DC  WL  23:26     0.82         74 10                          0.960
                         24:25     0.79     20,009.32      8,853.87     11,155.45  1.000 13C12-2378-TCDF ISO
                 DC  WH  24:51     0.87        180.70                          1 018
316-318               1 Peak                 20,009.32

                 ---------------------- Above  TCDF / TCDD Follows ---------------------

TCDD                          0.65-0.89                                    0.898-1.046
320-322                  24:25 RO  4.65      5,993 99      4,933.94      1,060.05  0.973
320-322               1 Peak                 5,993.99

37Cl-TCDD                                                                  0.920-1.080
328                      25:07               6,238 46      6 238.46                1.001 37Cl-TCDD        CLS
                 DC  WH  29:20                  27.80                          1.169
328                   1 Peak                 6 238.46

13C12-TCDD                    0.65-0 89                                    0.920-1.080
332-334                  24 57     0.77     14,844.07      6,471.35      8,372 72  0.994 13C12-1234-TCDD RSI
                         25.06     0.78     12,121.89      5,294.66      6,827.23  1.000 13C12-2378-TCDD ISI
                         26.29 RO  0 52        288 24         98 77        189.47  1.055
332-334               3 Peaks                27,254.20

                 ---------------------- Above: TCDD / HxCDF Follows --------------------

HxCDF                         1 05-1.43                                    0.881-0.959
374-376          DC  <M  32:05 RO  1.72         36.36                          0 925
374-376               0 Peaks                    0 00

                 --------------------- Above  HxCDF / HxCDD Follows --------------------

HxCDD                         1.05-1.43                                    0 957-1 014
390-392          DC  <M  32:04 RO  1.73         45 31                          0.988
                 DC  WH  34 42 RO  3.58        298 85                          1 069
390-392               0 Peaks                    0.00
```

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American Environmental Network

TL-RTP Project: 33451A — Method 8280 PCDD/PCDF Analysis (
Client Sample: NSWC-24/00-048 — Analysis File: P
Client Project: 9507125 Indiana-Navy Project — Matrix: So

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.14	ND
1,2,3,7,8-PeCDD	ND	0.969	ND
1,2,3,4,7,8-HxCDD	ND	0 0699	ND
1,2,3,6,7,8-HxCDD	ND	0 21	ND
1,2,3,7,8,9-HxCDD	ND	0.21	ND
1,2,3,4,6,7,8-HpCDD	ND	0 28	ND
1,2,3,4,6,7,8,9-OCDD	ND	0.36	ND
2,3,7,8-TCDF	ND	0.12	ND
1,2,3,7,8-PeCDF	ND	0.47	ND
2,3,4,7,8-PeCDF	ND	0.569	ND
1,2,3,4,7,8-HxCDF	ND	0.0999	ND
1,2,3,6,7,8-HxCDF	ND	0 0999	ND
2,3,4,6,7,8-HxCDF	ND	0.25	ND
1,2,3,7,8,9-HxCDF	ND	0.16	ND
1,2,3,4,6,7,8-HpCDF	ND	0.19	ND
1,2,3,4,7,8,9-HpCDF	ND	0.03	ND
1,2,3,4,6,7,8,9-OCDF	ND	0 22	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0 14
Total PeCDD	ND	0 969
Total HxCDD	ND	0 163
Total HpCDD	ND	0 28
Total TCDF	ND	0 12
Total PeCDF	ND	0.52
Total HxCDF	ND	0 153
Total HpCDF	ND	0 11

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American Environmental Network

TL-RTP Project: 33451A — Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC-24/00-048 — Analysis File: B950969

Client Project:	9507125 Indiana-Navy Project				
Sample Matrix:	SOIL	Date Received:	07/19/95	Spike File:	SP828050
TLRTP ID:	103-123-5	Date Extracted:	07/20/95	ICAL:	B855195
		Date Analyzed:	07/24/95	CONCAL:	B950958
Sample Size:	10.470 g	Dilution Factor:	n/a	% Moisture:	4.4
Dry Weight:	10.009 g	Blank File:	B950964	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	95.6

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.14				—
1,2,3,7,8-PeCDD	ND	0.969				—
1,2,3,4,7,8-HxCDD	ND	0.0699				—
1,2,3,6,7,8-HxCDD	ND	0.21				—
1,2,3,7,8,9-HxCDD	ND	0.21				—
1,2,3,4,6,7,8-HpCDD	ND	0.28				—
1,2,3,4,6,7,8,9-OCDD	ND	0.36				—
2,3,7,8-TCDF	ND	0.12				—
1,2,3,7,8-PeCDF	ND	0.47				—
2,3,4,7,8-PeCDF	ND	0.569				—
1,2,3,4,7,8-HxCDF	ND	0.0999				—
1,2,3,6,7,8-HxCDF	ND	0.0999				—
2,3,4,6,7,8-HxCDF	ND	0.25				—
1,2,3,7,8,9-HxCDF	ND	0.16				—
1,2,3,4,6,7,8-HpCDF	ND	0.19				—
1,2,3,4,7,8,9-HpCDF	ND	0.03				—
1,2,3,4,6,7,8,9-OCDF	ND	0.22				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.698	—
Total PeCDD	ND	0	0.969		—
Total HxCDD	ND	0	0.163		—
Total HpCDD	ND	0	0.28		—
Total TCDF	ND	0	0.12		—
Total PeCDF	ND	0	0.52		—
Total HxCDF	ND	0	0.153		—
Total HpCDF	ND	0	0.11		—

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TL-RTP Project. 33451A
Client Sample: NSWC-24/00-048

Method 8280 PCDD/PCDF Analysis
Analysis File:

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flag
$^{13}C_{12}$-2,3,7,8-TCDF	2.98	59.7	40%-120%	0.80	24:26	—
$^{13}C_{12}$-2,3,7,8-TCDD	2.91	58.2	40%-120%	0.80	25:07	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.29	85.8	40%-120%	1.27	32:26	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	8.25	82.6	40%-120%	1.16	34:41	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	8.59	86.0	25%-120%	0.84	39:29	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.45	58.1	40%-120%	25:07	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	24:57	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.22	32.46	—

Data Reviewer VC 07/27/95

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American Environmental Network

TL-RTP Project: 33451A
Client Sample: NSWC-24/00-048

Toxicity Equivalents Report
Analysis File: B950969

Client Project:	9507125 Indiana-Navy Project				
Sample Matrix.	SOIL	Date Received:	07/19/95	Spike File:	SP828050
TLRTP ID:	103-123-5	Date Extracted:	07/20/95	ICAL:	B855195
		Date Analyzed:	07/24/95	CONCAL:	B950958
Sample Size:	10.470 g	Dilution Factor:	n/a	% Moisture:	4.4
Dry Weight:	10.009 g	Blank File:	B950964	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	95.6

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	ND	x	0.001	=	0
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0 ppb

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TL-RTP Project. 33451A — Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC-24/00-049 — Analysis File: B95[illegible]
Client Project: 9507125 Indiana-Navy Project — Matrix. [illegible]

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.14	ND
1,2,3,7,8-PeCDD	ND	0.97	ND
1,2,3,4,7,8-HxCDD	ND	0.07	ND
1,2,3,6,7,8-HxCDD	ND	0.21	ND
1,2,3,7,8,9-HxCDD	ND	0.21	ND
1,2,3,4,6,7,8-HpCDD	ND	0.28	ND
1,2,3,4,6,7,8,9-OCDD	ND	0.36	ND
2,3,7,8-TCDF	ND	0.12	ND
1,2,3,7,8-PeCDF	ND	0.47	ND
2,3,4,7,8-PeCDF	ND	0.57	ND
1,2,3,4,7,8-HxCDF	ND	0.1	ND
1,2,3,6,7,8-HxCDF	ND	0.1	ND
2,3,4,6,7,8-HxCDF	ND	0.25	ND
1,2,3,7,8,9-HxCDF	ND	0.16	ND
1,2,3,4,6,7,8-HpCDF	ND	0.19	ND
1,2,3,4,7,8,9-HpCDF	ND	0.03	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.22	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.14
Total PeCDD	ND	0.97
Total HxCDD	ND	0.163
Total HpCDD	ND	0.28
Total TCDF	ND	0.12
Total PeCDF	ND	0.52
Total HxCDF	ND	0.153
Total HpCDF	ND	0.11

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American Environmental Network

TL-RTP Project: 33451A — Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC-24/00-049 — Analysis File: B950970

Client Project:	9507125 Indiana-Navy Project				
Sample Matrix:	SOIL	Date Received:	07/19/95	Spike File:	SP828050
TLRTP ID:	103-123-6	Date Extracted:	07/20/95	ICAL:	B855195
		Date Analyzed:	07/24/95	CONCAL:	B950958
Sample Size:	10.530 g	Dilution Factor:	n/a	% Moisture:	5.0
Dry Weight:	10.004 g	Blank File:	B950964	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	95.0

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.14				—
1,2,3,7,8-PeCDD	ND	0.97				—
1,2,3,4,7,8-HxCDD	ND	0.07				—
1,2,3,6,7,8-HxCDD	ND	0.21				—
1,2,3,7,8,9-HxCDD	ND	0.21				—
1,2,3,4,6,7,8-HpCDD	ND	0.28				—
1,2,3,4,6,7,8,9-OCDD	ND	0.36				—
2,3,7,8-TCDF	ND	0.12				—
1,2,3,7,8-PeCDF	ND	0.47				—
2,3,4,7,8-PeCDF	ND	0.57				—
1,2,3,4,7,8-HxCDF	ND	0.1				—
1,2,3,6,7,8-HxCDF	ND	0.1				—
2,3,4,6,7,8-HxCDF	ND	0.25				—
1,2,3,7,8,9-HxCDF	ND	0.16				—
1,2,3,4,6,7,8-HpCDF	ND	0.19				—
1,2,3,4,7,8,9-HpCDF	ND	0.03				—
1,2,3,4,6,7,8,9-OCDF	ND	0.22				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.653	—
Total PeCDD	ND	0	0.97		—
Total HxCDD	ND	0	0.163		—
Total HpCDD	ND	0	0.28		—
Total TCDF	ND	0	0.12		—
Total PeCDF	ND	0	0.52		—
Total HxCDF	ND	0	0.153		—
Total HpCDF	ND	0	0.11		—

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TL-RTP Project: 33451A
Client Sample: NSWC-24/00-049

Method 8280 PCDD/PCDF Analysis (l
Analysis File: P

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.12	62.5	40%-120%	0.78	24:26	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.19	63.9	40%-120%	0.78	25:06	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.54	90.9	40%-120%	1.26	32:26	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	8.02	80.3	40%-120%	1.07	34:41	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	8.17	81.7	25%-120%	0.88	39.30	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.5	59.8	40%-120%	25:07	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	24:57	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.24	32:46	—

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Printed: 23:42 07/27/95

American Environmental Network

TL-RTP Project: 33451A
Client Sample: NSWC-24/00-049

Toxicity Equivalents Report
Analysis File: B950970

Client Project:	9507125 Indiana-Navy Project				
Sample Matrix:	SOIL	Date Received:	07/19/95	Spike File:	SP828050
TLRTP ID:	103-123-6	Date Extracted:	07/20/95	ICAL:	B855195
		Date Analyzed:	07/24/95	CONCAL:	B950958
Sample Size:	10.530 g	Dilution Factor:	n/a	% Moisture:	5.0
Dry Weight:	10.004 g	Blank File:	B950964	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	95.0

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	ND	x	0.001	=	0
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0 ppb

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Printed 23:55 07/27/95

American Environmental Network

TL-RTP Project: 33451A — Method 8280 PCDD/PCDF Analysis (t
Client Sample: NSWC-24/00-050 — Analysis File: B
Client Project: 9507125 Indiana-Navy Project — Matrix: SOI

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.14	ND
1,2,3,7,8-PeCDD	ND	0.969	ND
1,2,3,4,7,8-HxCDD	ND	0.0699	ND
1,2,3,6,7,8-HxCDD	ND	0.21	ND
1,2,3,7,8,9-HxCDD	ND	0.21	ND
1,2,3,4,6,7,8-HpCDD	ND	0.28	ND
1,2,3,4,6,7,8,9-OCDD	ND	0.36	ND
2,3,7,8-TCDF	ND	0.12	ND
1,2,3,7,8-PeCDF	ND	0.47	ND
2,3,4,7,8-PeCDF	ND	0.57	ND
1,2,3,4,7,8-HxCDF	ND	0.0999	ND
1,2,3,6,7,8-HxCDF	ND	0.0999	ND
2,3,4,6,7,8-HxCDF	ND	0.25	ND
1,2,3,7,8,9-HxCDF	ND	0.16	ND
1,2,3,4,6,7,8-HpCDF	ND	0.19	ND
1,2,3,4,7,8,9-HpCDF	ND	0.03	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.22	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.14
Total PeCDD	ND	0.969
Total HxCDD	ND	0.163
Total HpCDD	ND	0.28
Total TCDF	ND	0.12
Total PeCDF	ND	0.52
Total HxCDF	ND	0.153
Total HpCDF	ND	0.11

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TL-RTP Project 33451A — Method 8280 PCDD/PCDF Analysis (t
Client Sample: NSWC-24/00-050 — Analysis File: B95097

Client Project:	9507125 Indiana-Navy Project				
Sample Matrix:	SOIL	Date Received:	07/19/95	Spike File:	SP828050
TLRTP ID:	103-123-7	Date Extracted:	07/20/95	ICAL:	B855195
		Date Analyzed:	07/24/95	CONCAL:	B950958
Sample Size:	10.480 g	Dilution Factor:	n/a	% Moisture:	4.5
Dry Weight:	10.008 g	Blank File:	B950964	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	95.5

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.14				—
1,2,3,7,8-PeCDD	ND	0.969				—
1,2,3,4,7,8-HxCDD	ND	0.0699				—
1,2,3,6,7,8-HxCDD	ND	0.21				—
1,2,3,7,8,9-HxCDD	ND	0.21				—
1,2,3,4,6,7,8-HpCDD	ND	0.28				—
1,2,3,4,6,7,8,9-OCDD	ND	0.36				—
2,3,7,8-TCDF	ND	0.12				—
1,2,3,7,8-PeCDF	ND	0.47				—
2,3,4,7,8-PeCDF	ND	0.57				—
1,2,3,4,7,8-HxCDF	ND	0.0999				—
1,2,3,6,7,8-HxCDF	ND	0.0999				—
2,3,4,6,7,8-HxCDF	ND	0.25				—
1,2,3,7,8,9-HxCDF	ND	0.16				—
1,2,3,4,6,7,8-HpCDF	ND	0.19				—
1,2,3,4,7,8,9-HpCDF	ND	0.03				—
1,2,3,4,6,7,8,9-OCDF	ND	0.22				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.635	—
Total PeCDD	ND	0	0.969		—
Total HxCDD	ND	0	0.163		—
Total HpCDD	ND	0	0.28		—
Total TCDF	ND	0	0.12		—
Total PeCDF	ND	0	0.52		—
Total HxCDF	ND	0	0.153		—
Total HpCDF	ND	0	0.11		—

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TL-RTP Project: 33451A
Client Sample: NSWC-24/00-050

Method 8280 PCDD/PCDF Analysis (
Analysis File:

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.99	59.8	40%-120%	0.78	24:27	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.1	62.0	40%-120%	0.81	25:08	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.56	91.3	40%-120%	1.28	32:27	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	8.18	81.9	40%-120%	1.06	34:42	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	8.11	81.2	25%-120%	0.88	39:30	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.54	61.5	40%-120%	25:09	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	24:58	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.24	32:46	—

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TL-RTP Project: 33451A
Client Sample: NSWC-24/00-050

Toxicity Equivalents Report
Analysis File: B950971

Client Project:	9507125 Indiana-Navy Project				
Sample Matrix:	SOIL	Date Received:	07/19/95	Spike File:	SP828050
TLRTP ID:	103-123-7	Date Extracted:	07/20/95	ICAL:	B855195
		Date Analyzed:	07/24/95	CONCAL:	B950958
Sample Size	10.480 g	Dilution Factor:	n/a	% Moisture:	4.5
Dry Weight:	10.008 g	Blank File:	B950964	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	95.5

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	ND	x	0.001	=	0
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0 ppb

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TL-RTP Project: 34626B
Client Sample: NSWC 24/00-055
Client Project: Indiana Navy Project

Method 8280 PCDD/PCDF Analysis (b)
Analysis File. E9
Matrix: SO

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0445	ND
1,2,3,7,8-PeCDD	ND	0.467	ND
1,2,3,4,7,8-HxCDD	ND	0.423	ND
1,2,3,6,7,8-HxCDD	ND	0.256	ND
1,2,3,7,8,9-HxCDD	ND	0.245	ND
1,2,3,4,6,7,8-HpCDD	ND	0.634	ND
1,2,3,4,6,7,8,9-OCDD	0.427	0.345	ND
2,3,7,8-TCDF	ND	0.0556	ND
1,2,3,7,8-PeCDF	ND	0.434	ND
2,3,4,7,8-PeCDF	ND	0.545	ND
1,2,3,4,7,8-HxCDF	ND	0.545	ND
1,2,3,6,7,8-HxCDF	ND	0.323	ND
2,3,4,6,7,8-HxCDF	ND	0.445	ND
1,2,3,7,8,9-HxCDF	ND	0.378	ND
2,3,4,6,7,8-HpCDF	ND	0.0719	ND
1,2,3,4,7,8,9-HpCDF	ND	0.156	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.3	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.0445
Total PeCDD	ND	0.467
Total HxCDD	ND	0.245
Total HpCDD	ND	0.634
Total TCDF	ND	0.0556
Total PeCDF	ND	0.545
Total HxCDF	ND	0.378
Total HpCDF	ND	0.156

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b
Client Sample: NSWC 24/00-055 — Analysis File: E953720

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received:	10/20/95	Spike File:	SP828050
TLRTP ID:	108-32-2	Date Extracted:	10/21/95	ICal:	E85527A
		Date Analyzed.	10/27/95	ConCal:	E953717
Sample Size:	10.020 g	Dilution Factor:	n/a	% Moisture:	10.3
Dry Weight:	8.988 g	Blank File.	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DB	% Solids:	89.7

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0445				—
1,2,3,7,8-PeCDD	ND	0.467				—
1,2,3,4,7,8-HxCDD	ND	0.423				—
1,2,3,6,7,8-HxCDD	ND	0.256				—
1,2,3,7,8,9-HxCDD	ND	0.245				—
1,2,3,4,6,7,8-HpCDD	ND	0.634				—
1,2,3,4,6,7,8,9-OCDD	0.427			0.87	39:57	—
2,3,7,8-TCDF	ND	0.0556				—
1,2,3,7,8-PeCDF	ND	0.434				—
2,3,4,7,8-PeCDF	ND	0.545				—
1,2,3,4,7,8-HxCDF	ND	0.545				—
1,2,3,6,7,8-HxCDF	ND	0.323				—
2,3,4,6,7,8-HxCDF	ND	0.445				—
1,2,3,7,8,9-HxCDF	ND	0.378				—
1,2,3,4,6,7,8-HpCDF	ND	0.0719				—
1,2,3,4,7,8,9-HpCDF	ND	0.156				—
1,2,3,4,6,7,8,9-OCDF	ND	0.3				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.321	—
Total PeCDD	ND	0	0.467		—
Total HxCDD	ND	0	0.245		—
Total HpCDD	ND	0	0.634		—
Total TCDF	ND	0	0.0556		—
Total PeCDF	ND	0	0.545		—
Total HxCDF	ND	0	0.378		—
Total HpCDF	ND	0	0.156		—

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b

Client Sample NSWC 24/00-055 — Analysis File: E95377

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.83	50.9	40%-120%	0.79	24:46	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.2	57.5	40%-120%	0.79	25:33	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.58	82.4	40%-120%	1.24	33.17	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	7.85	70.6	40%-120%	1.06	35:25	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	7.25	65.2	25%-120%	0.88	39:56	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.61	57.9	40%-120%	25:34	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	25:21	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.23	33.35	—

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TL-RTP Project: 34626B
Client Sample: NSWC 24/00-055

Toxicity Equivalents Report
Analysis File E953720

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received:	10/20/95	Spike File:	SP828050
TLRTP ID:	108-32-2	Date Extracted:	10/21/95	ICal:	E85527A
		Date Analyzed:	10/27/95	ConCal:	E953717
Sample Size.	10.020 g	Dilution Factor:	n/a	% Moisture:	10.3
Dry Weight:	8.988 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DB	% Solids:	89.7

Analytes	Conc. (ppb)		TEF		Equivalent
2378-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	0.43	x	0.001	=	0.00043
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0.00043 ppb

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TL-RTP Project: 34626B
Client Sample: NSWC 24/00-056
Client Project: Indiana Navy Project

Method 8280 PCDD/PCDF Analysis (
Analysis File E95372
Matrix.

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0428	ND
1,2,3,7,8-PeCDD	ND	0.45	ND
1,2,3,4,7,8-HxCDD	ND	0.407	ND
1,2,3,6,7,8-HxCDD	ND	0.246	ND
1,2,3,7,8,9-HxCDD	ND	0.236	ND
1,2,3,4,6,7,8-HpCDD	ND	0.61	ND
1,2,3,4,6,7,8,9-OCDD	ND	0.332	ND
2,3,7,8-TCDF	ND	0.0535	ND
1,2,3,7,8-PeCDF	ND	0.418	ND
2,3,4,7,8-PeCDF	ND	0.525	ND
1,2,3,4,7,8-HxCDF	ND	0.525	ND
1,2,3,6,7,8-HxCDF	ND	0.31	ND
2,3,4,6,7,8-HxCDF	ND	0.428	ND
1,2,3,7,8,9-HxCDF	ND	0.364	ND
1,2,3,4,6,7,8-HpCDF	ND	0.0692	ND
1,2,3,4,7,8,9-HpCDF	ND	0.15	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.289	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank..

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.0428
Total PeCDD	ND	0.45
Total HxCDD	ND	0.236
Total HpCDD	ND	0.61
Total TCDF	ND	0.0535
Total PeCDF	ND	0.525
Total HxCDF	ND	0.364
Total HpCDF	ND	0.15

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b)

Client Sample: NSWC 24/00-056 — Analysis File: E953721

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received:	10/20/95	Spike File:	SP828050
TLRTP ID:	108-32-3	Date Extracted:	10/21/95	ICal:	E85527A
		Date Analyzed:	10/27/95	ConCal:	E953717
Sample Size:	10.130 g	Dilution Factor:	n/a	% Moisture:	7.8
Dry Weight:	9.340 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DB	% Solids:	92.2

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0428				—
1,2,3,7,8-PeCDD	ND	0.45				—
1,2,3,4,7,8-HxCDD	ND	0.407				—
1,2,3,6,7,8-HxCDD	ND	0.246				—
1,2,3,7,8,9-HxCDD	ND	0.236				—
1,2,3,4,6,7,8-HpCDD	ND	0.61				—
1,2,3,4,6,7,8,9-OCDD	ND	0.332				—
2,3,7,8-TCDF	ND	0.0535				—
1,2,3,7,8-PeCDF	ND	0.418				—
3,4,7,8-PeCDF	ND	0.525				—
2,3,4,7,8-HxCDF	ND	0.525				—
1,2,3,6,7,8-HxCDF	ND	0.31				—
2,3,4,6,7,8-HxCDF	ND	0.423				—
1,2,3,7,8,9-HxCDF	ND	0.364				—
1,2,3,4,6,7,8-HpCDF	ND	0.0692				—
1,2,3,4,7,8,9-HpCDF	ND	0.15				—
1,2,3,4,6,7,8,9-OCDF	ND	0.289				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.298	—
Total PeCDD	ND	0	0.45		—
Total HxCDD	ND	0	0.236		—
Total HpCDD	ND	0	0.61		—
Total TCDF	ND	0	0.0535		—
Total PeCDF	ND	0	0.525		—
Total HxCDF	ND	0	0.364		—
Total HpCDF	ND	0	0.15		—

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TL-RTP Project: 34626B
Client Sample: NSWC 24/00-056

Method 8280 PCDD/PCDF Analysis (D
Analysis File: E95[illegible]

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.16	40.4	40%-120%	0.79	24:46	—
$^{13}C_{12}$-2,3,7,8-TCDD	2.82	52.6	40%-120%	0.79	25:33	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.05	75.6	40%-120%	1.24	33.17	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	5.57	52.0	40%-120%	1.06	35:25	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	5.89	55.0	25%-120%	0.89	39.56	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.43	53.6	40%-120%	25:34	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	25:22	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.23	33.35	—

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TL-RTP Project: 34626B
Client Sample: NSWC 24/00-056

Toxicity Equivalents Report
Analysis File: E953721

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received:	10/20/95	Spike File:	SP828050
TLRTP ID:	108-32-3	Date Extracted:	10/21/95	ICal.	E85527A
		Date Analyzed:	10/27/95	ConCal:	E953717
Sample Size:	10.130 g	Dilution Factor:	n/a	% Moisture:	7.8
Dry Weight:	9.340 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DB	% Solids:	92.2

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	ND	x	0.001	=	0
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0 ppb

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TL-RTP Project: 34626B
Client Sample: NSWC 24/00-057
ient Project: Indiana Navy Project

Method 8280 PCDD/PCDF Analysis (b
Analysis File: E953722
Matrix:

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0438	ND
1,2,3,7,8-PeCDD	ND	0.459	ND
1,2,3,4,7,8-HxCDD	ND	0.416	ND
1,2,3,6,7,8-HxCDD	ND	0.252	ND
1,2,3,7,8,9-HxCDD	ND	0.241	ND
1,2,3,4,6,7,8-HpCDD	ND	0.624	ND
1,2,3,4,6,7,8,9-OCDD	ND	0.339	ND
2,3,7,8-TCDF	ND	0.0547	ND
1,2,3,7,8-PeCDF	ND	0.427	ND
2,3,4,7,8-PeCDF	ND	0.536	ND
1,2,3,4,7,8-HxCDF	ND	0.536	ND
1,2,3,6,7,8-HxCDF	ND	0.317	ND
2,3,4,6,7,8-HxCDF	ND	0.438	ND
1,2,3,7,8,9-HxCDF	ND	0.372	ND
1,2,3,4,6,7,8-HpCDF	ND	0.0707	ND
1,2,3,4,7,8,9-HpCDF	ND	0.153	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.295	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.0438
Total PeCDD	ND	0.459
Total HxCDD	ND	0.241
Total HpCDD	ND	0.624
Total TCDF	ND	0.0547
Total PeCDF	ND	0.536
Total HxCDF	ND	0.372
Total HpCDF	ND	0.153

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC 24/00-057 — Analysis File E953722

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received:	10/20/95	Spike File:	SPS2S050
TLRTP ID.	108-32-4	Date Extracted:	10/21/95	ICal.	E85527A
		Date Analyzed:	10/27/95	ConCal.	E953717
Sample Size:	10.100 g	Dilution Factor:	n/a	% Moisture.	9.5
Dry Weight:	9.141 g	Blank File.	E953719	% Lipid:	n/a
GC Column.	DB-5	Analyst:	DB	% Solids.	90.5

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0438				—
1,2,3,7,8-PeCDD	ND	0.459				—
1,2,3,4,7,8-HxCDD	ND	0.416				—
1,2,3,6,7,8-HxCDD	ND	0.252				—
1,2,3,7,8,9-HxCDD	ND	0.241				—
1,2,3,4,6,7,8-HpCDD	ND	0.624				—
1,2,3,4,6,7,8,9-OCDD	ND	0.339				—
2,3,7,8-TCDF	ND	0.0547				—
1,2,3,7,8-PeCDF	ND	0.427				—
2,3,4,7,8-PeCDF	ND	0.536				—
2,3,4,7,8-HxCDF	ND	0.536				—
2,3,6,7,8-HxCDF	ND	0.317				—
2,3,4,6,7,8-HxCDF	ND	0.438				—
1,2,3,7,8,9-HxCDF	ND	0.372				—
1,2,3,4,6,7,8-HpCDF	ND	0.0707				—
1,2,3,4,7,8,9-HpCDF	ND	0.153				—
1,2,3,4,6,7,8,9-OCDF	ND	0.295				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.323	—
Total PeCDD	ND	0	0.459		—
Total HxCDD	ND	0	0.241		—
Total HpCDD	ND	0	0.624		—
Total TCDF	ND	0	0.0547		—
Total PeCDF	ND	0	0.536		—
Total HxCDF	ND	0	0.372		—
Total HpCDF	ND	0	0.153		—

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (
Client Sample: NSWC 24/00-057 — Analysis File: E95377

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.12	57.1	40%-120%	0.79	24:46	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.76	68.7	40%-120%	0.80	25:33	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	5.07	92.6	40%-120%	1.24	33:17	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	7.83	71.6	40%-120%	1.05	35:26	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	7.56	69.1	25%-120%	0.90	39:57	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.83	66.8	40%-120%	25:34	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	25:22	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.24	33:36	—

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American Environmental Network

TL-RTP Project: 34626B
Client Sample: NSWC 24/00-057

Toxicity Equivalents Report
Analysis File: E953722

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received:	10/20/95	Spike File:	SPS28050
TLRTP ID.	108-32-4	Date Extracted.	10/21/95	ICal:	ES5527A
		Date Analyzed:	10/27/95	ConCal:	E953717
Sample Size:	10.100 g	Dilution Factor:	n/a	% Moisture:	9.5
Dry Weight:	9.141 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DB	% Solids:	90.5

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	ND	x	0.001	=	0
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0 ppb

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC 24/00-058 — Analysis File: E953723
Client Project: Indiana Navy Project — Matrix:

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0442	ND
1,2,3,7,8-PeCDD	ND	0.465	ND
1,2,3,4,7,8-HxCDD	ND	0.42	ND
1,2,3,6,7,8-HxCDD	ND	0.254	ND
1,2,3,7,8,9-HxCDD	ND	0.243	ND
1,2,3,4,6,7,8-HpCDD	ND	0.63	ND
1,2,3,4,6,7,8,9-OCDD	ND	0.343	ND
2,3,7,8-TCDF	ND	0.0553	ND
1,2,3,7,8-PeCDF	ND	0.431	ND
2,3,4,7,8-PeCDF	ND	0.542	ND
1,2,3,4,7,8-HxCDF	ND	0.542	ND
1,2,3,6,7,8-HxCDF	ND	0.321	ND
2,3,4,6,7,8-HxCDF	ND	0.442	ND
1,2,3,7,8,9-HxCDF	ND	0.376	ND
1,2,3,4,6,7,8-HpCDF	ND	0.0715	ND
1,2,3,4,7,8,9-HpCDF	ND	0.155	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.299	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.0442
Total PeCDD	ND	0.465
Total HxCDD	ND	0.243
Total HpCDD	ND	0.63
Total TCDF	ND	0.0553
Total PeCDF	ND	0.542
Total HxCDF	ND	0.376
Total HpCDF	ND	0.155

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b)

Client Sample: NSWC 24/00-058 — Analysis File E953723

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received:	10/20/95	Spike File:	SP82S050
TLRTP ID:	108-32-5	Date Extracted:	10/21/95	ICal.	E85527A
		Date Analyzed:	10/27/95	ConCal	E953717
Sample Size:	10.090 g	Dilution Factor:	n/a	% Moisture:	10.4
Dry Weight:	9.041 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DB	% Solids:	89.6

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0442				—
1,2,3,7,8-PeCDD	ND	0.465				—
1,2,3,4,7,8-HxCDD	ND	0.42				—
1,2,3,6,7,8-HxCDD	ND	0.254				—
1,2,3,7,8,9-HxCDD	ND	0.243				—
1,2,3,4,6,7,8-HpCDD	ND	0.63				—
1,2,3,4,6,7,8,9-OCDD	ND	0.343				—
2,3,7,8-TCDF	ND	0.0553				—
1,2,3,7,8-PeCDF	ND	0.431				—
2,3,4,7,8-PeCDF	ND	0.542				—
3,4,7,8-HxCDF	ND	0.542				—
3,6,7,8-HxCDF	ND	0.321				—
2,3,4,6,7,8-HxCDF	ND	0.442				—
1,2,3,7,8,9-HxCDF	ND	0.376				—
1,2,3,4,6,7,8-HpCDF	ND	0.0715				—
1,2,3,4,7,8,9-HpCDF	ND	0.155				—
1,2,3,4,6,7,8,9-OCDF	ND	0.299				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.297	—
Total PeCDD	ND	0	0.465		—
Total HxCDD	ND	0	0.243		—
Total HpCDD	ND	0	0.63		—
Total TCDF	ND	0	0.0553		—
Total PeCDF	ND	0	0.542		—
Total HxCDF	ND	0	0.376		—
Total HpCDF	ND	0	0.155		—

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b
Client Sample: NSWC 24/00-058 — Analysis File: E953723

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.51	45.3	40%-120%	0.79	24:45	—
$^{13}C_{12}$-2,3,7,8-TCDD	2.99	54.1	40%-120%	0.81	25:32	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.33	78.3	40%-120%	1.24	33:16	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	7.12	64.4	40%-120%	1.05	35:24	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	7.09	64.1	25%-120%	0.88	39:55	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.48	53.6	40%-120%	25:33	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	25:21	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.23	33:34	—

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American Environmental Network

TL-RTP Project: 34626B
Client Sample: NSWC 24/00-058

Toxicity Equivalents Report
Analysis File: E953723

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received:	10/20/95	Spike File:	SPS2S050
TLRTP ID:	108-32-5	Date Extracted:	10/21/95	ICal:	ES5527A
		Date Analyzed:	10/27/95	ConCal:	E953717
Sample Size:	10.090 g	Dilution Factor:	n/a	% Moisture:	10.4
Dry Weight:	9.041 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DB	% Solids:	89.6

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	ND	x	0.001	=	0
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0 ppb

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (t
Client Sample: NSWC 24/00-059 — Analysis File: E95372
Client Project: Indiana Navy Project — Matrix

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0431	ND
1,2,3,7,8-PeCDD	ND	0.453	ND
1,2,3,4,7,8-HxCDD	ND	0.41	ND
1,2,3,6,7,8-HxCDD	ND	0.248	ND
1,2,3,7,8,9-HxCDD	ND	0.237	ND
1,2,3,4,6,7,8-HpCDD	ND	0.615	ND
1,2,3,4,6,7,8,9-OCDD	ND	0.334	ND
2,3,7,8-TCDF	ND	0.0539	ND
1,2,3,7,8-PeCDF	ND	0.421	ND
2,3,4,7,8-PeCDF	ND	0.528	ND
1,2,3,4,7,8-HxCDF	ND	0.528	ND
1,2,3,6,7,8-HxCDF	ND	0.313	ND
2,3,4,6,7,8-HxCDF	ND	0.431	ND
1,2,3,7,8,9-HxCDF	ND	0.367	ND
1,2,3,4,6,7,8-HpCDF	ND	0.0697	ND
1,2,3,4,7,8,9-HpCDF	ND	0.151	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.291	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank..

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.0431
Total PeCDD	ND	0.453
Total HxCDD	ND	0.237
Total HpCDD	ND	0.615
Total TCDF	ND	0.0539
Total PeCDF	ND	0.528
Total HxCDF	ND	0.367
Total HpCDF	ND	0.151

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American Environmental Network

TL-RTP Project. 34626B — Method 8280 PCDD/PCDF Analysis (b
Client Sample: NSWC 24/00-059 — Analysis File. E95372

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received.	10/20/95	Spike File.	SPS28050
TLRTP ID.	108-32-6	Date Extracted.	10/21/95	ICal:	E85527A
		Date Analyzed.	10/28/95	ConCal:	E953717
Sample Size:	10.070 g	Dilution Factor:	n/a	% Moisture.	7.9
Dry Weight:	9.274 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DB	% Solids.	92.1

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0431				—
1,2,3,7,8-PeCDD	ND	0.453				—
1,2,3,4,7,8-HxCDD	ND	0.41				—
1,2,3,6,7,8-HxCDD	ND	0.248				—
1,2,3,7,8,9-HxCDD	ND	0.237				—
1,2,3,4,6,7,8-HpCDD	ND	0.615				—
1,2,3,4,6,7,8,9-OCDD	ND	0.334				—
2,3,7,8-TCDF	ND	0.0539				—
1,2,3,7,8-PeCDF	ND	0.421				—
2,3,4,7,8-PeCDF	ND	0.528				—
2,3,4,7,8-HxCDF	ND	0.528				—
2,3,6,7,8-HxCDF	ND	0.313				—
2,3,4,6,7,8-HxCDF	ND	0.431				—
1,2,3,7,8,9-HxCDF	ND	0.367				—
1,2,3,4,6,7,8-HpCDF	ND	0.0697				—
1,2,3,4,7,8,9-HpCDF	ND	0.151				—
1,2,3,4,6,7,8,9-OCDF	ND	0.291				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.293	—
Total PeCDD	ND	0	0.453		—
Total HxCDD	ND	0	0.237		—
Total HpCDD	ND	0	0.615		—
Total TCDF	ND	0	0.0539		—
Total PeCDF	ND	0	0.528		—
Total HxCDF	ND	0	0.367		—
Total HpCDF	ND	0	0.151		—

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis
Client Sample: NSWC 24/00-059 — Analysis File E953

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flag
$^{13}C_{12}$-2,3,7,8-TCDF	2.72	50.5	40%-120%	0.79	24:45	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.23	59.8	40%-120%	0.80	25:32	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.58	85.0	40%-120%	1.25	33:17	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	7.22	67.0	40%-120%	1.05	35:25	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	6.99	64.8	25%-120%	0.89	39:56	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.61	59.9	40%-120%	25.34	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	25.21	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.23	33:35	—

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TL-RTP Project: 34626B — Toxicity Equivalents Report

Client Sample: NSWC 24/00-059 — Analysis File: E953724

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received:	10/20/95	Spike File:	SP828050
TLRTP ID:	108-32-6	Date Extracted:	10/21/95	ICal:	ES5527A
		Date Analyzed:	10/28/95	ConCal:	E953717
Sample Size:	10.070 g	Dilution Factor:	n/a	% Moisture:	7.9
Dry Weight:	9.274 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DB	% Solids:	92.1

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	ND	x	0.001	=	0
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0 ppb

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TL-RTP Project: 34626B
Client Sample: NSWC 24/00-060
Client Project: Indiana Navy Project

Method 8280 PCDD/PCDF Analysis (
Analysis File: E95372
Matrix: SO

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0425	ND
1,2,3,7,8-PeCDD	ND	0.446	ND
1,2,3,4,7,8-HxCDD	ND	0.404	ND
1,2,3,6,7,8-HxCDD	ND	0.244	ND
1,2,3,7,8,9-HxCDD	ND	0.234	ND
1,2,3,4,6,7,8-HpCDD	ND	0.606	ND
1,2,3,4,6,7,8,9-OCDD	0.353	0.329	ND
2,3,7,8-TCDF	ND	0.0531	ND
1,2,3,7,8-PeCDF	ND	0.414	ND
2,3,4,7,8-PeCDF	ND	0.521	ND
1,2,3,4,7,8-HxCDF	ND	0.521	ND
1,2,3,6,7,8-HxCDF	ND	0.308	ND
2,3,4,6,7,8-HxCDF	ND	0.425	ND
1,2,3,7,8,9-HxCDF	ND	0.361	ND
1,2,3,4,6,7,8-HpCDF	ND	0.0686	ND
1,2,3,4,7,8,9-HpCDF	ND	0.149	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.287	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.0425
Total PeCDD	ND	0.446
Total HxCDD	ND	0.234
Total HpCDD	ND	0.606
Total TCDF	ND	0.0531
Total PeCDF	ND	0.521
Total HxCDF	ND	0.361
Total HpCDF	ND	0.149

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b)

Client Sample NSWC 24/00-060 — Analysis File: E953725

Client Project	Indiana Navy Project				
Sample Matrix	SOIL	Date Received:	10/20/95	Spike File.	SP828050
TLRTP ID:	108-32-7	Date Extracted:	10/21/95	ICal:	E85527A
		Date Analyzed:	10/28/95	ConCal	E953717
Sample Size:	10.120 g	Dilution Factor.	n/a	% Moisture.	7.0
Dry Weight	9.412 g	Blank File.	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	GM	% Solids:	93.0

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0425				—
1,2,3,7,8-PeCDD	ND	0.446				—
1,2,3,4,7,8-HxCDD	ND	0.404				—
1,2,3,6,7,8-HxCDD	ND	0.244				—
1,2,3,7,8,9-HxCDD	ND	0.234				—
1,2,3,4,6,7,8-HpCDD	ND	0.606				—
1,2,3,4,6,7,8,9-OCDD	0.353			0.88	39:56	—
2,3,7,8-TCDF	ND	0.0531				—
1,2,3,7,8-PeCDF	ND	0.414				—
2,3,4,7,8-PeCDF	ND	0.521				—
1,2,3,4,7,8-HxCDF	ND	0.521				—
1,2,3,6,7,8-HxCDF	ND	0.308				—
2,3,4,6,7,8-HxCDF	ND	0.425				—
1,2,3,7,8,9-HxCDF	ND	0.361				—
1,2,3,4,6,7,8-HpCDF	ND	0.0686				—
1,2,3,4,7,8,9-HpCDF	ND	0.149				—
1,2,3,4,6,7,8,9-OCDF	ND	0.287				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.374	—
Total PeCDD	ND	0	0.446		—
Total HxCDD	ND	0	0.234		—
Total HpCDD	ND	0	0.606		—
Total TCDF	ND	0	0.0531		—
Total PeCDF	ND	0	0.521		—
Total HxCDF	ND	0	0.361		—
Total HpCDF	ND	0	0.149		—

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TL-RTP Project. 34626B — Method 8280 PCDD/PCDF Analysis (
Client Sample: NSWC 24/00-060 — Analysis File: E95372

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.32	43.7	40%-120%	0.80	24:47	—
$^{13}C_{12}$-2,3,7,8-TCDD	2.78	52.4	40%-120%	0.80	25:33	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	3.85	72.5	40%-120%	1.26	33:17	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	5.46	51.4	40%-120%	1.07	35:25	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	5.23	49.2	25%-120%	0.90	39:56	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
^{37}Cl-2,3,7,8-TCDD	1.41	53.1	40%-120%	25:34	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	25:22	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.29	33:35	—

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TL-RTP Project: 34626B
Client Sample: NSWC 24/00-060

Toxicity Equivalents Report
Analysis File E953725

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received:	10/20/95	Spike File	SPS28050
TLRTP ID:	108-32-7	Date Extracted:	10/21/95	ICal:	E85527A
		Date Analyzed:	10/28/95	ConCal:	E953717
Sample Size:	10.120 g	Dilution Factor:	n/a	% Moisture:	7.0
Dry Weight:	9.412 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	GM	% Solids:	93.0

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	0.35	x	0.001	=	0.00035
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0.00035 ppb

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis
Client Sample: NSWC 24/00-061 — Analysis File: E95372
Client Project: Indiana Navy Project — Matri

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0434	ND
1,2,3,7,8-PeCDD	ND	0.456	ND
1,2,3,4,7,8-HxCDD	ND	0.413	ND
1,2,3,6,7,8-HxCDD	ND	0.25	ND
1,2,3,7,8,9-HxCDD	ND	0.239	ND
1,2,3,4,6,7,8-HpCDD	ND	0.619	ND
1,2,3,4,6,7,8,9-OCDD	ND	0.337	ND
2,3,7,8-TCDF	ND	0.0543	ND
1,2,3,7,8-PeCDF	ND	0.423	ND
2,3,4,7,8-PeCDF	ND	0.532	ND
1,2,3,4,7,8-HxCDF	ND	0.532	ND
1,2,3,6,7,8-HxCDF	ND	0.315	ND
2,3,4,6,7,8-HxCDF	ND	0.434	ND
1,2,3,7,8,9-HxCDF	ND	0.369	ND
1,2,3,4,6,7,8-HpCDF	ND	0.0701	ND
1,2,3,4,7,8,9-HpCDF	ND	0.152	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.293	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.0434
Total PeCDD	ND	0.456
Total HxCDD	ND	0.239
Total HpCDD	ND	0.619
Total TCDF	ND	0.0543
Total PeCDF	ND	0.532
Total HxCDF	ND	0.369
Total HpCDF	ND	0.152

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TL-RTP Project. 34626B — Method 8280 PCDD/PCDF Analysis (b)
Client Sample NSWC 24/00-061 — Analysis File E953726

Client Project:	Indiana Navy Project				
Sample Matrix.	SOIL	Date Received.	10/20/95	Spike File:	SPS28050
TLRTP ID.	108-32-8	Date Extracted.	10/21/95	ICal:	ES5527A
		Date Analyzed:	10/28/95	ConCal.	E953717
Sample Size.	10.120 g	Dilution Factor:	n/a	% Moisture:	9.0
Dry Weight:	9.209 g	Blank File:	E953719	% Lipid:	n/a
GC Column	DB-5	Analyst:	GM	% Solids:	91.0

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0434				—
1,2,3,7,8-PeCDD	ND	0.456				—
1,2,3,4,7,8-HxCDD	ND	0.413				—
1,2,3,6,7,8-HxCDD	ND	0.25				—
1,2,3,7,8,9-HxCDD	ND	0.239				—
1,2,3,4,6,7,8-HpCDD	ND	0.619				—
1,2,3,4,6,7,8,9-OCDD	ND	0.337				—
2,3,7,8-TCDF	ND	0.0543				—
1,2,3,7,8-PeCDF	ND	0.423				—
2,3,4,7,8-PeCDF	ND	0.532				—
1,2,3,4,7,8-HxCDF	ND	0.532				—
1,2,3,6,7,8-HxCDF	ND	0.315				—
1,2,3,4,6,7,8-HxCDF	ND	0.434				—
1,2,3,7,8,9-HxCDF	ND	0.369				—
1,2,3,4,6,7,8-HpCDF	ND	0.0701				—
1,2,3,4,7,8,9-HpCDF	ND	0.152				—
1,2,3,4,6,7,8,9-OCDF	ND	0.293				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.312	—
Total PeCDD	ND	0	0.456		—
Total HxCDD	ND	0	0.239		—
Total HpCDD	ND	0	0.619		—
Total TCDF	ND	0	0.0543		—
Total PeCDF	ND	0	0.532		—
Total HxCDF	ND	0	0.369		—
Total HpCDF	ND	0	0.152		—

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TL-RTP Project. 34626B — Method 8280 PCDD/PCDF Analysis (b
Client Sample. NSWC 24/00-061 — Analysis File E953726

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.56	47.2	40%-120%	0.80	24:47	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.16	58.1	40%-120%	0.79	25:34	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.82	88.8	40%-120%	1.25	33:17	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	5.77	53.1	40%-120%	1.07	35:25	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	3.82	35.2	25%-120%	0.89	39:56	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.65	60.7	40%-120%	25:35	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	25:23	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.24	33:36	—

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TL-RTP Project: 34626B — Toxicity Equivalents Report

Client Sample: NSWC 24/00-061 — Analysis File: E953726

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received	10/20/95	Spike File:	SP828050
TLRTP ID	108-32-8	Date Extracted:	10/21/95	ICal:	E85527A
		Date Analyzed:	10/28/95	ConCal:	E953717
Sample Size:	10.120 g	Dilution Factor:	n/a	% Moisture:	9.0
Dry Weight:	9.209 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	GM	% Solids:	91.0

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	ND	x	0.001	=	0
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0 ppb

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b
Client Sample: NSWC 24/00-063 — Analysis File: T953970
Client Project: Indiana Navy Project — Matrix:

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0219	ND
1,2,3,7,8-PeCDD	ND	0.247	ND
1,2,3,4,7,8-HxCDD	ND	0.101	ND
1,2,3,6,7,8-HxCDD	ND	0.0748	ND
1,2,3,7,8,9-HxCDD	ND	0.142	ND
1,2,3,4,6,7,8-HpCDD	ND	0.194	ND
1,2,3,4,6,7,8,9-OCDD	0.246	0.0599	ND
2,3,7,8-TCDF	ND	0.0259	ND
1,2,3,7,8-PeCDF	ND	0.0921	ND
2,3,4,7,8-PeCDF	ND	0.175	ND
1,2,3,4,7,8-HxCDF	ND	0.214	ND
1,2,3,6,7,8-HxCDF	ND	0.28	ND
2,3,4,6,7,8-HxCDF	ND	0.244	ND
1,2,3,7,8,9-HxCDF	ND	0.176	ND
1,2,3,4,6,7,8-HpCDF	ND	0.153	ND
1,2,3,4,7,8,9-HpCDF	ND	0.19	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.177	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.219
Total PeCDD	ND	0.247
Total HxCDD	ND	0.142
Total HpCDD	ND	0.194
Total TCDF	ND	0.0259
Total PeCDF	ND	0.175
Total HxCDF	ND	0.176
Total HpCDF	ND	0.19

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC 24/00-063 — Analysis File: T953970

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received:	10/20/95	Spike File:	SPS28050
TLRTP ID:	108-32-10	Date Extracted	10/21/95	ICal:	T859225
		Date Analyzed:	10/31/95	ConCal:	T953962
Sample Size:	10.120 g	Dilution Factor:	n/a	% Moisture:	10.2
Dry Weight:	9.088 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	VA	% Solids:	89.8

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0219				—
1,2,3,7,8-PeCDD	ND	0.247				—
1,2,3,4,7,8-HxCDD	ND	0.101				—
1,2,3,6,7,8-HxCDD	ND	0.0748				—
1,2,3,7,8,9-HxCDD	ND	0.142				—
1,2,3,4,6,7,8-HpCDD	ND	0.194				—
1,2,3,4,6,7,8,9-OCDD	0.246			0.88	32:26	—
2,3,7,8-TCDF	ND	0.0259				—
1,2,3,7,8-PeCDF	ND	0.0921				—
2,3,4,7,8-PeCDF	ND	0.175				—
1,2,3,4,7,8-HxCDF	ND	0.214				—
1,2,3,6,7,8-HxCDF	ND	0.28				—
2,3,4,6,7,8-HxCDF	ND	0.244				—
1,2,3,7,8,9-HxCDF	ND	0.176				—
1,2,3,4,6,7,8-HpCDF	ND	0.153				—
1,2,3,4,7,8,9-HpCDF	ND	0.19				—
1,2,3,4,6,7,8,9-OCDF	ND	0.177				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.686	—
Total PeCDD	ND	0	0.247		—
Total HxCDD	ND	0	0.142		—
Total HpCDD	ND	0	0.194		—
Total TCDF		0		0.033	—
Total PeCDF	ND	0	0.175		—
Total HxCDF	ND	0	0.176		—
Total HpCDF	ND	0	0.19		—

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b

Client Sample: NSWC 24/00-063 — Analysis File: T95[illegible]

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.48	63.2	40%-120%	0.80	16.17	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.96	72.0	40%-120%	0.79	17.06	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	5.66	103	40%-120%	1.27	26:44	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	9.11	82.8	40%-120%	1.05	28:53	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	8.11	73.7	25%-120%	0.92	32.25	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.9	69.0	40%-120%	17:08	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	16:52	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.26	27.02	—

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8280_PSR v2.07 LARS

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TL-RTP Project: 34626B
Client Sample: NSWC 24/00-063

Toxicity Equivalents Report
Analysis File: T953970

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received:	10/20/95	Spike File:	SP828050
TLRTP ID:	108-32-10	Date Extracted:	10/21/95	ICal:	T859225
		Date Analyzed:	10/31/95	ConCal:	T953962
Sample Size:	10.120 g	Dilution Factor:	n/a	% Moisture:	10.2
Dry Weight:	9.088 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	VA	% Solids:	89.8

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	0.25	x	0.001	=	0.00025
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
1,2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0.00025 ppb

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b
Client Sample: NSWC 24/00-064 — Analysis File: T953971
Client Project: Indiana Navy Project — Matrix:

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0212	ND
1,2,3,7,8-PeCDD	ND	0.24	ND
1,2,3,4,7,8-HxCDD	ND	0.0984	ND
1,2,3,6,7,8-HxCDD	ND	0.0726	ND
1,2,3,7,8,9-HxCDD	ND	0.138	ND
1,2,3,4,6,7,8-HpCDD	ND	0.188	ND
1,2,3,4,6,7,8,9-OCDD	0.0936	0.058	ND
2,3,7,8-TCDF	ND	0.0251	ND
1,2,3,7,8-PeCDF	ND	0.0893	ND
2,3,4,7,8-PeCDF	ND	0.17	ND
1,2,3,4,7,8-HxCDF	ND	0.207	ND
1,2,3,6,7,8-HxCDF	ND	0.272	ND
2,3,4,6,7,8-HxCDF	ND	0.237	ND
1,2,3,7,8,9-HxCDF	ND	0.171	ND
1,2,3,4,6,7,8-HpCDF	ND	0.148	ND
1,2,3,4,7,8,9-HpCDF	ND	0.184	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.172	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.212
Total PeCDD	ND	0.24
Total HxCDD	ND	0.138
Total HpCDD	ND	0.188
Total TCDF	ND	0.0251
Total PeCDF	ND	0.17
Total HxCDF	ND	0.171
Total HpCDF	ND	0.184

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b)
Client Sample. NSWC 24/00-064 — Analysis File. T953971

Client Project:	Indiana Navy Project				
Sample Matrix.	SOIL	Date Received:	10/20/95	Spike File:	SPS2S050
TLRTP ID:	108-32-11	Date Extracted:	10/21/95	ICal:	T859225
		Date Analyzed:	10/31/95	ConCal.	T953962
Sample Size:	10.110 g	Dilution Factor:	n/a	% Moisture.	7.3
Dry Weight:	9.372 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst.	VA	% Solids:	92.7

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0212				—
1,2,3,7,8-PeCDD	ND	0.24				—
1,2,3,4,7,8-HxCDD	ND	0.0984				—
1,2,3,6,7,8-HxCDD	ND	0.0726				—
1,2,3,7,8,9-HxCDD	ND	0.138				—
1,2,3,4,6,7,8-HpCDD	ND	0.188				—
1,2,3,4,6,7,8,9-OCDD	0.0936			0.87	32.25	—
2,3,7,8-TCDF	ND	0.0251				—
1,2,3,7,8-PeCDF	ND	0.0893				—
2,3,4,7,8-PeCDF	ND	0.17				—
1,2,3,4,7,8-HxCDF	ND	0.207				—
1,2,3,6,7,8-HxCDF	ND	0.272				—
2,3,4,6,7,8-HxCDF	ND	0.237				—
1,2,3,7,8,9-HxCDF	ND	0.171				—
1,2,3,4,6,7,8-HpCDF	ND	0.148				—
1,2,3,4,7,8,9-HpCDF	ND	0.184				—
1,2,3,4,6,7,8,9-OCDF	ND	0.172				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.578	—
Total PeCDD	ND	0	0.24		—
Total HxCDD	ND	0	0.138		—
Total HpCDD	ND	0	0.188		—
Total TCDF		0		0.0403	—
Total PeCDF	ND	0	0.17		—
Total HxCDF	ND	0	0.171		—
Total HpCDF	ND	0	0.184		—

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (1

Client Sample: NSWC 24/00-064 — Analysis File: T[illegible]

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.53	47.5	40%-120%	0.79	16.17	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.09	57.9	40%-120%	0.79	17:07	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.48	83.9	40%-120%	1.27	26:44	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	6.87	64.3	40%-120%	1.05	28.53	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	6.6	61.9	25%-120%	0.92	32.25	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
^{37}Cl-2,3,7,8-TCDD	1.59	59.5	40%-120%	17.08	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	16:52	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.27	27:03	—

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TL-RTP Project: 34626B
Client Sample. NSWC 24/00-064

Toxicity Equivalents Report
Analysis File: T953971

Client Project	Indiana Navy Project				
Sample Matrix	SOIL	Date Received:	10/20/95	Spike File:	SPS2S050
TLRTP ID:	108-32-11	Date Extracted:	10/21/95	ICal:	T859225
		Date Analyzed:	10/31/95	ConCal:	T953962
Sample Size:	10.110 g	Dilution Factor:	n/a	% Moisture:	7.3
Dry Weight:	9.372 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	VA	% Solids:	92.7

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	0.09	x	0.001	=	0.00009
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0.00009 ppb

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TL-RTP Project: 34626B
Client Sample: NSWC 24/00-065
Client Project: Indiana Navy Project

Method 8280 PCDD/PCDF Analysis (
Analysis File: T2739
Matrix

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0223	ND
1,2,3,7,8-PeCDD	ND	0.252	ND
1,2,3,4,7,8-HxCDD	ND	0.103	ND
1,2,3,6,7,8-HxCDD	ND	0.0761	ND
1,2,3,7,8,9-HxCDD	ND	0.144	ND
1,2,3,4,6,7,8-HpCDD	ND	0.197	ND
1,2,3,4,6,7,8,9-OCDD	0.175	0.0609	ND
2,3,7,8-TCDF	ND	0.0263	ND
1,2,3,7,8-PeCDF	ND	0.0937	ND
2,3,4,7,8-PeCDF	ND	0.178	ND
1,2,3,4,7,8-HxCDF	ND	0.217	ND
1,2,3,6,7,8-HxCDF	ND	0.285	ND
2,3,4,6,7,8-HxCDF	ND	0.249	ND
1,2,3,7,8,9-HxCDF	ND	0.179	ND
1,2,3,4,6,7,8-HpCDF	ND	0.155	ND
1,2,3,4,7,8,9-HpCDF	ND	0.193	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.13	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.223
Total PeCDD	ND	0.252
Total HxCDD	ND	0.144
Total HpCDD	ND	0.197
Total TCDF	ND	0.0263
Total PeCDF	ND	0.178
Total HxCDF	ND	0.179
Total HpCDF	ND	0.193

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC 24/00-065 — Analysis File: T953972

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received.	10/20/95	Spike File:	SPS28050
TLRTP ID.	108-32-12	Date Extracted:	10/21/95	ICal:	T859225
		Date Analyzed.	10/31/95	ConCal:	T953962
Sample Size:	10.120 g	Dilution Factor:	n/a	% Moisture.	11.7
Dry Weight:	8.936 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	VA	% Solids:	88.3

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0223				—
1,2,3,7,8-PeCDD	ND	0.252				—
1,2,3,4,7,8-HxCDD	ND	0 103				—
1,2,3,6,7,8-HxCDD	ND	0 0761				—
1,2,3,7,8,9-HxCDD	ND	0 144				—
1,2,3,4,6,7,8-HpCDD	ND	0.197				—
1,2,3,4,6,7,8,9-OCDD	0.175			0.88	32:26	—
2,3,7,8-TCDF	ND	0.0263				—
1,2,3,7,8-PeCDF	ND	0.0937				—
2,3 4,7,8-PeCDF	ND	0.178				—
1,3,4,7,8-HxCDF	ND	0.217				—
2,3,6,7,8-HxCDF	ND	0.285				—
2,3,4,6,7,8-HxCDF	ND	0 249				—
1,2,3,7,8,9-HxCDF	ND	0.179				—
1,2,3,4,6,7,8-HpCDF	ND	0.155				—
1,2,3,4,7,8,9-HpCDF	ND	0.193				—
1,2,3,4,6,7,8,9-OCDF	ND	0 18				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.558	—
Total PeCDD	ND	0	0.252		—
Total HxCDD	ND	0	0 144		—
Total HpCDD	ND	0	0 197		—
Total TCDF		0		0 0449	—
Total PeCDF	ND	0	0.178		—
Total HxCDF	ND	0	0 179		—
Total HpCDF	ND	0	0.193		—

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis
Client Sample: NSWC 24/00-065 — Analysis File: T[illegible]9

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.47	44.1	40%-120%	0.80	16:17	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.13	55.9	40%-120%	0.79	17.07	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.58	81.9	40%-120%	1.26	26:44	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	7.09	63.3	40%-120%	1.05	28.53	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	8	71.5	25%-120%	0.91	32:26	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.63	58.3	40%-120%	17.08	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	16.52	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.27	27.03	—

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TL-RTP Project: 34626B
Client Sample: NSWC 24/00-065

Toxicity Equivalents Report
Analysis File: T953972

Client Project:	Indiana Navy Project				
Sample Matrix	SOIL	Date Received:	10/20/95	Spike File:	SP828050
TLRTP ID:	108-32-12	Date Extracted:	10/21/95	ICal:	T859225
		Date Analyzed:	10/31/95	ConCal:	T953962
Sample Size:	10.120 g	Dilution Factor:	n/a	% Moisture.	11.7
Dry Weight.	8.936 g	Blank File:	E953719	% Lipid:	n/a
GC Column.	DB-5	Analyst:	VA	% Solids.	88.3

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	0.17	x	0.001	=	0.00017
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0.00017 ppb

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis
Client Sample: NSWC 24/00-066 — Analysis File T9539
Client Project: Indiana Navy Project — Matr

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0223	ND
1,2,3,7,8-PeCDD	ND	0.252	ND
1,2,3,4,7,8-HxCDD	ND	0.103	ND
1,2,3,6,7,8-HxCDD	ND	0.0762	ND
1,2,3,7,8,9-HxCDD	ND	0.144	ND
1,2,3,4,6,7,8-HpCDD	ND	0.198	ND
1,2,3,4,6,7,8,9-OCDD	0.389	0.061	ND
2,3,7,8-TCDF	ND	0.0263	ND
1,2,3,7,8-PeCDF	ND	0.0938	ND
2,3,4,7,8-PeCDF	ND	0.179	ND
1,2,3,4,7,8-HxCDF	ND	0.217	ND
1,2,3,6,7,8-HxCDF	ND	0.286	ND
2,3,4,6,7,8-HxCDF	ND	0.249	ND
1,2,3,7,8,9-HxCDF	ND	0.179	ND
1,2,3,4,6,7,8-HpCDF	ND	0.155	ND
1,2,3,4,7,8,9-HpCDF	ND	0.193	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.18	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.223
Total PeCDD	ND	0.252
Total HxCDD	ND	0.144
Total HpCDD	ND	0.198
Total TCDF	ND	0.0263
Total PeCDF	ND	0.179
Total HxCDF	ND	0.179
Total HpCDF	ND	0.193

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American Environmental Network

TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b
Client Sample: NSWC 24/00-066 — Analysis File: T95397

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received:	10/20/95	Spike File:	SP828050
TLRTP ID:	108-32-13	Date Extracted:	10/21/95	ICal:	T859225
		Date Analyzed:	10/31/95	ConCal:	T953962
Sample Size:	10.200 g	Dilution Factor:	n/a	% Moisture:	12.5
Dry Weight:	8.925 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	VA	% Solids:	87.5

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0223				—
1,2,3,7,8-PeCDD	ND	0.252				—
1,2,3,4,7,8-HxCDD	ND	0.103				—
1,2,3,6,7,8-HxCDD	ND	0.0762				—
1,2,3,7,8,9-HxCDD	ND	0.144				—
1,2,3,4,6,7,8-HpCDD	ND	0.198				—
1,2,3,4,6,7,8,9-OCDD	0.389			0.87	32:25	—
2,3,7,8-TCDF	ND	0.0263				—
1,2,3,7,8-PeCDF	ND	0.0938				—
2,3,4,7,8-PeCDF	ND	0.179				—
2,3,4,7,8-HxCDF	ND	0.217				—
1,2,3,6,7,8-HxCDF	ND	0.286				—
2,3,4,6,7,8-HxCDF	ND	0.249				—
1,2,3,7,8,9-HxCDF	ND	0.179				—
1,2,3,4,6,7,8-HpCDF	ND	0.155				—
1,2,3,4,7,8,9-HpCDF	ND	0.193				—
1,2,3,4,6,7,8,9-OCDF	ND	0.18				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.605	—
Total PeCDD	ND	0	0.252		—
Total HxCDD	ND	0	0.144		—
Total HpCDD	ND	0	0.198		—
Total TCDF		0		0.0456	—
Total PeCDF	ND	0	0.179		—
Total HxCDF	ND	0	0.179		—
Total HpCDF	ND	0	0.193		—

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b
Client Sample: NSWC 24/00-066 — Analysis File: T95397

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.51	44.7	40%-120%	0.79	16.17	—
$^{13}C_{12}$-2,3,7,8-TCDD	2.94	52.6	40%-120%	0.79	17.07	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.41	78.7	40%-120%	1.26	26.44	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	6.26	55.9	40%-120%	1.05	28:53	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	4.49	40.0	25%-120%	0.91	32.25	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.5	53.6	40%-120%	17:08	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	16.52	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.26	27.03	—

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American Environmental Network

TL-RTP Project: 34626B
Client Sample: NSWC 24/00-066

Toxicity Equivalents Report
Analysis File. T953973

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received:	10/20/95	Spike File.	SPS28050
TLRTP ID:	108-32-13	Date Extracted:	10/21/95	ICal.	T859225
		Date Analyzed:	10/31/95	ConCal:	T953962
Sample Size:	10.200 g	Dilution Factor:	n/a	% Moisture:	12.5
Dry Weight:	8.925 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	VA	% Solids:	87.5

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	0.39	x	0.001	=	0.00039
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0.00039 ppb

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TL-RTP Project: 34626B
Client Sample: NSWC 24/00-067
Client Project: Indiana Navy Project

Method 8280 PCDD/PCDF Analysis (
Analysis File: T95397
Matr:

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0216	ND
1,2,3,7,8-PeCDD	ND	0.244	ND
1,2,3,4,7,8-HxCDD	ND	0.1	ND
1,2,3,6,7,8-HxCDD	ND	0.0739	ND
1,2,3,7,8,9-HxCDD	ND	0.14	ND
1,2,3,4,6,7,8-HpCDD	ND	0.192	ND
1,2,3,4,6,7,8,9-OCDD	0.324	0.0591	ND
2,3,7,8-TCDF	ND	0.0255	ND
1,2,3,7,8-PeCDF	ND	0.091	ND
2,3,4,7,8-PeCDF	ND	0.173	ND
1,2,3,4,7,8-HxCDF	ND	0.211	ND
1,2,3,6,7,8-HxCDF	ND	0.277	ND
2,3,4,6,7,8-HxCDF	ND	0.241	ND
1,2,3,7,8,9-HxCDF	ND	0.174	ND
1,2,3,4,6,7,8-HpCDF	ND	0.151	ND
1,2,3,4,7,8,9-HpCDF	ND	0.188	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.175	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.216
Total PeCDD	ND	0.244
Total HxCDD	ND	0.14
Total HpCDD	ND	0.192
Total TCDF	ND	0.0255
Total PeCDF	ND	0.173
Total HxCDF	ND	0.174
Total HpCDF	ND	0.188

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b
Client Sample: NSWC 24/00-067 — Analysis File: T95397

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received:	10/20/95	Spike File:	SPS28050
TLRTP ID:	108-32-14	Date Extracted:	10/21/95	ICal:	T859225
		Date Analyzed:	10/31/95	ConCal:	T953962
Sample Size.	10.090 g	Dilution Factor:	n/a	% Moisture:	8.8
Dry Weight:	9.202 g	Blank File.	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	VA	% Solids.	91.2

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0216				—
1,2,3,7,8-PeCDD	ND	0.244				—
1,2,3,4,7,8-HxCDD	ND	0.1				—
1,2,3,6,7,8-HxCDD	ND	0.0739				—
1,2,3,7,8,9-HxCDD	ND	0.14				—
1,2,3,4,6,7,8-HpCDD	ND	0.192				—
1,2,3,4,6,7,8,9-OCDD	0.524			0.87	32.25	—
2,3,7,8-TCDF	ND	0.0255				—
1,2,3,7,8-PeCDF	ND	0.091				—
2,3,4,7,8-PeCDF	ND	0.173				—
1,2,3,4,7,8-HxCDF	ND	0.211				—
1,2,3,6,7,8-HxCDF	ND	0.277				—
2,3,4,6,7,8-HxCDF	ND	0.241				—
1,2,3,7,8,9-HxCDF	ND	0.174				—
1,2,3,4,6,7,8-HpCDF	ND	0.151				—
1,2,3,4,7,8,9-HpCDF	ND	0.188				—
1,2,3,4,6,7,8,9-OCDF	ND	0.175				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.679	—
Total PeCDD	ND	0	0.244		—
Total HxCDD	ND	0	0.14		—
Total HpCDD	ND	0	0.192		—
Total TCDF		0		0.0395	—
Total PeCDF	ND	0	0.173		—
Total HxCDF	ND	0	0.174		—
Total HpCDF	ND	0	0.188		—

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (
Client Sample: NSWC 24/00-067 — Analysis File: T95397

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.94	54.1	40%-120%	0.80	16:17	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.21	59.1	40%-120%	0.79	17:06	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.56	83.8	40%-120%	1.26	26:44	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	7.63	70.3	40%-120%	1.05	28:53	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	7.1	65.3	25%-120%	0.91	32:25	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.64	60.5	40%-120%	17:07	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	16:52	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.26	27:03	—

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TL-RTP Project: 34626B — Toxicity Equivalents Report
Client Sample: NSWC 24/00-067 — Analysis File: T953974

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received:	10/20/95	Spike File:	SPS25050
TLRTP ID:	108-32-14	Date Extracted	10/21/95	ICal:	TS59225
		Date Analyzed:	10/31/95	ConCal:	T953962
Sample Size:	10.090 g	Dilution Factor:	n/a	% Moisture	8.8
Dry Weight:	9.202 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	VA	% Solids:	91.2

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	0.52	x	0.001	=	0.00052
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0.00052 ppb

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TL-RTP Project: 34626B
Client Sample: NSWC 24/00-068
Client Project: Indiana Navy Project

Method 8280 PCDD/PCDF Analysis (b
Analysis File: T95397
Matrix

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0208	ND
1,2,3,7,8-PeCDD	ND	0.235	ND
1,2,3,4,7,8-HxCDD	ND	0.0963	ND
1,2,3,6,7,8-HxCDD	ND	0.071	ND
1,2,3,7,8,9-HxCDD	ND	0.135	ND
1,2,3,4,6,7,8-HpCDD	ND	0.184	ND
1,2,3,4,6,7,8,9-OCDD	0.601	0.0568	ND
2,3,7,8-TCDF	ND	0.0245	ND
1,2,3,7,8-PeCDF	ND	0.0874	ND
2,3,4,7,8-PeCDF	ND	0.167	ND
1,2,3,4,7,8-HxCDF	ND	0.203	ND
1,2,3,6,7,8-HxCDF	ND	0.266	ND
2,3,4,6,7,8-HxCDF	ND	0.232	ND
1,2,3,7,8,9-HxCDF	ND	0.167	ND
1,2,3,4,6,7,8-HpCDF	ND	0.145	ND
1,2,3,4,7,8,9-HpCDF	ND	0.18	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.168	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.208
Total PeCDD	ND	0.235
Total HxCDD	ND	0.135
Total HpCDD	ND	0.184
Total TCDF	ND	0.0245
Total PeCDF	ND	0.167
Total HxCDF	ND	0.167
Total HpCDF	ND	0.18

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC 24/00-068 — Analysis File: T953975

Client Project:	Indiana Navy Project				
Sample Matrix	SOIL	Date Received:	10/20/95	Spike File:	SPS2S050
TLRTP ID.	108-32-15	Date Extracted:	10/21/95	ICal:	T859225
		Date Analyzed:	10/31/95	ConCal:	T953962
Sample Size	10.260 g	Dilution Factor:	n/a	% Moisture:	6.7
Dry Weight.	9.573 g	Blank File:	E953719	% Lipid:	n/a
GC Column.	DB-5	Analyst:	VA	% Solids:	93.3

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0208				—
1,2,3,7,8-PeCDD	ND	0.235				—
1,2,3,4,7,8-HxCDD	ND	0.0963				—
1,2,3,6,7,8-HxCDD	ND	0.071				—
1,2,3,7,8,9-HxCDD	ND	0.135				—
1,2,3,4,6,7,8-HpCDD	ND	0.184				—
1,2,3,4,6,7,8,9-OCDD	0.601			0.89	32.25	—
2,3,7,8-TCDF	ND	0.0245				—
1,2,3,7,8-PeCDF	ND	0.0874				—
2,3,4,7,8-PeCDF	ND	0.167				—
1,2,3,4,7,8-HxCDF	ND	0.203				—
3,6,7,8-HxCDF	ND	0.266				—
4,6,7,8-HxCDF	ND	0.232				—
1,2,3,7,8,9-HxCDF	ND	0.167				—
1,2,3,4,6,7,8-HpCDF	ND	0.145				—
1,2,3,4,7,8,9-HpCDF	ND	0.18				—
1,2,3,4,6,7,8,9-OCDF	ND	0.168				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.713	—
Total PeCDD	ND	0	0.235		—
Total HxCDD	ND	0	0.135		—
Total HpCDD	ND	0	0.184		—
Total TCDF		0		0.0346	—
Total PeCDF	ND	0	0.167		—
Total HxCDF	ND	0	0.167		—
Total HpCDF	ND	0	0.18		—

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (
Client Sample: NSWC 24/00-068 — Analysis File: T95397

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.18	60.9	40%-120%	0.80	16:17	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.31	63.4	40%-120%	0.79	17:06	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.78	91.6	40%-120%	1.26	26:44	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	8.25	79.0	40%-120%	1.05	28:53	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	7.79	74.5	25%-120%	0.92	32:25	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
^{37}Cl-2,3,7,8-TCDD	1.58	60.4	40%-120%	17.08	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	16:52	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.26	27.03	—

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8280.PSR +237 LARS

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TL-RTP Project: 34626B — Toxicity Equivalents Report
Client Sample: NSWC 24/00-068 — Analysis File: T953973

Client Project:	Indiana Navy Project				
Sample Matrix:	SOIL	Date Received:	10/20/95	Spike File:	SPS28050
TLRTP ID:	108-32-15	Date Extracted:	10/21/95	ICal:	T859225
		Date Analyzed:	10/31/95	ConCal:	T953962
Sample Size:	10.260 g	Dilution Factor:	n/a	% Moisture:	6.7
Dry Weight:	9.573 g	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	VA	% Solids:	93.3

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	0.6	x	0.001	=	0.0006
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0.0006 ppb

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TL-RTP Project. 33451B — Method 8280 PCDD/PCDF Analysis (
Client Sample: NSWC-24/00-FB1 — Analysis File: B9
Client Project: 9507125 Indiana-Navy Project — Matrix: \

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppt)	DL (ppt)	Blank (ppt)
2,3,7,8-TCDD	ND	1.01	ND
1,2,3,7,8-PeCDD	ND	7.02	ND
1,2,3,4,7,8-HxCDD	ND	6.17	ND
1,2,3,6,7,8-HxCDD	ND	10.9	ND
1,2,3,7,8,9-HxCDD	ND	6 6	ND
1,2,3,4,6,7,8-HpCDD	ND	6.06	ND
1,2,3,4,6,7,8,9-OCDD	ND	7.23	ND
2,3,7,8-TCDF	ND	2.34	ND
1,2,3,7,8-PeCDF	ND	8 4	ND
2,3,4,7,8-PeCDF	ND	9.57	ND
1,2,3,4,7,8-HxCDF	ND	6.17	ND
1,2,3,6,7,8-HxCDF	ND	4 15	ND
2,3,4,6,7,8-HxCDF	ND	5.96	ND
1,2,3,7,8,9-HxCDF	ND	4.79	ND
1,2,3,4,6,7,8-HpCDF	ND	4 89	ND
1,2,3,4,7,8,9-HpCDF	ND	5 74	ND
1,2,3,4,6,7,8,9-OCDF	ND	5 64	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppt)	DL (ppt)
Total TCDD	ND	1 01
Total PeCDD	ND	7 02
Total HxCDD	ND	7 87
Total HpCDD	ND	6 06
Total TCDF	ND	2.34
Total PeCDF	ND	8 99
Total HxCDF	ND	5.27
Total HpCDF	ND	5.32

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TL-RTP Project: 33451B — Method 8280 PCDD/PCDF Analysis (b)

Client Sample: NSWC-24/00-FB1 — Analysis File: B950962

Client Project:	9507125 Indiana-Navy Project				
Sample Matrix:	WATER	Date Received:	07/19/95	Spike File:	SP828050
TLRTP ID:	103-123-8	Date Extracted:	07/20/95	ICAL:	B855195
		Date Analyzed:	07/24/95	CONCAL:	B950958
Sample Size:	0.940 L	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	B950961	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DB	% Solids:	n/a

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	1.01				—
1,2,3,7,8-PeCDD	ND	7.02				—
1,2,3,4,7,8-HxCDD	ND	6.17				—
1,2,3,6,7,8-HxCDD	ND	10.9				—
1,2,3,7,8,9-HxCDD	ND	6.6				—
1,2,3,4,6,7,8-HpCDD	ND	6.06				—
1,2,3,4,6,7,8,9-OCDD	ND	7.23				—
2,3,7,8-TCDF	ND	2.34				—
1,2,3,7,8-PeCDF	ND	8.4				—
2,3,4,7,8-PeCDF	ND	9.57				—
1,2,3,4,7,8-HxCDF	ND	6.17				—
1,2,3,6,7,8-HxCDF	ND	4.15				—
2,3,4,6,7,8-HxCDF	ND	5.96				—
1,2,3,7,8,9-HxCDF	ND	4.79				—
1,2,3,4,6,7,8-HpCDF	ND	4.89				—
1,2,3,4,7,8,9-HpCDF	ND	5.74				—
1,2,3,4,6,7,8,9-OCDF	ND	5.64				—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD		0		6.83	—
Total PeCDD	ND	0	7.02		—
Total HxCDD	ND	0	7.87		—
Total HpCDD	ND	0	6.06		—
Total TCDF	ND	0	2.34		—
Total PeCDF	ND	0	8.99		—
Total HxCDF	ND	0	5.27		—
Total HpCDF	ND	0	5.32		—

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TL-RTP Project: 33451B
Client Sample: NSWC-24/00-FB1

Method 8280 PCDD/PCDF Analysis (
Analysis File:

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	29.7	55.8	40%-120%	0.78	24:26	—
$^{13}C_{12}$-2,3,7,8-TCDD	29.5	55.4	40%-120%	0.76	25:07	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	42.2	79.4	40%-120%	1.21	32:26	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	74.6	70.1	40%-120%	1.19	34:42	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	57.2	53.7	25%-120%	0.85	39:29	—

Clean-Up Standard	Conc. (ppt)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	13.8	51.7	40%-120%	25:08	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	24:58	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.26	32:46	—

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TL-RTP Project. 33451B — Toxicity Equivalents Report

Client Sample: NSWC-24/00-FB1 — Analysis File. B950962

Client Project:	9507125 Indiana-Navy Project				
Sample Matrix:	WATER	Date Received:	07/19/95	Spike File:	SP828050
TLRTP ID:	103-123-8	Date Extracted:	07/20/95	ICAL:	B855195
		Date Analyzed:	07/24/95	CONCAL:	B950958
Sample Size:	0.940 L	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	B950961	% Lipid.	n/a
GC Column:	DB-5	Analyst:	DB	% Solids:	n/a

Analytes	Conc. (ppt)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	ND	x	0.001	=	0
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0 ppt

TEFPR.prt v5.07 LARS 5.30.N

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TL-RTP Project: 33451B — Method 8280 PCDD/PCDF Analysis
Client Sample: NSWC-24/00-RB1 — Analysis File: [illegible]
Client Project: 9507125 Indiana-Navy Project — Matrix: [illegible]

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppt)	DL (ppt)	Blank (ppt)
2,3,7,8-TCDD	ND	1.02	ND
1,2,3,7,8-PeCDD	ND	7.1	ND
1,2,3,4,7,8-HxCDD	ND	6.24	ND
1,2,3,6,7,8-HxCDD	ND	11	ND
1,2,3,7,8,9-HxCDD	ND	6.67	ND
1,2,3,4,6,7,8-HpCDD	ND	6.13	ND
1,2,3,4,6,7,8,9-OCDD	ND	7.31	ND
2,3,7,8-TCDF	ND	2.37	ND
1,2,3,7,8-PeCDF	ND	8.49	ND
2,3,4,7,8-PeCDF	ND	9.68	ND
1,2,3,4,7,8-HxCDF	ND	6.24	ND
1,2,3,6,7,8-HxCDF	ND	4.19	ND
2,3,4,6,7,8-HxCDF	ND	6.02	ND
1,2,3,7,8,9-HxCDF	ND	4.84	ND
1,2,3,4,6,7,8-HpCDF	ND	4.95	ND
1,2,3,4,7,8,9-HpCDF	ND	5.81	ND
1,2,3,4,6,7,8,9-OCDF	ND	5.7	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppt)	DL (ppt)
Total TCDD	ND	1.02
Total PeCDD	ND	7.1
Total HxCDD	ND	7.96
Total HpCDD	ND	6.13
Total TCDF	ND	2.37
Total PeCDF	ND	9.09
Total HxCDF	ND	5.32
Total HpCDF	ND	5.38

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TL-RTP Project: 33451B — Method 8280 PCDD/PCDF Analysis (b)

Client Sample: NSWC-24/00-RB1 — Analysis File: B950963

Client Project:	9507125 Indiana-Navy Project				
Sample Matrix:	WATER	Date Received:	07/19/95	Spike File:	SP828050
TLRTP ID:	103-123-9	Date Extracted:	07/20/95	ICAL:	B855195
		Date Analyzed:	07/24/95	CONCAL:	B950958
Sample Size:	0.930 L	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	B950961	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DB	% Solids:	n/a

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	1.02				—
1,2,3,7,8-PeCDD	ND	7.1				—
1,2,3,4,7,8-HxCDD	ND	6.24				—
1,2,3,6,7,8-HxCDD	ND	11				—
1,2,3,7,8,9-HxCDD	ND	6.67				—
1,2,3,4,6,7,8-HpCDD	ND	6.13				—
1,2,3,4,6,7,8,9-OCDD	ND	7.31				—
2,3,7,8-TCDF	ND	2.37				—
1,2,3,7,8-PeCDF	ND	8.49				—
2,3,4,7,8-PeCDF	ND	9.68				—
1,2,3,4,7,8-HxCDF	ND	6.24				—
1,2,3,6,7,8-HxCDF	ND	4.19				—
2,3,4,6,7,8-HxCDF	ND	6.02				—
1,2,3,7,8,9-HxCDF	ND	4.84				—
1,2,3,4,6,7,8-HpCDF	ND	4.95				—
1,2,3,4,7,8,9-HpCDF	ND	5.81				—
1,2,3,4,6,7,8,9-OCDF	ND	5.7				—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD		0		6.69	—
Total PeCDD	ND	0	7.1		—
Total HxCDD	ND	0	7.96		—
Total HpCDD	ND	0	6.13		—
Total TCDF	ND	0	2.37		—
Total PeCDF	ND	0	9.09		—
Total HxCDF	ND	0	5.32		—
Total HpCDF	ND	0	5.38		—

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TL-RTP Project: 33451B — Method 8280 PCDD/PCDF Analysis (t
Client Sample: NSWC-24/00-RB1 — Analysis File: B

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	31.9	59.4	40%-120%	0.76	24:26	—
$^{13}C_{12}$-2,3,7,8-TCDD	31.1	57.8	40%-120%	0.78	25:07	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	45.7	85.0	40%-120%	1.26	32:26	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	75.3	70.0	40%-120%	1.16	34:41	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	56.9	53.0	25%-120%	0.94	39:28	—

Clean-Up Standard	Conc. (ppt)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	14.9	55.3	40%-120%	25:08	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	24:57	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.28	32:46	—

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TL-RTP Project. 33451B — Toxicity Equivalents Report

Client Sample: NSWC-24/00-RB1 — Analysis File: B950963

Client Project:	9507125 Indiana-Navy Project				
Sample Matrix:	WATER	Date Received.	07/19/95	Spike File:	SP828050
TLRTP ID:	103-123-9	Date Extracted:	07/20/95	ICAL:	B855195
		Date Analyzed:	07/24/95	CONCAL:	B950958
Sample Size:	0.930 L	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	B950961	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DB	% Solids:	n/a

Analytes	Conc. (ppt)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	ND	x	0.001	=	0
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0 ppt

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TL-RTP Project: 34626A
Client Sample: NSWC 24/00-RB9
Client Project: Indiana Navy Project

Method 8280 PCDD/PCDF Analysis
Analysis File: B9513
Matrix:

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppt)	DL (ppt)	Blank (ppt)
2,3,7,8-TCDD	ND	0.713	ND
1,2,3,7,8-PeCDD	ND	4.48	ND
1,2,3,4,7,8-HxCDD	ND	5.17	ND
1,2,3,6,7,8-HxCDD	ND	3.22	ND
1,2,3,7,8,9-HxCDD	ND	13.1	ND
1,2,3,4,6,7,8-HpCDD	ND	4.6	ND
1,2,3,4,6,7,8,9-OCDD	ND	5.52	ND
2,3,7,8-TCDF	ND	0.621	ND
1,2,3,7,8-PeCDF	ND	6.78	ND
2,3,4,7,8-PeCDF	ND	8.05	ND
1,2,3,4,7,8-HxCDF	ND	8.62	ND
1,2,3,6,7,8-HxCDF	ND	8.74	ND
2,3,4,6,7,8-HxCDF	ND	7.36	ND
1,2,3,7,8,9-HxCDF	ND	7.47	ND
1,2,3,4,6,7,8-HpCDF	ND	2.76	ND
1,2,3,4,7,8,9-HpCDF	ND	5.86	ND
1,2,3,4,6,7,8,9-OCDF	ND	5.63	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc (ppt)	DL (ppt)
Total TCDD	ND	0.713
Total PeCDD	ND	4.48
Total HxCDD	ND	13.1
Total HpCDD	ND	4.6
Total TCDF	ND	0.621
Total PeCDF	ND	8.05
Total HxCDF	ND	7.47
Total HpCDF	ND	5.86

Triangle Laboratories of RTP, Inc.
801 Capitola Drive • Durham, North Carolina 27713
Phone (919) 544-5729 • Fax (919) 544-5491

Printed: 14:00 10/24/9

TL-RTP Project: 34626A — Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC 24/00-RB9 — Analysis File: B951309

Client Project:	Indiana Navy Project				
Sample Matrix:	WATER	Date Received:	10/20/95	Spike File:	SP828050
TLRTP ID:	108-32-1	Date Extracted:	10/20/95	ICal:	B855195
		Date Analyzed:	10/23/95	ConCal:	B951300
Sample Size:	0.870 L	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	B951308	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	n/a

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.713				—
1,2,3,7,8-PeCDD	ND	4.48				—
1,2,3,4,7,8-HxCDD	ND	5.17				—
1,2,3,6,7,8-HxCDD	ND	3.22				—
1,2,3,7,8,9-HxCDD	ND	13.1				—
1,2,3,4,6,7,8-HpCDD	ND	4.6				—
1,2,3,4,6,7,8,9-OCDD	ND	5.52				—
2,3,7,8-TCDF	ND	0.621				—
1,2,3,7,8-PeCDF	ND	6.78				—
2,3,4,7,8-PeCDF	ND	8.05				—
2,3,4,7,8-HxCDF	ND	8.62				—
1,2,3,6,7,8-HxCDF	ND	8.74				—
2,3,4,6,7,8-HxCDF	ND	7.36				—
1,2,3,7,8,9-HxCDF	ND	7.47				—
1,2,3,4,6,7,8-HpCDF	ND	2.76				—
1,2,3,4,7,8,9-HpCDF	ND	5.86				—
1,2,3,4,6,7,8,9-OCDF	ND	5.63				—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD		0		6.87	—
Total PeCDD	ND	0	4.48		—
Total HxCDD	ND	0	13.1		—
Total HpCDD	ND	0	4.6		—
Total TCDF	ND	0	0.621		—
Total PeCDF	ND	0	8.05		—
Total HxCDF	ND	0	7.47		—
Total HpCDF	ND	0	5.86		—

Triangle Laboratories of RTP, Inc.
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TL-RTP Project: 34626A
Client Sample: NSWC 24/00-RB9

Method 8280 PCDD/PCDF Analysis (
Analysis File: R9513

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	44.9	78.2	40%-120%	0.80	23:52	—
$^{13}C_{12}$-2,3,7,8-TCDD	43.2	75.2	40%-120%	0.80	24:34	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	60.3	105	40%-120%	1.31	31:58	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	108	94.0	40%-120%	1.04	34:10	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	76.2	66.3	25%-120%	0.90	38:48	—

Clean-Up Standard	Conc. (ppt)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	23.1	80.3	40%-120%	24:35	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	24:24	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.29	32:17	—

Data Reviewer: PCB 10/24/95

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Printed: 14:00 10/24/9

American Environmental Network

TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b
Client Sample: TLI Soil Blank — Analysis File: E953719
Client Project: Indiana Navy Project — Matrix: NA2SO-

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.04	ND
1,2,3,7,8-PeCDD	ND	0.42	ND
1,2,3,4,7,8-HxCDD	ND	0.38	ND
1,2,3,6,7,8-HxCDD	ND	0.23	ND
1,2,3,7,8,9-HxCDD	ND	0.22	ND
1,2,3,4,6,7,8-HpCDD	ND	0.569	ND
1,2,3,4,6,7,8,9-OCDD	ND	0.31	ND
2,3,7,8-TCDF	ND	0.05	ND
1,2,3,7,8-PeCDF	ND	0.39	ND
2,3,4,7,8-PeCDF	ND	0.49	ND
1,2,3,4,7,8-HxCDF	ND	0.49	ND
1,2,3,6,7,8-HxCDF	ND	0.29	ND
2,3,4,6,7,8-HxCDF	ND	0.4	ND
1,2,3,7,8,9-HxCDF	ND	0.34	ND
1,2,3,4,6,7,8-HpCDF	ND	0.0645	ND
1,2,3,4,7,8,9-HpCDF	ND	0.14	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.27	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.04
Total PeCDD	ND	0.42
Total HxCDD	ND	0.22
Total HpCDD	ND	0.569
Total TCDF	ND	0.05
Total PeCDF	ND	0.49
Total HxCDF	ND	0.34
Total HpCDF	ND	0.14

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American Environmental Network

TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (t

Client Sample: TLI Soil Blank — Analysis File: E95371

Client Project:	Indiana Navy Project				
Sample Matrix:	NA2SO4	Date Received:	/ /	Spike File:	SPS28050
TLRTP ID.	TLI Blank	Date Extracted:	10/21/95	ICal:	E85527A
		Date Analyzed:	10/27/95	ConCal.	E953717
Sample Size:	10.010 g	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight.	n/a	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DB	% Solids:	n/a

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.04				—
1,2,3,7,8-PeCDD	ND	0.42				—
1,2,3,4,7,8-HxCDD	ND	0.38				—
1,2,3,6,7,8-HxCDD	ND	0.23				—
1,2,3,7,8,9-HxCDD	ND	0.22				—
1,2,3,4,6,7,8-HpCDD	ND	0.569				—
1,2,3,4,6,7,8,9-OCDD	ND	0.31				—
2,3,7,8-TCDF	ND	0.05				—
1,2,3,7,8-PeCDF	ND	0.39				—
2,3,4,7,8-PeCDF	ND	0.49				—
2,3,4,7,8-HxCDF	ND	0.49				—
2,3,6,7,8-HxCDF	ND	0.29				
2,3,4,6,7,8-HxCDF	ND	0.4				—
1,2,3,7,8,9-HxCDF	ND	0.34				—
1,2,3,4,6,7,8-HpCDF	ND	0.0645				—
1,2,3,4,7,8,9-HpCDF	ND	0.14				—
1,2,3,4,6,7,8,9-OCDF	ND	0.27				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.164	—
Total PeCDD	ND	0	0.42		—
Total HxCDD	ND	0	0.22		—
Total HpCDD	ND	0	0.569		—
Total TCDF	ND	0	0.05		—
Total PeCDF	ND	0	0.49		—
Total HxCDF	ND	0	0.34		—
Total HpCDF	ND	0	0.14		—

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TL-RTP Project: 34626B — Method 8280 PCDD/PCDF Analysis (b)

Client Sample: TLI Soil Blank — Analysis File: E953719

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.71	54.3	40%-120%	0.81	24:46	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.1	62.1	40%-120%	0.78	25:33	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.08	81.6	40%-120%	1.23	33:17	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	5.94	59.5	40%-120%	1.03	35:25	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	3.95	39.6	25%-120%	0.87	39:56	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.53	61.1	40%-120%	25:34	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	25:22	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.25	33:35	—

Data Reviewer _____ 11/02/95

8280_PSR • 1.07, LARS 6.03.03

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American Environmental Network

TL-RTP Project: 34626B — Toxicity Equivalents Repc

Client Sample: TLI Soil Blank — Analysis File: E95377

Client Project:	Indiana Navy Project				
Sample Matrix:	NA2SO4	Date Received.	/ /	Spike File:	SP828050
TLRTP ID:	TLI Blank	Date Extracted.	10/21/95	ICal:	E85527A
		Date Analyzed.	10/27/95	ConCal:	E953717
Sample Size.	10.010 g	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	E953719	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DB	% Solids:	n/a

Analytes	Conc. (ppb)		TEF		Equivalent
2,3,7,8-TCDD	ND	x	1	=	0
1,2,3,7,8-PeCDD	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDD	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDD	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDD	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDD	ND	x	0.001	=	0
2,3,7,8-TCDF	ND	x	0.1	=	0
1,2,3,7,8-PeCDF	ND	x	0.05	=	0
2,3,4,7,8-PeCDF	ND	x	0.5	=	0
1,2,3,4,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,6,7,8-HxCDF	ND	x	0.1	=	0
2,3,4,6,7,8-HxCDF	ND	x	0.1	=	0
1,2,3,7,8,9-HxCDF	ND	x	0.1	=	0
1,2,3,4,6,7,8-HpCDF	ND	x	0.01	=	0
1,2,3,4,7,8,9-HpCDF	ND	x	0.01	=	0
1,2,3,4,6,7,8,9-OCDF	ND	x	0.001	=	0

Total 2,3,7,8-TCDD Toxicity (1989 ITF) Equivalents: 0 ppb

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Printed: 16.26 11/02/9

MERCURY DATA

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24-00-069

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 126C__

Matrix (soil/water): SOIL_ Lab Sample ID: 782590

Level (low/med): LOW__ Date Received: 02/09/96

% Solids: _84.5

Concentration Units (ug/L or mg/kg dry weight): UG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury__	118	U		CV

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: VIOLET___ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE

24-00-070

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 126C__

Matrix (soil/water): SOIL_ Lab Sample ID: 782602

Level (low/med): LOW__ Date Received: 02/09/96

% Solids: _84.1

Concentration Units (ug/L or mg/kg dry weight): UG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	119	U		CV

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: VIOLET___ Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN ILM03.0

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

24-00-071

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 126C__

Matrix (soil/water): SOIL_ Lab Sample ID: 782622

Level (low/med): LOW__ Date Received: 02/09/96

% Solids: _86.8

Concentration Units (ug/L or mg/kg dry weight): UG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury__	115	U		CV

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: VIOLET___ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE

24-00-072

Lab Name: COMPUCHEM_ENV._CORP. Contract: SW-846

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 126C

Matrix (soil/water): SOIL Lab Sample ID: 782629

Level (low/med): LOW Date Received: 02/09/96

% Solids: 88.4

Concentration Units (ug/L or mg/kg dry weight): UG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	103	U		CV

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: VIOLET Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24-00-073

Lab Name: COMPUCHEM_ENV._CORP. Contract: SW-846

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 126C

Matrix (soil/water): SOIL_ Lab Sample ID: 782615

Level (low/med): LOW Date Received: 02/09/96

% Solids: 83.6

Concentration Units (ug/L or mg/kg dry weight): UG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	109	U		CV

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: VIOLET Clarity After: _____ Artifacts: _____

Comments:

BACKGROUND/BACKFILL DATA

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997 2686

Report Number: 9508204
Report To: MK Corp
Project: NSWC-Crane #4324-009-008-30
Date: August 25, 1995
Analysis: Total Cyanide, SW846 9010

Client ID	AENI ID	Result	Date Analyzed
NSWC-BP/BF-001	9508204-001	<1.2	08/22/95
NSWC-BP/BF-002	9508204-002	<1.2	08/22/95

(1) Results reported as mg/kg on a dry weight basis

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia, MD 21045 1992
(410) 730-8525 Fax (410) 997-2566

Report Number: 9508204
Report To: MK Corp
Project: NSWC-Crane #4324-009-008-30
Date: August 25, 1995
Analysis: Total Sulfide, SW846 9030M

Client ID	AENI ID	Result	Date Analyzed
NSWC-BP/BF-001	9508204-001	<49	08/22/95
NSWC-BP/BF-002	9508204-002	<49	08/22/95

(1) Results reported as mg/kg on a dry weight basis.

lgchem\002

American Environmental Network

TL-RTP Project: 33852
Client Sample: NSWC-BP/BF-001
Client Project: Indiana-Navy Project

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E953147
Matrix SOIL

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0503	ND
1,2,3,7,8-PeCDD	ND	0.528	ND
1,2,3,4,7,8-HxCDD	ND	0.478	ND
1,2,3,6,7,8-HxCDD	ND	0.289	ND
1,2,3,7,8,9-HxCDD	ND	0.277	ND
1,2,3,4,6,7,8-HpCDD	ND	0.717	ND
1,2,3,4,6,7,8,9-OCDD	3.97	0.39	ND
2,3,7,8-TCDF	ND	0.0629	ND
1,2,3,7,8-PeCDF	ND	0.491	ND
2,3,4,7,8-PeCDF	ND	0.616	ND
1,2,3,4,7,8-HxCDF	ND	0.616	ND
1,2,3,6,7,8-HxCDF	ND	0.365	ND
2,3,4,6,7,8-HxCDF	ND	0.503	ND
1,2,3,7,8,9-HxCDF	ND	0.428	ND
1,2,3,4,6,7,8-HpCDF	ND	0.0813	ND
1,2,3,4,7,8,9-HpCDF	ND	0.176	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.34	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.0503
Total PeCDD	ND	0.528
Total HxCDD	ND	0.277
Total HpCDD	ND	0.717
Total TCDF	ND	0.0629
Total PeCDF	ND	0.616
Total HxCDF	ND	0.428
Total HpCDF	ND	0.176

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC BP/BF-001

Lab Name: AENI MD Contract: MKC

Project No 9508204 Site: NSWC Location: CRANE Group

Matrix: (soil/water) SOIL Lab Sample ID #001

Sample wt/vol. 5.0 (g/mL) G Lab File ID: EH310.D

Level: (low/med) LOW Date Received: 8/17/95

% Moisture: not dec 19 Date Analyzed: 8/22/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	21	
67-64-1	Acetone	11	J
75-05-8	Acetonitrile	6.2	U
107-13-1	Acrylonitrile	1200	U
107-02-8	Acrolein	1200	U
75-69-4	Trichlorofluoromethane	6.2	U
75-15-0	Carbon Disulfide	6.2	U
75-35-4	1,1-Dichloroethene	6.2	U
75-34-4	1,1-Dichloroethane	6.2	U
540-59-0	trans 1,2-Dichloroethene	6.2	U
67-66-3	Chloroform	6.2	U
107-06-2	1,2-Dichloroethane	6.2	U
75-71-8	Dichlorodifluoromethane	6.2	U
74-88-4	Iodomethane	6.2	U
107-12-0	Propionitrile	6.2	U
107-05-1	Allyl chloride	120	U
78-93-3	2-Butanone	120	U
71-55-6	1,1,1-Trichloroethane	6.2	U
56-23-5	Carbon Tetrachloride	6.2	U
108-05-4	Vinyl Acetate	6.2	U
75-27-4	Bromodichloromethane	6.2	U
78-87-5	1,2-Dichloropropane	6.2	U
10061-01-5	cis 1,3-Dichloropropene	6.2	U
79-01-6	Trichloroethene	6.2	U
71-43-2	Benzene	6.2	U
124-48-1	Dibromochloromethane	6.2	U
10061-02-6	trans 1,3-Dichloropropene	6.2	U
79-00-5	1,1,2-Trichloroethane	6.2	U
75-25-2	Bromoform	6.2	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO
NSWC BP/BF-001

Lab Name: AENI MD Contract: MKC

Project No.: 9503204 Site: NSWC Location: CRANE Group

Matrix (soil/water): SOIL Lab Sample ID: #001

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EH310.0

Level: (low/med) LOW Date Received: 8/17/95

% Moisture: not dec. 19 Date Analyzed: 8/22/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: ug/Kg

CAS No.	Compound	(ug/L or ug/Kg) ug/Kg	Q
126-98-7	Methacrylonitrile	6.2	U
74-95-3	Dibromomethane	6.2	U
106-93-4	1,2-Dibromoethane (EDB)	6.2	U
108-10-1	4-Methyl-2-Pentanone	62	U
591-78-6	2-Hexanone	62	U
127-18-4	Tetrachloroethene	6.2	U
79-34-5	1,1,2,2-Tetrachloroethane	6.2	U
108-88-3	Toluene	6.2	U
108-90-7	Chlorobenzene	6.2	U
100-41-4	Ethylbenzene	6.2	U
100-42-5	Styrene	6.2	U
108-38-3	m + p Xylene	6.2	U
95-47-6	o Xylene	6.2	U
80-62-6	Methyl methacrylate	6.2	U
630-20-6	1,1,1,2-Tetrachloroethane	6.2	U
96-18-4	1,2,3-Trichloropropane	6.2	U
110-57-6	trans-1,4-Dichloro-2-butene	6.2	U
97-63-2	Ethyl methacrylate	6.2	U
76-01-7	Pentachloroethane	6.2	U
96-12-8	1,2-Dibromo-3-chloropropane	6.2	U
126-99-8	Chloroprene	5	UZ
123-91-1	1,4-Dioxane (TIC)	1000	U
78-83-1	Isobutyl Alcohol (TIC)	1000	U
	3-Chloroprene (TIC)	5	U

FORM I VOA

8260/Appendix IX

SAMPLE NO

NSWC BP/BF 001

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: AENI MO Contract: MKC

Project No: 9508204 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #001

Sample wt/vol 31.0 (g/mL) G Lab File ID: DH263 0

Level: (low/med) LOW Date Received: 8/17/95

% Moisture: 19 decanted (Y/N): N Date Extracted: 8/20/95

Concentrated Extract Volume 1000 (uL) Date Analyzed: 8/21/95

Injection Volume: 1.0 (uL) Dilution Factor: 1 0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
62-75 9	N-Nitroso-Di-Methylamine	400	U
111-44-4	bis(2-Chloroethyl)ether	400	U
108-95 2	Phenol	400	U
95 57-8	2-Chlorophenol	400	U
541-73 1	1,3 Dichlorobenzene	400	U
106-46 7	1,4-Dichlorobenzene	400	U
95-50 1	1,2-Dichlorobenzene	400	U
100-51-6	Benzyl alcohol	800	U
108-60-1	bis(2-chloroisopropyl)ether	400	U
95-48 7	2-Methylphenol	400	U
67 72-1	Hexachloroethane	400	U
621-64-7	N-Nitroso-di-n propylamine	400	U
106-44 5	4-Methylphenol	400	U
110 86-1	Pyridine	400	U
109 06-8	2-Picoline	400	U
62 53 3	Aniline	400	U
10595 95 6	N-Nitrosomethylethylamine	400	U
66 27-3	Methyl methanesulfonate	400	U
55-18-5	N Nitrosodiethylamine	400	U
62-50-0	Ethyl methanesulfonate	400	U
108 39-4	3-Methylphenol	400	U
930 55 2	N-Nitrosopyrrolidine	400	U
95 53-4	o Toluidine	400	U
59 89 2	N-Nitrosomorpholine	400	U
98 95 3	Nitrobenzene	400	U
78-59 1	Isophorone	400	U
88 75 5	2 Nitrophenol	400	U
105 67 9	2,4-Dimethylphenol	400	U
111-91 1	bis(2-Chloroethoxy)methane	400	U
120 83 2	2,4 Dichlorophenol	400	U
120 82-1	1,2,4-Trichlorobenzene	400	U
91-20 3	Naphthalene	400	U
106-47 8	4-Chloroaniline	800	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC-BP/BF-001

Lab Name: AEM MD Contract: MKC

Project No: 9508204 Site: _____ Location: _____ Group: _____

Matrix (soil/water): SOIL Lab Sample ID: #001

Sample wt/vol: 31 0 (g/mL) G Lab File ID: OH263 0

Level: (low/med) LOW Date Received: 8/17/95

% Moisture: 19 decanted (Y/N): N Date Extracted: 8/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/21/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS No	Compound	Concentration Units. (ug/L or ug/Kg) ug/Kg	Q
87-68 3	Hexachlorobutadiene	400	U
59-50 7	4 Chloro-3-methylphenol	400	U
91 57 6	2-Methylnaphthalene	400	U
77-47-4	Hexachlorocyclopentadiene	400	U
98 86 2	Acetophenone	400	U
122-09 8	a,a,a-Dimethylphenethylamine	400	U
1888-71-7	Hexachloropropene	400	U
87-65 0	2,6-Dichlorophenol	400	U
924-16-3	N-Nitrosodibutylamine	400	U
100-75-4	N-Nitrosopiperidine	400	U
130-15 4	1,4-Naphthoquinone	400	U
126 68 1	o,o,o Triethyl phosphorothioate	400	U
120 58 1	Isosafrole	400	U
106-50-3	p Phenylenediamine	400	U
88-06 2	2,4,6 Trichlorophenol	400	U
95-95-4	2,4,5 Trichlorophenol	400	U
91-58 7	2 Chloronaphthalene	400	U
88 74-4	2-Nitroaniline	2000	U
208-96 8	Acenaphthylene	400	U
131-11 3	Dimethylphthalate	400	U
606-20 2	2,6-Dinitrotoluene	400	U
83 32 9	Acenaphthene	400	U
99-09-2	3-Nitroaniline	2000	U
51 28 5	2,4-Dinitrophenol	2000	U
132 64 3	Dibenzofuran	400	U
121-14 2	2,4-Dinitrotoluene	400	U
100 02 7	4-Nitrophenol	400	U
86 73 7	Fluorene	400	U
7005-72 3	4-Chlorophenyl-phenylether	400	U
84 66-2	Diethylphthalate	400	U
100 01 6	4-Nitroaniline	2000	U
95 94 3	1,2,4,5 Tetrachlorobenzene	400	U
99 65 0	1,3-Dinitrobenzene	400	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC BP(BF-001

Lab Name: AENI MD Contract: MKC

Project No.: 9508204 Site: Location: Group:

Matrix (soil/water): SOIL Lab Sample ID: #001

Sample wt/vol: 31.0 (g/mL) G Lab File ID: DH253.D

Level: (low/med): LOW Date Received: 8/17/95

% Moisture: 19 decanted: (Y/N): N Date Extracted: 8/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/21/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
608-93-5	Pentachlorobenzene	400	U
91-59-8	2-Naphthylamine	400	U
134-32-7	1-Naphthylamine	400	U
58-90-2	2,3,4,6-Tetrachlorophenol	400	U
297-97-2	Thionazin	400	U
99-55-8	5-Nitro-o-toluidine	400	U
94-59-7	Safrole	400	U
56-57-5	4-Nitroquinoline 1-oxide	400	U
534-52-1	4,6-Dinitro-2-methylphenol	2000	U
86-30-6	n-Nitrosodiphenylamine	400	U
101-55-3	4-Bromophenyl-phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol	2000	U
85-01-8	Phenanthrene	400	U
120-12-7	Anthracene	400	U
84-74-2	Di-n-butylphthalate	400	U
206-44-0	Fluoranthene	400	U
122-39-4	Diphenylamine	400	U
99-35-4	sym-Trinitrobenzene	400	U
62-44-2	Phenacetin	400	U
92-67-1	4-Aminobiphenyl	400	U
91-80-5	Methapyrilene	400	U
129-00-0	Pyrene	400	U
85-68-7	Butylbenzylphthalate	400	U
91-94-1	3,3'-Dichlorobenzidine	800	U
56-55-3	Benzo(a)anthracene	400	U
218-01-9	Chrysene	400	U
117-81-7	bis(2-Ethylhexyl)phthalate	400	U
60-11-7	p-Dimethylaminoazobenzene	400	U
140-57-8	Aramite	400	U
119-93-7	3,3'-Dimethylbenzidine	400	U
53-96-3	2-Acetylaminofluorene	400	U
117-84-0	Di-n-octylphthalate	400	U

SAMPLE NO.

NSWC-BP/BF 001

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: AENI MD Contract: MKC

Project No: 9503204 Site: Location: Group:

Matrix: (soil/water): SOIL Lab Sample ID: #001

Sample wt/vol: 31.0 (g/mL) G Lab File ID: DH263.D

Level: (low/med): LOW Date Received: 8/17/95

% Moisture: 19 decanted: (Y/N) N Date Extracted: 8/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/21/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
205-99-2	Benzo(b)fluoranthene	400	U
207-08-9	Benzo(k)fluoranthene	400	U
50-32-8	Benzo(a)pyrene	400	U
193-39-5	Indeno(1,2,3-cd)pyrene	400	U
53-70-3	Dibenz(a,h)anthracene	400	U
191-24-2	Benzo(g,h,i)perylene	400	U
57-97-6	7,12-Dimethylbenz(a)anthracene	400	U
56-49-5	3-Methylcholanthrene	400	U

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BP/BF-001

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___
Lab Code: _____ Case No.: 95082 SAS No.: _____ SDG No.: 508204
Matrix (soil/water): SOIL_ Lab Sample ID: 950820401
Level (low/med): LOW__ Date Received: 08/17/95
% Solids: _81.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_		_		NR
7440-36-0	Antimony_	2.6	U		P_
7440-38-2	Arsenic__	9.4	_		P_
7440-39-3	Barium___	62.4	_		P_
7440-41-7	Beryllium	0.57			P_
7440-43-9	Cadmium__	0.52	U		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_	15.8	_		P_
7440-48-4	Cobalt___	3.9	_		P_
7440-50-8	Copper___	15.3	_		P_
7439-89-6	Iron____		_		NR
7439-92-1	Lead____	13.8	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury__	0.12	U		AV
7440-02-0	Nickel___	10	_		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	0.65	U		P_
7440-22-4	Silver___	1.0	U		P_
7440-23-5	Sodium___		_		NR
7440-28-0	Thallium_	1.3	U		P_
7440-62-2	Vanadium_	31.2	_		P_
7440-66-6	Zinc____	39.5	_		P_
	Cyanide__		_		NR
7440-31-5_	Tin____	32.4	U		P_
7439-93-2_	Lithium__	12.8	_		P_
			_		
			_		
			_		
			_		
			_		
			_		
			_		

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

C ments:
LIENT_ID: __NSWC-BP/BF-001

FORM I - IN

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

Pesticide/PCBs

Case No.: 9508204

Project Name: NSWC-CRANE

Client Name: MK CORP

Sample Number
NSWC-BP/BF-001

AENI # 9508204-001

Concentration: Low

Date Sampled: 8/16/95

Date Received: 8/17/95

Date Ext Prepared.: 8/21/95

Date Analyzed: 8/22/95

Conc/Dil Factor: 1

Method: 8080

GPC Cleanup | | Yes | X | No

Seperatory Funnel Extraction | | Yes

Continuous Liquid - Liquid Extraction | | Yes

Percent Moisture: 18.8

Matrix: SOIL

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		2.0	U
319-85-7	beta-BHC		2.0	U
319-86-8	delta-BHC		2.0	U
58-89-9	gamma-BHC (Lindane)		4.1	U
76-44-8	Heptachlor		2.0	U
309-00-2	Aldrin		2.0	U
1024-57-3	Heptachlor epoxide		2.0	U
959-98-8	Endosulfan I		2.0	U
60-57-1	Dieldrin		4.1	U
75-55-9	4, 4'-DDE		4.1	U
72-20-8	Endrin		4.1	U
33213-65-9	Endosulfan II		4.1	U
72-54-8	4, 4'-DDD		4.1	U
1031-07-8	Endosulfan Sulfate		4.1	U
50-29-3	4, 4'-DDT		8.2	U
72-43-5	Methoxychlor		20	U
53494-70-5	Endrin Ketone		4.1	U
7421-36-3	Endrin aldehyde		4.1	U
57-74-9	Chlordane		41	U
8001-35-2	Toxaphene		200	U
12674-11-2	Aroclor-1016		41	U
11104-28-2	Aroclor-1221		82	U
11141-16-5	Aroclor-1232		41	U
53469-21-9	Aroclor-1242		41	U
12672-29-6	Aroclor-1248		41	U
11097-69-1	Aroclor-1254		41	U
11096-82-5	Aroclor-1260		41	U
510-15-6	Chlorobenzilate		82	U
2303-16-4	Diallate		409	U
465-73-6	Isodrin		10	U
143-50-0	Kepone		41	U
82-68-8	Pentachloronitrobenzene		8.2	U

Vi - Volume of extract injected (ul) - 5

Ve - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.09

Vt - Volume of total extract (ul) - 10,000

AMERICAN ENVIRONMENTAL NETWORK INC
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC-BP/BF-001

Case No. 9508204
Client Name. MK CORP
Project Name NSWC-CRANE #4324-009-008-30

AENI # 9508204-001

Concentration. Low
Date Sampled. 8/16/95
Date Received. 8/17/95
Date Extract Prepared 8/22/95
Date Analyzed 8/25/95
Conc/Dil Factor 10
Matrix SOIL

GPC Cleanup No
Shaker: Yes
Continuous Liq-Liq Ext. No
Percent Solid 81.2

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2 4 D		61	U
SILVEX		61	U
2,4 5-T		61	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) N/A
Ws - Mass of soil extracted (g) 50.31
Vt- Volume of total extract (ul) 5000

FORM I

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Organophosphorus

Case No.:——— 9508204

Project Name:——— NSWC-CRANE #4324-009-006-30

Client Name.——— MK CORP

Sample Number
NSWC-BP/BF-001

AENI # 950820-I-001

Concentration.——— Low

Date Sampled.——— 8/16/95

Date Received ——— 8/17/95

Date Ext Prepared.—— 8/21/95

Date Analyzed ——— 8/26/95

Conc/Dil Factor:——— 1

Method ——— 8140

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	81.2	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		2.0	U
60-51-5	Dimethoate		4.0	U
23950-58-5	Pronamide		2.0	U
298-04-4	Disulfoton		2.0	U
298-00-0	Methyl Parathion		2.0	U
56-38-2	Ethyl Parathion		2.0	U
52-85-7	Famphur		2.0	U
3689-24-5	Tetraethyl dithiopyrophosphate		202	U

Vi - Volume of extract injected (ul) - _____ 1

Ve - Volume of Water extracted (ml) - _____ N/A

We - Weight of sample extracted (g) - _____ 30.42

Vt - Volume of total extract (ul) - _____ 1,000

TL-RTP Project: 33852 Method 8280 PCDD/PCDF Analysis (b
Client Sample: NSWC-BP/BF-002 Analysis File E953148
Client Project: Indiana-Navy Project Matrix: SOIL

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0497	ND
1,2,3,7,8-PeCDD	ND	0.522	ND
1,2,3,4,7,8-HxCDD	ND	0.472	ND
1,2,3,6,7,8-HxCDD	ND	0.286	ND
1,2,3,7,8,9-HxCDD	ND	0.273	ND
1,2,3,4,6,7,8-HpCDD	ND	0.708	ND
1,2,3,4,6,7,8,9-OCDD	4.45	0.385	ND
2,3,7,8-TCDF	ND	0.0621	ND
1,2,3,7,8-PeCDF	ND	0.484	ND
2,3,4,7,8-PeCDF	ND	0.609	ND
1,2,3,4,7,8-HxCDF	ND	0.609	ND
1,2,3,6,7,8-HxCDF	ND	0.36	ND
2,3,4,6,7,8-HxCDF	ND	0.497	ND
1,2,3,7,8,9-HxCDF	ND	0.422	ND
1,2,3,4,6,7,8-HpCDF	ND	0.0802	ND
1,2,3,4,7,8,9-HpCDF	ND	0.174	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.335	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.0497
Total PeCDD	ND	0.522
Total HxCDD	ND	0.273
Total HpCDD	ND	0.708
Total TCDF	ND	0.0621
Total PeCDF	ND	0.609
Total HxCDF	ND	0.422
Total HpCDF	ND	0.174

Triangle Laboratories of RTP, Inc.
801 Capitola Drive • Durham, North Carolina 27713
Phone (919) 544-5729 • Fax (919) 544-5491

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC-BP/BF-002

Lab Name: AEM MO Contract: MKC

Project No.: 9503204 Site: NSWC Location: CRANE Group:

Matrix: (soil/water) SOIL Lab Sample ID: 4002

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EH311.D

Level (low/med) LOW Date Received: 8/17/95

% Moisture, not dec 18 Date Analyzed: 8/22/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	16	
67-64-1	Acetone	7.7	J
75-05-8	Acetonitrile	6.1	U
107-13-1	Acrylonitrile	1200	U
107-02-8	Acrolein	1200	U
75-69-4	Trichlorofluoromethane	6.1	U
75-15-0	Carbon Disulfide	6.1	U
75-35-4	1,1-Dichloroethene	6.1	U
75-34-3	1,1-Dichloroethane	6.1	U
540-59-0	trans-1,2-Dichloroethene	6.1	U
67-66-3	Chloroform	6.1	U
107-06-2	1,2-Dichloroethane	6.1	U
75-71-8	Dichlorodifluoromethane	6.1	U
74-88-4	Iodomethane	6.1	U
107-12-0	Propionitrile	6.1	U
107-05-1	Allyl chloride	120	U
78-93-3	2-Butanone	120	U
71-55-6	1,1,1-Trichloroethane	6.1	U
56-23-5	Carbon Tetrachloride	6.1	U
108-05-4	Vinyl Acetate	6.1	U
75-27-4	Bromodichloromethane	6.1	U
78-87-5	1,2-Dichloropropane	6.1	U
10061-01-5	cis-1,3-Dichloropropene	6.1	U
79-01-6	Trichloroethene	6.1	U
71-43-2	Benzene	6.1	U
124-48-1	Dibromochloromethane	6.1	U
10061-02-6	trans-1,3-Dichloropropene	6.1	U
79-00-5	1,1,2-Trichloroethane	6.1	U
75-25-2	Bromoform	6.1	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
NSWC-BP/BF-002

Lab Name: AENI MO Contract: MKC

Project No.: 9503204 Site: NSWC Location: CRANE Group:

Matrix (soil/water): SOIL Lab Sample ID: #002

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EH311.D

Level: (low/med) LOW Date Received: 8/17/95

% Moisture: not dec. 18 Date Analyzed: 8/22/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
126 98 7	Methacrylonitrile	6.1	U
74-95-3	Dibromomethane	6.1	U
106 93 4	1,2 Dibromoethane (EDB)	6.1	U
108 10 1	4-Methyl-2-Pentanone	61	U
591-78 6	2-Hexanone	61	U
127 18 4	Tetrachloroethene	6.1	U
79-34 5	1,1,2,2-Tetrachloroethane	6.1	U
108 88-3	Toluene	6.1	U
108-90 7	Chlorobenzene	6.1	U
100 41-4	Ethylbenzene	6.1	U
100 42 5	Styrene	6.1	U
108-38 3	m + p-Xylene	6.1	U
95-47 6	o Xylene	6.1	U
80-62 6	Methyl methacrylate	6.1	U
630-20 6	1,1,1,2-Tetrachloroethane	6.1	U
96-18 4	1,2 3 Trichloropropane	6.1	U
110 57 6	trans-1,4-Dichloro 2-butene	6 1	U
97-63 2	Ethyl methacrylate	6.1	U
76-01 7	Pentachloroethane	6.1	U
96-12 8	1,2 Dibromo 3 chloropropane	6.1	U
126 99 8	Chloroprene	5	UZ
123 91 1	1,4 Dioxane (TIC)	1000	U
78 83 1	Isobutyl Alcohol (TIC)	1000	U
	3 Chloroprene (TIC)	5	U

FORM I VOA 8260/Appendix IX

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC-BP(BF-002

Lab Name AENI MD Contract: MKC

Project No 9509204 Site. Location Group

Matrix (soil/water) SOIL Lab Sample ID. #002

Sample wt/vol 30 2 (g/mL) G Lab File ID DH264.D

Level. (low/med) LOW Date Received 8/17/95

% Moisture: 18 decanted (Y/N) N Date Extracted 8/20/95

Concentrated Extract Volume. 1000 (uL) Date Analyzed. 8/21/95

Injection Volume. 1 0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units. (ug/L or ug/Kg) ug/Kg	Q
62-75 9	N-Nitroso-Di-Methylamine	400	U
111-44-4	bis(2 Chloroethyl)ether	400	U
108 95-2	Phenol	400	U
95-57-8	2-Chlorophenol	400	U
541-73-1	1,3-Dichlorobenzene	400	U
106-46 7	1,4-Dichlorobenzene	400	U
95 50 1	1,2-Dichlorobenzene	400	U
100-51-6	Benzyl alcohol	810	U
108-60-1	bis(2-chloroisopropyl)ether	400	U
95-48 7	2-Methylphenol	400	U
67 72-1	Hexachloroethane	400	U
621-64-7	N Nitroso di-n propylamine	400	U
106-44 5	4-Methylphenol	400	U
110 86-1	Pyridine	400	U
109 06-8	2 Picoline	400	U
62-53 3	Aniline	400	U
10595-95-6	N-Nitrosomethylethylamine	400	U
66 27 3	Methyl methanesulfonate	400	U
55 18 5	N-Nitrosodiethylamine	400	U
62-50 0	Ethyl methanesulfonate	400	U
108-39-4	3-Methylphenol	400	U
930 55-2	N Nitrosopyrrolidine	400	U
95 53-4	o Toluidine	400	U
59 89 2	N-Nitrosomorpholine	400	U
98 95-3	Nitrobenzene	400	U
78-59 1	Isophorone	400	U
88 75 5	2-Nitrophenol	400	U
105 67 9	2,4 Dimethylphenol	400	U
111-91-1	bis(2-Chloroethoxy)methane	400	U
120 83-2	2,4-Dichlorophenol	400	U
120 82-1	1,2,4-Trichlorobenzene	400	U
91 20 3	Naphthalene	400	U
106-47 8	4 Chloroaniline	810	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC-BP/BF-002

Lab Name: AENI MO Contract: MKC

Project No. 9508204 Site: Location Group

Matrix. (soil/water) SOIL Lab Sample ID #002

Sample wt/vol 30 2 (g/mL) G Lab File ID. OH264 D

Level: (low/med) LOW Date Received: 8/17/95

% Moisture: 18 decanted: (Y/N). N Date Extracted: 8/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/21/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
87-68 3	Hexachlorobutadiene	400	U
59-50 7	4-Chloro-3-methylphenol	400	U
91-57-6	2-Methylnaphthalene	400	U
77-47-4	Hexachlorocyclopentadiene	400	U
98-86 2	Acetophenone	400	U
122-09-8	a,a,a-Dimethylphenethylamine	400	U
1888 71 7	Hexachloropropene	400	U
87-65 0	2,6-Dichlorophenol	400	U
924-16-3	N-Nitrosodibutylamine	400	U
100-75-4	N-Nitrosopiperidine	400	U
130-15-4	1,4-Naphthoquinone	400	U
126 68 1	o,o,o Triethyl phosphorothioate	400	U
120 58-1	Isosafrole	400	U
106-50 3	p Phenylenediamine	400	U
88 06 2	2,4,6-Trichlorophenol	400	U
95 95-4	2 4,5-Trichlorophenol	400	U
91 58 7	2-Chloronaphthalene	400	U
88-74-4	2 Nitroaniline	2000	U
208-96-8	Acenaphthylene	400	U
131 11-3	Dimethylphthalate	400	U
606-20 2	2,6 Dinitrotoluene	400	U
83-32-9	Acenaphthene	400	U
99 09 2	3-Nitroaniline	2000	U
51-28 5	2,4 Dinitrophenol	2000	U
132-64 9	Dibenzofuran	400	U
121-14 2	2,4 Dinitrotoluene	400	U
100 02 7	4-Nitrophenol	400	U
86-73 7	Fluorene	400	U
7005 72 3	4 Chlorophenyl phenylether	400	U
84 66-2	Diethylphthalate	400	U
100 01 6	4-Nitroaniline	2000	U
95 94 3	1,2,4,5-Tetrachlorobenzene	400	U
99 65 0	1,3 Dinitrobenzene	400	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC-BP/BF 002

Lab Name: AENI MD Contract: MKC

Project No: 9503234 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #002

Sample wt/vol: 30.2 (g/mL) G Lab File ID: OH264.D

Level (low/med) LOW Date Received: 8/17/95

% Moisture: 18 decanted: (Y/N) N Date Extracted: 8/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/21/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH

CAS No.	Compound	Concentration Units (ug/L or ug/Kg) ug/Kg	Q
608-93-5	Pentachlorobenzene	400	U
91-59-8	2-Naphthylamine	400	U
134-32-7	1-Naphthylamine	400	U
58-90-2	2,3,4,6-Tetrachlorophenol	400	U
297-97-2	Thionazin	400	U
99-55-8	5-Nitro-o-toluidine	400	U
94-59-7	Safrole	400	U
56-57-5	4-Nitroquinoline 1-oxide	400	U
534-52-1	4,6-Dinitro-2-methylphenol	2000	U
86-30-6	n-Nitrosodiphenylamine	400	U
101-55-3	4-Bromophenyl phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol	2000	U
85-01-8	Phenanthrene	400	U
120-12-7	Anthracene	400	U
84-74-2	Di-n-butylphthalate	400	U
206-44-0	Fluoranthene	400	U
122-39-4	Diphenylamine	400	U
99-35-4	sym-Trinitrobenzene	400	U
62-44-2	Phenacetin	400	U
92-67-1	4-Aminobiphenyl	400	U
91-80-5	Methapyrilene	400	U
129-00-0	Pyrene	400	U
85-68-7	Butylbenzylphthalate	400	U
91-94-1	3,3'-Dichlorobenzidine	810	U
56-55-3	Benzo(a)anthracene	400	U
218-01-9	Chrysene	400	U
117-81-7	bis(2-Ethylhexyl)phthalate	400	U
60-11-7	p-Dimethylaminoazobenzene	400	U
140-57-8	Aramite	400	U
119-93-7	3,3'-Dimethylbenzidine	400	U
53-96-3	2-Acetylaminofluorene	400	U
117-84-0	Di-n-octylphthalate	400	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC BP/BF-002

Lab Name: AENI MD Contract: MKC

Project No. 9508204 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #002

Sample wt/vol: 30.2 (g/mL) G Lab File ID: DH264.D

Level: (low/med) LOW Date Received: 8/17/95

% Moisture: 18 decanted: (Y/N) N Date Extracted: 8/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/21/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units (ug/L or ug/Kg) ug/Kg	Q
205-99-2	Benzo(b)fluoranthene	400	U
207-08-9	Benzo(k)fluoranthene	400	U
50-32-8	Benzo(a)pyrene	400	U
193-39-5	Indeno(1,2,3-cd)pyrene	400	U
53-70-3	Dibenz(a,h)anthracene	400	U
191-24-2	Benzo(g,h,i)perylene	400	U
57-97-6	7,12-Dimethylbenz(a)anthracene	400	U
56-49-5	3-Methylcholanthrene	400	U

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BP/BF-002

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 95082 SAS No.: _____ SDG No.: 508204

Matrix (soil/water): SOIL_ Lab Sample ID: 950820402

Level (low/med): LOW__ Date Received: 08/17/95

% Solids: _82 4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_		_		NR
7440-36-0	Antimony_	2.4	U		P_
7440-38-2	Arsenic__	9.0	_		P_
7440-39-3	Barium___	65.1	_		P_
7440-41-7	Beryllium	0.56	_		P_
7440-43-9	Cadmium__	0.48	U		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_	16.9	_		P_
7440-48-4	Cobalt___	4.6	_		P_
7440-50-8	Copper___	16.1	_		P_
7439-89-6	Iron_____		_		NR
7439-92-1	Lead_____	14.9	_		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury__	0.10	U		AV
7440-02-0	Nickel___	10.8	_		P_
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	0.60	U		P_
7440-22-4	Silver___	0.96	U		P_
7440-23-5	Sodium___		_		NR
7440-28-0	Thallium_	1.2	U		P_
7440-62-2	Vanadium_	30.8	_		P_
7440-66-6	Zinc_____	41.9	_		P_
	Cyanide__		_		NR
7440-31-5_	Tin_____	30.0	U		P_
7439-93-2_	Lithium__	11.7	_		P_
			_		
			_		
			_		
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Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

CLIENT_ID: __NSWC-BP/BF-002

FORM I - IN

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

Pesticide/PCBs

Case No.: 9508204
Project Name: NSWC-CRANE
Client Name: MK CORP

Sample Number
NSWC-BP/BF-002

AENI # 9508204-002

Concentration: Low
Date Sampled: 8/16/95
Date Received: 8/17/95
Date Ext Prepared: 8/21/95
Date Analyzed: 8/22/95
Conc/Dil Factor: 1
Method: 8080

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extraction		Yes
Percent Moisture	17.6	
Matrix:	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		2.0	U
319-85-7	beta-BHC		2.0	U
319-86-8	delta-BHC		2.0	U
58-89-9	gamma-BHC (Lindane)		4.0	U
76-44-8	Heptachlor		2.0	U
309-00-2	Aldrin		2.0	U
1024-57-3	Heptachlor epoxide		2.0	U
959-98-8	Endosulfan I		2.0	U
60-57-1	Dieldrin		4.0	U
72-55-9	4, 4'-DDE		4.0	U
72-20-8	Endrin		4.0	U
33213-65-9	Endosulfan II		4.0	U
72-54-8	4, 4'-DDD		4.0	U
1031-07-8	Endosulfan Sulfate		4.0	U
50-29-3	4, 4'-DDT		8.1	U
72-43-5	Methoxychlor		20	U
53494-70-5	Endrin Ketone		4.0	U
7421-36-3	Endrin aldehyde		4.0	U
57-74-9	Chlordane		40	U
8001-35-2	Toxaphene		200	U
12674-11-2	Aroclor-1016		40	U
11104-28-2	Aroclor-1221		81	U
11141-16-5	Aroclor-1232		40	U
53469-21-9	Aroclor-1242		40	U
12672-29-6	Aroclor-1248		40	U
11097-69-1	Aroclor-1254		40	U
11096-82-5	Aroclor-1260		40	U
510-15-6	Chlorobenzilate		81	U
2303-16-4	Diallate		403	U
465-73-6	Isodrin		10	U
143-50-0	Kepone		40	U
82-68-8	Pentachloronitrobenzene		8.1	U

Vi - Volume of extract injected (ul) - 5
Vs - Volume of Water extracted (ml) - N/A
Ws - Weight of sample extracted (g) - 30.11
Vt - Volume of total extract (ul) - 10,000

AMERICAN ENVIRONMENTAL NETWORK INC.

Organic Analysis Data Sheet

Organophosphorus

Case No.. 9508204

Project Name NSWC-CRANE #4324-009-008-30

Client Name MK CORP

Sample Number
NSWC-BP/BF-002

AENI # 9508204-002

Concentration. Low

Date Sampled: 8/16/95

Date Received 8/17/95

Date Ext Prepared. 8/21/95

Date Analyzed 8/26/95

Conc/Dil Factor: 1

Method: 8140

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	82.4	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		2.0	U
60-51-5	Dimethoate		4.0	U
23950-58-5	Pronamide		2.0	U
298-04-4	Disulfoton		2.0	U
298-00-0	Methyl Parathion		2.0	U
56-38-2	Ethyl Parathion		2.0	U
52-85-7	Famphur		2.0	U
3689-24-5	Tetraethyl dithiopyrophosphate		200	U

Vi - Volume of extract injected (ul) - 1

Ve - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.35

Vt - Volume of total extract (ul) - 1,000

AMERICAN ENVIRONMENTAL NETWORK INC
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC-BP/BF-002

Case No : 9508204
Client Name MK CORP
Project Name NSWC-CRANE # 4324-009-008-30

AENI # 9508204-002

Concentration Low
Date Sampled 8/16/95
Date Received 8/17/95
Date Extract Prepared 8/22/95
Date Analyzed 8/25/95
Conc/Dil Factor 10
Matrix SOIL

GPC Cleanup No
Shaker: Yes
Continuous Liq-Liq Ext.: No
Percent Solid 82.4

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2 4 D		60	U
SILVEX		60	U
2 4 5-T		60	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) N/A
Ws - Mass of soil extracted (g) 50.58
Vt- Volume of total extract (ul) 5000

FORM I

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia, MD 21045 1992
(410) 730-8525 Fax (410) 997-2586

Report Number: 9510148
Report To: MK Corp.
Project: Crane NSWC
Date: October 26, 1995
Analysis: Total Cyanide, SW846 9010

Client ID	AENI ID	%Solids	Result, mg/Kg
NSWC BP/BF 003	9510148-001	85.6	<1.2
NSWC BP/BF 004	9510148-002	87.5	<1.1

(1) Results reported on a dry weight basis.

AMERICAN ENVIRONMENTAL NETWORK, INC
9151 Rumsey Road Suite 150 Columbia, MD 21045 1992
(410) 730-8525 Fax (410) 997-2586

Report Number: 9510148
Report To: MK Corp.
Project: Crane NSWC
Date: October 26, 1995
Analysis: Total Sulfide, SW846 9030M

Client ID	AENI ID	%Solids	Result, mg/Kg
NSWC BP/BF 003	9510148-001	85.6	<58
NSWC BP/BF 004	9510148-002	87.5	<58

(1) Results reported on a dry weight basis.

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Pesticide/PCBs

Case No ——— 9510148

Project Name ——— CRANE NSWC

Client Name: ——— MK CORP

Concentration: ——— Low

Date Sampled: ——— 10/11/95

Date Received: ——— 10/14/95

Date Ext Prepared: ——— 10/18/95

Date Analyzed ——— 10/21/95

Conc/Dil Factor: ——— 2

Method: ——— 8080

Sample Number
NSWC BP/BF 003

AENI # 9510148-001

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extraction		Yes
Percent Moisture	14.4	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		3.8	U
319-85-7	beta-BHC		3.8	U
319-86-8	delta-BHC		3.8	U
58-89-9	gamma-BHC (Lindane)		7.7	U
76-44-8	Heptachlor		3.8	U
309-00-2	Aldrin		3.8	U
1024-57-3	Heptachlor epoxide		3.8	U
959-98-8	Endosulfan I		3.8	U
60-57-1	Dieldrin		7.7	U
75-55-9	4, 4'-DDE		7.7	U
72-20-8	Endrin		7.7	U
33213-65-9	Endosulfan II		7.7	U
72-54-8	4, 4'-DDD		7.7	U
1031-07-8	Endosulfan Sulfate		7.7	U
50-29-3	4, 4'-DDT		7.7	U
72-43-5	Methoxychlor		38	U
53494-70-5	Endrin Ketone		7.7	U
7421-36-3	Endrin aldehyde		7.7	U
57-74-9	Chlordane		77	U
8001-35-2	Toxaphene		380	U
12674-11-2	Aroclor-1016		77	U
11104-28-2	Aroclor-1221		150	U
11141-16-5	Aroclor-1232		77	U
53469-21-9	Aroclor-1242		77	U
12672-29-6	Aroclor-1248		77	U
11097-69-1	Aroclor-1254		77	U
11096-82-5	Aroclor-1260		77	U
510-15-6	Chlorobenzilate		154	U
2303-16-4	Diallate		768	U
465-73-6	Isodrin		19	U
143-50-0	Kepone		77	U
82-68-8	Pentachloronitrobenzene		15	U

Vi - Volume of extract injected (ul) - _____ 5

Ve - Volume of Water extracted (ml) - _____ N/A

We - Weight of sample extracted (g) - _____ 30.41

Vt - Volume of total extract (ul) - _____ 10,000

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC BP/BF 003

Case No.: 9510148
Client Name: MK CORP
Project Name: CRANE NSWC

AENI # 9510148-001

Concentration: Low
Date Sampled: 10/11/95
Date Received: 10/14/95
Date Extract Prepared: 10/19/95
Date Analyzed: 10/25/95
Conc/Dil Factor: 1
Matrix: SOIL

GPC Cleanup: No
Shaker: Yes
Continuous Liq-Liq Ext.: No
Percent Solid: 85.6

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4-D		57	U
SILVEX		57	U
2,4,5-T		57	U

Vi - Volume of extract injected (ul): 1
Vs - Volume of water extracted (ml): N/A
Ws - Mass of soil extracted (g): 10.25
Vt - Volume of total extract (ul): 10000

FORM I

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC BP/BF 003

Lab Name: AENI Contract: 9510148

Project No: MKC70 Site Location Group

Matrix (soil/water) SOIL Lab Sample ID #001

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FJ371.D

Level (low/med) LOW Date Received: 10/14/95

% Moisture not dec. 14 Date Analyzed: 10/24/95

GC Column: CAP. ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	5.8	U
67-64-1	Acetone	120	U
75-05-8	Acetonitrile	5.8	U
107-13-1	Acrylonitrile	1200	U
107-02-8	Acrolein	1200	U
75-69-4	Trichlorofluoromethane	5.8	U
75-15-0	Carbon Disulfide	5.8	U
75-35-4	1,1-Dichloroethene	5.8	U
75-34-4	1,1-Dichloroethane	5.8	U
540-59-0	trans 1,2-Dichloroethene	5.8	U
67-66-3	Chloroform	5.8	U
107-06-2	1,2-Dichloroethane	5.8	U
75-71-8	Dichlorodifluoromethane	5.8	U
74-88-4	Iodomethane	5.8	U
107-12-0	Propionitrile	5.8	U
107-05-1	Allyl chloride	120	U
78-93-3	2-Butanone	120	U
71-55-6	1,1,1-Trichloroethane	5.8	U
56-23-5	Carbon Tetrachloride	5.8	U
108-05-4	Vinyl Acetate	5.8	U
75-27-4	Bromodichloromethane	5.8	U
78-87-5	1,2 Dichloropropane	5.8	U
10061-01-5	cis 1,3 Dichloropropene	5.8	U
79-01-6	Trichloroethene	5.8	U
71-43-2	Benzene	5.8	U
124-48-1	Dibromochloromethane	5.8	U
10061-02-6	trans-1,3 Dichloropropene	5.8	U
79-00-5	1,1,2-Trichloroethane	5.8	U
75-25-2	Bromoform	5.8	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC BP/SF 003

Lab Name: AENI Contract: 9510148

Project No.: MKC70 Site: Location: Group:

Matrix (soil/water) SOIL Lab Sample ID: 4001

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FJ371.D

Level: (low/med) LOW Date Received: 10/14/95

% Moisture: not dec. 14 Date Analyzed: 10/24/95

GC Column: CAP. ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound			Q
126 98-7	Methacrylonitrile		5.8	U
74-95-3	Dibromomethane		5.8	U
106-93-4	1,2-Dibromoethane (EDB)		5 8	U
108-10-1	4-Methyl-2-Pentanone		58	U
591-78 6	2-Hexanone		58	U
127-18-4	Tetrachloroethene		5.8	U
79-34-5	1,1,2,2-Tetrachloroethane		5.8	U
108-88 3	Toluene		5.8	U
108-90 7	Chlorobenzene		5.8	U
100-41-4	Ethylbenzene		5.8	U
100-42-5	Styrene		5.8	U
108-38 3	m + p-Xylene		5.8	U
95-47-6	o-Xylene		5.8	U
80 62-6	Methyl methacrylate		5.8	U
630-20-6	1,1,1,2-Tetrachloroethane		5.8	U
96-18-4	1,2,3-Trichloropropane		5.8	U
110 57-6	trans-1,4-Dichloro-2-butene		29	U
97-63 2	Ethyl methacrylate		5.8	U
76-01-7	Pentachloroethane		5.8	U
96-12-8	1,2-Dibromo-3 chloropropane		5.8	U
78 83 1	Isobutyl Alcohol		5.8	U
126-99 8	Chloroprene	(TIC)	5.8	UZ
	3-Chloroprene	(TIC)	5.8	U
123-91-1	1,4-Dioxane	(TIC)	1200	U
Methylene Chloride - Dichloromethane				
Methyl ethyl ketone - 2-Butanone				
Chloroprene - 2 Chloro-1,3-butadiene				
Propionitrile - Ethyl Cyanide				

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC BP/BF 003

Lab Name AENI Contract 9510146

Project No MKC70 Site Location Group

Matrix (soil/water) SOIL Lab Sample ID 4001

Sample wt/vol 30.9 (g/mL) G Lab File ID. DJ283.D

Level (low/med) LOW Date Received. 10/14/95

% Moisture 14 decanted (Y/N) N Date Extracted: 10/20/95

Concentrated Extract Volume 1000 (uL) Date Analyzed. 10/23/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH.

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
91 20-3	Naphthalene	380	U
91 57-6	2-Methylnaphthalene	380	U
91-58 7	2-Chloronaphthalene	380	U
208-96 8	Acenaphthylene	380	U
83-32 9	Acenaphthene	380	U
132 64 9	Dibenzofuran	380	U
86-73 7	Fluorene	380	U
85 01-8	Phenanthrene	380	U
120-12-7	Anthracene	380	U
206-44-0	Fluoranthene	380	U
129 00 0	Pyrene	380	U
56 55 3	Benzo(a)anthracene	380	U
218 01 9	Chrysene	380	U
205 99 2	Benzo(b)fluoranthene	380	U
207-08 9	Benzo(k)fluoranthene	380	U
50-32-8	Benzo(a)pyrene	380	U
193 39 5	Indeno(1,2,3-cd)pyrene	380	U
53-70-3	Dibenz(a,h)anthracene	380	U
191-24-2	Benzo(g,h,i)perylene	380	U

TL-RTP Project: 34600B
Client Sample: NSWC BP/BF 003
Client Project: Indiana Navy Project

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: B951306
Matrix. SOIL

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0 151	ND
1,2,3,7,8-PeCDD	ND	1.04	ND
1,2,3,4,7,8-HxCDD	ND	0.0754	ND
1,2,3,6,7,8-HxCDD	ND	0 226	ND
1,2,3,7,8,9-HxCDD	ND	0 226	ND
1,2,3,4,6,7,8-HpCDD	ND	0.301	ND
1,2,3,4,6,7,8,9-OCDD	10.7	0 388	ND
2,3,7,8-TCDF	ND	0 129	ND
1,2,3,7,8-PeCDF	ND	0 506	ND
2,3,4,7,8-PeCDF	ND	0.614	ND
1,2,3,4,7,8-HxCDF	ND	0.108	ND
1,2,3,6,7,8-HxCDF	ND	0.108	ND
2,3,4,6,7,8-HxCDF	ND	0 269	ND
1,2,3,7,8,9-HxCDF	ND	0 172	ND
1,2,3,4,6,7,8-HpCDF	ND	0 205	ND
1,2,3,4,7,8,9-HpCDF	ND	0 0323	ND
1,2,3,4,6,7,8,9-OCDF	ND	0 237	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.151
Total PeCDD	ND	1 04
Total HxCDD	ND	0 226
Total HpCDD	ND	0 301
Total TCDF	ND	0 129
Total PeCDF	ND	0 614
Total HxCDF	ND	0 172
Total HpCDF	ND	0 0323

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801 Capitola Drive • Durham, North Carolina 27713
Phone (919) 544-5729 • Fax (919) [illegible]

Printed 13 49 10/23/95

ORGANIC ANALYSIS DATA SHEET

Client: MK CORP
Account # MKC70
Analysis: EXPLOSIVES
Method: 8330
Instrument: HPLC SYS 2

NSWC BP/BF 003
Sample:

Matrix: SOIL
Sample: (g) 2.1
Final Volume: (L) 0.02
(%) Moisture: 14.4
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID L9510148-001
Lab Name: AENT
Contract: 9510148
Date Sampled: 10/12/95
Date Received: 10/14/95
Date Prepared: 10/23/95
Date Analyzed: 10/25/95
Time Analyzed: 4:02

Compound	Concentration (mg/Kg)	Detection Limit	Qualifier
HMX		0.32	U
RDX		0.38	U
TNB		0.26	U
TETRYL		0.28	U
DNB		0.21	U
TNT		0.25	U
2,6-DNT		0.27	U
2,4-DNT		0.21	U

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BP/BF 003

Lab Name: AENI Contract: 9510148

Lab Code: Case No.: MKC70 SAS No.: SDG No.: BP/BF

Matrix (soil/water): SOIL Lab Sample ID: 951014801

Level (low/med): LOW Date Received: 10/14/95

% Solids: 85.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.3	U	N	P
7440-38-2	Arsenic	7.8		N*	P
7440-39-3	Barium	92.1			P
7440-41-7	Beryllium	0.74			P
7440-43-9	Cadmium	0.45	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	22.1			P
7440-48-4	Cobalt	8.6			P
7440-50-8	Copper	15.1			P
7439-89-6	Iron				NR
7439-92-1	Lead	14.2		*	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.12	U		AV
7440-02-0	Nickel	14.5			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.57	U	N	P
7440-22-4	Silver	0.91	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.1	U	N	P
7440-62-2	Vanadium	39.0			P
7440-66-6	Zinc	40.8			P
	Cyanide				NR
7440-31-5	Tin	22.7	U		P
7439-93-2	Lithium	14.9			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

ments:

CLIENT_ID: NSWC_BP/BF_003

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC BP/BF 004

Case No : 9510148
Client Name MK CORP
Project Name: CRANE NSWC

AENI # 9510148-002

Concentration: Low
Date Sampled: 10/11/95
Date Received: 10/14/95
Date Extract Prepared: 10/19/95
Date Analyzed: 10/25/95
Conc/Dil Factor: 1
Matrix SOIL

GPC Cleanup No
Shaker: Yes
Continuous Liq-Liq Ext.: No
Percent Solid 87 5

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4 D		57	U
SILVEX		57	U
2,4,5-T		57	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) N/A
Ws - Mass of soil extracted (g) 10 00
Vt- Volume of total extract (ul) 10000

FORM I

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO
NSWC BP/BF 004

Lab Name: AENI Contract: 9510143

Project No: MKC70 Site: ____ Location: ____ Group: ____

Matrix: (soil/water) SOIL Lab Sample ID: #002

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FJ359.D

Level: (low/med) LOW Date Received: 10/14/95

% Moisture: not dec. 12 Date Analyzed: 10/24/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound	Concentration	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	10	
67-64-1	Acetone	110	U
75-05-8	Acetonitrile	5.7	U
107-13-1	Acrylonitrile	1100	U
107-02-8	Acrolein	1100	U
75-69-4	Trichlorofluoromethane	5.7	U
75-15-0	Carbon Disulfide	5.7	U
75-35-4	1,1-Dichloroethene	5.7	U
75-34-4	1,1-Dichloroethane	5.7	U
540-59-0	trans-1,2-Dichloroethene	5.7	U
67-66-3	Chloroform	5.7	U
107-06-2	1,2-Dichloroethane	5.7	U
75-71-8	Dichlorodifluoromethane	5.7	U
74-88-4	Iodomethane	5.7	U
107-12-0	Propionitrile	5.7	U
107-05-1	Allyl chloride	110	U
78-93-3	2-Butanone	110	U
71-55-6	1,1,1-Trichloroethane	5.7	U
56-23-5	Carbon Tetrachloride	5.7	U
108-05-4	Vinyl Acetate	5.7	U
75-27-4	Bromodichloromethane	5.7	U
78-87-5	1,2-Dichloropropane	5.7	U
10061-01-5	cis-1,3-Dichloropropene	5.7	U
79-01-6	Trichloroethene	5.7	U
71-43-2	Benzene	5.7	U
124-48-1	Dibromochloromethane	5.7	U
10061-02-6	trans-1,3-Dichloropropene	5.7	U
79-00-5	1,1,2-Trichloroethane	5.7	U
75-25-2	Bromoform	5.7	U

FORM I VOA 8260/Appendix IX

VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC BP/BF 004

Lab Name: AENI Contract: 951C148

Project No.: MKC70 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID. #002

Sample wt/vol 5.0 (g/mL) G Lab File ID FJ359.D

Level: (low/med) LOW Date Received. 10/14/95

% Moisture: not dec. 12 Date Analyzed. 10/24/95

GC Column: CAP. ID: 0.53 (mm) Dilution Factor. 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound			Q
126-98-7	Methacrylonitrile		5.7	U
74 95 3	Dibromomethane		5.7	U
106 93-4	1,2-Dibromoethane (EDB)		5.7	U
108 10 1	4-Methyl-2-Pentanone		57	U
591 78-6	2-Hexanone		57	U
127-18-4	Tetrachloroethene		34	
79-34-5	1,1,2,2-Tetrachloroethane		5.7	U
108-88-3	Toluene		16	
108-90 7	Chlorobenzene		5.7	U
100-41-4	Ethylbenzene		5.7	U
100-42-5	Styrene		5.7	U
108 38-3	m + p-Xylene		4 7	J
95-47-6	o Xylene		5 7	U
80 62 6	Methyl methacrylate		5 7	U
630-20 6	1,1,1,2-Tetrachloroethane		5 7	U
96-18-4	1,2,3-Trichloropropane		5.7	U
110 57 6	trans-1,4-Dichloro 2 butene		28	U
97 63-2	Ethyl methacrylate		5.7	U
76-01 7	Pentachloroethane		5.7	U
96-12-8	1,2-Dibromo-3 chloropropane		5.7	U
78-83 1	Isobutyl Alcohol		5.7	U
126-99 8	Chloroprene	(TIC)	5.7	UZ
	3 Chloroprene	(TIC)	5 7	U
123 91 1	1,4-Dioxane	(TIC)	1100	U
Methylene Chloride - Dichloromethane				
Methyl ethyl ketone - 2-Butanone				
Chloroprene - 2-Chloro 1,3-butadiene				
Propionitrile - Ethyl Cyanide				

FORM I VOA

8260/Appendix IX

SAMPLE NO

NSWC BP/BF 004

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: AENI Contract: 9510148

Project No.: MKC70 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #002

Sample wt/vol. 30.7 (g/mL) G Lab File ID: DJ289 D

Level: (low/med) LOW Date Received: 10/14/95

% Moisture 12 decanted: (Y/N): N Date Extracted: 10/20/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/23/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
91-20-3	Naphthalene	370	U
91-57-6	2-Methylnaphthalene	370	U
91-58-7	2-Chloronaphthalene	370	U
208-96-8	Acenaphthylene	370	U
83-32-9	Acenaphthene	370	U
132-64-9	Dibenzofuran	370	U
86-73-7	Fluorene	370	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
206-44-0	Fluoranthene	370	U
129-00-0	Pyrene	370	U
56-55-3	Benzo(a)anthracene	370	U
218-01-9	Chrysene	370	U
205-99-2	Benzo(b)fluoranthene	370	U
207-08-9	Benzo(k)fluoranthene	370	U
50-32-8	Benzo(a)pyrene	370	U
193-39 5	Indeno(1,2,3-cd)pyrene	370	U
53-70-3	Dibenz(a,h)anthracene	370	U
191-24-2	Benzo(g,h,i)perylene	370	U

TL-RTP Project: 34600B
Client Sample: NSWC BP/BF 004
Client Project: Indiana Navy Project

Method 8280 PCDD/PCDF Analysis (
Analysis File:
Matrix. SO.

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.156	ND
1,2,3,7,8-PeCDD	ND	1.08	ND
1,2,3,4,7,8-HxCDD	ND	0.0781	ND
1,2,3,6,7,8-HxCDD	ND	0.234	ND
1,2,3,7,8,9-HxCDD	ND	0.234	ND
1,2,3,4,6,7,8-HpCDD	ND	0.312	ND
1,2,3,4,6,7,8,9-OCDD	13.4	0.401	ND
2,3,7,8-TCDF	ND	0.134	ND
1,2,3,7,8-PeCDF	ND	0.524	ND
2,3,4,7,8-PeCDF	ND	0.636	ND
1,2,3,4,7,8-HxCDF	ND	0.112	ND
1,2,3,6,7,8-HxCDF	ND	0.112	ND
2,3,4,6,7,8-HxCDF	ND	0.279	ND
1,2,3,7,8,9-HxCDF	ND	0.178	ND
1,2,3,4,6,7,8-HpCDF	ND	0.212	ND
1,2,3,4,7,8,9-HpCDF	ND	0.0335	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.245	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.156
Total PeCDD	ND	1.08
Total HxCDD	ND	0.234
Total HpCDD	ND	0.312
Total TCDF	ND	0.134
Total PeCDF	ND	0.636
Total HxCDF	ND	0.178
Total HpCDF	ND	0.0335

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ORGANIC ANALYSIS DATA SHEET

Client: MK CORP
Account #: MKC70
Analysis: EXPLOSIVES
Method: 8330
Instrument: HPLC SYS 2

NSWC BP/BF 004
Sample.

Matrix: SOIL
Sample: (g) 2.0
Final Volume: (L) 0.02
(%) Moisture: 12.5
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID: L9510148-002
Lab Name: AENI
Contract: 9510148
Date Sampled: 10/12/95
Date Received: 10/14/95
Date Prepared: 10/23/95
Date Analyzed: 10/25/95
Time Analyzed: 5:38

Compound	Concentration (mg/Kg)	Detection Limit	Qualifier
HMX		0.32	U
RDX		0.39	U
TNB		0.26	U
TETRYL		0.29	U
DNB		0.22	U
TNT		0.25	U
2,6-DNT		0.28	U
2,4-DNT		0.22	U

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BP/BF 004

Lab Name: AENI Contract: 9510148

Lab Code: Case No.: MKC70 SAS No.: SDG No.: BP/BF

Matrix (soil/water): SOIL Lab Sample ID: 951014802

Level (low/med): LOW Date Received: 10/14/95

% Solids: 87.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.2	U	N	P
7440-38-2	Arsenic	6.3		N*	P
7440-39-3	Barium	83.9			P
7440-41-7	Beryllium	0.81			P
7440-43-9	Cadmium	0.44	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	22.8			P
7440-48-4	Cobalt	7.0			P
7440-50-8	Copper	13.9			P
7439-89-6	Iron				NR
7439-92-1	Lead	13.7		*	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.08	U		AV
7440-02-0	Nickel	13.5			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.55	U	N	P
7440-22-4	Silver	0.89	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.1	U	N	P
7440-62-2	Vanadium	38.2			P
7440-66-6	Zinc	40.1			P
	Cyanide				NR
7440-31-5	Tin	22.2	U		P
7439-93-2	Lithium	14.7			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

LIENT_ID: NSWC_BP/BF_004

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

Report Number: 9510322
Report To: MK Corp
Project: Crane NSWC
Date: November 15, 1995
Analysis: Total Cyanide, SW846 9010

Client ID	AENI ID	Result	Date Analyzed
NSWC BF/BF-005	9510322-001	<1.1	11/14/95
NSWC BF/BF-006	9510322-002	<1.1	11/14/95

(1) Results reported as mg/Kg on a dry weight basis.

(2) Distillation Date: 11/09/95

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Pesticide/PCBs

Case No ——— 9510322

Account # ——— MKC70

Client Name: ——— MK CORP

Sample Number
NSWC BF/BF-005

AEN # 9510322-001

Concentration: ——— Low

Date Sampled: ——— 10/27/95

Date Received: ——— 10/31/95

Date Ext Prepared: ——— 11/8/95

Date Analyzed: ——— 11/10/95

Conc/Dil Factor: ——— 1

Method: ——— 8080

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extraction		Yes
Percent Moisture	6.3	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.8	U
319-85-7	beta-BHC		1.8	U
319-86-8	delta-BHC		1.8	U
58-89-9	gamma-BHC (Lindane)		3.5	U
76-44-8	Heptachlor		1.8	U
309-00-2	Aldrin		1.8	U
1024-57-3	Heptachlor epoxide		1.8	U
959-98-8	Endosulfan I		1.8	U
60-57-1	Dieldrin		3.5	U
72-55-9	4, 4'-DDE		3.5	U
72-20-8	Endrin		3.5	U
33213-65-9	Endosulfan II		3.5	U
72-54-8	4, 4'-DDD		3.5	U
1031-07-8	Endosulfan Sulfate		3.5	U
50-29-3	4, 4'-DDT		3.5	U
72-43-5	Methoxychlor		18	U
53494-70-5	Endrin Ketone		3.5	U
7421-36-3	Endrin aldehyde		3.5	U
57-74-9	Chlordane		35	U
8001-35-2	Toxaphene		180	U
12674-11-2	Aroclor-1016		35	U
11104-28-2	Aroclor-1221		70	U
11141-16-5	Aroclor-1232		35	U
53469-21-9	Aroclor-1242		35	U
12672-29-6	Aroclor-1248		35	U
11097-69-1	Aroclor-1254		35	U
11096-82-5	Aroclor-1260		35	U
510-15-6	Chlorobenzilate		70	U
2303-16-4	Diallate		350	U
465-73-6	Isodrin		8.8	U
143-50-0	Kepone		35	U
82-68-8	Pentachloronitrobenzene		7.0	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.47

Vt - Volume of total extract (ul) - 10,000

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC BF/BF-005

Case No.: 9510322
Client Name: MK CORP
Account #: MKC70

AENI # 9510322-001

Concentration: Low
Date Sampled: 10/27/95
Date Received: 10/31/95
Date Extract Prepared: 11/3/95
Date Analyzed: 11/15/95
Conc/Dil Factor: 1
Matrix SOIL

GPC Cleanup No
Shaker: Yes
Continuous Liq-Liq Ext.: No
Percent Solid 93.7

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4 D		51	U
SILVEX		51	U
2,4,5-T		51	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) N/A
Ws - Mass of soil extracted (g) 10.43
Vt- Volume of total extract (ul) 10000

FORM I

AENI

Organic Analysis Data Sheet

Organophosphorus

Case No.. 9510322

Project Name MKC70

Client Name MK CORP

Sample Number
NSWC BF/BF-005

AENI # 9510322-001

Concentration: Low

Date Sampled: 10/27/95

Date Received: 10/31/95

Date Ext Prepared 11/9/95

Date Analyzed: 11/16/95

Conc/Dil Factor 1

Method. 8140

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extraction		Yes
Percent Solid	93.7	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		8.9	U
60-51-5	Dimethoate		8.9	U
23950-58-5	Pronamide		0.89	U
298-04-4	Disulfoton		8.9	U
298-00-0	Methyl Parathion		0.89	U
56-38-2	Ethyl Parathion	1.1	0.89	P
52-85-7	Famphur		3.6	U
3689-24-5	Tetraethyl dithiopyrophosphate		89	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.08

Vt - Volume of total extract (ul) - 1,000

FORM I

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC BP/BF-005

Lab Name: AENI Contract: 9510322

Project No.: MKC70 Site: Location Group:

Matrix: (soil/water) SOIL Lab Sample ID #001

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FK139.D

Level: (low/med) LOW Date Received: 10/31/95

% Moisture: not dec. 6 Date Analyzed: 11/8/95

GC Column: CAP. ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	41	B
67-64-1	Acetone	110	U
75-05-8	Acetonitrile	5.3	U
107-13-1	Acrylonitrile	1100	U
107-02-8	Acrolein	1100	U
75-69-4	Trichlorofluoromethane	5.3	U
75-15-0	Carbon Disulfide	5.3	U
75-35-4	1,1-Dichloroethene	5.3	U
75-34-4	1,1-Dichloroethane	5.3	U
540-59 0	trans-1,2-Dichloroethene	5.3	U
67-66-3	Chloroform	5.3	U
107-06-2	1,2-Dichloroethane	5.3	U
75-71-8	Dichlorodifluoromethane	5.3	U
74-88-4	Iodomethane	5.3	U
107-12-0	Propionitrile	5.3	U
107-05 1	Allyl chloride	110	U
78-93-3	2-Butanone	110	U
71-55-6	1,1,1-Trichloroethane	5.3	U
56-23-5	Carbon Tetrachloride	5.3	U
108-05-4	Vinyl Acetate	5.3	U
75-27-4	Bromodichloromethane	5.3	U
78-87-5	1,2-Dichloropropane	5.3	U
10061-01 5	cis-1,3-Dichloropropene	5.3	U
79-01-6	Trichloroethene	5.3	U
71-43-2	Benzene	5.3	U
124-48-1	Dibromochloromethane	5.3	U
10061 02-6	trans 1,3-Dichloropropene	5.3	U
79-00-5	1,1,2-Trichloroethane	5.3	U
75-25-2	Bromoform	5.3	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC 8P/BF-005

Lab Name: AENI Contract: 9510322

Project No. MKC79 Site Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #001

Sample wt/vol 5.0 (gmL) G Lab File ID: FK139.D

Level: (low/med) LOW Date Received: 10/31/95

% Moisture: not dec. 6 Date Analyzed: 11/8/95

GC Column: CAP. ID 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound			Q
126-98-7	Methacrylonitrile		5.3	U
74-95-3	Dibromomethane		5.3	U
106-93-4	1,2-Dibromoethane (EDB)		5.3	U
108-10-1	4-Methyl-2-Pentanone		53	U
591-78-6	2-Hexanone		53	U
127-18-4	Tetrachloroethene		5.3	U
79-34-5	1,1,2,2-Tetrachloroethane		5.3	U
108-88-3	Toluene		5.3	U
108-90-7	Chlorobenzene		5.3	U
100-41-4	Ethylbenzene		5.3	U
100-42-5	Styrene		5.3	U
108-38-3	m + p-Xylene		5.3	U
95-47-6	o-Xylene		5.3	U
80-62-6	Methyl methacrylate		5.3	U
630-20-6	1,1,1,2-Tetrachloroethane		5.3	U
96-18-4	1,2,3-Trichloropropane		5.3	U
110-57-6	trans-1,4-Dichloro-2 butene		27	U
97-63-2	Ethyl methacrylate		5.3	U
76-01-7	Pentachloroethane		5.3	U
96-12-8	1,2-Dibromo-3-chloropropane		5.3	U
78-83-1	Isobutyl Alcohol		5.3	U
126-99-8	Chloroprene	(TIC) *	5.3	U
	3-Chloroprene	(TIC)	5.3	U
123-91-1	1,4-Dioxane	(TIC)	1100	U
Methylene Chloride = Dichloromethane				
Methyl ethyl ketone = 2-Butanone				
Chloroprene = 2-Chloro-1,3-butadiene				
Propionitrile = Ethyl Cyanide				
* = Reported as semiquantitative analysis only.				

FORM I VOA

8260/Appendix IX

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC BP/BF-005RE

Lab Name. AENI Contract: 9510322

Project No: MKC70 Site. Location Group

Matrix: (soil/water) SOIL Lab Sample ID. #001RE

Sample wt/vol: 5.0 (g/mL) G Lab File ID. FK190.D

Level: (low/med) LOW Date Received: 10/31/95

% Moisture: not dec. 6 Date Analyzed. 11/10/95

GC Column: CAP. ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	9	B
67-64-1	Acetone	110	U
75-05-8	Acetonitrile	5.3	U
107-13-1	Acrylonitrile	1100	U
107-02-8	Acrolein	1100	U
75-69-4	Trichlorofluoromethane	5.3	U
75-15-0	Carbon Disulfide	5.3	U
75-35-4	1,1-Dichloroethene	5.3	U
75-34-4	1,1-Dichloroethane	5.3	U
540-59-0	trans-1,2-Dichloroethene	5.3	U
67-66-3	Chloroform	5.3	U
107-06-2	1,2-Dichloroethane	5.3	U
75-71-8	Dichlorodifluoromethane	5.3	U
74-88-4	Iodomethane	5.3	U
107-12-0	Propionitrile	5.3	U
107-05-1	Allyl chloride	110	U
78-93-3	2-Butanone	110	U
71-55-6	1,1,1-Trichloroethane	5.3	U
56-23-5	Carbon Tetrachloride	5.3	U
108-05-4	Vinyl Acetate	5.3	U
75-27-4	Bromodichloromethane	5.3	U
78-87-5	1,2-Dichloropropane	5.3	U
10061-01-5	cis-1,3-Dichloropropene	5.3	U
79-01-6	Trichloroethene	2	J
71-43-2	Benzene	5.3	U
124-48-1	Dibromochloromethane	5.3	U
10061-02-6	trans-1,3-Dichloropropene	5.3	U
79-00-5	1,1,2-Trichloroethane	5.3	U
75-25-2	Bromoform	5.3	U

FORM I VOA

8260/Appendix IX

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
NSWC BP/BF-005RE

Lab Name: AENI Contract: 9510322

Project No.: MKC70 Site: ____ Location: ____ Group: ____

Matrix: (soil/water) SOIL Lab Sample ID: #001RE

Sample wt/vol. 5.0 (g/mL) G Lab File ID: FK190.D

Level: (low/med) LOW Date Received: 10/31/95

% Moisture, not dec 6 Date Analyzed: 11/10/95

GC Column: CAP. ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
126-98-7	Methacrylonitrile	5.3	U
74-95-3	Dibromomethane	5.3	U
106-93-4	1,2-Dibromoethane (EDB)	5.3	U
108-10-1	4-Methyl-2-Pentanone	53	U
591-78-6	2-Hexanone	53	U
127-18-4	Tetrachloroethene	1.4	J
79-34-5	1,1,2,2-Tetrachloroethane	5.3	U
108-88-3	Toluene	5.3	U
108-90-7	Chlorobenzene	5.3	U
100-41-4	Ethylbenzene	5.3	U
100-42-5	Styrene	5.3	U
108-38 3	m + p-Xylene	3.3	J
95-47-6	o-Xylene	1.3	J
80-62 6	Methyl methacrylate	5.3	U
630-20-6	1,1,1,2-Tetrachloroethane	5.3	U
96-18-4	1,2,3-Trichloropropane	5.3	U
110-57 6	trans-1,4-Dichloro-2-butene	27	U
97-63 2	Ethyl methacrylate	5.3	U
76-01-7	Pentachloroethane	5.3	U
96-12-8	1,2-Dibromo-3-chloropropane	5.3	U
78-83-1	Isobutyl Alcohol	5.3	U
126-99-8	Chloroprene (TIC) *	5.3	U
	3-Chloroprene (TIC)	5.3	U
123-91-1	1,4-Dioxane (TIC)	1100	U
	Methylene Chloride - Dichloromethane		
	Methyl ethyl ketone - 2-Butanone		
	Chloroprene - 2-Chloro-1,3-butadiene		
	Propionitrile - Ethyl Cyanide		
	* - Reported as semiquantitative analysis only.		

FORM I VOA 8260/Appendix IX

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BF/BF-005

Lab Name: AENI Contract: 9510322

Lab Code: Case No.: MKC70 SAS No.: SDG No.: BF/BF-

Matrix (soil/water): SOIL Lab Sample ID: 951032201

Level (low/med): LOW Date Received: 10/31/95

% Solids: 93.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.1	U	N	P
7440-38-2	Arsenic	1.9		N	P
7440-39-3	Barium	20.6			P
7440-41-7	Beryllium	0.21	U		P
7440-43-9	Cadmium	0.42	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	4.6		N	P
7440-48-4	Cobalt	2.4			P
7440-50-8	Copper	4.3		E	P
7439-89-6	Iron				NR
7439-92-1	Lead	3.5		E	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.07	U	N	AV
7440-02-0	Nickel	6.2			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.53	U	N	P
7440-22-4	Silver	0.84	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.1	U	N	P
7440-62-2	Vanadium	7.3			P
7440-66-6	Zinc	16.0		EN	P
	Cyanide				NR
7440-31-5	Tin	21.2	U		P
7439-93-2	Lithium				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CLIENT_ID: NSWC_BF/BF-005

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC BP/BF-005

Lab Name: AENI Contract: 9510322

Project No.: MKC10322 Site: ____ Location: ____ Group: ____

Matrix: (soil/water) SOIL Lab Sample ID: #001

Sample wt/vol. 30.9 (g/mL) G Lab File ID: CK083 D

Level: (low/med) LOW Date Received: 10/31/95

% Moisture: 6 decanted: (Y/N): N Date Extracted: 11/3/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/8/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
91-20-3	Naphthalene	340	U
91-57-6	2-Methylnaphthalene	340	U
91-58-7	2-Chloronaphthalene	340	U
208-96-8	Acenaphthylene	340	U
83-32-9	Acenaphthene	340	U
132-64-9	Dibenzofuran	340	U
86-73-7	Fluorene	340	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
56-55-3	Benzo(a)anthracene	340	U
218-01-9	Chrysene	340	U
205-99-2	Benzo(b)fluoranthene	340	U
207-08-9	Benzo(k)fluoranthene	340	U
50-32-8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	340	U
53-70 3	Dibenz(a,h)anthracene	340	U
191 24-2	Benzo(g,h,i)perylene	340	U

American Environmental Network

TL-RTP Project: 34871 — Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC BP/BF-005 — Analysis File: B951476
Client Project: Indiana - Navy Project — Matrix: Soil

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.149	ND
1,2,3,7,8-PeCDD	ND	1.03	ND
1,2,3,4,7,8-HxCDD	ND	0.0745	ND
1,2,3,6,7,8-HxCDD	ND	0.223	ND
1,2,3,7,8,9-HxCDD	ND	0.223	ND
1,2,3,4,6,7,8-HpCDD	ND	0.298	ND
1,2,3,4,6,7,8,9-OCDD	ND	0.383	ND
2,3,7,8-TCDF	ND	0.128	ND
1,2,3,7,8-PeCDF	ND	0.5	ND
2,3,4,7,8-PeCDF	ND	0.607	ND
1,2,3,4,7,8-HxCDF	ND	0.106	ND
1,2,3,6,7,8-HxCDF	ND	0.106	ND
2,3,4,6,7,8-HxCDF	ND	0.266	ND
1,2,3,7,8,9-HxCDF	ND	0.17	ND
1,2,3,4,6,7,8-HpCDF	ND	0.202	ND
2,3,4,7,8,9-HpCDF	ND	0.0319	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.234	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.149
Total PeCDD	ND	1.03
Total HxCDD	ND	0.223
Total HpCDD	ND	0.298
Total TCDF	ND	0.128
Total PeCDF	ND	0.607
Total HxCDF	ND	0.17
Total HpCDF	ND	0.0319

Triangle Laboratories of RTP, Inc.
801 Capitola Drive • Durham, North Carolina 27713
Phone (919) 544-5729 • Fax (919) 544-5431

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Pesticide/PCBs

Case No. ——— 9510322

Account # ——— MKC70

Client Name ——— MK CORP

Sample Number
MSWC BF/BF-006

AEN# # 9510322-002

Concentration ——— Low

Date Sampled: ——— 10/27/95

Date Received ——— 10/31/95

Date Ext Prepared: ——— 11/8/95

Date Analyzed: ——— 11/10/95

Conc/Dil Factor: ——— 1

Method: ——— 8080

GPC Cleanup		Yes	X No
Separatory Funnel Extraction			Yes
Continuous Liquid - Liquid Extraction			Yes
Percent Moisture	10.5		
Matrix	SOIL		

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.8	U
319-85-7	beta-BHC		1.8	U
319-86-8	delta-BHC		1.8	U
58-89-9	gamma-BHC (Lindane)		3.7	U
76-44-8	Heptachlor		1.8	U
309-00-2	Aldrin		1.8	U
1024-57-3	Heptachlor epoxide		1.8	U
959-98-8	Endosulfan I		1.8	U
60-57-1	Dieldrin		3.7	U
72-55-9	4, 4'-DDE		3.7	U
72-20-8	Endrin		3.7	U
33213-65-9	Endosulfan II		3.7	U
72-54-8	4, 4'-DDD		3.7	U
1031-07-8	Endosulfan Sulfate		3.7	U
50-29-3	4, 4'-DDT		3.7	U
72-43-5	Methoxychlor		18	U
53494-70-5	Endrin Ketone		3.7	U
7421-36-3	Endrin aldehyde		3.7	U
57-74-9	Chlordane		37	U
8001-35-2	Toxaphene		180	U
12674-11-2	Aroclor-1016		37	U
11104-28-2	Aroclor-1221		73	U
11141-16-5	Aroclor-1232		37	U
53469-21-9	Aroclor-1242		37	U
12672-29-6	Aroclor-1248		37	U
11097-69-1	Aroclor-1254		37	U
11096-82-5	Aroclor-1260		37	U
510-15-6	Chlorobenzilate		73	U
2303-16-4	Diallate		367	U
465-73-6	Isodrin		9.2	U
143-50-0	Kepone		37	U
82-68-8	Pentachloronitrobenzene		7.3	U

Vi - Volume of extract injected (ul) - _____ 1

Vs - Volume of Water extracted (ml) - _____ N/A

Ws - Weight of sample extracted (g) - _____ 30.46

Vt - Volume of total extract (ul) - _____ 10,000

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC BF/BF-006

Case No.: 9510322
Client Name: MK CORP
Account #: MKC70

AENI # 9510322-002

Concentration: Low
Date Sampled: 10/27/95
Date Received: 10/31/95
Date Extract Prepared: 11/3/95
Date Analyzed: 11/15/95
Conc/Dil Factor: 1
Matrix SOIL

GPC Cleanup No
Shaker: Yes
Continuous Liq-Liq Ext.: No
Percent Solid 89.5

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4 D		55	U
SILVEX		55	U
2,4,5-T		55	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) N/A
Ws - Mass of soil extracted (g) 10.25
Vt- Volume of total extract (ul) 10000

FORM I

AENI

Organic Analysis Data Sheet

Organophosphorus

Case No :——— 9510322

Project Name:——— MKC70

Client Name:——— MK CORP

Sample Number
NSWC BF/BF-006

AENI # 9510322-002

Concentration:——— Low

Date Sampled:——— 10/27/95

Date Received.——— 10/31/95

Date Ext Prepared:— 11/9/95

Date Analyzed.——— 11/16/95

Conc/Dil Factor:——— 1

Method: ——— 8140

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	89.5	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		9.1	U
60-51-5	Dimethoate		9.1	U
23950-58-5	Pronamide		0.91	U
298-04-4	Disulfoton		9.1	U
298-00-0	Methyl Parathion	1.5	0.91	P
56-38-2	Ethyl Parathion		0.91	U
52-85-7	Famphur		3.6	U
3689-24-5	Tetraethyl dithiopyrophosphate		91	U

Vi - Volume of extract injected (ul) - _____ 1

Ve - Volume of Water extracted (ml) - _____ N/A

Ws - Weight of sample extracted (g) - _____ 30.64

Vt - Volume of total extract (ul) - _____ 1 000

FORM I

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC BP/BF-008

Lab Name: AENI Contract: 9510322

Project No.: MKC70 Site: Location: Group:

Matrix. (soil/water): SOIL Lab Sample ID. #002

Sample wt/vol: 5.0 (g/mL) G Lab File ID: FK140.D

Level: (low/med) LOW Date Received: 10/31/95

% Moisture: not dec. 11 Date Analyzed. 11/8/95

GC Column: CAP. ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	19	B
67-64-1	Acetone	110	U
75-05-8	Acetonitrile	5.6	U
107-13-1	Acrylonitrile	1100	U
107-02-8	Acrolein	1100	U
75-69-4	Trichlorofluoromethane	5.6	U
75-15-0	Carbon Disulfide	5.6	U
75-35-4	1,1-Dichloroethene	5.6	U
75-34-4	1,1-Dichloroethane	5.6	U
540-59 0	trans-1,2-Dichloroethene	5.6	U
67-66-3	Chloroform	5.6	U
107-06-2	1,2-Dichloroethane	5.6	U
75-71-8	Dichlorodifluoromethane	5.6	U
74-88-4	Iodomethane	5.6	U
107-12-0	Propionitrile	5.6	U
107-05-1	Allyl chloride	110	U
78-93-3	2-Butanone	110	U
71-55-6	1,1,1-Trichloroethane	5.6	U
56-23-5	Carbon Tetrachloride	5.6	U
108-05-4	Vinyl Acetate	5.6	U
75-27-4	Bromodichloromethane	5.6	U
78-87-5	1,2-Dichloropropane	5 6	U
10061-01-5	cis-1,3-Dichloropropene	5.6	U
79-01-6	Trichloroethene	5.6	U
71-43-2	Benzene	5.6	U
124-48-1	Dibromochloromethane	5.6	U
10061-02-6	trans-1,3-Dichloropropene	5.6	U
79-00-5	1,1,2-Trichloroethane	5.6	U
75-25-2	Bromoform	5.6	U

FORM I VOA 8260/Appendix IX

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC BP/BF-008

Lab Name: AENI Contract: 9510322

Project No.: MKC70 Site _____ Location: _____ Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: #002

Sample wt/vol: 5.0 (gm/L) G Lab File ID: FK140.D

Level: (low/med) LOW Date Received: 10/31/95

% Moisture: not dec. 11 Date Analyzed: 11/8/95

GC Column: CAP. ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound			Q
126-98-7	Methacrylonitrile		5.6	U
74-95-3	Dibromomethane		5.6	U
106-93-4	1,2-Dibromoethane (EDB)		5.6	U
108-10-1	4-Methyl-2-Pentanone		56	U
591-78-6	2-Hexanone		56	U
127-18-4	Tetrachloroethene		5.6	U
79-34-5	1,1,2,2-Tetrachloroethane		5.6	U
108-88-3	Toluene		5.6	U
108-90-7	Chlorobenzene		5.6	U
100-41-4	Ethylbenzene		5.6	U
100-42-5	Styrene		5.6	U
108-38-3	m + p-Xylene		5.6	U
95-47-6	o-Xylene		5.6	U
80-62-6	Methyl methacrylate		5.6	U
630-20-6	1,1,1,2-Tetrachloroethane		5.6	U
96-18-4	1,2,3-Trichloropropane		5.6	U
110-57-6	trans-1,4-Dichloro-2-butene		28	U
97-63-2	Ethyl methacrylate		5.6	U
76-01-7	Pentachloroethane		5.6	U
96-12-8	1,2-Dibromo-3-chloropropane		5.6	U
78-83-1	Isobutyl Alcohol		5.6	U
126-99-8	Chloroprene	(TIC) *	5.6	U
	3-Chloroprene	(TIC)	5.6	U
123-91-1	1,4-Dioxane	(TIC)	1100	U
Methylene Chloride - Dichloromethane				
Methyl ethyl ketone - 2-Butanone				
Chloroprene - 2 Chloro-1,3-butadiene				
Propionitrile - Ethyl Cyanide				
* - Reported as semiquantitative analysis only.				

FORM I VOA

8260/Appendix IX

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BF/BF-006

Name: AENI Contract: 9510322

Lab Code: Case No.: MKC70 SAS No.: SDG No.: BF/BF-

Matrix (soil/water): SOIL Lab Sample ID: 951032202

Level (low/med): LOW Date Received: 10/31/95

% Solids: 89.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony	2.2	U	N	P
7440-38-2	Arsenic	1.8		N	P
7440-39-3	Barium	26.7			P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	0.45	U		P
7440-70-2	Calcium				NR
7440-47-3	Chromium	5.6		N	P
7440-48-4	Cobalt	3.2			P
7440-50-8	Copper	4.8		E	P
7439-89-6	Iron				NR
7439-92-1	Lead	3.9		E	P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury	0.00	U	N	AV
7440-02-0	Nickel	6.6			P
7440-09-7	Potassium				NR
7782-49-2	Selenium	0.56	U	N	P
7440-22-4	Silver	0.89	U		P
7440-23-5	Sodium				NR
7440-28-0	Thallium	1.1	U	N	P
7440-62-2	Vanadium	8.6			P
7440-66-6	Zinc	17.7		EN	P
	Cyanide				NR
7440-31-5	Tin	21.5	U		P
7439-93-2	Lithium				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CLIENT_ID: NSWC_BF/BF-006

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC BP/BF-006

Lab Name: AENI Contract: 9510322

Project No.: MKC10322 Site: Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: #002

Sample wt/vol: 30.4 (g/mL) G Lab File ID: CK084 D

Level: (low/med) LOW Date Received: 10/31/95

% Moisture: 10 decanted: (Y/N): N Date Extracted: 11/3/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/8/95

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units. (ug/L or ug/Kg) ug/Kg	Q
91-20-3	Naphthalene	370	U
91-57-6	2-Methylnaphthalene	370	U
91-58 7	2-Chloronaphthalene	370	U
208-96-8	Acenaphthylene	370	U
83-32-9	Acenaphthene	370	U
132-64-9	Dibenzofuran	370	U
86-73-7	Fluorene	370	U
85-01-8	Phenanthrene	370	U
120-12-7	Anthracene	370	U
206-44-0	Fluoranthene	370	U
129-00-0	Pyrene	370	U
56-55-3	Benzo(a)anthracene	370	U
218-01-9	Chrysene	370	U
205-99 2	Benzo(b)fluoranthene	370	U
207-08-9	Benzo(k)fluoranthene	370	U
50-32-8	Benzo(a)pyrene	370	U
193-39 5	Indeno(1,2,3-cd)pyrene	370	U
53 70-3	Dibenz(a,h)anthracene	370	U
191-24-2	Benzo(g,h,i)perylene	370	U

American Environmental Network

TL-RTP Project: 34871 — Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC BP/BF-006 — Analysis File: B951477
Client Project: Indiana - Navy Project — Matrix: Soil

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.156	ND
1,2,3,7,8-PeCDD	ND	1.08	ND
1,2,3,4,7,8-HxCDD	ND	0.0778	ND
1,2,3,6,7,8-HxCDD	ND	0.233	ND
1,2,3,7,8,9-HxCDD	ND	0.233	ND
1,2,3,4,6,7,8-HpCDD	ND	0.311	ND
1,2,3,4,6,7,8,9-OCDD	ND	0.4	ND
2,3,7,8-TCDF	ND	0.133	ND
1,2,3,7,8-PeCDF	ND	0.522	ND
2,3,4,7,8-PeCDF	ND	0.633	ND
1,2,3,4,7,8-HxCDF	ND	0.111	ND
1,2,3,6,7,8-HxCDF	ND	0.111	ND
2,3,4,6,7,8-HxCDF	ND	0.278	ND
1,2,3,7,8,9-HxCDF	ND	0.178	ND
2,3,4,6,7,8-HpCDF	ND	0.211	ND
1,2,3,4,7,8,9-HpCDF	ND	0.0333	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.244	ND

Definitions:

Conc. - The concentration of the specific analyte in the units shown.

DL - The detection limit of the specific analyte in the units shown.

Blank - The concentration of the method blank.

ND - (Non-Detect) The concentration of the analyte is less than the detection limit.

Total Analytes	Conc. (ppb)	DL (ppb)
Total TCDD	ND	0.156
Total PeCDD	ND	1.08
Total HxCDD	ND	0.233
Total HpCDD	ND	0.311
Total TCDF	ND	0.133
Total PeCDF	ND	0.633
Total HxCDF	ND	0.178
Total HpCDF	ND	0.0333

Triangle Laboratories of RTP, Inc.
801 Capitola Drive • Durham, North Carolina 27713

WASTE CHARACTERIZATION DATA

U.S EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

24/00-051

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 950922 SAS No.: _____ SDG No.: 509223

Matrix (soil/water): WATER Lab Sample ID: 950922301

Level (low/med): LOW__ Date Received: 09/20/95

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	20.0	U		P_
7440-39-3	Barium___	1090			P_
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__	40.0	U		P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	100	U		P_
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____	100	U		P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.20	U		AV
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_	20.0	U		P_
7440-22-4	Silver___	50.0	U		P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
	Cyanide__				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

CLIENT_ID:__NSWC-24/00-051

AMERICAN ENVIRONMENTAL NETWORK, INC

Organic Analysis Data Sheet

TCLP PESTICIDES

Case No ——— 9509223

Project Name ——— NSWC CRANE

Client Name ——— MK CORP

Sample Number
NSWC 24/00-051

AENI # 9509223-001

Concentration: ——— Low

Date Sampled: ——— 9/18/95

Date Received: ——— 9/20/95

Date Ext Prepared: ——— 9/22/95

Date Analyzed: ——— 9/27/95

Conc/Dil Factor ——— 1

Method ——— 8080

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		X Yes
Continuous Liquid - Liquid Extration		Yes
Percent Moisture	N/A	
Matrix:	LEACH	

CAS Number	Compound	Concentration ug/L	Detection Limit	Qualifier
58-89-9	gamma-BHC (Lindane)		0.20	U
75-44-8	Heptachlor		0.10	U
1024-57-3	Heptachlor epoxide		0.10	U
72-20-8	Endrin		0.20	U
72-43-5	Methoxychlor		1.0	U
5103-71-9	alpha-Chlordane		0.10	U
5103-74-2	gamma-Chlordane		0.10	U
8001-35-2	Toxaphene		10	U

Vi - Volume of extract injected (ul) - _____ 1

Vs - Volume of Water extracted (ml) - _____ 500

Ws - Weight of sample extracted (g) - _____ N/A

Vt - Volume of total extract (ul) - _____ 10 000

FORM I

ORGANIC ANALYSIS DATA SHEET

Client: MK Corp
Project: NSWC Crane 4324-009-007-30
Analysis EXPLOSIVES
Method: 8330
Instrument: HPLC SYS 2

NSWC-24/00-051
Sample:

Matrix: SOIL
Sample. (g) 2.0
Final Volume: (L) 0.02
(%) Moisture: 2
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID. L9509223-001
Lab Name AENI - MD
Contract: 9509223
Date Sampled. 09/18/95
Date Received. 09/20/95
Date Prepared. 09/22/95
Date Analyzed: 09/22/95
Time Analyzed: 22:05

Compound	Concentration (mg/Kg)	Detection Limit	Qualifier
HMX		0.29	U
RDX		0.35	U
TNB		0.23	U
TETRYL		0.26	U
DNB		0.19	U
4-Am-DNT		0.33	U
TNT		0.22	U
2-Am-DNT		0.33	U
NB		0.17	U
2,6-DNT		0.24	U
2,4-DNT		0.19	U
O-NT		0 26	U
P-NT		0 18	U
M-NT		0 28	U

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730 8525 Fax (410) 997-2588

Report Number: 9509223
Report To. MK Corp
Project: #4324-0009.007.30
Date: September 29, 1995
Sample ID: NSWC-24/00-051, dated 09/18/95

Parameter	Method	Result	Date Analyzed
Corrosivity (as pH)	SW846 9045	8.7	09/25/95
Flashpoint, °F	SW846 1010	>203	09/26/95
Reactive Cyanide, mg/Kg	(1)	<2	09/25/95
Reactive Sulfide, mg/Kg	(2)	48	09/25/95

(1) SW846 Chapter 7.3.3
(2) SW846 Chapter 7.3.4

gchem1003

AMERICAN ENVIRONMENTAL NETWORK INC.
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC-24/00-051

Case No.. 9509223
Client Name: MK CORP
Project Name: NSWC CRANE #4324-0009-007-30

AENI # 9509223-001

Concentration. Low
Date Sampled: 9/18/95
Date Received: 9/20/95
Date Extract Prepared: 9/25/95
Date Analyzed 9/26/95
Conc/Dil Factor: 1
Matrix LEACH

GPC Cleanup No
Separatory Funnel Ext.: Yes
Continuous Liq-Liq Ext.. No
Percent Moisture (decanted) N/A

Compound	Concentration ug/L	Reporting Limit	Qualifier
2,4 D		0 54	U
SILVEX		0.54	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) 460
Ws - Mass of soil extracted (g) N/A
Vt- Volume of total extract (ul) 5000

FORM I

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC 24/00 051

Lab Name: AENI MD Contract: MKC

Project No.: 9509223 Site: NSWC Location: CRANE Group:

Matrix: (soil/water) SOIL Lab Sample ID: #001

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E1396 D

Level: (low/med) Date Received: 9/20/95

% Moisture. not dec. 100 Date Analyzed: 9/29/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L of Leach	Q
75-01-4	Vinyl Chloride	100	UD
75-35-4	1,1 Dichloroethene	50	UD
67-66-3	Chloroform	50	UD
107-06-2	1,2 Dichloroethane	50	UD
78-93 3	2 Butanone	1000	UD
56-23-5	Carbon Tetrachloride	50	UD
79-01-6	Trichloroethene	50	UD
71-43-2	Benzene	50	UD
127 18-4	Tetrachloroethene	50	UD
108-90-7	Chlorobenzene	50	UD

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24 00 051

Lab Name: AENI MD Contract: MKC

Project No.: 9509223 Site: NSWC Location: CRANE Group:

Matrix: (soil/water) SOIL Lab Sample ID: #001

Sample wt/vol. 500.0 (g/mL) ML Lab File ID: 01363.D

Level: (low/med) Date Received: 9/20/95

% Moisture: decanted. (Y/N): N Date Extracted: 9/23/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/26/95

Injection Volume: 1.0 (uL) Dilution Factor: 2.0

GPC Cleanup. (Y/N) N pH:

Concentration Units: (ug/L or ug/Kg) ug/L of Leach

CAS No.	Compound		Q
110-86-1	Pyridine	40	UD
106-46-7	1,4-Dichlorobenzene	40	UD
95-48-7	2-Methylphenol	40	UD
108-39-4	3-Methylphenol	40	UD
67 72-1	Hexachloroethane	40	UD
106-44-5	4-Methylphenol	40	UD
98-95-3	Nitrobenzene	40	UD
87-68-3	Hexachlorobutadiene	40	UD
88-06-2	2,4,6 Trichlorophenol	40	UD
95-95-4	2,4,5-Trichlorophenol	200	UD
121-14-2	2,4-Dinitrotoluene	40	UD
118-74-1	Hexachlorobenzene	40	UD
87-86-5	Pentachlorophenol	200	UD

ORGANIC ANALYSIS DATA SHEET

Client MK Corp
Project NSWC Crane 4324-009-007-30
Analysis EXPLOSIVES
Method 8330
Instrument. HPLC SYS 2

NSWC-24/00-052
Sample

Matrix. SOIL
Sample. (g) 2 0
Final Volume: (L) 0 02
(%) Moisture. 1.3
Dilution Factor 1
Level (low/med): LOW

Lab Sample ID. L9509223-002
Lab Name: AENI - MD
Contract: 9509223
Date Sampled: 09/18/95
Date Received 09/20/95
Date Prepared. 09/22/95
Date Analyzed. 09/22/95
Time Analyzed. 23 08

Compound	Concentration (mg/Kg)	Detection Limit	Qualifier
HMX		0.28	U
RDX		0.34	U
TNB		0.23	U
TETRYL		0 25	U
DNB		0.19	U
4-Am-DNT		0.32	U
TNT		0.22	U
2-Am-DNT		0.32	U
NB		0.17	U
2,6-DNT		0.24	U
2,4-DNT		0.19	U
O-NT		0 25	U
P-NT		0.18	U
M-NT		0.27	U

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

TCLP PESTICIDES

Case No.: 9509223

Project Name: NSWC CRANE

Client Name MK CORP

Sample Number
NSWC 24/00-052

AENI # 9509223-002

Concentration: Low

Date Sampled: 9/18/95

Date Received: 9/20/95

Date Ext Prepared: 9/22/95

Date Analyzed: 9/27/95

Conc/Dil Factor: 1

Method: 8080

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		X Yes
Continuous Liquid - Liquid Extration		Yes
Percent Moisture	N/A	
Matrix:	LEACH	

CAS Number	Compound	Concentration ug/L	Detection Limit	Qualifier
58-89-9	gamma-BHC (Lindane)		0.20	U
75-44-8	Heptachlor		0.10	U
1024-57-3	Heptachlor epoxide		0.10	U
72-20-8	Endrin		0.20	U
72-43-5	Methoxychlor		1.0	U
5103-71-9	alpha-Chlordane		0.10	U
5103-74-2	gamma-Chlordane		0.10	U
8001-35-2	Toxaphene		10	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - 500

Ws - Weight of sample extracted (g) - N/A

Vt - Volume of total extract (ul) - 10 000

U S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24/00-052

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No. 950922 SAS No.: _____ SDG No.: 509223

Matrix (soil/water): WATER Lab Sample ID: 950922302

Level (low/med): LOW__ Date Received: 09/20/95

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_		_		NR
7440-36-0	Antimony_		_		NR
7440-38-2	Arsenic__	20.0	U		P_
7440-39-3	Barium___	940	_		P_
7440-41-7	Beryllium		_		NR
7440-43-9	Cadmium__	40.0	U		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_	100	U		P_
7440-48-4	Cobalt___		_		NR
7440-50-8	Copper___		_		NR
7439-89-6	Iron_____		_		NR
7439-92-1	Lead_____	100	U		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury__	0.20	U		AV
7440-02-0	Nickel___		_		NR
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	20.0	U		P_
7440-22-4	Silver___	50.0	U		P_
7440-23-5	Sodium___		_		NR
7440-28-0	Thallium_		_		NR
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc_____		_		NR
	Cyanide__		_		NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

CLIENT_ID:__NSWC-24/00-052

AMERICAN ENVIRONMENTAL NETWORK, INC
9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
410) 730-8525 Fax (410) 997-2586

Report Number: 9509223
Report To: MK Corp
Project: #4324-0009.007.30
Date: September 29, 1995
Sample ID: NSWC-24/00-052, dated 09/18/95

Parameter	Method	Result	Date Analyzed
Corrosivity (as pH)	SW846 9045	9.1	09/25/95
Flashpoint, °F	SW846 1010	>203	09/27/95
Reactive Cyanide, mg/Kg	(1)	<2	09/25/95
Reactive Sulfide, mg/Kg	(2)	<40	09/25/95

(1) SW846 Chapter 7.3.3
(2) SW846 Chapter 7.3.4

AMERICAN ENVIRONMENTAL NETWORK INC.
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC-24/00-052

Case No.: 9509223
Client Name: MK CORP
Project Name: NSWC CRANE #4324-0009-007-30

AEN# # 9509223-002

Concentration: Low
Date Sampled: 9/18/95
Date Received: 9/20/95
Date Extract Prepared: 9/25/95
Date Analyzed: 9/26/95
Conc/Dil Factor: 1
Matrix: LEACH

GPC Cleanup: No
Separatory Funnel Ext.: Yes
Continuous Liq-Liq Ext.: No
Percent Moisture (decanted): N/A

Compound	Concentration ug/L	Reporting Limit	Qualifier
2,4 D		0.53	U
SILVEX		0.53	U

Vi - Volume of extract injected (ul): 1
Vs - Volume of water extracted (ml): 470
Ws - Mass of soil extracted (g): N/A
Vt - Volume of total extract (ul): 5000

FORM I

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC 24/00 052

Lab Name: AENI MD Contract: MKC

Project No.: 9509223 Site: NSWC Location: CRANE Group:

Matrix: (soil/water) SOIL Lab Sample ID: #002

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EI397.D

Level: (low/med) Date Received: 9/20/95

% Moisture: not dec. 100 Date Analyzed: 9/29/95

GC Column: CAP ID. 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume. (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L of Leach	Q
75-01-4	Vinyl Chloride	100	UD
75-35-4	1,1-Dichloroethene	50	UD
67-66-3	Chloroform	50	UD
107-06-2	1,2-Dichloroethane	50	UD
78-93-3	2 Butanone	1000	UD
56-23 5	Carbon Tetrachloride	50	UD
79-01 6	Trichloroethene	50	UD
71-43 2	Benzene	50	UD
127-18-4	Tetrachloroethene	50	UD
108-90-7	Chlorobenzene	50	UD

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24:00 052

Lab Name: AENI MC Contract: MKC

Project No.: 9509223 Site: NSWC Location: CRANE Group:

Matrix: (soil/water): SOIL Lab Sample ID: #002

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: 01364.D

Level (low/med): Date Received: 9/20/95

% Moisture: decanted: (Y/N): N Date Extracted: 9/23/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/26/95

Injection Volume: 1.0 (uL) Dilution Factor: 2.0

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

CAS No.	Compound	Concentration Units. (ug/L or ug/Kg) ug/L of Leach	Q
110-86-1	Pyridine	40	UD
106-46-7	1,4-Dichlorobenzene	40	UD
95-48-7	2-Methylphenol	40	UD
108-39-4	3-Methylphenol	40	UD
67-72-1	Hexachloroethane	40	UD
106-44-5	4 Methylphenol	40	UD
98 95-3	Nitrobenzene	40	UD
87-68-3	Hexachlorobutadiene	40	UD
88-06-2	2,4,6 Trichlorophenol	40	UD
95-95-4	2,4,5-Trichlorophenol	200	UD
121-14-2	2,4 Dinitrotoluene	40	UD
118-74-1	Hexachlorobenzene	40	UD
87 86-5	Pentachlorophenol	200	UD

ORGANIC ANALYSIS DATA SHEET

Client: MK Corp
Project: NSWC Crane 4324-009-007-30
Analysis: EXPLOSIVES
Method: 8330
Instrument: HPLC SYS 2

NSWC-24/00-053
Sample:

Matrix: SOIL
Sample: (g) 2.0
Final Volume: (L) 0.02
(%) Moisture: 2
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID: L9509223-003
Lab Name: AENI - MD
Contract: 9509223
Date Sampled: 09/18/95
Date Received: 09/20/95
Date Prepared: 09/22/95
Date Analyzed: 09/23/95
Time Analyzed: 0:10

Compound	Concentration (mg/Kg)	Detection Limit	Qualifier
HMX		0.29	U
RDX		0.35	U
TNB		0.23	U
TETRYL		0.26	U
DNB		0.19	U
4-Am-DNT		0.33	U
TNT		0.22	U
2-Am-DNT		0.33	U
NB		0.17	U
2,6-DNT		0.24	U
2,4-DNT		0.19	U
O-NT		0.26	U
P-NT		0.18	U
M-NT		0.28	U

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

TCLP PESTICIDES

Case No: 9509223

Project Name: NSWC CRANE

Client Name: MK CORP

Sample Number
NSWC 24/00-053

AENI # 9509223-003

Concentration: Low

Date Sampled: 9/18/95

Date Received: 9/20/95

Date Ext Prepared: 9/22/95

Date Analyzed: 9/27/95

Conc/Dil Factor: 1

Method: 8080

GPC Cleanup	Yes	X No
Separatory Funnel Extraction		X Yes
Continuous Liquid - Liquid Extration		Yes
Percent Moisture	N/A	
Matrix	LEACH	

CAS Number	Compound	Concentration ug/L	Detection Limit	Qualifier
58-89-9	gamma-BHC (Lindane)		0.20	U
75-44-8	Heptachlor		0.10	U
1024-57-3	Heptachlor epoxide		0.10	U
72-20-8	Endrin		0.20	U
72-43-5	Methoxychlor		1.0	U
5103-71-9	alpha-Chlordane		0.10	U
5103-74-2	gamma-Chlordane		0.10	U
8001-35-2	Toxaphene		10	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - 500

Ws - Weight of sample extracted (g) - N/A

Vt - Volume of total extract (ul) - 10,000

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24/00-053

Lab Name. AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 950922 SAS No.: _____ SDG No.: 509223

Matrix (soil/water): WATER Lab Sample ID: 950922303

Level (low/med): LOW__ Date Received. 09/20/95

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_		_		NR
7440-36-0	Antimony_		_		NR
7440-38-2	Arsenic__	20.0	U		P_
7440-39-3	Barium___	1210	_		P_
7440-41-7	Beryllium		_		NR
7440-43-9	Cadmium__	40.0	U		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_	100	U		P_
7440-48-4	Cobalt___		_		NR
7440-50-8	Copper___		_		NR
7439-89-6	Iron____		_		NR
7439-92-1	Lead____	100	U		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury__	0.20	U		AV
7440-02-0	Nickel___		_		NR
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	20.0	U		P_
7440-22-4	Silver___	50.0	U		P_
7440-23-5	Sodium___		_		NR
7440-28-0	Thallium_		_		NR
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc____		_		NR
	Cyanide__		_		NR
			_		

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
CLIENT_ID: __NSWC-24/00-053

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

Report Number: 9509223
Report To: MK Corp
Project: #4324-0009.007.30
Date: September 29, 1995
Sample ID: NSWC-24/00-053, dated 09/18/95

Parameter	Method	Result	Date Analyzed
Corrosivity (as pH)	SW846 9045	9.0	09/26/95
Flashpoint, °F	SW846 1010	>203	09/27/95
Reactive Cyanide, mg/Kg	(1)	<2	09/26/95
Reactive Sulfide, mg/Kg	(2)	<40	09/26/95

(1) SW846 Chapter 7.3.3
(2) SW846 Chapter 7.3.4

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AMERICAN ENVIRONMENTAL NETWORK INC.
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC-24/00-053

Case No.. 9509223
Client Name: MK CORP
Project Name: NSWC CRANE #4324-0009-007-30

AENI # 9509223-003

Concentration: Low
Date Sampled: 9/18/95
Date Received: 9/20/95
Date Extract Prepared: 9/25/95
Date Analyzed: 9/26/95
Conc/Dil Factor: 1
Matrix LEACH

GPC Cleanup No
Separatory Funnel Ext.: Yes
Continuous Liq-Liq Ext.: No
Percent Moisture (decanted) N/A

Compound	Concentration ug/L	Reporting Limit	Qualifier
2,4 D		0.52	U
SILVEX		0.52	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) 480
Ws - Mass of soil extracted (g) N/A
Vt- Volume of total extract (ul) 5000

FORM I

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC-24/00-053

Lab Name: AENI MO Contract: MKC

Project No.: 9509223 Site: NSWC Location: CRANE Group:

Matrix: (soil/water) SOIL Lab Sample ID: #003

Sample wt/vol. 5.0 (g/mL) ML Lab File ID: EI398.D

Level: (low/med) Date Received: 9/20/95

% Moisture: not dec. 100 Date Analyzed: 9/29/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L of Leach	Q
75-01-4	Vinyl Chloride	100	UD
75-35-4	1,1 Dichloroethene	50	UD
67-66-3	Chloroform	50	UD
107-06-2	1,2 Dichloroethane	50	UD
78-93-3	2 Butanone	1000	UD
56-23-5	Carbon Tetrachloride	50	UD
79-01-6	Trichloroethene	50	UD
71-43-2	Benzene	50	UD
127-18-4	Tetrachloroethene	50	UD
108-90-7	Chlorobenzene	50	UD

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 24 00 053

Lab Name: AENI MD Contract: MKC

Project No.: 9509223 Site: NSWC Location: CRANE Group: _____

Matrix: (soil/water) SOIL Lab Sample ID: #003

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: 01365.D

Level: (low/med) _____ Date Received: 9/20/95

% Moisture: _____ decanted (Y/N): N Date Extracted: 9/23/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/26/95

Injection Volume: 1.0 (uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: _____

CAS No.	Compound	Concentration Units. (ug/L or ug/Kg) ug/L of Leach	Q
110-86-1	Pyridine	40	UD
106-46-7	1,4-Dichlorobenzene	40	UD
95-48-7	2-Methylphenol	40	UD
108-39-4	3-Methylphenol	40	UD
67-72-1	Hexachloroethane	40	UD
106-44-5	4-Methylphenol	40	UD
98-95-3	Nitrobenzene	40	UD
87-68-3	Hexachlorobutadiene	40	UD
88-06-2	2,4,6 Trichlorophenol	40	UD
95-95-4	2,4,5-Trichlorophenol	200	UD
121-14-2	2,4-Dinitrotoluene	40	UD
118-74-1	Hexachlorobenzene	40	UD
87-86-5	Pentachlorophenol	200	UD

ORGANIC ANALYSIS DATA SHEET

Client: MK Corp
Project NSWC Crane 4324-009-007-30
Analysis EXPLOSIVES
Method 8330
Instrument HPLC SYS 2

NSWC-24/00-054
Sample

Matrix SOIL
Sample (g) 2 2
Final Volume (L) 0 02
(%) Moisture: 1 6
Dilution Factor: 1
Level (low/med) LOW

Lab Sample ID: L9509223-004
Lab Name AENT - MD
Contract. 9509223
Date Sampled: 09/18/95
Date Received: 09/20/95
Date Prepared: 09/22/95
Date Analyzed. 09/23/95
Time Analyzed: 1.12

Compound	Concentration (mg/Kg)	Detection Limit	Qualifier
HMX		0.26	U
RDX		0.32	U
TNB		0.22	U
TETRYL		0.23	U
DNB		0.18	U
4-Am-DNT		0.30	U
TNT		0.21	U
2-Am-DNT		0.30	U
NB		0.16	U
2,6-DNT		0.22	U
2,4-DNT		0.18	U
O-NT		0 23	U
P-NT		0 17	U
M-NT		0 25	U

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

24/00-054

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 950922 SAS No.: _____ SDG No.: 509223

Matrix (soil/water): WATER Lab Sample ID: 950922304

Level (low/med): LOW__ Date Received: 09/20/95

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_		_		NR
7440-36-0	Antimony_		_		NR
7440-38-2	Arsenic__	20.0	U		P_
7440-39-3	Barium___	887	_		P_
7440-41-7	Beryllium		_		NR
7440-43-9	Cadmium__	40.0	U		P_
7440-70-2	Calcium__		_		NR
7440-47-3	Chromium_	100	U		P_
7440-48-4	Cobalt___		_		NR
7440-50-8	Copper___		_		NR
7439-89-6	Iron_____		_		NR
7439-92-1	Lead_____	100	U		P_
7439-95-4	Magnesium		_		NR
7439-96-5	Manganese		_		NR
7439-97-6	Mercury__	0.20	U		AV
7440-02-0	Nickel___		_		NR
7440-09-7	Potassium		_		NR
7782-49-2	Selenium_	20.0	U		P_
7440-22-4	Silver___	50.0	U		P_
7440-23-5	Sodium___		_		NR
7440-28-0	Thallium_		_		NR
7440-62-2	Vanadium_		_		NR
7440-66-6	Zinc_____		_		NR
_____	Cyanide__		_		NR

Color Before. _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

CLIENT_ID:__NSWC-24/00-054

FORM I - IN

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

Report Number: 9509223
Report To: MK Corp
Project: #4324-0009.007.30
Date: September 29, 1995
Sample ID: NSWC-24/00-054, dated 09/18/95

Parameter	Method	Result	Date Analyzed
Corrosivity (as pH)	SW846 9045	9.9	09/26/95
Flashpoint, °F	SW846 1010	>203	09/27/95
Reactive Cyanide, mg/Kg	(1)	<2	09/26/95
Reactive Sulfide, mg/Kg	(2)	<40	09/26/95

(1) SW846 Chapter 7.3.3
(2) SW846 Chapter 7.3.4

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AMERICAN ENVIRONMENTAL NETWORK INC.
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC-24/00-054

Case No.: 9509223
Client Name: MK CORP
Project Name: NSWC CRANE #4324-0009-007-30

AENI # 9509223-004

Concentration: Low
Date Sampled: 9/18/95
Date Received: 9/20/95
Date Extract Prepared: 9/25/95
Date Analyzed: 9/26/95
Conc/Dil Factor: 1
Matrix: LEACH

GPC Cleanup: No
Separatory Funnel Ext.: Yes
Continuous Liq-Liq Ext.: No
Percent Moisture (decanted): N/A

Compound	Concentration ug/L	Reporting Limit	Qualifier
2,4 D		0.52	U
SILVEX		0.52	U

Vi - Volume of extract injected (ul): 1
Vs - Volume of water extracted (ml): 480
Ws - Mass of soil extracted (g): N/A
Vt - Volume of total extract (ul): 5000

FORM I

SEMI VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC-24/00 054

Lab Name: AENI MD Contract: MKC

Project No.: 9509223 Site: NSWC Location: CRANE Group:

Matrix: (soil/water) SOIL Lab Sample ID: #004

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: DI366.D

Level: (low/med) Date Received: 9/20/95

% Moisture: decanted: (Y/N): N Date Extracted: 9/23/94

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/26/95

Injection Volume: 1.0 (uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L of Leach	Q
110-86-1	Pyridine	40	UD
106-46-7	1,4-Dichlorobenzene	40	UD
95-48-7	2-Methylphenol	40	UD
108-39-4	3-Methylphenol	40	UD
67-72-1	Hexachloroethane	40	UD
106-44-5	4-Methylphenol	40	UD
98-95-3	Nitrobenzene	40	UD
87-68-3	Hexachlorobutadiene	40	UD
88-06-2	2,4,6-Trichlorophenol	40	UD
95-95-4	2,4,5-Trichlorophenol	200	UD
121-14-2	2,4-Dinitrotoluene	40	UD
118-74-1	Hexachlorobenzene	40	UD
87-86-5	Pentachlorophenol	200	UD

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

NSWC-24/00-054

Lab Name: AENI MO Contract: MKC

Project No.: 9509223 Site: NSWC Location: CRANE Group:

Matrix: (soil/water) SOIL Lab Sample ID: #004

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E1399.D

Level: (low/med) Date Received: 9/20/95

% Moisture: not dec. 100 Date Analyzed: 9/29/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L of Leach	Q
75-01-4	Vinyl Chloride	100	UD
75-35-4	1,1 Dichloroethene	50	UD
67-66-3	Chloroform	50	UD
107-06-2	1,2 Dichloroethane	50	UD
78-93-3	2 Butanone	1000	UD
56-23-5	Carbon Tetrachloride	50	UD
79-01-6	Trichloroethene	50	UD
71-43-2	Benzene	50	UD
127-18-4	Tetrachloroethene	50	UD
108-90-7	Chlorobenzene	50	UD

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NOV 08 1995

MK-CRANE

November 6, 1995

MEMORANDUM

From. 09510
To: OICC (Brent Robertson)

Subj: MORRISON KNUDSEN (MK) STATUS

1. Enclosure (1) is an update of needs and decisions pertaining to MK. This is provided to keep you up to date as to our involvement with MK an abreast of any pending problems.

2. The landfill site for the biofacility was approved October 30, 1995. A copy of the approval is provided as enclosure (2). Call me at x-6160 if you have any questions.

Thomas J. Brent

Copy to:
095
09A
SOUTHNAVFACENGCOM (Code 1864)
MK (Steve Downey)

NSWC - CRANE			
4324-0009			
PROJECT MEMBER	ACT	INFO	INIT
PROJECT MANAGER	X		
PROJECT ENGINEER			
GNL SUPT			
SAFETY AND HEALTH			
QA/QC SUPERVISOR			
PROJECT CONTROLS			
FIELD ENGINEERING	X		
PMO-CHARLESTON			
FILE: 11.0815			
FILE: 11.0120			
FILE: 12.0820.075			

Done

Done

Status and Needs Pertaining To MK

The following are decision items concerning MK, as well as issues to be addressed.

1. **Sludge Drying Bed B:** On Tuesday, October 24, 1995, Steve Downey asked if MK's subcontractor could backfill SWMU #24/00 (Sludge Drying Bed B). I asked if MK had received confirmation analysis for pesticides. Since the results were not back from the lab, I stated that we needed to wait for the analysis prior to backfillling in case additional soils would need to be removed. I was subsequently on leave the rest of the week. On Thursday, October 26, 1995, Steve Downey asked Chris Freeman if they could go ahead and backfill the site as MK did not want to incur charges from the subcontractor for holding them up. Chris reiterated that we needed to review the analysis prior to approving the backfilling of the site. MK expected to receive the analysis Thursday evening, but by Friday morning, the results were not in. Steve Downey told Chris he would talk to Adrienne about approval for backfilling. Adrienne gave approval to Steve Downey to backfill the site on Thursday October 26, 1995, and backfilling was begun. On Tuesday, October 31, 1995, I was provided a copy of the confirmatory pesticide analysis which showed DDT at a level higher than the initial characterization sample.

The two hits of DDT are in the same locale. As such, the top of the backfill material needs to be excavated to within six inches of the original ground surface and set aside. MK should then excavate the contaminated area and take the material to the NSWC Crane landfill under the existing special waste permit. MK will need to take additional confirmation samples and wait for results prior to backfilling the latest excavation.

2. **Analytical Issues:** MK needs to address the following analytical deficiencies:

   a. Need results and locations for samples 24/00 1-43.

   b. What are the differences between 24/00 samples 47 & 51, 48 & 52, 49 & 50, and 53 & 54 (e.g., depth, characterization vs confirmation, etc.)?

   c. Need locations for samples 24/00 44-46.

   d. Note that samples 24/00 67 & 68 were duplicates. However, 67 showed hits for Toluene and Endosulfan - not present in 68. Sample 68 showed hits for 4-methyl-2-pentanone, 4,4'-DDE, 4,4'-DDT, and Chlordane - not present in 67.

   e. Need locations for samples 16/00 1-21 and 39-43

   f. Analytical form for sample 43 indicates this is a soil sample, but supposedly it is a liquid.

g. Attachment (1) is a matrix showing sample results received for 16/16 and 24/00. Note the following:

i. There is quite a bit of inconsistency in what analytical parameters are run at a site. For example, samples 13-19 at site 16/16 reported analysis for metals, a partial list of VOCs, PCBs, and explosives. However, samples 22-34 for the same site reported a complete list of VOCs plus pesticides. Why the differences?

ii. There are numerous data gaps (e.g., 16/16 5-12, and 24/00 1-43).

The sampling approach and rational needs to be looked at to ensure consistency. Furthermore, the current sampling approach does not match Table 1 of the Sampling and Analysis plan (e.g., VOCs sampling is not listed for 16/16). Obviously, some times deviation from the approved sampling plan is necessary depending on field activities, however, deviation from Table 1 should be approved, and the reason for deviation clearly understood, beforehand. Finally, it would greatly facilitate interpretation of results if MK would provide a short (one to two sentences) of what the sample is and why it was taken, along with a map showing the sampling location.

h. The all too persistent recurrence of hits of the volatiles Methylene Chloride and Acetone, as well as frequent detections of Tetrachloroethene, Trichloroethene, and Toluene, clearly indicate laboratory QA/QC problems. However, the laboratory is not qualifying the analysis to indicate that they are having a problem with these analyses (e.g., that the analytes are found in associated lab or field blanks - a "B" or "X" qualifier).

3. We are still waiting for samples' results from the tanks at 16/16. Results of PCB analysis are necessary before we can sign the 1348 approving turn-in to DRMO.

4. At the conclusion of the 16/16 job, the Supply Department will no longer allow our use of the scales near the Crane Gate. As such, all future MK subcontracted trucks will have to use the DRMO scales. Chris Freeman or myself will weigh the trucks in and out at the DRMO scales.

5. Apparently, cleanup of the dump sites has not yet begun. MK is waiting for additional submittals from their subcontractor. Work was originally to have begun at 23/00 the week of October 23, 1995.

Sample NO.		Matrix	Type	Metals	VOCs	SVOCs	PEST	PCBs	Herbs	Exp	BTEX	DIOXIN	ORANG
16/16	1	S		X									
	2	S		X									
	3	S		X									
	4	S		X									
	5												
	6												
	7												
	8		FIELD SCREENING										
	9												
	10												
	11												
	12												
	13	S		X	P			X		X			
	14	S		X	P			X		X			
	15	S		X	P			X		X			
	16	S		X	P			X		X			
	17	S		X	P			X		X			
	18	S		X	P			X		X			
	19	S		X	P			X		X			
	20	S		X	P			X		X			
	21												
	22	S		X	X		X	X		X			
	23	S		X	X		X	X		X			
	24	S		X	X		X	X		X			
	25	S		X	X		X	X		X			
	26	S		X	X		X	X		X			
	27	S		X	X		X	X		X			
	28	S		X	X		X	X		X			
	29	S		X	X		X	X		X			
	30	S		X	X		X	X		X			
	31	S		X	X		X	X		X			
	32	S		X	X		X	X		X			
	33	S		X	X		X	X		X			
	34	S		X	X		X	X		X			
	35	S		X			X	X		X			
	36	S		X	X		X	X		X			
	37	S		X	X		X	X		X			
	38	S		X	X		X	X		X			
	39	S				X	X	X			X		
	40	W			X		X	X					
	41												
	42	W		P	P	P			P	X			
	43	W				P	P						
	RB08	W		X	X	P	X	X	P				X
	45	W		X									
	46	S		X	X								
	47	S		X	X								
	48	S		X	X								
	49	S		X	X								
	50	S		X	X								

Sample NO.	Matrix	Type	Metals	VOCs	S.VOCs	PEST	PCBs	Herbs	Exp	BTEX	DIOXIN	ORANO
51	S		X	X								
52	S		X	X								
53	S		X	X								
54	S		X	X								
55	S		X	X	P							
56	S		X	P	P							
57	S		X	X								
58	S		X	X								
59	S		X	X								
60	S		X	X								
61	S		X	X								
62	S		X	X								
63	S		X	X	P							
64	S		X	X	P							
65	S		X	X								
66	S		X	X								
RB09					P							
RB10	W		X	X								
24/00 1												
2												
3												
4												
5												
6												
7												
8												
9												
10		DELETED										
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												

Sample NO	Matrix	Type	Metals	VOCs	S.VOCs	PEST	PCBs	Herbs	Exp	BTEX	DIOXIN	ORANO
32												
33												
34												
35												
36												
37												
38		DELETED										
39												
40												
41												
42												
43												
44	S		X	X	X	X	X	P			X	X
45	S		X	X	X	X	X	P			X	X
46	S		X	X	X	X	X	P			X	X
47	S	CHA	X	X	X	X	X	P			X	X
48	S	CHA	X	X	X	X	X	P			X	X
49	S	CHA	X	X	X	X	X	P			X	X
50	S	CHA	X	X	X	X	X	P			X	X
51		CHA	X	P	P	P			X			
52		CHA	X	P	P	P			X			
53		CHA	X	P	P	P			X			
54		CHA	X	P	P	P			X			
55	S	CON	X	X		X	X					
56	S	CON	X	X		X	X					
57	S	CON	X	X		X	X					
58	S	CON	X	X		X	X					
59	S	CON	X	X		X	X					
60	S	CON	X	X		X	X					
61	S	CON	X	X		X	X					
62	S	CON	X	X		X	X					
63	S	CON	X	X		X	X					
64	S	CON	X	X		X	X					
65	S	CON	X	X		X	X					
66	S	CON	X	X		X	X					
67	S	CON	X	X		X	X					
68	S	CON	X	X		X	X					
RB8	S	CON		X								

CHAIN-OF-CUSTODY

9507125 FAX 7/28 MC 8/4 RL = 3 (VEEBA C.)
LOC = 38, VR, Sub.

MORRISON KNUDSEN CORPORATION

CHAIN OF CUSTODY RECORD

720 Park Blvd., P.O. Box 73
Boise, Idaho 83729
(208) 386 5000

Project No.: 4324
Project Name: NSWC - Crane
Samplers: (Signature) [signature]
Samplers: (Print) Wes Lamarque

Analysis Required: All Appendix IX; 8240 (VOC); 8270 (SVOC); 8082 (PCB); 8140 (Pest); 8010 (Pest); 8010 (Pest); 8020 (Pest); 8330 (Pest); 8010 (Pest); 7471 (Hg); 7470 (Hg); 7421 (Pb); 7470 (Hg); 7421 (Pb)

Sample Type	Sampling Point Description	Sample Date	Time	Sample I.D. Number	Split Samples Yes	Split Samples No	8240	8270	8082	8140	8010	8010	8020	8330	8010	7471	7470	7421	7470	7421	Remarks
Soil	Sludge Bed	7-12-95	1054	NSWC-24/00-044		X	X	X	X	X	X	X	X	X	X						14-day TAT
Soil	Sludge Bed	7-12-95	1015	NSWC-24/00-045		X	X	X	X	X	X	X	X	X	X						
Soil	Sludge Bed	7-12-95	1025	NSWC-24/00-046		X	X	X	X	X	X	X	X	X	X						
Soil	Sludge Bed	7-12-95	1225	NSWC-24/00-047		X	X	X	X	X	X	X	X	X	X						
Soil	Sludge Bed	7-12-95	1230	NSWC-24/00-048		X	X	X	X	X	X	X	X	X	X						
Soil	Sludge Bed	7-12-95	1245	NSWC-24/00-049		X	X	X	X	X	X	X	X	X	X						
Soil	Sludge Bed	7-12-95	1240	NSWC-24/00-050		X	X	X	X	X	X	X	X	X	X						
Water	Field Blank	7-12-95	1445	NSWC-24/00-FB1		X	X	X	X	X	X	X	X	X		X					
Water	Rinse Blank	7-12-95	1415	NSWC-24/00-RB1		X	X	X	X	X	X	X	X	X		X					
Water	Trip Blank	7-12-95	1200	NSWC-24/00-TB1		X	X														

14-Day turnaround
2 coolers shipped

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Relinquished By: (Signature)	Date/Time	Received By: (Signature)
Company: Morrison Knudsen	7-12-95 1700	Company:	Company:		Company:
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Relinquished By: (Signature)	Date/Time	Received By: (Signature)
Company:		Company:	Company:		Company:
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Received for Laboratory By: (Signature)	Date/Time	Total No. Samples This Shipping Container
Company:		Company:	Company: [signature]	7/14 1015	Company:
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Relinquished By: (Signature)	Date/Time	Received By: (Signature)
Company		Company:	Company		Company

MORRISON KNUDSEN CORPORATION

CHAIN OF CUSTODY RECORD

720 Park Blvd., P.O. Box 7
Boise, Idaho 83729
(208) 386 5000

Project No.: 4324

Project Name: INSITU - Crane

Samplers: (Signature)

Sampler: (Print) Wes [illegible]

Analysis Required

Sample Type	Sampling Point Description	Sample Date	Time	Sample I.D. Number	Split Samples Yes	Split Samples No	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Remarks
Soil	[illegible]	7-12-95	9:59	[illegible]		X	X		X		X	X	X	X	X	X	
Soil	[illegible]	7-12-95	10:15	[illegible]		X	X	X	X	X	X	X	X	X	X	X	
Soil	[illegible]	7-12-95	10:25	[illegible]		X	X	X	X	X	X	X	X	X	X	X	
Soil	[illegible]	7-12-95	12:25	[illegible]		X	X	X	X	X	X	X	X	X	X	X	
Soil	[illegible]	7-12-95	12:30	[illegible]		X	X	X	X	X	X	X	X	X	X	X	
Soil	[illegible]	7-12-95	12:45	[illegible]		X	X	X	X	X	X	X	X	X	X	X	Duplicate used
Soil	[illegible]	7-12-95	12:40	[illegible]		X	X	X	X	X	X	X	X	X	X	X	
Water	[illegible]	[illegible]	11:15	[illegible]		X	X	X	X	X	X	X	X	X		X	
Water	[illegible]	[illegible]	11:15	[illegible]		X			X	X	X	X	X	X		X	
Water	[illegible]	[illegible]	13:0	[illegible]		X	X										

14-Day turnaround

Relinquished By: (Signature) Company:	Date/Time	Received By: (Signature) Company:	Relinquished By: (Signature) Company:	Date/Time	Received By: (Signature) Company:
Relinquished By: (Signature) Company:	Date/Time	Received By: (Signature) Company:	Relinquished By: (Signature) Company:	Date/Time	Received By: (Signature) Company:
Relinquished By: (Signature) Company:	Date/Time	Received By: (Signature) Company:	Received for Laboratory By: (Signature) Company:	Date/Time	Total No. Samples This Shipping Container Company:
Relinquished By: (Signature) Company:	Date/Time	Received By: (Signature) Company:	Relinquished By: (Signature) Company:	Date/Time	Received By: (Signature) Company:

9507125 FAX 7/28 nc 8/4 RL = 3 (VEEBA C.)
LOC = 38, VR, Sub.

MORRISON KNUDSEN CORPORATION

CHAIN OF CUSTODY RECORD

720 Park Blvd., P.O. Box 73
Boise, Idaho 83729
(208) 386 6000

Project No.: 4324
Project Name: NSWC - Crane
Samplers: (Signature)
Samplers: (Print) Wes Lamarque

Analysis Required: All Analysis DL; 8240 (VOCs) (Low Level); 8270 (SVOCs) (Low Level); 8150 (Low Level); 8080 (Low Level); 9010 (Low Level); 9040 (Low Level); 8330 (Low Level); 6010 (Trace Metals Dissolved); 7471 (Hg) (Low Level); 8270 (Low Level)

Sample Type	Sampling Point Description	Sample Date	Time	Sample I.D. Number	Spill Samples Yes	Spill Samples No	All Analysis DL	8240 (VOCs) (Low Level)	8270 (SVOCs) (Low Level)	8150 (Low Level)	8080 (Low Level)	9010 (Low Level)	9040 (Low Level)	8330 (Low Level)	6010 (Trace Metals Dissolved)	7471 (Hg) (Low Level)	8270 (Low Level)						Remarks
Soil	Sludge Bed	7-12-95	959	NSWC-24/00-044		X	X	X	X	X	X	X	X	X	X								14-Day TAT
Soil	Sludge Bed	7-12-95	1015	NSWC-24/00-045		X	X	X	X	X	X	X	X	X	X								
Soil	Sludge Bed	7-12-95	1035	NSWC-24/00-046		X	X	X	X	X	X	X	X	X	X								
Soil	Sludge Bed	7-12-95	1225	NSWC-24/00-047		X	X	X	X	X	X	X	X	X	X								
Soil	Sludge Bed	7-12-95	1230	NSWC-24/00-048		X	X	X	X	X	X	X	X	X	X								
Soil	Sludge Bed	7-12-95	1245	NSWC-24/00-049		X	X	X	X	X	X	X	X	X	X								
Soil	Sludge Bed	7-12-95	1240	NSWC-24/00-050		X	X	X	X	X	X	X	X	X	X								
Water	Field Blank	7-12-95	1445	NSWC-24/00-FB1		X	X	X	X	X	X	X	X	X		X							
Water	Rinse Blank	7-13-95	1415	NSWC-24/00-RB1		X	X	X	X	X	X	X	X	X		X							
Water	Trip Blank	7-12-95	1300	NSWC-24/00-TB1		X	X																

14-Day turnaround
2 coolers shipped

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Relinquished By: (Signature)	Date/Time	Received By (Signature)
Company: Morrison Knudsen	7-15-95 1700	Company	Company:		Company.
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Relinquished By: (Signature)	Date/Time	Received By: (Signature)
Company:		Company:	Company:		Company
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Received for Laboratory By: (Signature)	Date/Time	Total No. Samples This Shipping Container
Company:		Company.	Company:	7/14 1015	Company:
Relinquished By (Signature)	Date/Time	Received By: (Signature)	Relinquished By (Signature)	Date/Time	Received By (Signature)
Company		Company:	Company		Company

MORRISON KNUDSEN CORPORATION

CHAIN OF CUSTODY RECORD

720 Park Blvd. P.O. Box 73
Boise Idaho 83729
(208) 386-5000

C020

American Environmental Network

Project No: 4321 OOR-OU-3.01

Project Name: Crane Ridge

Sampler (Signature): K. W. Kemp

Sampler (Print): Bill Kemp

Analysis Required: 8240, 8270, 8120, 8140, 8010, 8270, 7471, 6010A

Sample Type	Sampling Point Description	Sample Date	Time	Sample ID Number	Split Samples Yes	Split Samples No	8240	8270	8120	8140	8010	8270	7471	6010A							Remarks
SOIL	offsite PF - EAST SIDE	10-27-95	1410	BHEF-005		X	X	X	X	X	X	X	X	X	X						20 day TAT
SOIL	" " PF WEST SIDE	10-27-95	1415	BHPF 006		X	X	X	X	X	X	X	X	X	X						Regulatory

Relinquished By (Signature)	Date/Time	Received By (Signature)	Relinquished By (Signature)	Date/Time	Received By (Signature)
Company: AMK	10/27/95	Company	Company		Company:
Relinquished By: (Signature)	Date/Time	Received By (Signature)	Relinquished By (Signature)	Date/Time	Received By (Signature)
Company.		Company	Company		Company
Relinquished By (Signature)	Date/Time	Received By. (Signature)	Received for Laboratory By (Signature)	Date/Time	Total No. Samples This Shipping Container
Company		Company	Company		Company
(Signature)	Date/Time	Received By (Signature)	Relinquished By (Signature)	Date/Time	Received By: (Signature)
		Company	Company		Company

APPENDIX E
APPROVALS, PERMITS AND REGULATOR INFORMATION

APPENDIX E
APPROVALS, PERMITS AND REGULATOR INFORMATION

- Letter from Carol Witt-Smith from the USEPA Region 5 to Thomas Brent Dated March 22, 1996, Granting permission to backfill SWMU 24/00 Sludge Bed B (2 pages)
- SWMU 24/00 Acceptance and Turnover Letter, Dated July 12, 1996 (1 page)
- Indiana Department of Environmental Management, Office of Solid and Hazardous Waste Management Special Waste Certification No. 50852 (2 pages)

The material removed form Sludge Bed B (SWMU 24/00) was transported by truck to the on-site landfill under Special Waste Certification No. 50852 issued by the Indiana Department of Environmental Management (IDEM). No manifests were used during this project.

RECEIVED
APR 01 1996
MK-CRANE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO IL 60604-3590

MAR 22 1996

REPLY TO THE ATTENTION OF
DRP-8J

Mr. Thomas Brent
Code 5090 SER 095/U5273
Department of the Navy
Naval Surface Warfare Center
300 Highway 361
Crane, Indiana 47522-5001

RE: Interim Measure
Confirmation Sampling
Sludge Drying Bed B, SWMU 24/00
Naval Surface Warfare Center
Crane, Indiana
IN5 170 023 498

Dear Mr. Brent:

The United States Environmental Protection Agency (U.S. EPA) has reviewed your Sludge Drying Bed B Confirmatory Sampling Results faxed to the Agency on February 29, 1996. We have compared the sample results to the Region 5 Data Quality Limits and the Region 9 Preliminary Remedial Goals and find the samples at an acceptable level below the long-term exposure criteria (see attached table). Therefore, the Navy may consider the excavation complete and the area may be backfilled. Once the removal activities have been completed, the Navy must submit an Interim Measure Report detailing the implementation of the removal.

If you have any questions regarding this matter, please contact me at (312) 886-6146.

Sincerely,

Carol Witt-Smith
Corrective Action Expert
WMB, IL/IN/MI Permitting Section

cc: Tom Linson,, IDEM
Adrienne Wilson, SOUTHDIV
G.K. Hill, NSWC
Jim Hunsicker, NSWC
Mario Mangino, WMB
Colleen Olsberg, WMB
James May, USACE
Brian VanGunten, IDEM BRAC
MK

NSWC - CRANE			
4324-0000			
PROJECT MEMBER	ACT	INFO	INIT
PROJECT MANAGER	X		BTO
PROJECT ENGINEER			
GNL SUPT	X		
SAFETY AND HEALTH			
QA/QC SUPERVISOR	X		
PROJECT CONTROLS			
FIELD ENGINEERING			
PWO-CHARLESTON	X		
FILE: 11.012.5			
FILE: 12.082.095			
FILE:			

Table 1
Confirmation Sampling Result Evaluation
Sludge Drying Bed B, SWMU 24/00

Sample Depth: 5 feet below surface

Future Use: None planned. Backfilling, seeding area and leaving in natural state.

Sample #	Constituent	Conc. (ppb)	Lab Qual	Conc. vs.DQL <=>	DQL (ppb)
24/00-073	Methylene Chloride	3.0	JB	<	11,000 ca
24/00-072	Methylene Chloride	3.0	JB	<	11,000 ca
24/00-071	Methylene Chloride	3.0	JB	<	11,000 ca
24/00-070	Methylene Chloride	4.0	JB	<	11,000 ca
24/00-069	Methylene Chloride	3.0	JB	<	11,000 ca
24/00-073	Acetone	13.0		<	2,000,000 nca
24/00-070	Acetone	7.0	J	<	2,000,000 nca
24/00-069	Acetone	12.0		<	2,000,000 nca
24/00-073	2,4-D	8.4	JB	<	650,000 nca
24/00-073	2,4,5-TP (Silvex)*	1.3	JPB	<	520,000 nca
24/00-071	2,4,5-TP (Silvex)	0.8	JPB	<	520,000 nca
24/00-070	2,4,5-TP (Silvex)	0.9	JPB	<	520,000 nca
24/00-073	2,4,5-T	1.4	JPB	<	650,000 nca
24/00-072	2,4,5-T	1.5	JPB	<	650,000 nca
24/00-071	2,4,5-T	1.5	JPB	<	650,000 nca
24/00-070	2,4,5-T	1.5	JPB	<	650,000 nca
24/00-069	2,4,5-T	0.9	JPB	<	650,000 nca
24/00-073	Sulfotepp	4.5	J	<	33,000 nca
24/00-072	Sulfotepp	4.0	J	<	33,000 nca
24/00-070	Dimethoate	3.4	J	<	13,000 nca

* (2-(2,4,5-Trichlorophenoxy) proprionic acid)

** Tetraethyl Dithiopyrophosphate

MORRISON KNUDSEN CORPORATION
ENVIRONMENTAL AND GOVERNMENT DIVISION

RECEIVED
JUL 12 1996
MK-CRANE

SWMU ACCEPTANCE AND TURNOVER

DATE: July 12, 19967

TO: Steven Downey, Proj Mgr

FROM: W.M. Kemp Jr. QCS

LOCATION: NSWC

LOCATION: NSWC

SUBJECT: Final inspection and acceptance by the ROICC

___The final inspection for the Solid Waste Management Unit Interim Measures Cleanup for the physical work completed at SWMU-24/00 was conducted on 7-11-96. The completed physical work was accepted by the ROICC on 7-11-96 establishing the beneficial date.

MORRISON KNUDSEN CORPORATION

Signature _____ Date 7-11-96
Signature _____ Date 7-12-96
Signature _____ Date _____

ROICC

Signature _____ Date 7/11/96
Signature _____ Date 7/12/96

The completion and acceptance of the Interim Measures Report will complete this closure at a later date

cc. Greg Jones PMO
Brent Robertson ROICC
File

NSWC - CRANE
4324-0009

PROJECT MEMBER	ACT	INFO	INT
PROJECT MANAGER			
PROJECT ENGINEER			
CIVIL SUPT			
SAFETY AND HEALTH			
QA/QC SUPERVISOR			
PROJECT CONTROLS			
FIELD ENGINEERING			
PMO-CHARLESTON		X	
Jacobs	X		

FILE: 11.091.00
FILE: 12.092.09
FILE: 13.900.015
13.050.075

MK-CRANE

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live

Evan Bayh
Governor
Kathy Prosser
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
Telephone 317-232-8603
Environmental Helpline 800-451-6027

PROJECT NUMBER	1021-000
PROJECT MANAGER	
PROJECT ENGINEER	X
GNL SUPT	
SAFETY AND HEALTH	
CACC SUPERVISOR	
PROJECT CONTROLS	
FIELD ENGINEERING	
PMC-CHARLESTON	
FILE	24.010
FILE	13.050
FILE	

Office of Solid and Hazardous Waste Management

Special Waste Certification No. 50852

Pursuant to 329 IAC 2-21-11, the following generator:

Crane Division Naval Surface Warfare Center
300 Highway 361
Crane, IN 47522

has received certification from the Indiana Department of Environmental Management, Office of Solid and Hazardous Waste Management, for the following waste stream(s):

Sludge from sludge bed "S" SWMU-24100

These wastes may be disposed at any sanitary landfill specified unde 329 IAC 2-21-3 as an acceptable site for the disposal of waste which is certified as special waste. A list of acceptable disposal sites is available from the Solid Waste Permit Section at the above address o by calling 317/232-4473. General and Special Conditions that apply this certification are indicated on the reverse side.

This certification shall expire exactly 5 years from the effective signature date below.

Gregory C. Lorenz

10/16/95

Gregory C. Lorenz, Chief
Special Waste Section
Solid Waste Facilities Branch
Office of Solid and Hazardous Waste Ma

Date

An Equal Opportun
Printed on Recyc

Post-It™ brand fax transmittal memo 7671 | # of pages ▸

To Kristen Freeman	From Scott Draschil
Co.	Co. IDEM
Dept.	Phone # 317-233-[illegible]
Fax #	

General Conditions That Apply To All Special Waste Approvals:

1. The generator and/or hauler shall provide the landfill with a copy of this certification along with advanced notification of intended disposal and provide a disposal notification form with each load disposed.
2. If nuisance or pollution conditions are created, immediate corrective action shall be taken by the operator.
3. Waste material(s) accepted under this approval shall be included on the Special Waste Monthly Report to be submitted to this office monthly.
4. Special waste(s) may not be disposed at any landfill subject to corrective action under 329 IAC 2-16-9 or at any landfill which fails to maintain compliance with 329 IAC 2.
5. It is the generator's responsibility to properly dispose of all wastes at acceptable sites. Also, it is the responsibility of the disposal site to notify the generators if the site's disposal status changes
6. Any change in the raw materials, the process(es) generating the waste, or the characteristics of the waste stream(s) shall be reported in writing to the IDEM and the disposal site prior to further disposal. If it is determined that the change is substantial, this certification shall be voided by written notification from the IDEM.
7. The waste(s) shall not contain free liquids
8. the waste(s) shall not present a fire or explosive hazard.

Special Conditions That Are Required For Disposal of The Waste(s) Will Be Indicated By The Reviewer's Initials:

____ 1. At least one end of the container shall be completely opened so that the waste(s) may be readily identified.

____ 2. A new TCLP analysis shall be provided to the IDEM at the time of renewal of this certification. Each waste stream shall be tested separately.

SD 3. In addition to landfills specified under 329 IAC 2-21-3 waste(s) specified on this certification may also be disposed pursuant to 329 IAC 2-21-12 at the following landfill(s): Crane NWSC Landfill (Opp. No. 51-02)

SD 4. This is an intended one time only disposal. If the disposal quantity substantially exceeds the amount anticipated, this Office shall be notified in accordance with General Condition Number 5.

Anticipated Disposal Quantity: 200 cubic yards.

S. D. 10/11/95
Reviewer/Date

cc: Tom Brent: Crane Division Naval Surface Warfare Center, 300 Highway 361, Crane, IN 47522
Don Miller: Morrison Knudsen Corp., 2420 Mall Drive, Corporate Sq. 1, Suite 211, North Charleston, S.C. 29406

APPENDIX F
QA/QC DATA

APPENDIX F
QA/QC DATA

- QA/QC Data (183 pages)

COMPUCHEM
ENVIRONMENTAL
CORPORATION

21/FEB/96

Morrison Knudsen Corp.
Attn: Alan Fosdick
1500 West 3rd Street
Cleveland, OH 44113-1406

ACCOUNT #: 501019

CC#	SAMPLE-ID	RECEIPT DATE
782604	24-00-069	2/09/96
782609	24-00-070	2/09/96
782610	24-00-073	2/09/96
782617	24-00-071	2/09/96
782624	24-00-072	2/09/96
782671	16-16-074	2/09/96
782672	16-16-075	2/09/96
782673	16-16-076	2/09/96
782674	16-16-077	2/09/96
782675	16-16-078	2/09/96

TOTAL NUMBER OF SAMPLES = 10

1D

ORGANOCHLORINE PESTICIDES AND PCBs ANALYSIS DATA SHEET

SAMPLE NO.

PBLK66

Lab Name: COMPUCHEM RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0101C

Matrix: (soil/water) SOIL Lab Sample ID: 784320

Sample wt/vol: 30.00 (g/ml) G Lab File ID:

% Moisture: decanted: (Y/N) Date Received:

Extraction: (SepF/Cont/Sonc) ~~SBPF~~ GNC 2/23/96 Date Extracted: 02/19/96

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 02/22/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
58-89-9	gamma-BHC (Lindane)	1.0	U
76-44-8	Heptachlor	1.0	U
309-00-2	Aldrin	1.0	U
959-98-8	Endosulfan I	0.092	JP
60-57-1	Dieldrin	1.5	U
33213-65-9	Endosulfan II	3.5	U
50-29-3	4,4'-DDT	3.5	U
72-43-5	Methoxychlor	3.5	U
319-84-6	alpha-BHC	1.0	U
319-85-7	beta-BHC	1.0	U
319-86-8	delta-BHC	1.0	U
1024-57-3	Heptachlor epoxide	1.0	U
72-55-9	4,4'-DDE	3.5	U
72-20-8	Endrin	2.5	U
72-54-8	4,4'-DDD	3.5	U
7421-93-4	Endrin aldehyde	1.0	U
1031-07-8	Endosulfan sulfate	2.0	U
11096-82-5	Aroclor-1260	20	U
12674-11-2	Aroclor-1016	20	U
11104-28-2	Aroclor-1221	20	U
11141-16-5	Aroclor-1232	20	U
53469-21-9	Aroclor-1242	20	U
12672-29-6	Aroclor-1248	20	U
11097-69-1	Aroclor-1254	20	U
8001-35-2	Toxaphene	20	U
57-74-9	Chlordane (Technical)	4.0	U

SOIL PESTICIDE LABORATORY CONTROL SAMPLE RECOV

Lab Name: COMPUCHEM,RTP

Lab Code: COMPU Case No.: 31923 SDG No.:0101C

Lab Sample ID: 784497 LCS Sample No.: BSPEST

COMPOUND	SPIKE ADDED (ug/kg)	LCS CONC. (ug/kg)	LCS % REC.
gamma-BHC (Lindane)	7.675	6.49	85
Heptachlor	7.675	6.49	85
Aldrin	7.675	6.66	87
Endosulfan I	7.675	5.92	77
Dieldrin	19.188	16.47	86
Endosulfan II	19.188	12.99	68
4,4'-DDT	19.188	18.70	97
Methoxychlor	19.188	20.87	109
alpha-BHC	7.675	7.41	97
beta-BHC	7.675	7.97	104
delta-BHC	7.675	7.26	95
Heptachlor Epoxide	7.675	6.4	83
4,4'-DDE	7.675	16.83	219 *
Endrin	19.188	18.61	97
4,4'-DDD	19.188	13.23	69
Endrin Aldehyde	19.188	17.51	91
Endosulfan Sulfate	19.188	19.52	102

* = VALUES OUTSIDE OF QC LIMITS

Lab Name: COMPUCHEM,RTP Contract:

Lab Code: COMPU Case No.: 31923 SDG No.:0101C

Lab Sample ID: 784321 LCS Sample No.:

COMPOUND	SPIKE ADDED (ug/kg)	LCS CONC. (ug/kg)	LCS % REC.	QC LIMITS REC.
Aroclor 1254	666.667	630	95	46 - 127

* = VALUES OUTSIDE OF QC LIMITS

3F

SOIL ORGANOCHLORINE PESTICIDE/PCB MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVER

Lab Name: COMPUCHEM, RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0101C

Matrix Spike - Sample No.: 24-00-071

COMPOUND	SPIKE ADDED (mg/Kg)	SAMPLE CONCENTRATION (mg/Kg)	MS CONCENTRATION (mg/Kg)	MS % REC #	QC. LIMITS REC.
gamma-BHC (Lindane)	7.675	0.00	5.0	65	32-127
Heptachlor	7.675	0.00	5.3	69	34-111
Aldrin	7.675	0.00	5.7	74	42-122
Endosulfan I	7.675	0.13	2.6	32 *	45-153
Dieldrin	19.188	0.089	5.7	29 *	36-146
Endosulfan II	19.188	0.00	0.00	0 *	20-120
4,4'-DDT	19.188	0.27	5.9	29	25-160
Methoxychlor	19.188	0.00	17	89	40-130
alpha-BHC	7.675	0.00	5.9	77	37-134
beta-BHC	7.675	0.00	6.1	79	17-147
delta-BHC	7.675	0.081	5.5	71	19-140
Heptachlor epoxide	7.675	0.00	4.5	59	37-142
4,4'-DDE	7.675	0.19	4.5	56	30-145
Endrin	19.188	0.00	0.00	0 *	30-147
4,4'-DDD	19.188	0.18	0.00	-1 *	31-141
Endrin aldehyde	19.188	0.00	11	57	26-144
Endosulfan sulfate	19.188	0.00	5.5	29	26-144

COMPOUND	SPIKE ADDED (mg/Kg)	MSD CONCENTRATION (mg/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	7.675	7.0	91	33 *	20	32-127
Heptachlor	7.675	7.2	94	31 *	20	34-111
Aldrin	7.675	7.9	103	33 *	20	42-122
Endosulfan I	7.675	2.3	28 *	13	20	45-153
Dieldrin	19.188	11	57	65 *	20	36-146
Endosulfan II	19.188	0.00	0 *	999 *	20	20-120
4,4'-DDT	19.188	7.4	37	24 *	20	25-160
Methoxychlor	19.188	20	104	16	20	40-130
alpha-BHC	7.675	8.4	109	34 *	20	37-134
beta-BHC	7.675	8.5	111	34 *	20	17-147
delta-BHC	7.675	7.8	101	35 *	20	19-140
Heptachlor epoxide	7.675	5.2	68	14	20	37-142
4,4'-DDE	7.675	7.6	97	54 *	20	30-145
Endrin	19.188	0.00	0 *	999 *	20	30-147
4,4'-DDD	19.188	5.6	28 *	215 *	20	31-141
Endrin aldehyde	19.188	14	73	25 *	20	26-144
Endosulfan sulfate	19.188	21	109	116 *	20	26-144

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 14 out of 17 outside limits
Spike Recovery: 9 out of 34 outside limits

COMMENTS:

2F

SOIL ORGANOCHLORINE PESTICIDE AND PCB SURROGATE RECOVERY

Lab Name: COMPUCHEM,RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0101C

GC Column (1): RTX-1701 ID: 0.53 (mm) GC Column (2): DB-608 ID: 0.53 (mm

	SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	24-00-073	47	77	72	80			0
02	24-00-069	51	84	77	88			0
03	24-00-071MS	50	82	70	79			0
04	24-00-071MSD	62	100	90	100			0
05	24-00-070	41	68	66	75			0
06	24-00-071	53	86	80	89			0
07	24-00-072	51	90	79	89			0
08	16-16-078	49	92	80	91			0
09	16-16-074	210*	2600*	87	70			2
10	16-16-075	52	75	62	71			0
11	16-16-076	60	100	86	91			0
12	16-16-077	58	97	80	89			0
13	BSPEST	64	100	97	110			0
14	BSPCB	79	91	82	92			0
15	PBLK66	52	87	78	87			0
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

		QC LIMITS
TCX	= Tetrachloro-m-xylene	(20-150)
DCB	= Decachlorobiphenyl	(20-150)

Column to be used to flag recovery values.
* Values outside of QC Limits
D Surrogate diluted out.

FORM II 8080-2

COMPUCHEM
ENVIRONMENTAL
CORPORATION

22/FEB/96

Morrison Knudsen Corp.
Attn: Alan Fosdick
1500 West 3rd Street
Cleveland, OH 44113-1406

ACCOUNT #: 501019

CC#	SAMPLE-ID	RECEIPT DATE
782593	24-00-069	2/09/96
782603	24-00-070	2/09/96
782616	24-00-073	2/09/96
782623	24-00-071	2/09/96
782630	24-00-072	2/09/96

TOTAL NUMBER OF SAMPLES = 5

COMPUCHEM
ENVIRONMENTAL
CORPORATION

3306 Chapel Hill/Nelson Highway P.O. Box 14998
Research Triangle Park, NC 27709-4998
(919) 406-1600

INORGANIC CASE SUMMARY NARRATIVE
CASE # 31923 SDG # 116C
PROTOCOL: SW-846

The indicated Sample Delivery Group (SDG) consisting of five soil samples were received into the laboratory management system (LMS) on February 9, 1996 intact and in good condition with Chain of Custody (COC) Records in order, unless otherwise noted in any attachments or Quality Assurance Notices. The samples were analyzed for cyanide using method 9012.

SAMPLE IDs:

The following customer IDs are associated with this SDG:

24-00-069, 24-00-070, 24-00-071, 24-00-072, 24-00-073

INSTRUMENTAL QUALITY CONTROL:

All calibration verification solutions (ICV & CCV), blanks (ICB, CCB) and interference check samples (ICSA & ICSAB) associated with this data were confirmed to be within EPA allowable limits.

SAMPLE PREPARATION QUALITY CONTROL:

The Laboratory Control Samples for Soils (LCSS) and Preparation Blanks for Soils (PBS) were found to be within acceptable ranges. All field samples associated with this case were prepared and analyzed within the specified holding times.

MATRIX RELATED QUALITY CONTROL:

The sample matrix spike and matrix spike duplicate, 24-00-071S(782595)/24-00-071S(782594), were found to be within control limits for cyanide.

CLP control limits of 75-125% of the analyte quantity added are applied to the cyanide sample spike results unless original sample concentrations exceed the true values of

these "spikes" by a factor of four or more; in this case affected analytes are not flagged even if recoveries fall outside percentage recovery control limits.

The sample matrix duplicate, 24-00-071D(782596), was within control limits for all requested analytes.

Control limits for duplicate determinations are +/- 20% Relative Percent Difference (RPD) for concentrations greater than or equal to five times the CRDL in both the original and duplicate samples, and +/- the CRDL for concentrations less than five times the CRDL. The RPD is not calculated if both the original and duplicate values fall below the IDL.

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

Jeanne Alston
Final Technical Reviewer
February 18, 1996

Note: This report is paginated for reference and accountability.

U.S. EPA - CLP

3
BLANKS

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 116C__

Preparation Blank Matrix (soil/water): SOIL_

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Cyanide__	____10.0__	U	____10.0_	U	____10.0_	U	____10.0_	U	_____0.500	U	AS_

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE

24-00-071S

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 116C__

Matrix (soil/water): SOIL__ Level (low/med): LOW__

% Solids for Sample: _86.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Cyanide__	75-125_	5.2816_		0.5760	U	5.76	91.7		AS

Comments:

FORM V (Part 1) - IN IL

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

24-00-071S

Lab Name: COMPUCHEM_ENV._CORP. Contract: SW-846

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 116C

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 86.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Cyanide	75-125	4.8643		0.5760	U	5.76	84.4		AS

Comments:

FORM V (Part 1) - IN ILM03.0

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE No.

24-00-071D

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 116C__

Matrix (soil/water): SOIL_ Level (low/med): _LOW__

% Solids for Sample: _86.8 % Solids for Duplicate: _100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Cyanide		0.5760	U	0.5760	U			AS

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 116C__

Solid LCS Source: EPA-LV_____

Aqueous LCS Source: _____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Cyanide				5.6	5.4		4.3	6.9	96.4

COMPUCHEM
ENVIRONMENTAL
CORPORATION

22/FEB/96

Morrison Knudsen Corp.
Attn: Alan Fosdick
1500 West 3rd Street
Cleveland, OH 44113-1406

ACCOUNT #: 501019

CC#	SAMPLE-ID	RECEIPT DATE
782590	24-00-069	2/09/96
782602	24-00-070	2/09/96
782615	24-00-073	2/09/96
782622	24-00-071	2/09/96
782629	24-00-072	2/09/96

TOTAL NUMBER OF SAMPLES = 5

COMPUCHEM
ENVIRONMENTAL
CORPORATION

3306 Chapel Hill/Nelson Highway P O Box 14998
Research Triangle Park, NC 27709-4998
(919) 406-1600

INORGANIC CASE SUMMARY NARRATIVE
CASE # 31923 SDG # 126C
PROTOCOL: SW-846

The indicated Sample Delivery Group (SDG) consisting of five soil samples were received into the laboratory management system (LMS) on February 9, 1996 intact and in good condition with Chain of Custody (COC) Records in order, unless otherwise noted in any attachments or Quality Assurance Notices. The samples were analyzed for mercury using method 7471.

SAMPLE IDs:

The following customer IDs are associated with this SDG:

24-00-069, 24-00-070, 24-00-071, 24-00-072, 24-00-073

INSTRUMENTAL QUALITY CONTROL:

All calibration verification solutions (ICV & CCV), blanks (ICB, CCB) and interference check samples (ICSA & ICSAB) associated with this data were confirmed to be within EPA allowable limits.

SAMPLE PREPARATION QUALITY CONTROL:

The Laboratory Control Samples for Soils (LCSS) and Preparation Blanks for Soils (PBS) were found to be within acceptable ranges. All field samples associated with this case were prepared and analyzed within the specified holding times.

MATRIX RELATED QUALITY CONTROL:

The sample matrix spike and matrix spike duplicate, 24-00-071S(783901)/24-00-071S(783900), were found to be within control limits for mercury.

CLP control limits of 75-125% of the analyte quantity added are applied to the mercury sample spike results unless original sample concentrations exceed the true values of these "spikes" by a factor of four or more; in this case

00022

affected analytes are not flagged even if recoveries fall outside percentage recovery control limits.

The sample matrix duplicate, 24-00-071D(782592), was within control limits for all requested analytes.

Control limits for duplicate determinations are +/- 20% Relative Percent Difference (RPD) for concentrations greater than or equal to five times the CRDL in both the original and duplicate samples, and +/- the CRDL for concentrations less than five times the CRDL. The RPD is not calculated if both the original and duplicate values fall below the IDL.

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

Jeanne Alston
Final Technical Reviewer
February 18, 1996

Note: This report is paginated for reference and accountability.

U.S. EPA - CLP

3
BLANKS

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 126C__

Preparation Blank Matrix (soil/water): SOIL_

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.100	U	CV

U S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPL

24-00-071S

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 126C_

Matrix (soil/water): SOIL__ Level (low/med): LOW_

% Solids for Sample: _86.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Mercury__	75-125_	0.5876_		0.1152	U	0.58	101.3		CV

Comments:

FORM V (Part 1) - IN

TLM02

00020

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

24-00-071S

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 126C__

Matrix (soil/water): SOIL__ Level (low/med): LOW___

% Solids for Sample: _86.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Mercury	75-125	0.5950		0.1152	U	0.58	102.6		CV

Comments:

FORM V (Part 1) - IN ILM03.0

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

24-00-071D

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 126C__

Matrix (soil/water): SOIL_ Level (low/med): _LOW__

% Solids for Sample: _86.8 % Solids for Duplicate: _100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Mercury		0.1152	U	0.1152	U			CV

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 126C__

Solid LCS Source: EPA-LV_____

Aqueous LCS Source: _____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Mercury				12.7	14.2		8.5	17.0	111.8

COMPUCHEM
ENVIRONMENTAL
CORPORATION

20/FEB/96

Morrison Knudsen Corp.
Attn: Alan Fosdick
1500 West 3rd Street
Cleveland, OH 44113-1406

ACCOUNT #: 501019

CC#	SAMPLE-ID	RECEIPT DATE
782573	24-00-069	2/09/96
782599	24-00-070	2/09/96
782612	24-00-073	2/09/96
782619	24-00-071	2/09/96
782626	24-00-072	2/09/96

TOTAL NUMBER OF SAMPLES = 5

COMPUCHEM
ENVIRONMENTAL
CORPORATION

3306 Chapel Hill/Nelson Highway P O Box 14998
Research Triangle Park, NC 27709-4998
(919) 406-1600

SDG Narrative
Case #31923
SDG# 0106C

Sample Identifications: 24-00-069, 24-00-070, 24-00-073, 24-00-071, and 24-00-072

This narrative covers five (5) soil samples received on February 9, 1996, and processed for organophosphorous pesticide organic compounds by SW-846 Method 8140, The samples were received intact, and with proper documentation.

Organophosphorous Pesticides

The samples were extracted and analyzed within holding times.

Surrogate recoveries for all samples, matrix spike (MS), matrix spike duplicate (MSD), blank spike (BS), and method blank met QC acceptance criteria.

No target compounds were detected in any of the samples or method blank above the reportable detection limits (RDL's). "J" flags are applied to analytes present below the RDL's.

The matrix spike (MS) and matrix spike duplicate (MSD) spike recoveries fell within QC control limits. All spike RPD's fell within QC control limits. The BS also had acceptable spike recoveries. All other QC criteria (initial and continuing calibrations, and retention time) were met.

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

Joe Bumgarner, Jr.
GC Method Development Chemist
February 16, 1996

NOTE: This report is paginated for reference and accountability.

2F
SOIL ORGANOPHOSPHORUS PESTICIDES SURROGATE RECOVERY

Lab Name: COMPUCHEM,RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0106C

GC Column (1): RTX-5 ID: 0.53 (mm) GC Column (2): ID: (mm)

	SAMPLE NO.	METH 1 %REC #	METH 2 %REC #	%REC #	%REC #	OTHER (1)	OTHER (2)	TOT OUT
01	24-00-069MS	110						0
02	26-00-069MSD	110						0
03	BS	110						0
04	24-00-070	78						0
05	24-00-073	88						0
06	24-00-071	94						0
07	24-00-072	90						0
08	24-00-069	84						0
09	PBLK99	100						0
10								
11								
12								
13								
14								
15								
16								
17								
18								
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ADVISORY
QC LIMITS
(50-135)

METH = Methidathion

Column to be used to flag recovery values.
* Values outside of QC Limits
D Surrogate diluted out.

FORM II 8140-2

3F

SOIL ORGANOPHOSPHORUS PESTICIDES MATRIX SPIKE/MATRIX SPIKE DUPLICATED RECOVERY

Lab Name: COMPUCHEM, RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0106C

Matrix Spike - Sample No.: 24-00-069

COMPOUND	SPIKE ADDED (mg/Kg)	SAMPLE CONCENTRATION (mg/Kg)	MS CONCENTRATION (mg/Kg)	MS % REC #	QC. LIMITS REC.
Disulfoton	992.064	0.00	1200	121	50-135
Famphur	992.064	0.00	1100	111	50-135
Methyl-Parathion	992.064	0.00	1200	121	50-135
Ethyl-Parathion	992.064	0.00	1300	131	50-135
Phorate	992.064	0.00	1100	111	50-135
Dimethoate	992.064	0.00	1000	101	50-135
Sulfotepp	992.064	0.00	1100	111	50-135

COMPOUND	SPIKE ADDED (mg/Kg)	MSD CONCENTRATION (mg/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Disulfoton	992.064	1100	111	9	20	50-135
Famphur	992.064	1100	111	0	20	50-135
Methyl-Parathion	992.064	1100	111	9	20	50-135
Ethyl-Parathion	992.064	1200	121	8	20	50-135
Phorate	992.064	1000	101	9	20	50-135
Dimethoate	992.064	910	92	9	20	50-135
Sulfotepp	992.064	1100	111	0	20	50-135

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 7 outside limits
Spike Recovery: 0 out of 14 outside limits

COMMENTS:

WATER ORGANOPHOSPHOROUS PESTICIDE LABORATORY CONTROL SAMPLE RECOVERY

Lab Name: COMPUCHEM STP

Lab Code: COMPW Case No.: 01922 SDG No.:010SC

Lab Sample ID: 782878 LCS Sample No.: 85

COMPOUND	SPIKE ADDED ug/l	LCS CONC. ug/l	LCS % Rec.	QC LIMITS REC.
PHORATE	800.00	1002	121	50 - 135
SULFOTEPP	800.00	1042	125	50 - 135
DIELDRIN	800.00	1077	129	50 - 135
DIMETHOATE	800.00	929	124	50 - 135
METHYLPARATHION	800.00	1057	132	50 - 135
ETHYLPARATHION	800.00	1100	114	50 - 135
FAMPHUR	800.00	973	114	50 - 135

* = VALUES OUTSIDE OF QC LIMITS

1D
ORGANOPHOSPHORUS PESTICIDES ANALYSIS DATA SHEET

SAMPLE NO.

PBLK99

Lab Name: COMPUCHEM, RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0106C

Matrix: (soil/water) SOIL Lab Sample ID: 782918

Sample wt/vol: 30.00 (g/ml) G Lab File ID:

% Moisture: decanted: (Y/N) Date Received:

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 02/14/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 02/15/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
298-02-2	Phorate	10	U
3689-24-5	Sulfotepp	10	U
298-04-4	Disulfoton	10	U
60-51-5	Dimethoate	10	U
298-00-0	Methyl-Parathion	10	U
56-38-2	Ethyl-Parathion	10	U
52-85-7	Famphur	10	U

COMPUCHEM
ENVIRONMENTAL
CORPORATION

21/FEB/96

Morrison Knudsen Corp.
Attn: Alan Fosdick
1500 West 3rd Street
Cleveland, OH 44113-1406

ACCOUNT #: 501019

CC#	SAMPLE-ID	RECEIPT DATE
782563	24-00-069	2/09/96
782566	24-00-070	2/09/96
782567	24-00-073	2/09/96
782568	24-00-071	2/09/96
782569	24-00-072	2/09/96

TOTAL NUMBER OF SAMPLES = 5

COMPUCHEM
ENVIRONMENTAL
CORPORATION

SDG NARRATIVE

CASE # 31923
SDG # 0131C
ACCOUNT # 501019

SAMPLE IDENTIFICATIONS: 24-00-069, 24-00-070, 24-00-071, 24-00-071, 24-00-072

The five (5) soil samples listed above were received intact, properly refrigerated, with proper documentation, in a sealed shipping container, on February 9, 1996 The samples were scheduled for the requested analyses of the volatile, semivolatile, and pesticide/PCB fractions. These samples were analyzed following OLM03 Statement of Work (SOW) (document OLM03.2) protocol with appendix IX compounds, with the exceptions and/or additions described in the attached Project Profile Sheet (PPS) #467. The pH values of these soil samples ranged from 7.1 to 9 2, and the percent moistures ranged from 11 to 17. This portion of the SDG narrative deals with the semi-volatile fraction only. All pertinent Quality Assurance notices are included in the narrative section, and all pertinent Laboratory notices for Case 31923, SDG 0131C are included in the sample data sections.

Semivolatiles Section

Extraction and analysis holding time requirements were met for all of these samples. There were no semivolatile Target Compound List (TCL) analytes identified above the Practical Quantitation Limit (PQL) in any of these samples Tentatively Identified Compounds (TICs) were found in all of these samples. These TICs could be characterized as aldols, cyclohexanes, and unknowns. Due to the fact that these samples were analyzed for certain appendix IX compounds under CLP-like conditions, the extractor introduced the CLP surrogate solution This surrogate solution is at a different concentration and contains the six surrogates found in the 8270 protocol plus two advisory surrogates. Since these two advisory surrogates are not in the SW846 standards no quantitated result could be calculated. These two advisory surrogates (1,2-dichlorobenzene-d4 and 2-chlorophenol-d4) are therefore being reported as TIC's labeled as *Surrogate Compound*. The six reported surrogates met all criteria. All of the internal standards met response and retention time criteria in the analyses of these samples. The associated method blanks met all quality control criteria. TICs were found in these method blanks The associated duplicate matrix spikes met all advisory accuracy and precision criteria The associated Laboratory Control Sample (LCS) met all accuracy criteria

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than conditions detailed above. Release of the data contained in the hard copy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Supervisor, as verified by the following signature

Paul T. Frankson
GC/MS SVOA Supervisor
February 16, 1996

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0131C

Level: (low/med) LOW

	SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	24-00-069	37	40	68	70	26	70			0
02	24-00-070	44	46	76	78	29	81			0
03	24-00-071	35	39	58	67	28	76			0
04	24-00-071MS	42	46	70	76	30	78			0
05	24-00-071MSD	48	50	82	84	33	88			0
06	24-00-072	38	42	67	75	33	87			0
07	24-00-073	47	51	86	88	32	88			0
08	SBLK98	46	49	79	78	31	83			0
09	SLCS99	38	40	65	65	24	71			0
10										
11										
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			QC LIMITS
S1	(2FP)	= 2-Fluorophenol	(25-121)
S2	(PHL)	= Phenol-d5	(24-113)
S3	(NBZ)	= Nitrobenzene-d5	(23-120)
S4	(FBP)	= 2-Fluorobiphenyl	(30-115)
S5	(TBP)	= 2,4,6-Tribromophenol	(19-122)
S6	(TPH)	= Terphenyl-d14	(18-137)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

FORM II SV-2

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0131C

Matrix Spike - Sample No.: 24-00-071 Level(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Phenol	3876	0.000	1559	40	26- 90
2-Chlorophenol	3876	0.000	1493	38	25-102
1,4-Dichlorobenzene	1938	0.000	1003	52	28-104
N-Nitroso-di-N-prop.(1)	1938	0.000	1186	61	41-126
1,2,4-Trichlorobenzene	1938	0.000	1401	72	38-107
4-Chloro-3-methylphenol	3876	0.000	1906	49	26-103
Acenaphthene	1938	0.000	1251	64	31-137
4-Nitrophenol	3876	0.000	1995	51	11-114
2,4-Dinitrotoluene	1938	0.000	1447	75	28- 89
Pentachlorophenol	3876	0.000	1468	38	17-109
Pyrene	1938	0.000	1274	66	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	3876	1699	44	10	35	26- 90
2-Chlorophenol	3876	1693	44	15	50	25-102
1,4-Dichlorobenzene	1938	1258	65	22	27	28-104
N-Nitroso-di-N-prop.(1)	1938	1330	69	12	38	41-126
1,2,4-Trichlorobenzene	1938	1635	84	15	23	38-107
4-Chloro-3-methylphenol	3876	2064	53	8	33	26-103
Acenaphthene	1938	1380	71	10	19	31-137
4-Nitrophenol	3876	2326	60	16	50	11-114
2,4-Dinitrotoluene	1938	1680	87	15	47	28- 89
Pentachlorophenol	3876	1670	43	12	47	17-109
Pyrene	1938	1419	73	10	36	35-142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

COMMENTS:

SOIL SEMIVOLATILE LAB CONTROL SAMPLE RECOVERY

CLIENT SAMPLE NO.

SLCS99

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0131C

Lab Sample ID: 782757 LCS Lot No.: 43955

Lab File ID: GH082757A60.D Date Extracted: 02/12/96

LCS Aliquot: 500 (uL) Date Analyzed: 02/15/96

Concentrated Extract Volume: 500 (uL) Dilution Factor: 1.0

injection Volume: 1.0 (uL) pH: ____

COMPOUND	AMOUNT ADDED (ug/Kg)	AMOUNT RECOVERED (ug/Kg)	%REC #	QC LIMITS
Phenol	3333	1191	36	26- 90
2-Chlorophenol	3333	1148	34	25-102
1,4-Dichlorobenzene	1667	847.2	51	28-104
N-Nitroso-di-N-propylamine	1667	892.8	54	41-126
1,2,4-Trichlorobenzene	1667	1124	67	38-107
4-Chloro-3-methylphenol	3333	1395	42	26-103
Acenaphthene	1667	923.8	55	31-137
4-Nitrophenol	3333	1254	38	11-114
2,4-Dinitrotoluene	1667	1037	62	28- 89
Pentachlorophenol	3333	959.3	29	17-109
Pyrene	1667	1033	62	35-142

Column to be used to flag LCS recovery with an asterisk.
* Values outside of QC limits.

LCS Recovery: 0 outside limits out of 11 total.

COMMENTS: _____

FORM III

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

SBLK98

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0131C

Matrix: (soil/water) SOIL Lab Sample ID: 782756

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH082756A60.D

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
62-75-9	N-Nitrosodimethylamine	260	U
110-86-1	Pyridine	550	U
109-06-8	2-Picoline	1200	U
10595-95-6	Nitrosomethylethylamine	240	U
66-27-3	Methyl Methanesulfonate	700	U
55-18-5	N-Nitrosodiethylamine	220	U
62-50-0	Ethyl Methanesulfonate	600	U
108-95-2	Phenol	570	U
62-53-3	Aniline	560	U
111-44-4	Bis(2-chloroethyl)ether	280	U
95-57-8	2-Chlorophenol	630	U
541-73-1	1,3-Dichlorobenzene	510	U
106-46-7	1,4-Dichlorobenzene	520	U
100-51-6	Benzyl Alcohol	550	U
95-50-1	1,2-Dichlorobenzene	590	U
95-48-7	2-Methylphenol	650	U
39638-32-9	bis(2-Chloroisopropyl)ether	650	U
108-39-4	3-Methylphenol	1300	U
106-44-5	4-Methylphenol	1300	U
930-55-2	N-Nitrosopyrrolidine	530	U
621-64-7	N-Nitroso-di-N-propylamine	240	U
98-86-2	Acetophenone	660	U
59-89-2	N-Nitrosomorpholine	750	U
636-21-5	o-Toluidine hydrochloride	2000	U
67-72-1	Hexachloroethane	600	U
98-95-3	Nitrobenzene	680	U
100-75-4	N-Nitrosopiperidine	740	U
78-59-1	Isophorone	680	U
88-75-5	2-Nitrophenol	620	U
105-67-9	2,4-Dimethylphenol	610	U
126-68-1	o,o,o-Triethylphosphorothioa	5300	U
111-91-1	Bis(2-chloroethoxy)methane	670	U
120-83-2	2,4-Dichlorophenol	550	U

00056

SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SBLK98

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0131C

Matrix: (soil/water) SOIL Lab Sample ID: 782756

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH082756A60.D

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
120-82-1	1,2,4-Trichlorobenzene	550	U
91-20-3	Naphthalene	660	U
106-47-8	4-Chloroaniline	690	U
87-65-0	2,6-Dichlorophenol	1200	U
1888-71-7	Hexachloropropene	570	U
87-68-3	Hexachlorobutadiene	560	U
924-16-3	N-Nitroso-di-n-butylamine	150	U
59-50-7	4-Chloro-3-methylphenol	190	U
94-59-7	Safrole	580	U
91-57-6	2-Methylnaphthalene	840	U
77-47-4	Hexachlorocyclopentadiene	660	U
95-94-3	1,2,4,5-Tetrachlorobenzene	1300	U
88-06-2	2,4,6-Trichlorophenol	1300	U
95-95-4	2,4,5-Trichlorophenol	1300	U
120-58-1	Isosafrole	1300	U
91-58-7	2-Chloronaphthalene	970	U
88-74-4	2-Nitroaniline	1100	U
130-15-4	1,4-Napthoquinone	1600	U
131-11-3	Dimethylphthalate	970	U
99-65-0	1,3-Dinitrobenzene	560	U
606-20-2	2,6-Dinitrotoluene	750	U
208-96-8	Acenaphthylene	670	U
99-09-2	3-Nitroaniline	690	U
83-32-9	Acenaphthene	660	U
51-28-5	2,4-Dinitrophenol	1700	U
100-02-7	4-Nitrophenol	690	U
608-93-5	Pentachlorobenzene	660	U
121-14-2	2,4-Dinitrotoluene	660	U
132-64-9	Dibenzofuran	690	U
91-59-8	2-Naphthylamine	860	U
58-90-2	2,3,4,6-Tetrachlorophenol	1400	U
134-32-7	1-Naphthylamine	1400	U
84-66-2	Diethylphthalate	720	U

FORM I SV-2

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

SBLK98

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0131C

Matrix: (soil/water) SOIL Lab Sample ID: 782756

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH082756A60.D

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 02/12/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 02/15/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
7005-72-3	4-Chlorophenyl-phenylether	600	U
99-55-8	5-Nitro-o-toluidine	1000	U
86-73-7	Fluorene	690	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1800	U
86-30-6	N-Nitrosodiphenylamine (1)	1400	U
122-39-4	Diphenylamine	1400	U
99-35-4	1,3,5-Trinitrobenzene	910	U
2303-16-4	Diallate (trans isomer)	660	U
62-44-2	Phenacetin	610	U
2303-16-4	Diallate (cis isomer)	660	U
101-55-3	4-Bromophenyl-phenylether	750	U
118-74-1	Hexachlorobenzene	770	U
92-67-1	4-Aminobiphenyl	410	U
87-86-5	Pentachlorophenol	1400	U
23950-58-5	Pronamide	650	U
85-01-8	Phenanthrene	620	U
120-12-7	Anthracene	740	U
84-74-2	Di-n-butylphthalate	770	U
56-57-5	4-Nitroquinoline-1-oxide	4800	U
91-80-5	Methapyrilene	1300	U
465-73-6	Isodrin	920	U
206-44-0	Fluoranthene	920	U
129-00-0	Pyrene	730	U
140-57-8	Aramite	660	U
60-11-7	p-Dimethylaminoazobenzene	670	U
510-15-6	Chlorobenzilate	710	U
85-68-7	Butylbenzylphthalate	680	U
119-93-7	3,3'-Dimethylbenzidine	450	U
117-81-7	bis(2-ethylhexyl)Phthalate	750	U
91-94-1	3,3'-Dichlorobenzidine	500	U
56-55-3	Benzo(a)Anthracene	660	U
218-01-9	Chrysene	540	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

SBLK98

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0131C

Matrix: (soil/water) SOIL Lab Sample ID: 782756

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH082756A60.D

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
117-84-0	Di-n-octylphthalate	480	U
57-97-6	7,12-Dimethylbenz(a)anthrace	410	U
205-99-2	Benzo(b)fluoranthene	770	U
207-08-9	Benzo(k)fluoranthene	620	U
193-39-5	Indeno(1,2,3-c,d)pyrene	460	U
53-70-3	Dibenzo(a,h)anthracene	180	U
191-24-2	Benzo(g,h,i)perylene	620	U
122-09-08	a,a-Dimethylphenethylamine	660	U
106-50-3	p-Phenylenediamine	660	U

FORM I SV-4

SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SBLK98

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0131C

Matrix: (soil/water) SOIL Lab Sample ID: 782756

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH082756A60.D

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:02/12/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 02/15/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:_____

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.11	330	JA
2.	UNKNOWN (BC)	4.29	1400	J
3.	ALDOL (BC)	4.55	14000	JA
4.	UNKNOWN (BC)	4.72	160	J
5.	UNKNOWN (BC)	5.24	970	J
6.	SURROGATE COMPOUND	6.09	1400	J
7.	SURROGATE COMPOUND	6.66	1200	J
8. 822-86-6	CYCLOHEXANE, 1,2-DICHLORO-,	7.18	210	NJ
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FORM I SV-TIC

COMPUCHEM
ENVIRONMENTAL
CORPORATION

20/FEB/96

Morrison Knudsen Corp.
Attn: Alan Fosdick
1500 West 3rd Street
Cleveland, OH 44113-1406

ACCOUNT #: 501019

CC#	SAMPLE-ID	RECEIPT DATE
782577	24-00-069	2/09/96
782600	24-00-070	2/09/96
782613	24-00-073	2/09/96
782620	24-00-071	2/09/96
782627	24-00-072	2/09/96

TOTAL NUMBER OF SAMPLES = 5

COMPUCHEM
ENVIRONMENTAL
CORPORATION

3306 Chapel Hill/Nelson Highway P O Box 14998
Research Triangle Park, NC 27709-4998
(919) 406-1600

SDG Narrative
Case #31923
SDG# 0111C

Sample Identifications: 24-00-069, 24-00-070, 24-00-073, 24-00-071, and 24-00-072

This narrative covers five (5) soil samples received on February 9, 1996, and processed for herbicide organic compounds by SW-846 Method 8150, The samples were received intact, and with proper documentation.

Herbicides

The samples were extracted and analyzed within holding times.

Surrogate recoveries for all samples, matrix spike (MS), matrix spike duplicate (MSD), blank spike (BS), and method blank met QC acceptance criteria.

No target compounds were detected in any of the samples or method blank above the reportable detection limits (RDL's). "J" flags are applied to analytes present below the RDL's.

The matrix spike (MS) and matrix spike duplicate (MSD) spike recoveries fell within QC control limits. All spike RPD's fell within QC control limits. The BS also had acceptable spike recoveries. All other QC criteria (initial and continuing calibrations, and retention time) were met.

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

Joe Bumgarner, Jr.
GC Method Development Chemist
February 16, 1996

NOTE: This report is paginated for reference and accountability.

2F
SOIL HERBICIDE SURROGATE RECOVERY

Lab Name: COMPUCHEM ENV. CORP. Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0111C

GC Column (1): RTX-1701 ID: 0.53 (mm) GC Column (2): RTX-35 ID: 0.53 (mm)

	SAMPLE NO.	DB 1 %REC #	DB 2 %REC #	%REC #	%REC #	OTHER (1)	OTHER (2)	TOT OUT
01	24-00-069	77	76					0
02	24-00-071MS	76	71					0
03	24-00-071MSD	74	67					0
04	BS	68	79					0
05	24-00-070	76	73					0
06	24-00-073	92	73					0
07	24-00-071	75	68					0
08	24-00-072	80	64					0
09	HBLK29	70	71					0
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

ADVISORY
QC LIMITS
(20-150)

DB = 2,4-DB

Column to be used to flag recovery values.
* Values outside of QC Limits
D Surrogate diluted out.

FORM II HERB-2

3F

SOIL HERBICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATED RECOVERY

Lab Name: COMPUCHEM ENV. CORP. Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0111C

Matrix Spike - Sample No.: 24-00-071

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
2,4-D	185.675	0.00	160	86	50-135
2,4,5-TP (Silvex)	46.419	0.75	39	82	50-135
2,4,5-T	46.419	1.5	43	89	50-135

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
2,4-D	184.937	160	87	1	20	50-135
2,4,5-TP (Silvex)	46.234	39	83	1	20	50-135
2,4,5-T	46.234	40	83	7	20	50-135

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 3 outside limits
Spike Recovery: 0 out of 6 outside limits

COMMENTS:

SOIL HERBICIDE LABORATORY CONTROL SAMPLE RECOVERY

Lab Name: COMPLICHEM ETS

Lab Code: COMPL Case No.: 31900 SDG No.: D1110

Lab Sample ID: [illegible] LCS Sample No.: BS

COMPOUND	SPIKE ADDED UG	LCS CONC. UG/L	LCS % REC.	QC LIMITS REC.
2,4-D	160.000	144.0	90	50 - 135
2,4,5-TP	40.000	28.0	71	50 - 135
2,4,5-T	40.000	41.9	105	50 - 135

* = VALUES OUTSIDE OF QC LIMITS

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

HBLK29

Lab Name: COMPUCHEM ENV. CORP. Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0111C

Matrix: (soil/water) SOIL Lab Sample ID: 782903

Sample wt/vol: 50.0 (g/ml) G Lab File ID:

% Moisture: decanted: (Y/N) Date Received:

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 02/13/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 02/15/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
94-75-7	2,4-D	100	U
93-72-1	2,4,5-TP (Silvex)	0.65	JP
93-76-5	2,4,5-T	1.0	JP

COMPUCHEM
ENVIRONMENTAL
CORPORATION

27/FEB/96

Morrison Knudsen Corp.
Attn: Alan Fosdick
1500 West 3rd Street
Cleveland, OH 44113-1406

ACCOUNT #: 501019

CC#	SAMPLE-ID	RECEIPT DATE
782581	24-00-069	2/09/96
782601	24-00-070	2/09/96
782614	24-00-073	2/09/96
782621	24-00-071	2/09/96
782628	24-00-072	2/09/96

TOTAL NUMBER OF SAMPLES = 5

COMPUCHEM
ENVIRONMENTAL
CORPORATION

3306 Chapel Hill Nelson Highway P O Box 14998
Research Triangle Park NC 27709-4998
919) 406-1600

INORGANIC CASE SUMMARY NARRATIVE
CASE # 31923 SDG # 136C
PROTOCOL: SW-846

The indicated Sample Delivery Group (SDG) consisting of five soil samples was received into the laboratory management system (LMS) on February 9, 1996 intact and in good condition with Chain of Custody (COC) Records in order, unless otherwise noted in any attachments or Quality Assurance Notices. The samples were analyzed for antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, tin, vanadium, zinc, and lithium using method 6010 for ICP analysis.

SAMPLE IDs:

The following customer IDs are associated with this SDG:

24-00-069, 24-00-070, 24-00-071, 24-00-072, 24-00-073

INSTRUMENTAL QUALITY CONTROL:

All calibration verification solutions (ICV & CCV), blanks (ICB, CCB) and interference check samples (ICSA & ICSAB) associated with this data were confirmed to be within EPA allowable limits.

SAMPLE PREPARATION QUALITY CONTROL:

The Laboratory Control Samples for Soils (LCSS) and Preparation Blanks for Soils (PBS) were found to be within acceptable ranges. All field samples associated with this case were prepared and analyzed within the specified holding times.

MATRIX RELATED QUALITY CONTROL:

The sample matrix spike, 24-00-071S(782583), was found to be outside control limits for antimony, arsenic, copper, and selenium. The sample matrix spike duplicate, 24-00-071S(782582), was found to be outside control limits for antimony, arsenic, chromium, copper, selenium, and vanadium.

The reported concentrations for these analytes are flagged with an "N" on all associated Form 1 and on Form 5a.

An "N" indicates a matrix-related interference in the sample preparation procedure &/or analysis for the flagged analyte. This is normally the consequence of a relatively high anionic content in the sample or of an inconsistent sample matrix relative to that analyte in sediment.

Method 6010 control limits for matrix spike recoveries are set at 80% to 120% of the analyte quantity (CLP control limits of 75-125 are applied to mercury and GFAA analysis) added unless original sample concentrations exceed the true values of these "spikes" by a factor of four or more; in this case affected analytes are not flagged even if recoveries fall outside percentage recovery control limits.

Post-digestion spikes are mandatory for analytes demonstrating unsatisfactory matrix spike recoveries during ICP analysis (excluding silver due to that analyte's extreme sensitivity to light and halides). The results of such spikes are presented on Form 5b.

Unsatisfactory recovery of post-digestion spikes do not have bearing upon the aforementioned "N" flags, but may indicate interference during analysis &/or a solution matrix which is hostile to the analyte in question.

Satisfactory recovery of an analyte in this type of post-digestion spike implies interference by the required preparation procedure or in the sample matrix itself. Lack of uniformity for an analyte in sediment samples will also result in satisfactory recovery of post-digestion spikes after failure in the related matrix spike.

The sample matrix duplicate, 24-00-071D(782585), out of control for arsenic, chromium, copper, lead, vanadium, and zinc. The reported concentrations for these analytes are flagged with a "*" on all associated Form 1 and on Form 6.

A "*" indicates a non-homogeneous sample matrix in regard to the flagged analyte. This is normally the consequence of a relatively coarse texture or of a mixed-matrix in sediment samples, but more often the result of a degree of container &/or sediment content variation in aqueous samples.

Control limits for duplicate determinations are +/- 20% Relative Percent Difference (RPD) for concentrations greater than or equal to five times the CRDL in both the original and duplicate samples, and +/- the CRDL for concentrations less than five times the CRDL. The RPD is not calculated if both the original and duplicate values fall below the IDL.

A four-fold serial dilution of sample, 24-00-0711L, was performed in accordance with method 6010 requirements for ICP analysis. The adjusted sample concentrations were within control limits for all requested analytes.

Control limits for serial dilution are defined as a deviation less than or equal to 10% in the dilution-adjusted concentrations from the original values for all analyte concentrations with values greater than fifty (50) times their respective Instrument Detection Limit (IDL) in the original sample.

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

Jeanne Alston
Final Technical Reviewer
February 18, 1996

Note: This report is paginated for reference and accountability.

U.S. EPA - CLP

3
BLANKS

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 136C__

Preparation Blank Matrix (soil/water): SOIL_

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Antimony	1.8	U	1.8	U	1.8	U	1.8	U	0.180	U	P
Arsenic	3.0	U	3.0	U	3.0	U	3.0	U	0.300	U	P
Barium	-0.2	B	0.2	B	0.4	B	1.4	B	0.010	B	P
Beryllium	0.3	U	0.4	B	0.4	B	0.3	B	0.030	U	P
Cadmium	0.2	U	0.3	B	0.3	B	0.2	U	0.020	U	P
Chromium	0.7	U	0.7	U	0.7	U	0.7	U	0.070	U	P
Cobalt	0.5	U	0.5	B	0.5	U	0.5	U	0.050	U	P
Copper	0.7	U	0.7	U	2.3	B	1.8	B	0.070	U	P
ad	1.6	U	1.6	U	1.6	U	1.6	U	0.160	U	P
ckel	1.0	U	1.0	U	1.0	U	1.0	U	0.100	U	
Selenium	2.6	U	2.6	U	2.6	U	2.6	U	0.260	U	
Silver	0.7	U	0.7	U	0.7	U	0.7	U	0.070	U	P
Thallium	3.5	U	3.5	U	3.5	U	3.5	U	0.350	U	P
Vanadium	0.6	U	0.6	U	0.6	U	0.6	U	0.060	U	P
Zinc	-5.5	B	-5.2	B	-4.9	B	-5.2	B	-0.550	B	P
Lithium	2.7	U	2.7	U	2.7	U	2.7	U	0.270	U	P
Tin	4.2	U	4.2	U	4.2	U	4.2	U	0.420	U	P

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____ | 24-00-071S___

Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 136C__
Matrix: __SOIL_____ Level (low/med): _LOW____
% Solids for Sample: _86.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Antimony	80-120	24.5737		0.2074	U	57.60	42.7	N	P
Arsenic	80-120	188.4793		4.5714		230.41	79.8	N	P
Barium	80-120	236.0599		38.1682		230.41	85.9		P
Beryllium	80-120	5.3537		0.4776	B	5.76	84.7		P
Cadmium	80-120	4.7304		0.0230	U	5.76	82.1		P
Chromium	80-120	30.8641		12.0737		23.04	81.6		P
Cobalt	80-120	54.4124		1.6924	B	57.60	91.5		P
Copper	80-120	32.5461		10.9873		28.80	74.9	N	P
[illegible]d	80-120	56.3594		7.2373		57.60	85.3		P
[illegible]kel	80-120	55.8410		5.6267		57.60	87.2		P
[illegible]enium	80-120	173.3871		0.2995	U	230.41	75.3	N	P
Silver	80-120	5.2500		0.0806	U	5.76	91.1		P
Thallium	80-120	200.6912		0.4032	U	230.41	87.1		P
Vanadium	80-120	66.3710		20.3111		57.60	80.0		P
Zinc	80-120	67.9954		19.3318		57.60	84.5		P
Lithium	80-120	107.6959		4.1244	B	115.21	89.9		P
Tin									NR

[illegible]ments:

FORM V (Part 1) - IN 3/90
U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____ 24-00-071S___

Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 136C__
Matrix: __SOIL_____ Level (low/med): _LOW____
% Solids for Sample: _86.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Antimony	80-120	24.7696		0.2074	U	57.60	43.0	N	P
Arsenic	80-120	183.7097		4.5714		230.41	79.9	N	P
Barium	80-120	241.9355		38.1682		230.41	88.4		P
Beryllium	80-120	5.4182		0.4776	B	5.76	85.8		P
Cadmium	80-120	4.8998		0.0230	U	5.76	85.1		P
Chromium	80-120	29.4009		12.0737		23.04	75.2	N	P
Cobalt	80-120	55.1382		1.6924	B	57.60	92.8		P
Copper	80-120	33.2488		10.9873		28.80	77.3	N	P
ad	80-120	56.5668		7.2373		57.60	85.6		P
ckel	80-120	56.0945		5.6267		57.60	87.6		
Selenium	80-120	179.2627		0.2995	U	230.41	77.8	N	
Silver	80-120	5.3445		0.0806	U	5.76	92.8		P
Thallium	80-120	205.5300		0.4032	U	230.41	89.2		P
Vanadium	80-120	64.7235		20.3111		57.60	77.1	N	P
Zinc	80-120	66.2097		19.3318		57.60	81.4		P
Lithium	80-120	115.7834		4.1244	B	115.21	96.9		P
Tin									NR

nments:

U.S. EPA - CLP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

24-00-071A

ıb Name: COMPUCHEM_ENV._CORP. Contract: SW-846

ıb Code: COMPU Case No.: 31923 SAS No.: SDG No.: 136C

ıtrix: SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Added (SA)	%R	Q	M
Antimony		110.90		1.80	U	120.0	92.4		P
Arsenic		117.90		39.68		80.0	97.8		P
Barium									NR
Beryllium									NR
Cadmium									NR
Chromium		293.80		104.80		200.0	94.5		P
Cobalt									NR
Copper		290.90		95.37		190.0	102.9		P
Lead									NR
ıel									NR
ınium		10.44		2.60	U	10.0	104.4		P
Silver									NR
Thallium									NR
Vanadium		513.50		176.30		350.0	96.3		P
Zinc									NR
Lithium									NR
Tin									NR

Comments:

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

24-00-071D

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 136C__

Matrix (soil/water): SOIL_ Level (low/med): _LOW__

% Solids for Sample: _86.8 % Solids for Duplicate: _100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Antimony		0.2074	U	0.2074	U			P
Arsenic	1.2	4.5714		1.3237		110.2	*	P
Barium	23.0	38.1682		30.2189		23.2		P
Beryllium		0.4776	B	0.2658	B	57.0		P
Cadmium		0.0230	U	0.0230	U			P
Chromium		12.0737		8.5276		34.4	*	P
Cobalt		1.6924	B	1.2189	B	32.5		P
Copper	2.9	10.9873		4.9954		75.0	*	P
Lead		7.2373		4.5461		45.7	*	P
Nickel	4.6	5.6267		4.1486	B	30.2		P
Selenium		0.2995	U	0.2995	U			P
Silver		0.0806	U	0.0806	U			P
Thallium		0.4032	U	0.4032	U			P
Vanadium	5.8	20.3111		10.6267		62.6	*	P
Zinc		19.3318		14.3664		29.5	*	P
Lithium		4.1244	B	3.3134	B	21.8		P
Tin		0.8380	B	1.4366	B	52.6		P

FORM VI - IN

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____

Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 136C__

Solid LCS Source: EPA-LV_____

Aqueous LCS Source: _____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Antimony_				211.0	211.6	_	127.0	294.0	100.3
Arsenic__				917.0	1016.8	_	635.0	1199.0	110.9
Barium___				4.8	6.0	B	0.0	40.0	125.0
Beryllium				19.4	19.5	_	16.5	22.3	100.5
Cadmium__				45.4	41.4	_	35.7	55.1	91.2
Chromium_				99.6	101.8	_	79.2	120.0	102.2
Cobalt___				144.0	152.9	_	125.0	162.0	106.2
Copper___				6910.0	7513.0	_	6006.0	7820.0	108.7
Lead____				236.0	228.2	_	188.0	285.0	96.7
Nickel___				60.9	59.3	_	49.2	72.6	97.4
Selenium_				39.2	40.3	_	19.1	59.4	102.8
Silver___				22.2	25.3	_	15.5	29.0	114.0
Thallium_				39.0	40.1	_	24.6	53.5	102.8
Vanadium_				65.8	68.7	_	51.7	79.9	104.4
Zinc____				187.0	184.4	_	138.0	236.0	98.6
Lithium__				200.0	159.1	_	150.0	250.0	79.5
Tin_____						_			

FORM VII - IN

TRIANGLE LABS

CASE NARRATIVE

Analysis of Samples for the Presence of

Polychlorinated Dibenzo-*p*-Dioxins and Dibenzofurans by

High-Resolution Chromatography / Low-Resolution Mass Spectrometry

Method 8280 Rev. 0 (9/86)

Date: November 3, 1995

Client ID: American Environmental Network

P.O. Number:

TLI Project Number: 34626B

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Rev 06/21/95

Triangle Laboratories, Inc.
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919-544-5729
P.O. Box 13485
Research Triangle Park, NC 27709-3485
Fax # 919-544-5491

Overview

The samples and any associated QC samples were extracted and analyzed according to procedures described in EPA Method 8280. Any particular difficulties encountered during the sample handling by Triangle Laboratories will be discussed in the QC Remarks section below. Results reported relate only to the items tested.

Sample Extraction

The solid sample has been Soxhlet-Dean Stark extracted with toluene to produce a final extract. Eighty percent of the extract was archived while twenty percent was processed through the cleanup procedures.

The cleanup of extracts may include the use of bulk acid/base washes, and acid silica, basic silica, activated alumina, and carbon column liquid chromatography.

Sample Analysis

A five point initial calibration curve was analyzed, in triplicate, on each instrument used for sample analysis. Calibration ranges are listed below and are based on sample size. A continuing calibration check and a column performance evaluation are analyzed at the beginning of each twelve hour period of sample analysis. The column performance solution, which is used to evaluate the GC resolution is also performed at the end of each twelve hour analytical sequence.

Calibration Ranges

Compounds	Solid (10 g sample)	Water (1 L sample)	
	ppb (µg/Kg)	ppt (ng/L)	ppb (µg/L)
TCDD/TCDF PeCDD/PeCDF	1-20	10-200	0.01-0.2
HxCDD/HxCDF HpCDD/HpCDF	2.5-50	25-500	0.025-0.5
OCDD/OCDF	5-100	50-1000	0.05-1.0

Some of the labeled standards used in the analysis have ion fragments with the same mass as the quantitation mass of some of the analytes. These lower mass fragments appear as peaks or 'breakthrough' in the analyte channels. This can often be witnessed in the cases of $^{13}C_{12}$-TCDF internal standard appearing in the TCDD analyte channels, $^{13}C_{12}$-HxCDD internal and recovery standards appearing the HpCDF analyte channels, and $^{13}C_{12}$-HpCDF internal standard appearing the HpCDD analyte channels. For most of the above situations, the interfering peaks due to the labeled standards lie outside the retention time window of the analyte. In the case of TCDD/TCDF, the interferences usually lie within the retention time window. Whenever breakthrough peaks occur from the labeled standards, these peaks are reported as EMPCs, and may be considered artifacts from the labeled standards. This is a limitation caused by the use of low-resolution mass spectrometry, recommended in the method.

Quality Control Samples

A laboratory method blank, identified as the TLI soil Blank, was prepared along with the samples. One such sample per 20 field samples (or less) of a given matrix is prepared. The matrix spike (MS) and a matrix spike duplicate (MSD) samples associated with this project were extracted with TLI project number 34609. A summary of the results from these samples is included

The advisory quality control range for internal and clean-up standard percent recoveries is 40-120 percent recovery (25-120 for the OCDD internal standard). If recoveries are below the advisory range, analyte results are judged to be valid as long as the ratio of signal to noise for the standard is greater than ten to one and the percent recovery is greater than ten percent.

Quality Control Remarks

This release of this particular set of American Environmental Network analytical data by Triangle Laboratories was authorized by the Quality Control Chemist who has reviewed each sample data package individually following a series of inspections/reviews. When applicable, general deviations from acceptable QC requirements are identified below and comments are made on the effect of these deviations upon the validity and reliability of the results. Specific QC issues associated with this particular project are:

Sample receipt: One water and fourteen soil samples were received from American Environmental Network at 3 °C in good condition October 20, 1995 and were stored in a refrigerator at 4°C until the time of extraction. Only the soil samples will be reported in this data package.

Sample Preparation Laboratory: None

Mass Spectrometry: None

Data Review: The internal and cleanup standards for these samples are within the QC advisory limits of 40-120 percent (25-120 percent for the OCDD internal standard) or meet ten to one signal to noise criteria in all cases.

Other Comments: No 2,3,7,8-substituted target analytes were detected in the TLI Blank above the method detection limit (MDL).

Sample Calculations:

Method 8280 does not specify which of the two monitored masses to use for quantitation of all of the isotope-labeled standards. Following the pattern established by the method, we have selected which mass to use for each analyte and standard based on the theoretical ratio. For groups with theoretical ratios that are greater than one (the pentas, hexas and heptas), the first monitored mass should be larger and is therefore used for quantitation. For channels with theoretical ratios of less than one (the tetras and octas), the second monitored mass should generally be larger and is used for quantitation.

Analyte Concentration

The concentration or amount of any analyte is calculated using the following expression.

$$C_{(\sigma)} = \frac{A_\sigma * Q_\beta}{A_\beta * RRF_{(\sigma)} * W}$$

Where.

$C_{(\sigma)}$ is the concentration or amount of a given analyte,

A_σ is the integrated ion current of the quantitation ion of the analyte,

A_β is the integrated ion current of the quantitation ion of the corresponding internal standard,

Q_β represents the amount of internal standard added to the sample before extraction,

$RRF_{(\sigma)}$ is the analyte relative response factor from the continuing calibration and,

W is the sample weight or volume

Detection Limits

The detection limit reported for a target analyte was derived from a method validation study performed by Triangle Laboratories, Inc. The reported detection limit has been adjusted for each sample using the actual sample size extracted and any dilution factors associated with that sample analysis.

Data Flags

In order to assist with data interpretation, data qualifier flags are used on the final reports. Please note that all data qualifier flags are subjective and are applied as consistently as possible. Each flag has been reviewed by two independent Chemists and the impact of the data qualifier flag on the quality of the data discussed above. The most commonly used flags are:

A **'B'** flag is used to indicate that an analyte has been detected in the laboratory method blank as well as in an associated field sample. The 'B' flag will be used only when the concentration of analyte found in the sample is less than 20 times that found in the associated blank. This flag denotes possible contribution of background laboratory contamination to the concentration or amount of that analyte detected in the field sample. Under Triangle Laboratories guidelines, a laboratory blank is acceptable if the analyte levels are all below the target detection limits (TDLS) or if the contamination levels are less than 5% of the levels detected in the associated field samples. If these conditions are satisfied or if the blank is unable to be reextracted, the interpretation of the contamination levels relative to the samples should be as follows: 1) analyte quantitations should be considered valid if the level of blank contamination is less than five percent of the level detected in the field sample, 2) analyte quantitations should be considered estimated if the analyte level in the sample is five to twenty times the level of the analyte in the blank, or 3) analytes whose level in a sample is the same as or less than five times the level detected in the associated blank should be considered present likely due to laboratory contamination and not native to the sample.

An **'E'** flag is used to indicate that a PCDF peak has eluted at the same time as the associated diphenyl ether (DPE) and that the DPE peak intensity is ten percent or more of the total PCDF peak intensity. Total PCDF values are flagged 'E' if the total DPE contribution to the total PCDF value is greater than ten percent. All PCDF peaks that are significantly influenced by the presence of DPE peaks are quantitated with EMPC values, regardless of the isotopic abundance ratio. These EMPC values are most likely overestimated due to the DPE contribution to the peak area.

An **'I'** flag is used to indicate labeled standards have been interfered with on the GC column by coeluting, interferent peaks. The interference may have caused the standard's area to be overestimated. All quantitations relative to this standard, therefore, may be underestimated.

A **'PR'** flag is used to indicate that a GC peak is poorly resolved. This resolution problem may be seen as two closely eluting peaks without a reasonable valley between the peak tops, overly broad peaks, or peaks whose shapes vary greatly from a normal distribution. The concentrations or amounts reported for such peaks are most likely overestimated.

An **'RO'** flag is used to indicate that a labeled standard has an ion abundance ratio that is outside of the acceptable QC limits, most likely due to a coeluting interference. This may have caused the percent recovery of the standard to be overestimated. All quantitations versus this standard, therefore, may be underestimated.

An **'S'** flag indicates that the response of a specific PCDD/PCDF isomer has exceeded the normal dynamic range of the mass spectrometer detection system. The corresponding signal is saturated and the reported analyte concentration is a 'minimum estimate'. When the 'S' qualifier is used in the reporting of 'totals', there is saturation of one (not necessarily from a specific isomer) or more saturated signals for a given class of compounds.

A **'U'** flag is used to indicate that a specific isomer cannot be resolved from a large, co-eluting interferent GC peak. The specific isomer is reported as not detected as a valid concentration cannot be determined. The calculated detection limit, therefore, should be considered an underestimated value.

A **'V'** flag is used to indicate that, although the percent recovery of a labeled standard may be below a specific QC limit, the signal-to-noise ratio of the peak is greater than ten-to-one. The standard is considered reliably quantifiable. All quantitations derived from the standard are considered valid as well.

The value reported for 'EMPCs' represents the estimated maximum possible concentration reported for GC/MS peaks eluting within the retention time windows established by the daily GC performance analysis, and which are characterized by a signal to noise ratio in excess of 2.5 to 1, but which do not meet the ion abundance ratio criteria. The 'EMPC' is calculated by using the same expression used for reporting the identified analyte concentrations. An EMPC can be reported for a non-detected specific isomers (e.g. 2,3,7,8-TCDD) but can also be reported for 'totals' (e.g. Total TCDD) in which case the 'total' EMPC represents the sum of all the positively identified PCDD/PCDF peaks and of the peaks that do not meet all the identification criteria.

By our interpretation, the analytical data in this project are valid based on the guidelines of EPA Method 8280. Any specific QC concerns or problems have been discussed in the QC Remarks section of this case narrative with emphasis on their affect on the data. Should American Environmental Network have any questions or comments regarding this data package, please feel free to contact:
Project Scientist Mary McDonald, at 919/544-5729.

For Triangle Laboratories, Inc.,

Report Preparation

11/3/95

Stuart Jefferys
Report Preparation Chemist

Quality Control

11·3·95

Bracha Rosenberg (for)
Kenneth Varley
Report Preparation Chemist

The total number of pages in the data package is : 703 .

TRIANGLE LABORATORIES OF RTP, INC.
MATRIX SPIKE RECOVERY ANALYSIS AND COMPARISON

Project: 34609
Matrix: SOIL
Method: 8280

Isomer	E953802 ID: SL-SB95-4 142.0-150.0 Sample (ppb)	E953803 ID: SL-SB95-4 142.0-150.0 MS With Spike (ppb)	Percent Recovery	E953804 ID: SL-SB95-4 142.0-150.0 MSD Spike Dup (ppb)	Percent Recovery	Relative Percent Difference
2378-TCDD	ND	1.2	101	1.2	98.4	2.61
12378-PeCDD	ND	4.1	134	3.9	126	6.15
123478-HxCDD	ND	3.0	97.5	2.9	95.4	2.18
123678-HxCDD	ND	2.6	83.5	2.5	83.3	0.24
123789-HxCDD	ND	3.1	103	3.1	101	1.96
1234678-HpCDD	ND	2.9	96.1	2.9	94.1	2.10
OCDD	ND	5.9	96.8	5.6	92.2	4.87
2378-TCDF	ND	1.2	102	1.2	101	0.99
12378-PeCDF	ND	4.3	139	4.2	137	1.45
23478-PeCDF	ND	3.9	129	3.7	121	6.40
123478-HxCDF	ND	3.2	106	3.3	107	0.94
123678-HxCDF	ND	3.5	116	3.6	117	0.86
234678-HxCDF	ND	3.5	115	3.7	122	5.91
123789-HxCDF	ND	2.7	89.4	2.7	88.0	1.58
234678-HpCDF	ND	4.2	139	4.1	135	2.92
1234789-HpCDF	ND	3.0	99.1	3.1	102	2.88
OCDF	ND	4.7	77.7	4.6	75.8	2.48

ND: Not Detected
NA: Not Applicable
[..]: EMPC Value

LARS 6.03.03
TLI_PSUM v2.04

Processed By: _____ Date: 11/03/95

AMERICAN ENVIRONMENTAL NETWORK, INC.

9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

October 26, 1995

Client: MK Corp

Project: NSWC Crane

Case: 9510199

Analysis: Metals

Client ID	AENI ID	Date Sampled	Date Received	Date Analyzed
NSWC 24/00 RB9	9510199-001	10/17/95	10/18/95	10/21-25/95
NSWC 24/00 055	9510199-002	10/17/95	10/18/95	10/21-25/95
NSWC 24/00 056	9510199-003	10/17/95	10/18/95	10/21-25/95
NSWC 24/00 057	9510199-004	10/17/95	10/18/95	10/21-25/95
NSWC 24/00 058	9510199-005	10/17/95	10/18/95	10/21-25/95
NSWC 24/00 059	9510199-006	10/17/95	10/18/95	10/21-25/95
NSWC 24/00 060	9510199-007	10/17/95	10/18/95	10/21-25/95
NSWC 24/00 061	9510199-008	10/17/95	10/18/95	10/21-25/95
NSWC 24/00 062	9510199-009	10/17/95	10/18/95	10/21-25/95
NSWC 24/00 063	9510199-010	10/17/95	10/18/95	10/21-25/95
NSWC 24/00 064	9510199-011	10/17/95	10/18/95	10/21-25/95
NSWC 24/00 065	9510199-012	10/17/95	10/18/95	10/21-25/95
NSWC 24/00 066	9510199-013	10/17/95	10/18/95	10/21-25/95
NSWC 24/00 067	9510199-014	10/17/95	10/18/95	10/21-25/95
NSWC 24/00 068	9510199-015	10/17/95	10/18/95	10/21-25/95

Fourteen soil samples and one groundwater sample were received and analyzed for metals. Results are reported in units of mg/Kg dry weight for the soils and ug/L for the groundwater.

The matrix spike recoveries for Sb and As were outside control limits. A post-spike was performed and the data was flagged. All other QC data were within normal control limits.

Report Released By _____
Christopher Baggett
Metals Laboratory Manager

U.S. EPA - CLP

3
BLANKS

ab Name: AENI Contract: 9510199

ab Code: Case No.: MKC70 SAS No.: SDG No.: 24/00

reparation Blank Matrix (soil/water): WATER

reparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony			20.0	U					20.000	U	P
Arsenic			8.0	U					8.000	U	P
Barium			100.0	U					100.000	U	P
Beryllium			2.0	U					2.000	U	P
Cadmium			4.0	U					4.000	U	P
Calcium											NR
Chromium			10.0	U					10.000	U	P
Cobalt			11.0	U					11.000	U	P
Copper			25.0	U					25.000	U	
Iron											NR
Lead			10.0	U					10.000	U	P
Magnesium											NR
Manganese											NR
Mercury			0.2	U	0.2	U	0.2	U	0.200	U	AV
Nickel			15.0	U					15.000	U	P
Potassium											NR
Selenium			5.0	U					5.000	U	P
Silver			8.0	U					8.000	U	P
Sodium											NR
Thallium			10.0	U					10.000	U	P
Vanadium			16.0	U					16.000	U	P
Zinc			20.0	U					20.000	U	P
Cyanide											NR
Tin	200.0	U	200.0	U	200.0	U			200.000	U	P
Lithium											NR

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

ab Name: AENI Contract: 9510199 | 24/00 055S

ab Code: Case No.: MKC70 SAS No.: SDG No.: 24/00

atrix: SOIL Level (low/med): LOW

Solids for Sample: 90.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony	75-125	5.9476		2.0978	U	10.90	54.6	N	P
Arsenic	75-125	10.0407		1.7271		10.90	76.3		P
Barium	75-125	235.1585		27.8260		218.08	95.1		P
Beryllium	75-125	4.9396		0.2098	U	5.45	90.6		P
Cadmium	75-125	4.8389		0.4196	U	5.45	88.8		P
Calcium									NR
Chromium	75-125	29.8215		9.8600		21.81	91.5		P
Cobalt	75-125	51.2414		1.3969		54.52	91.4		P
Copper	75-125	29.6534		4.9540		27.26	90.6		P
Iron									NR
Lead	75-125	53.6676		5.9704		54.52	87.5		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel	75-125	54.2785		4.7050		54.52	90.9		P
Potassium									NR
Selenium	75-125	8.6237		0.5244	U	10.90	79.1		P
Silver	75-125	8.9667		0.8391	U	10.90	82.3		P
Sodium									NR
Thallium	75-125	9.0442		1.0489	U	10.90	83.0		P
Vanadium	75-125	62.0059		14.6717		54.52	86.8		P
Zinc	75-125	66.7416		18.5220		54.52	88.4		P
Cyanide									NR
Tin	75-125	115.5130		20.9776	U	109.04	105.9		P
Lithium	75-125	93.2640		10.4888	U	109.04	85.5		P

Comments:
CLIENT_ID: NSWC_24/00_055
ATRIX_SPIKE

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

24/00 055M

Lab Name: AENI Contract: 9510199

Lab Code: Case No.: MKC70 SAS No.: SDG No.: 24/00

Matrix: SOIL Level (low/med): LOW

% Solids for Sample: 90.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony	75-125	5.6961		2.0978	U	10.59	53.8	N	P
Arsenic	75-125	9.3560		1.7271		10.59	72.0	N	P
Barium	75-125	215.4107		27.8260		211.79	88.6		P
Beryllium	75-125	4.5338		0.2098	U	5.29	85.7		P
Cadmium	75-125	4.4662		0.4196	U	5.29	84.4		P
Calcium									NR
Chromium	75-125	27.5490		9.8600		21.18	83.5		P
Cobalt	75-125	47.4776		1.3969		52.95	87.0		P
Copper	75-125	27.2454		4.9540		26.47	84.2		P
Iron									NR
Lead	75-125	49.1367		5.9704		52.95	81.5		
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel	75-125	50.0330		4.7050		52.95	85.6		P
Potassium									NR
Selenium	75-125	7.9470		0.5244	U	10.59	75.0		P
Silver	75-125	8.3159		0.8391	U	10.59	78.5		P
Sodium									NR
Thallium	75-125	8.4286		1.0489	U	10.59	79.6		P
Vanadium	75-125	57.0314		14.6717		52.95	80.0		P
Zinc	75-125	62.6840		18.5220		52.95	83.4		P
Cyanide									NR
Tin	75-125	101.5788		20.9776	U	105.90	95.9		P
Lithium	75-125	84.9735		10.4888	U	105.90	80.2		P

Comments:
CLIENT_ID: NSWC_24/00_055
MATRIX_SPIKE_DUPLICATE

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

951019301S

b Name: AENI Contract: 9510199

b Code: _____ Case No.: MKC70 SAS No.: _____ SDG No.: 24/00

trix: SOIL Level (low/med): LOW

Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
[illegible]per									NR
[illegible]									NR
L[illegible]d									NR
Magnesium									NR
Manganese									NR
Mercury	75-125	1.3435		0.6043		0.87	85.0		AV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR
Tin									NR
Lithium									NR

omments:
MATRIX_SPIKE

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

951019301M

Lab Name: AENI Contract: 9510199

Lab Code: Case No.: MKC70 SAS No.: SDG No.: 24/00

Matrix: SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
[illegible]d									
[illegible]nesium									[illegible]
Manganese									NR
Mercury	75-125	1.2821		0.6043		0.71	95.5		AV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR
Tin									NR
Lithium									NR

Comments:
MATRIX_SPIKE_DUPLICATE

U.S. EPA - CLP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

24/00 055A

Lab Name: AENI Contract: 9510199

Lab Code: _____ Case No.: MKC70 SAS No.: _____ SDG No.: 24/00_

Matrix: SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Added (SA)	%R	Q	M
Aluminum									NR
Antimony		205.04		20.00	U	200.0	102.5		P
Arsenic		33.98		16.47		20.0	87.5		P
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
pper									NR
on									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR
Tin									NR
Lithium									NR

Comments:
CLIENT_ID: NSWC_24/00_055

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

24/00 055D

ab Name: AENI Contract: 9510199

ab Code: Case No.: MKC70 SAS No.: SDG No.: 24/00

atrix (soil/water): SOIL Level (low/med): LOW

Solids for Sample: 90.8 % Solids for Duplicate: 90.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony		2.0978	U	2.1830	U			P
Arsenic	1.0	1.7271		1.5158		13.0		P
Barium	21.0	27.8260		29.5658		6.1		P
Beryllium		0.2098	U	0.2228		200.0		P
Cadmium		0.4196	U	0.4366	U			P
Calcium								NR
Chromium		9.8600		11.4020		14.5		P
Cobalt		1.3969		1.9074		30.9		P
Copper	1.0	4.9540		5.5554		11.4		P
Iron								NR
Lead		5.9704		6.0253		0.9		P
Magnesium								NR
Manganese								NR
Mercury								NR
Nickel	4.2	4.7050		5.2340		10.6		P
Potassium								NR
Selenium		0.5244	U	0.5457	U			P
Silver		0.8391	U	0.8732	U			P
Sodium								NR
Thallium		1.0489	U	1.0915	U			P
Vanadium	5.2	14.6717		16.6312		12.5		P
Zinc		18.5220		19.4603		4.9		P
Cyanide								NR
Tin		20.9776	U	21.8300	U			P
Lithium		10.4888	U	10.9150	U			P

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6
DUPLICATES

EPA SAMPLE NO.

951019301D

Lab Name: AENI Contract: 9510199

Lab Code: Case No.: MKC70 SAS No.: SDG No.: 24/00

Matrix (soil/water): SOIL Level (low/med): LOW

Solids for Sample: 100.0 % Solids for Duplicate: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic								NR
Barium								NR
Beryllium								NR
Cadmium								NR
Calcium								NR
Chromium								NR
Cobalt								NR
Copper								NR
Iron								NR
Lead								NR
Magnesium								NR
Manganese								NR
Mercury		0.6043		0.5739		5.2		AV
Nickel								NR
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc								NR
Cyanide								NR
Tin								NR
Lithium								NR

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

a. ame: AENI_____ Contract: 9510199___

ab Code: _____ Case No.: MKC70 SAS No.: _____ SDG No.: 24/00_

olid LCS Source: _____

queous LCS Source: SPEX_____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony	100.0	93.65	93.7						
Arsenic	100.0	89.72	89.7						
Barium	2000.0	2078.97	103.9						
Beryllium	50.0	46.46	92.9						
Cadmium	50.0	48.56	97.1						
Calcium									
Chromium	200.0	200.43	100.2						
Cobalt	500.0	499.14	99.8						
Copper	250.0	250.87	100.3						
Iron									
Lead	500.0	486.27	97.3						
M esium									
Manganese									
Mercury									
Nickel	500.0	497.20	99.4						
Potassium									
Selenium	100.0	87.33	87.3						
Silver	100.0	88.82	88.8						
Sodium									
Thallium	100.0	93.04	93.0						
Vanadium	500.0	490.10	98.0						
Zinc	500.0	493.34	98.7						
Cyanide									
Tin	1000.0	1030.06	103.0						
Lithium	1000.0	854.40	85.4						

FORM VII - IN

ILM02.1

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7

LABORATORY CONTROL SAMPLE

ab Name: AENI Contract: 9510199

ab Code: Case No.: MKC70 SAS No.: SDG No.: 24/00

olid LCS Source:

queous LCS Source: SPEX

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony	100.0	90.89	90.9						
Arsenic	100.0	86.17	86.2						
Barium	2000.0	1907.35	95.4						
Beryllium	50.0	44.08	88.2						
Cadmium	50.0	45.78	91.6						
Calcium									
Chromium	200.0	184.37	92.2						
Cobalt	500.0	469.99	94.0						
Copper	250.0	223.82	89.5						
Iron									
Lead	500.0	460.41	92.1						
Magnesium									
Manganese									
Mercury									
Nickel	500.0	467.26	93.5						
Potassium									
Selenium	100.0	89.06	89.1						
Silver	100.0	86.25	86.3						
Sodium									
Thallium	100.0	89.33	89.3						
Vanadium	500.0	454.97	91.0						
Zinc	500.0	457.50	91.5						
Cyanide									
Tin	1000.0	1186.42	118.6						
Lithium									

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: AENI Contract: 9510199

Lab Code: _____ Case No.: MKC70 SAS No.: _____ SDG No.: 24/00

Solid LCS Source: _____

Aqueous LCS Source: SPEX

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury	2.0	1.97	98.5						
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									
Tin									
Lithium									

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: AENI Contract: 9510199

Lab Code: _____ Case No.: MKC70 SAS No.: _____ SDG No.: 24/00

Solid LCS Source: _____

Aqueous LCS Source: SPEX

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
ad									
gnesium									
Manganese									
Mercury	2.0	2.01	100.5						
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									
Tin									
Lithium									

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

Report Number: 9510199
Report To: MK Corp
Project: NSWC Crane
Date: November 01, 1995
Analysis: General Chemistry Parameters

Client ID	AENI ID	Date Sampled	Date Received
NSWC 24/00 RB9	9510199-001	10/17/95	10/18/95
NSWC 24/00 055	9510199-002	10/17/95	10/18/95
NSWC 24/00 056	9510199-003	10/17/95	10/18/95
NSWC 24/00 057	9510199-004	10/17/95	10/18/95
NSWC 24/00 058	9510199-005	10/17/95	10/18/95
NSWC 24/00 059	9510199-006	10/17/95	10/18/95
NSWC 24/00 060	9510199-007	10/17/95	10/18/95
NSWC 24/00 061	9510199-008	10/17/95	10/18/95
NSWC 24/00 062	9510199-009	10/17/95	10/18/95
NSWC 24/00 063	9510199-010	10/17/95	10/18/95
NSWC 24/00 064	9510199-011	10/17/95	10/18/95
NSWC 24/00 065	9510199-012	10/17/95	10/18/95
NSWC 24/00 066	9510199-013	10/17/95	10/18/95
NSWC 24/00 067	9510199-014	10/17/95	10/18/95
NSWC 24/00 068	9510199-015	10/17/95	10/18/95

One water sample and fourteen soil samples were received and analyzed for General Chemistry Parameters.

All quality control met standard laboratory criteria.

This report consists of tabulated sample results and a QC Summary Report.

Report Released By: Rhonda Green-Barron
Rhonda Green-Barron
General Chemistry Laboratory Manager

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

Report Number: 9510199
Report To: MK Corp
Project: NSWC Crane
Date: November 01, 1995
Analysis: General Chemistry Parameters

QC SUMMARY

Parameter	Sample ID	Result/Recovery
Total Cyanide	PBLK951024	< 0.02 mg/L
	BS951025	96%
	BSD951026	97%
Total Sulfide	PBLK951024	< 1 mg/L

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 RUMSEY ROAD
COLUMBIA, MD. 21045
(410) 730-8525

Project Number: 9509-223
Client Name: O.H. Materials
Project Title: NSWC Crane

Four soil samples were TCLP leached according to the SW846 guidelines, and analyzed for the volatile and semivolatile organic compounds in the list of Toxic Characteristic Constituents, by methods 8240 and 8270, respectively.
The analyses followed the standard AENI QA/QC and holding time requirements.

This package consists of tabulated results of the samples and the method blanks, along with the QC forms II, III, IV, V, VI, VII and VIII.

Data Released Minh-Thy L. Nguyen 10/2/95
Minh-Thy L. Nguyen
GC/MS Lab Manager

VOLATILES Section:

Client ID	AENI ID	Matrix	Date Sampled	Date Received	Date TCLP Leached	Date Analyzed
NSWC-24/00-051	223-001	Soil	09/18/95	09/20/95	09/28/95	09/29/95
NSWC-24/00-052	223-002	Soil	09/18/95	09/20/95	09/28/95	09/29/95
NSWC-24/00-053	223-003	Soil	09/18/95	09/20/95	09/28/95	09/29/95
NSWC-24/00-054	223-004	Soil	09/18/95	09/20/95	09/28/95	09/29/95

Form I (Tabulated Results)
All sample preparation and analyses were performed within the holding time requirement.
The leachates were analyzed at a 1:10 dilution to minimize background interference.

Form II (Surrogate Recoveries)
The surrogate recoveries for the samples, QC and method blanks were within the method specified criteria.

Form III (MS/MSD Recoveries)
The MS/MSD analysis was performed on sample NSWC-24/00-054. All spike recoveries and all %RPD were within the method advisory limits.

Form IV (Method Blank Summary)
The method blanks were free of target analytes.

Form V (Tuning and Mass Calibration)
All calibration standards, method blanks, QC and samples were analyzed within the method specified mass calibration and 12-hr tune criteria.

Form VI (Initial Calibration)
The initial calibration curve met the method specified Min mean RRF for the SPCC compounds and Max %RSD for the CCC compounds.

Form VII (Continuing Calibration)
All CCC and SPCC compounds for the daily continuing calibration were within the method specified criteria for max %D and Min RRF50.

Form VIII (Internal Standard Summary)
All internal standard areas and all retention times were within the lab warning limits.

SEMIVOLATILES Section:

Client ID	AENI ID	Matrix	Date Sampl.	Date Recevd	Date Extracted TCLP	Date Extracted BNA	Date Analz
NSWC-24/00-051	223-001	Soil	09/18	09/20	09/21	09/23	09/26
NSWC-24/00-052	223-002	Soil	09/18	09/20	09/21	09/23	09/26
NSWC-24/00-053	223-003	Soil	09/18	09/20	09/21	09/23	09/26
NSWC-24/00-054	223-004	Soil	09/18	09/20	09/21	09/23	09/26

Form I (Tabulated Results)
All sample preparation and analyses were performed within the holding time requirement.
The leachates were analyzed at a 1:2 dilution to minimize background interference.

Form II (Surrogate Recoveries)
The surrogate recoveries for all samples, method blanks and LCS were within criteria. Note that all samples were flagged with 'D' due to the dilution.

Form III (MS Recoveries)
A LCS analysis was reported. All spike recoveries were within the method advisory limits.

Form IV (Method Blank Summary)
The method blanks were free of target analytes.

Form V (Tuning and Mass Calibration)
All calibration standards, method blanks, QC and samples were analyzed within the method specified mass calibration and 12-hr tune criteria.

Form VI (Initial Calibration)
The initial calibration curves met the method specified Min mean RRF for the SPCC compounds and Max %RSD for the CCC compounds.

Form VII (Continuing Calibration)
All CCC and SPCC compounds for the daily continuing calibrations were within the method specified criteria for max %D and Min RRF50.

Form VIII (Internal Standard Summary)
All internal standard areas and all retention times were within the lab warning limits.

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: AENI MD Contract: MKC

Project No.: 9509223 Site: NSWC Location: CRANE Group:

	SAMPLE NO.	SMC1 (DCE) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER #	TOT OUT
01	VBLK01	87	100	100		
02	TBLK	85	99	99		
03	NSWC-24/00-051	84	96	96		
04	NSWC-24/00-052	83	96	97		
05	NSWC-24/00-053	81	95	95		
06	NSWC-24/00-054	81	92	92		
07	NSWC-24/00-054	77	89	91		
08	NSWC-24/00-054	76	88	88		
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

	QC LIMITS
SMC1 (DCE) = 1,2-Dichloroethane-d4	(76-114)
SMC2 (TOL) = Toluene-d8	(88-110)
SMC3 (BFB) = Bromofluorobenzene	(86-115)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE-DUPLICATE RECOVERY

Lab Name: AENI MD Contract: MKC

Project No.: 9509223 Site: NSWC Location: CRANE Group: _____

Matrix Spike - Sample No.: NSWC-24/00-054

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50	0	43	86	(61-145)
Benzene	50	0	58	116	(76-127)
Trichloroethene	50	0	43	86	(71-120)
Toluene	50	0	59	118	(76-125)
Chlorobenzene	50	0	62	124	(75-130)

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MS % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	42	84	2	14	(61-145)
Benzene	50	59	118	2	11	(76-127)
Trichloroethene	50	44	88	2	14	(71-120)
Toluene	50	61	122	3	13	(76-125)
Chlorobenzene	50	63	126	2	13	(75-130)

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Comments: _____

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

VBLK01

Lab Name: AENI MD Contract: MKC

Project No.: 9509223 Site: NSWC Location: CRANE Group:

Matrix: (soil/water) WATER Lab Sample ID: 0929VBLK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EI394.D

Level: (low/med) Date Received:

% Moisture: not dec. 100 Date Analyzed: 9/29/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L of Leach	Q
75-01-4	Vinyl Chloride	10	U
75-35-4	1,1-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78 93 3	2-Butanone	100	U
56-23 5	Carbon Tetrachloride	5	U
79-01-6	Trichloroethene	5	U
71-43-2	Benzene	5	U
127-18-4	Tetrachloroethene	5	U
108 90-7	Chlorobenzene	5	U

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

TBLK

Lab Name: AENI MD Contract: [illegible]

Project No.: 9509223 Site: NSWC Location: CRANE Group:

Matrix: (soil/water) WATER Lab Sample ID: 0928TBLK

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: EI395.D

Level: (low/med) Date Received:

% Moisture: not dec. 100 Date Analyzed: 9/29/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L of Leach	Q
75-01-4	Vinyl Chloride	100	UD
75-35-4	1,1-Dichloroethene	50	UD
67-66-3	Chloroform	50	UD
107-06-2	1,2-Dichloroethane	50	UD
78-93-3	2-Butanone	1000	UD
56-23-5	Carbon Tetrachloride	50	UD
79-01-6	Trichloroethene	50	UD
71-43-2	Benzene	50	UD
127-18-4	Tetrachloroethene	50	UD
108-90-7	Chlorobenzene	50	UD

FORM I VOA

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: AENI MD Contract: MKC

Project No.: 9509223 Site: NSWC Location: CRANE Group: _____

	SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	#	#	TOT OUT
01	SBLK01	34	27	70	71	117	87			
02	TCLPBLK	44	43	77	70	118	73			
03	TCLPBLKMS	45	42	75	70	118	76			
04	NSWC 24/00-051	60 D	49 D	76 D	84 D	76 D	90 D			
05	NSWC-24/00 052	64 D	52 D	80 D	88 D	66 D	95 D			
06	NSWC-24/00-053	60 D	52 D	74 D	84 D	77 D	93 D			
07	NSWC-24/00-054	57 D	7 D	70 D	82 D	76 D	78 D			
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

	QC LIMITS
S1 (2FP) - 2-Fluorophenol	(21-100)
S2 (PHL) - Phenol-d5	(10-94)
S3 (NBZ) - Nitrobenzene-d5	(34-114)
S4 (FBP) - 2-Fluorobiphenyl	(43-116)
S5 (TBP) - 2,4,6-Tribromophenol	(10-123)
S6 (TPH) - Terphenyl-d14	(33-141)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

FORM II SV-1 SW846

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: AEMI MD Contract: MKC

Project No.: 9508223 Site: NS10C Location: CRANE Group: _____

Matrix Spike - Sample No.: TCLPBLKLCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Phenol	200	0	75	38	(12-89)
2-Chlorophenol	200	0	110	55	(27-123)
1,4-Dichlorobenzene	100	0	65	65	(36-97)
N Nitroso-di-n-propylamine	100	0	69	69	(41-116)
1,2,4-Trichlorobenzene	100	0	86	86	(39-98)
4-Chloro-3-methylphenol	200	0	130	65	(23-97)
Acenaphthene	100	0	70	70	(46-118)
2,4-Dinitrotoluene	100	0	81	81	(24-96)
4-Nitrophenol	200	0	95	48	(10-80)
Pentachlorophenol	200	0	180	90	(9-103)
Pyrene	100	0	63	63	(26-127)

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol					42	(12-89)
2-Chlorophenol					40	(27-123)
1,4-Dichlorobenzene					28	(36-97)
N Nitroso di n propylamine					38	(41-116)
1,2,4-Trichlorobenzene					28	(39-98)
4-Chloro-3-methylphenol					42	(23-97)
Acenaphthene					31	(46-118)
2,4-Dinitrotoluene					38	(24-96)
4-Nitrophenol					50	(10-80)
Pentachlorophenol					50	(9-103)
Pyrene					31	(26-127)

(1) N-Nitroso-di-n-propylamine

* Values outside of QC limits

Comments: _____

AMERICAN ENVIRONMENTAL NETWORK, INC.

Client: MK Corp September 19, 1995

Project: NSWC Crane 4324-0009-007-30

Contract: 9509223

Analysis: EXPLOSIVES by 8330

Client ID	Lab ID	Date Sampled	Date Received	Date Prepared	Date Analyzed
NSWC-24/00-051	L9509223-001	09/18/95	09/20/95	09/22/95	09/22/95
NSWC-24/00-052	L9509223-002	09/18/95	09/20/95	09/22/95	09/22/95
NSWC-24/00-053	L9509223-003	09/18/95	09/20/95	09/22/95	09/23/95
NSWC-24/00-054	L9509223-004	09/18/95	09/20/95	09/22/95	09/23/95

Four soil samples were received and analyzed for HMX, RDX, TNB, TETRYL, DNB, 4-Am-DNT, TNT, 2-Am-DNT, NB, 2,6-DNT, 2,4-DNT, O-NT, P-NT and M-NT by method 8330.

The enclosed package contains tabulated results (Form I)'s, a surrogate recovery summary (Form II), a matrix spike/matrix spike dup recovery summary (Form III), a method blank summary (Form IV), an initial calibration summary (Form VI) and a continuing calibration summary (Form VII).

Form I (Organic Analysis Data Sheet)
The qualifier 'U' indicates that a compound was analyzed for but not detected above the specified detection limit. All samples were prepared and analyzed within the method specified holding times.

Form II (Surrogate Recovery Summary)
All surrogate percent recoveries were within criteria. The lab criteria for percent recovery is 50 to 150 percent.

Form III (Matrix Spike Recovery Summary)

A batch blank spike is supplied. One out of fourteen percent recoveries was outside of criteria. The lab criteria for component percent recoveries are listed in the Form III.

Form IV (Method Blank Summary)
No target analytes were detected at or above the detection limit in the method blanks.

Form VI (Initial Calibration Summary)
The calibration points listed were used for sample quantitation. All r2 values are within lab criteria. The lab criteria for r2 is .990 or greater.

Form VII (Continuing Calibration Summary)
The percent recovery values of the analytes are listed on the Form VII. Lab criteria for percent recovery is 85 to 115 percent.

Data Released by _____
Noble N. Gemieboka
GC/LC Laboratory Manager

ORGANIC ANALYSIS DATA SHEET

Client: MK Corp
Project: NSWC Crane 4324-009-007-30
Analysis: EXPLOSIVES
Method: 8330
Instrument: HPLC SYS 2

BLANK
Sample:

Matrix: SOIL
Sample. (g) 2.0
Final Volume: (L) 0.02
(%) Moisture: N/A
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID BLK 0922JC
Lab Name. AENI - MD
Contract. 9509223
Date Sampled: N/A
Date Received: N/A
Date Prepared: 09/22/95
Date Analyzed: 09/22/95
Time Analyzed: 20:01

Compound	Concentration (mg/Kg)	Detection Limit	Qualifier
HMX		0.28	U
RDX		0 34	U
TNB		0.23	U
TETRYL		0 25	U
DNB		0.19	U
4-Am-DNT		0.32	U
TNT		0.22	U
2-Am-DNT		0.32	U
NB		0.17	U
2,6-DNT		0.24	U
2,4-DNT		0.19	U
O-NT		0.25	U
P-NT		0.18	U
M-NT		0.27	U

SURROGATE RECOVERY SUMMARY

Client:	MK Corp		
Project:	NSWC Crane 4324-009-007-30	Surrogate:	O-Nitroanaline
Analysis.	EXPLOSIVES	Q.C. Criteria.	50 to 150 (%)
Method	8330	Lab Name	AENI - MD
Instrument	HPLC SYS 2	Contract	9509223

Sample	Lab Sample ID	(%) Recovery
BLANK	BLK 0922JC	79
LAB CONTROL SAMPLE	LCS 0922JC	88
NSWC-24/00-051	L9509223-001	81
NSWC-24/00-052	L9509223-002	82
NSWC-24/00-053	L9509223-003	85
NSWC-24/00-054	L9509223-004	81

* - indicates values outside of criteria

Form II

MATRIX SPIKE / MATRIX SPIKE DUPLICATE SUMMARY

Client:	MK Corp	Matrix:	SOIL
Project:	NSWC Crane 4324-009-007-30	(%) Moisture:	N/A
Analysis:	EXPLOSIVES	Dilution Factor:	1
Method:	8330	Lab Name:	AENI - MD
Instrument:	HPLC SYS 2	Contract.	9509223

Matrix Spike (S) - Sample: LAB CONTROL SAMPLE
Date Prepared 09/22/95

Lab Sample ID: LCS 0922JC
Date Analyzed: 09/22/95

Matrix Spike Dup (D) Sample: LAB CONT SAMPLE DUP
Date Prepared:

Lab Sample ID:
Date Analyzed:

Compound	Concentration (mg/Kg)			Recovery			
	True	Found - S	Found - D	(%) - S	(%) - D	RPD	(%) Criteria
HMX	5.0	4.0		80			50 -150
RDX	5.0	4.4		88			50 -150
TNB	5.0	5.0		100			50 -150
TETRYL	5.0	4.4		88			50 -150
DNB	4.0	4.5		90			50 -150
4-Am-DNT	5 0	6.6		165 *			50 -150
TNT	4.0	4.9		98			50 -150
2-Am-DNT	5.0	4.4		110			50 -150
NB	4 0	4.7		94			50 -150
2,6-DNT	5.0	4.5		113			50 -150
2,4-DNT	4.0	4.5		90			50 -150
O-NT	5.0	4 6		115			50 -150
P-NT	4.0	4.8		120			50 -150
M-NT	4 0	4 8		120			50 -150

* - indicates values outside of criteria.

AMERICAN ENVIRONMENTAL NETWORK, INC.

September 27, 1995

Client: MK CORP

Case: 9509223

Project: NSWC CRANE #4324-0009-007-30

Analysis: TCLP Herbicides by Method 8150

Client ID	AENI#	Date Sampled	Date Received	Date Extracted	Date Analyzed
NSWC-24/00-051	9509223-001	09/18/95	09/20/95	09/25/95	09/26/95
NSWC-24/00-052	9509223-002	09/18/95	09/20/95	09/25/95	09/26/95
NSWC-24/00-053	9509223-003	09/18/95	09/20/95	09/25/95	09/26/95
NSWC-24/00-054	9509223-004	09/18/95	09/20/95	09/25/95	09/26/95

Four soil samples were leached according to 40 CFR 261, Appendix II. The leachates were analyzed for 2,4-D and Silvex using SW-846 Method 8150.

The enclosed package consists specifically of tabulated results (Form I), surrogate spike recoveries (Form II), matrix spike recoveries (Form III), method blank summary (Form IV), initial calibration summary (Form VI), and continuing calibration summary (Form VII).

Form I (Tabulated Results)

The qualifier "U" indicates that a compound was analyzed for but not detected above the reporting limit. The samples were prepared and analyzed within method specified holding time.

Form II (Surrogate Spike Recoveries)

All surrogate recoveries were within specified criteria (50-150%).

Form III (Matrix Spike Recoveries)

A lab control sample (LCS) and lab control sample duplicate (LCSD) were extracted with this sample set. All recoveries were within criteria.

Form IV (Method Blank Summary)

No target analytes were detected in the blanks.

Form VII (Continuing Calibration Summary)

Continuing standard recoveries for the components of interest were within criteria on column DB-5. Column DB-608 was used for confirmation only due to CCV failures.

Form VIII (Retention Time Shifting Summary)

All retention time shifting was within criteria (+/- 1.5%).

Data Released By

Noble Nemieboka
GC/LC Acting Lab Manager

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

TCLP PESTICIDES

Case No.:——— 9509223

Project Name:——— NSWC CRANE

Client Name ——— MK CORP

Sample Number
BLANK

AENI # BLK 0922RD

Concentration:——— Low

Date Sampled:——— N/A

Date Received:——— N/A

Date Ext Prepared:— 9/22/95

Date Analyzed:——— 9/28/95

Conc/Dil Factor:——— 1

Method: ——— 8080

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		X Yes
Continuous Liquid - Liquid Extraction		Yes

Percent Moisture N/A

Matrix: LEACH

CAS Number	Compound	Concentration ug/L	Detection Limit	Qualifier
58-89-9	gamma-BHC (Lindane)		0.10	U
75-44-8	Heptachlor		0.050	U
1024-57-3	Heptachlor epoxide		0.050	U
72-20-8	Endrin		0.10	U
72-43-5	Methoxychlor		0.50	U
5103-71-9	alpha-Chlordane		0.050	U
5103-74-2	gamma-Chlordane		0.050	U
8001-35-2	Toxaphene		5.0	U

Vi - Volume of extract injected (ul) - _____ 1

Vs - Volume of Water extracted (ml) - _____ 1000

Ws - Weight of sample extracted (g) - _____ N/A

Vt - Volume of total extract (ul) - _____ 10,000

FORM I

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

TCLP PESTICIDES

Case No.:——— 9509223

Project Name:——— NSWC CRANE

Client Name ——— MK CORP

Sample Number
TCLP BLANK

AENI # TCLP BLK 0922RD

Concentration:——— Low

Date Sampled:——— N/A

Date Received:——— N/A

Date Ext Prepared:—— 9/22/95

Date Analyzed:——— 9/26/95

Conc/Dil Factor:——— 1

Method: ——— 8080

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		X Yes
Continuous Liquid - Liquid Extration		Yes
Percent Moisture	N/A	
Matrix	LEACH	

CAS Number	Compound	Concentration ug/L	Detection Limit	Qualifier
58-89-9	gamma-BHC (Lindane)		0.20	U
75-44-8	Heptachlor		0.10	U
1024-57-3	Heptachlor epoxide		0.10	U
72-20-8	Endrin		0.20	U
72-43-5	Methoxychlor		1.0	U
5103-71-9	alpha-Chlordane		0.10	U
5103-74-2	gamma-Chlordane		0.10	U
8001-35-2	Toxaphene		10	U

Vi - Volume of extract injected (ul) - _____ 1

Vs - Volume of Water extracted (ml) - _____ 500

Ws - Weight of sample extracted (g) - _____ N/A

Vt - Volume of total extract (ul) - _____ 10,000

SE

WATER PESTICIDE SURROGATE RECOVERY

Lab Name: American Environmental Network, Inc. Contract: 9509223

Lab Code: NA Case No.: NA SAS No.: NA

Instrument ID: GC-F

GC Column(1): DB-5 ID: 0.53 mm GC Column(2): DB 608 ID: 0.53 mm

Dates of Analyses: 9/26/95 to 9/27/95

Method: 8080

EPA SAMPLE NO.	TCMX 1 %REC	#	TCMX 2 % REC	#	DCB 1 %REC	#	DCB 2 %REC	#	TOTAL OUT
BLK 0922RD	85		71		89		67		0
TCLP BLANK	83		75		100		88		0
TCLP BLANK SPIKE	81		78		80		85		0
NSWC 24/00-051	81		78		86		81		0
NSWC 24/00-052	89		92		87		88		0
NSWC 24/00-053	80		82		80		85		0
NSWC 24/00-055	82		86		94		85		0

ADVISORY QC LIMITS

TCMX= Tetrachloro-m-xylene (60-150)

DCB= Decachlorobiphenyl (60-150)

COLUMN TO BE USED TO FLAG RECOVERY VALUES

* VALUES OUTSIDE OF QC LIMITS

D SURROGATE DILUTED OUT

FORM II PEST-1

3E

WATER BLANK SPIKE RECOVERY

Lab Name American Environmental Network, Inc. Contract: 9509223

Lab Code. NA Case No.: NA SAS No.: NA

Matrix Spike - EPA Sample No.: TCLP LCS 0922RD

Method: 8080

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	BS CONCENTRATION (ug/L)	BS % REC	#	QC LIMITS REC.
gamma-BHC (Lindane)	0.40	0.0	0.30	75		56 - 123
Heptachlor	0.40	0.0	0.33	83		40 - 131
Aldrin	0.40	0.0	0.30	75		40 - 120
Dieldrin	1.0	0.0	0.84	84		52 - 128
Endrin	1.0	0.0	0.87	87		56 - 121
4,4'-DDT	1.0	0.0	0.77	77		38 - 127

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 6 outside limits.

FORM III PEST-1

AMERICAN ENVIRONMENTAL NETWORK, INC.

September 27, 1995

Client: MK CORP

Case: 9509223

Project: NSWC CRANE #4324-0009-007-30

Analysis: TCLP Herbicides by Method 8150

Client ID	AENI#	Date Sampled	Date Received	Date Extracted	Date Analyzed
NSWC-24/00-051	9509223-001	09/18/95	09/20/95	09/25/95	09/26/95
NSWC-24/00-052	9509223-002	09/18/95	09/20/95	09/25/95	09/26/95
NSWC-24/00-053	9509223-003	09/18/95	09/20/95	09/25/95	09/26/95
NSWC-24/00-054	9509223-004	09/18/95	09/20/95	09/25/95	09/26/95

Four soil samples were leached according to 40 CFR 261, Appendix II. The leachates were analyzed for 2,4-D and Silvex using SW-846 Method 8150.

The enclosed package consists specifically of tabulated results (Form I), surrogate spike recoveries (Form II), matrix spike recoveries (Form III), method blank summary (Form IV), initial calibration summary (Form VI), and continuing calibration summary (Form VII).

Form I (Tabulated Results)

The qualifier "U" indicates that a compound was analyzed for but not detected above the reporting limit. The samples were prepared and analyzed within method specified holding time.

Form II (Surrogate Spike Recoveries)

All surrogate recoveries were within specified criteria (50-150%).

Form III (Matrix Spike Recoveries)

A lab control sample (LCS) and lab control sample duplicate (LCSD) were extracted with this sample set. All recoveries were within criteria.

Form IV (Method Blank Summary)

No target analytes were detected in the blanks.

Form VI (Calibration Summary)

A five-point linear calibration with correlation coefficient of 0.995 or better was used for sample quantitation.

Form VII (Continuing Calibration Summary)

Recoveries for continuing calibration standards were within +/- 15% criteria.

Data Released By

Noble Nenieboka
GC/LC Acting Lab Manager

AMERICAN ENVIRONMENTAL NETWORK INC.
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
BLANK

Case No.: 9509223
Client Name. MK CORP
Project Name. NSWC CRANE #4324-0009-007-30

AENI # BLK 0925LB

Concentration: Low
Date Sampled: N/A
Date Received: N/A
Date Extract Prepared 9/25/95
Date Analyzed: 9/26/95
Conc/Dil Factor: 1
Matrix LEACH

GPC Cleanup No
Separatory Funnel Ext.: Yes
Continuous Liq-Liq Ext.: No
Percent Moisture (decanted) N/A

Compound	Concentration ug/L	Reporting Limit	Qualifier
2,4 D		0.25	U
SILVEX		0.25	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) 1000
Ws - Mass of soil extracted (g) N/A
Vt- Volume of total extract (ul) 5000

FORM I

AMERICAN ENVIRONMENTAL NETWORK INC.
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
TCLP BLANK

Case No.:_____ 9509223
Client Name:_____ MK CORP
Project Name._____ NSWC CRANE #4324-0009-007-30

AENI # TCLP BLK 0925LB

Concentration: _____ Low
Date Sampled:_____ N/A
Date Received:_____ N/A
Date Extract Prepared:_ 9/25/95
Date Analyzed:_____ 9/26/95
Conc/Dil Factor:_____ 1
Matrix_____ LEACH

GPC Cleanup _____ No
Separatory Funnel Ext.: ____ Yes
Continuous Liq-Liq Ext.: ___ No
Percent Moisture (decanted)_ N/A

Compound	Concentration ug/L	Reporting Limit	Qualifier
2,4 D		0.50	U
SILVEX		0.50	U

Vi - Volume of extract injected (ul)___ 1
Vs - Volume of water extracted (ml)__ 500
Ws - Mass of soil extracted (g)_____ N/A
Vt- Volume of total extract (ul)_____ 5000

FORM I

WATER SURROGATE PERCENT RECOVERY SUMMARY

Case No.: 9509223 Laboratory Name: American Environmental Network Inc.

Client ID	AEN ID	DCAA DB-6	DCAA DB-608
BLANK	BLK 0925LB	84	94
TCLP BLANK	TCLP BLK 0925LB	84	86
BLANK SPIKE	TCLP LCS 0925LB	83	108
BLANK SPIKE DUP	TCLP LCSD 0925LB	81	101
NSWC-24-00-051	9509223-001	80	94
NSWC-24-00-052	9509223-002	79	94
NSWC-24-00-053	9509223-003	82	95
NSWC-24-00-054	9509223-004	83	97

CONTROL LIMITS = 50-150%

* - Values are outside of contract required QC limits.
M-Matrix interference. D-Surrogate diluted out.

0 out of 16
outside QC limits.

AMERICAN ENVIRONMENTAL NETWORK, INC.
HERBICIDE MATRIX SPIKE RECOVERIES

Case No · 9509223

Client Name. MK CORP

Project Name: NSWC CRANE #4324-0009-007-30

Client Sample ID: LCS/LCSD 0925LB

Date of Analysis: 9/26/95

Instrument ID: GC-H

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	BS CONC (ug/L)	BS % REC	BSD CONC (ug/L)	BSD % REC	QC LIMITS REC
2,4-D	5.03	0.0	4.15	83	4.48	89	50-150
Silvex	5.29	0.0	4.20	79	4.12	78	50-150

Spike Recovery: 0 out of 4 outside QC limits.

AMERICAN ENVIRONMENTAL NETWORK, INC.

9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

September 29, 1995

Client: MK Corp

Project: NSWC Crane #4324-0009.007.30

Case: 9509223

Analysis: TCLP Metals

Client ID	AENI ID	Date Sampled	Date Received	Date Analyzed
NSWC-24/00-051	9509223-001	09/18/95	09/20/95	09/25,28/95
NSWC-24/00-052	9509223-002	09/18/95	09/20/95	09/25,28/95
NSWC-24/00-053	9509223-003	09/18/95	09/20/95	09/25,28/95
NSWC-24/00-054	9509223-004	09/18/95	09/20/95	09/25,28/95

Four soil samples were received and analyzed for TCLP metals. Results are reported in units of ug/L in the leachate.

The second CCV for Cr is above control limits but since this would bias the data high and there is no Cr detected in the samples, the data are reported. All other QC data were within normal control limits.

Report Released By

Christopher Baggett
Metals Laboratory Manager

U.S. EPA - CLP

3
BLANKS

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 950922 SAS No.: _____ SDG No.: 509223

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L_

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic	20.0	U	20.0	U	20.0	U			20.000	U	
Barium	500.0	U	500.0	U	500.0	U			500.000	U	
Beryllium											NR
Cadmium	40.0	U	40.0	U	40.0	U			40.000	U	P
Calcium											NR
Chromium	100.0	U	100.0	U	100.0	U			100.000	U	P
Cobalt											NR
Copper											NR
Iron											NR
Lead	100.0	U	100.0	U	100.0	U			100.000	U	P
Magnesium											NR
Manganese											NR
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.200	U	AV
Nickel											NR
Potassium											NR
Selenium	20.0	U	20.0	U	20.0	U			20.000	U	P
Silver	50.0	U	50.0	U	50.0	U			50.000	U	P
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

24/00-053M

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 950922 SAS No.: _____ SDG No.: 509223

Matrix (soil/water): WATER_ Level (low/med): LOW___

% Solids for Sample: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum_									NR
Antimony_									NR
Arsenic__									NR
Barium___									NR
Beryllium									NR
Cadmium__									NR
Calcium__									NR
Chromium_									NR
Cobalt___									NR
Copper___									NR
Iron____									NR
Lead____									NR
Magnesium									NR
Manganese									NR
Mercury__	75-125_	1.8300_		0.2000	U	2.00	91.5		AV
Nickel___									NR
Potassium									NR
Selenium_									NR
Silver___									NR
Sodium___									NR
Thallium_									NR
Vanadium_									NR
Zinc____									NR
Cyanide__									NR

Comments:
CLIENT_ID:__NSWC-24/00-053
MATRIX_SPIKE_DUPLICATE

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

24/00-053S

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 950922 SAS No.: _____ SDG No.: 509223

Matrix (soil/water): WATER_ Level (low/med): LOW___

% Solids for Sample: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum_									NR
Antimony_									NR
Arsenic__									NR
Barium___									NR
Beryllium									NR
Cadmium__									NR
Calcium__									NR
Chromium_									NR
Cobalt___									
Copper___									
Iron____									NR
Lead____									NR
Magnesium									NR
Manganese									NR
Mercury__	75-125_	1.7800_		0.2000	U	2.00	89.0		AV
Nickel___									NR
Potassium									NR
Selenium_									NR
Silver___									NR
Sodium___									NR
Thallium_									NR
Vanadium_									NR
Zinc____									NR
Cyanide__									NR

Comments:
CLIENT_ID:__NSWC-24/00-053
MATRIX_SPIKE

FORM V (Part 1) - IN

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

24/00-054S

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 950922 SAS No.: _____ SDG No.: 509223

Matrix (soil/water). WATER_ Level (low/med): LOW___

% Solids for Sample: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic	75-125	3057.4050		20.0000	U	2500.00	122.3		P
Barium	75-125	6604.5220		886.8630		5000.00	114.4		P
Beryllium									NR
Cadmium	75-125	592.4910		40.0000	U	500.00	118.5		P
Calcium									NR
Chromium	75-125	2799.5300		100.0000	U	2500.00	112.0		P
Cobalt									NR
Copper									NR
Iron									NR
Lead	75-125	6002.4120		100.0000	U	5000.00	120.0		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium	75-125	1545.0780		20.0000	U	1250.00	123.6		P
Silver	75-125	2965.6180		50.0000	U	2500.00	118.6		P
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:
CLIENT_ID: NSWC-24/00-054

U.S. EPA - CLP

5B

POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

24/00-054P

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 950922 SAS No.: _____ SDG No.: 509223

Matrix (soil/water) : WATER_ Level (low/med): LOW___

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic		2505.13		20.00	U	2500.0	100.2		P
Barium		5086.52		886.86		5000.0	84.0		P
Beryllium									NR
Cadmium		479.11		40.00	U	500.0	95.8		P
Calcium									NR
Chromium		2272.17		100.00	U	2500.0	90.9		P
Cobalt									NR
Copper									
Iron									NR
Lead		4755.98		100.00	U	5000.0	95.1		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium		1277.54		20.00	U	1250.0	102.2		P
Silver		2347.01		50.00	U	2500.0	93.9		P
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:
CLIENT_ID: NSWC-24/00-054

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

24/00-054D

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 950922 SAS No.: _____ SDG No.: 509223

Matrix (soil/water): WATER Level (low/med): _LOW__

% Solids for Sample: __0.0 % Solids for Duplicate: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum_								NR
Antimony_								NR
Arsenic__		20.0000	U	20.0000	U			P_
Barium___		886.8630		948.7760		6.7		P_
Beryllium								NR
Cadmium__		40.0000	U	40.0000	U			P_
Calcium__								NR
Chromium_		100.0000	U	100.0000	U			P_
Cobalt___								NR
Copper___								NR
Iron____								NR
Lead____		100.0000	U	100.0000	U			P_
Magnesium								NR
Manganese								NR
Mercury__								NR
Nickel___								NR
Potassium								NR
Selenium_		20.0000	U	20.0000	U			P_
Silver___		50.0000	U	50.0000	U			P_
Sodium___								NR
Thallium_								NR
Vanadium_								NR
Zinc____								NR
Cyanide__								NR

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 950922 SAS No.: _____ SDG No.: 509223

Solid LCS Source: _____

Aqueous LCS Source: SPEX_____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic	2500.0	2341.32	93.7						
Barium	5000.0	4987.45	99.7						
Beryllium									
Cadmium	500.0	499.76	100.0						
Calcium									
Chromium	2500.0	2501.37	100.1						
Cobalt									
Copper									
Iron									
Lead	5000.0	5159.21	103.2						
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	1250.0	1185.20	94.8						
Silver	2500.0	2448.69	97.9						
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

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7

LABORATORY CONTROL SAMPLE

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 950922 SAS No.: _____ SDG No.: 509223

Solid LCS Source: _____

Aqueous LCS Source: SPEX_____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury	2.0	1.99	99.5						
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2686

Report Number: 9509223
Report To: MK Corp
Project: NSWC Crane #4324-0009.007.30
Date: September 29, 1995
Analysis: General Chemistry Parameters

Client ID	AENI ID	Date Sampled	Date Received
NSWC-24/00-051	9509223-001	09/18/95	09/20/95
NSWC-24/00-052	9509223-002	09/18/95	09/20/95
NSWC-24/00-053	9509223-003	09/18/95	09/20/95
NSWC-24/00-054	9509223-004	09/18/95	09/20/95

Four soil samples were received and analyzed for General Chemistry Parameters.

All quality control met standard laboratory criteria.

This report consists of tabulated sample results and a QC Summary report.

Report Released By: _____
Rhonda Green-Barron
General Chemistry Laboratory Manager

AMERICAN ENVIRONMENTAL NETWORK, INC
9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

Report Number: 9509223
Report To: MK Corp
Project: NSWC Crane #4324-0009.007.30
Date: September 29, 1995
Analysis: General Chemistry Paramters

QC Summary Report

Parameter	Sample ID	Result/Recovery
Corrosivity	LCS	7.0/within 0.1 units
	LCSD	7.0/within 0.1 units
Flashpoint	LCS	100%
Reactive Cyanide	Blank	<0.02 mg/L
	LCS	78%
Reactive Sulfide	Blank	<1 mg/L
	LCS	92%

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

Report Number: 9507125
Report To: MK Corp
Project: NSWC-Crane #4324
Date: July 25, 1995
Analysis: General Chemistry Parameters

Client ID	AENI ID	Date Sampled	Date Received
NSWC-24/00-044	9507125-001	07/12/95	07/14/95
NSWC-24/00-045	9507125-002	07/12/95	07/14/95
NSWC-24/00-046	9507125-003	07/12/95	07/14/95
NSWC-24/00-047	9507125-004	07/12/95	07/14/95
NSWC-24/00-048	9507125-005	07/12/95	07/14/95
NSWC-24/00-049	9507125-006	07/12/95	07/14/95
NSWC-24/00-050	9507125-007	07/12/95	07/14/95
NSWC-24/00-FB1	9507125-008	07/13/95	07/14/95
NSWC-24/00-RB1	9507125-009	07/13/95	07/14/95

Seven soil samples and two water samples were received and analyzed for General Chemistry Parameters.

All quality control met standard laboratory criteria.

This report consists of tabulated sample results and a QC Summary Report.

Report Released By: Rhonda Green-Barron
General Chemistry Laboratory Manager

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road, Suite 150, Columbia, MD 21045-1992
(410) [illegible]-8575 Fax (410) 997-2586

Report Number: 9507125
Report To: MK Corp
Project: NSWC-Crane #4324
Date: July 25, 1995
Analysis: General Chemistry Parameters

QA SUMMARY

Parameter	Sample ID	Result/Recovery
Total Cyanide	Blank	< 0.02 mg/L
	LCS	96%
	LCSD	97%
Total Sulfide	Blank	< 1 mg/L

AMERICAN ENVIRONMENTAL NETWORK, INC.

9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

August 1, 1995

Client: MK Corp

Project: NSWC Crane #4324

Case: 9507125

Analysis: Metals

Client ID	AENI ID	Date Sampled	Date Received	Date Analyzed
NSWC-24/00-044	9507125-001	07/12/95	07/14/95	07/20-31/95
NSWC-24/00-045	9507125-002	07/12/95	07/14/95	07/20-31/95
NSWC-24/00-046	9507125-003	07/12/95	07/14/95	07/20-31/95
NSWC-24/00-047	9507125-004	07/12/95	07/14/95	07/20-31/95
NSWC-24/00-048	9507125-005	07/12/95	07/14/95	07/20-31/95
NSWC-24/00-049	9507125-006	07/12/95	07/14/95	07/20-31/95
NSWC-24/00-050	9507125-007	07/12/95	07/14/95	07/20-31/95
NSWC-24/00-FB1	9507125-008	07/12/95	07/14/95	07/24-31/95
NSWC-24/00-RB1	9507125-009	07/12/95	07/14/95	07/24-31/95

Seven soil samples and two water samples were received and analyzed for Metals following SW846 methodologies. Soil results are reported in units of mg/kg dry weight. Water results are reported in units of ug/L.

For the soil batch, the matrix spike/matrix spike duplicate were performed on another client's sample and are reported for informational purposes. The matrix spike and/or matrix spike duplicate were outside acceptable limits for Mercury, Chromium, Lead, Thallium and Vanadium. A post digestion spike was analyzed and is reported within.

Report Released By

Christopher Baggett
Metals Laboratory Manager

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

36210-4M

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 95071 SAS No.: _____ SDG No.: 507125

Matrix: __SOIL_____ Level (low/med): _LOW____

% Solids for Sample: _87.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									
Lead									NR
Magnesium									NR
Manganese									NR
Mercury	75-125	2.6283		1.9042		1.14	63.5		AV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR
Tin									NR
Lithium									NR

Comments:
MATRIX_SPIKE_DUPLICATE

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

36210-4S

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 95071 SAS No.: _____ SDG No.: 507125

Matrix: __SOIL_____ Level (low/med): _LOW____

% Solids for Sample: _87.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury	75-125	2.7309		1.9042		1.14	72.5		AV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR
Tin									NR
Lithium									NR

Comments:
MATRIX_SPIKE

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

36210-8M

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 95071 SAS No.: _____ SDG No.: 507125

Matrix: __SOIL_____ Level (low/med): _LOW____

% Solids for Sample: _89.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony	75-125	8.5373		2.3628	U	10.59	80.6		P
Arsenic	75-125	13.2914		4.6465		10.59	81.6		P
Barium	75-125	226.6855		57.7224		211.76	79.8		P
Beryllium	75-125	4.7121		0.5263		5.29	79.1		P
Cadmium	75-125	4.5191		0.4726	U	5.29	85.4		P
Calcium									NR
Chromium	75-125	27.6027		12.4377		21.18	71.6		P
Cobalt	75-125	51.2119		6.0065		52.94	85.4		P
Copper	75-125	47.4861		22.8861		26.47	92.9		
Iron									
Lead	75-125	124.3449		82.6337		52.94	78.8		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel	75-125	53.9831		12.1575		52.94	79.0		P
Potassium									NR
Selenium	75-125	8.5279		0.5907	U	10.59	80.5		P
Silver	75-125	8.7859		0.9451	U	10.59	83.0		P
Sodium									NR
Thallium	75-125	7.8181		1.1814	U	10.59	73.8		P
Vanadium	75-125	67.0140		28.5073		52.94	72.7		P
Zinc	75-125	150.7731		105.1861		52.94	86.1		P
Cyanide									NR
Tin	75-125	1.2290		0.2806	U	1.12	109.7		P
Lithium									NR

Comments:
MATRIX_SPIKE_DUPLICATE

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

36210-8S

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 95071 SAS No.: _____ SDG No.: 507125

Matrix: SOIL_____ Level (low/med): _LOW____

% Solids for Sample: _89.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony	75-125	8.4088		2.3628	U	10.90	77.1		P
Arsenic	75-125	15.5264		4.6465		10.90	99.8		P
Barium	75-125	258.9977		57.7224		217.93	92.4		P
Beryllium	75-125	5.5355		0.5263		5.45	91.9		P
Cadmium	75-125	5.1460		0.4726	U	5.45	94.4		P
Calcium									NR
Chromium	75-125	29.3975		12.4377		21.79	77.8		P
Cobalt	75-125	56.3183		6.0065		54.48	92.3		P
Copper	75-125	56.0906		22.8861		27.24	121.9		P
Iron									NR
Lead	75-125	117.2458		82.6337		54.48	63.5		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel	75-125	60.6649		12.1575		54.48	89.0		P
Potassium									NR
Selenium	75-125	8.9983		0.5907	U	10.90	82.6		P
Silver	75-125	9.8276		0.9451	U	10.90	90.2		P
Sodium									NR
Thallium	75-125	9.2131		1.1814	U	10.90	84.5		P
Vanadium	75-125	73.4769		28.5073		54.48	82.5		P
Zinc	75-125	146.6553		105.1861		54.48	76.1		P
Cyanide									NR
Tin	75-125	1.1271		0.2806	U	1.12	100.6		P
Lithium									NR

Comments:
MATRIX_SPIKE

U.S. EPA - CLP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

36210-4P

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 95071 SAS No.: _____ SDG No.: 507125

Matrix: ____SOIL_____ Level (low/med): LOW_____

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury		6.14		3.34		2.0	140.0		AV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR
Tin									NR
Lithium									NR

Comments:

U.S. EPA - CLP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

36210-8P

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 95071 SAS No.: _____ SDG No.: 507125

Matrix: ____SOIL_____ Level (low/med): LOW_____

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium		283.06		105.28		200.0	88.9		P
Cobalt									NR
Copper									NR
Iron									NR
Lead		859.35		699.45		200.0	79.9		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium		1140.63		241.30		1000.0	89.9		P
Zinc									NR
Cyanide									NR
Tin									NR
Lithium									NR

Comments:

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7

LABORATORY CONTROL SAMPLE

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 95071 SAS No.: _____ SDG No.: 507125

Solid LCS Source: _____

Aqueous LCS Source: SPEX_____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury	2.0	1.92	96.0						
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									
Tin									
Lithium									

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LABORATORY CONTROL SAMPLE

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 95071 SAS No.: _____ SDG No.: 507125

Solid LCS Source: _____

Aqueous LCS Source: SPEX_____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony	100.0	95.20	95.2						
Arsenic	100.0	89.07	89.1						
Barium	2000.0	2103.05	105.2						
Beryllium	50.0	45.47	90.9						
Cadmium	50.0	47.96	95.9						
Calcium									
Chromium	200.0	199.16	99.6						
Cobalt	500.0	493.19	98.6						
Copper	250.0	241.99	96.8						
Iron									
Lead	500.0	488.34	97.7						
Magnesium									
Manganese									
Mercury									
Nickel	500.0	493.62	98.7						
Potassium									
Selenium	100.0	93.54	93.5						
Silver	100.0	91.65	91.7						
Sodium									
Thallium	100.0	96.50	96.5						
Vanadium	500.0	485.40	97.1						
Zinc	500.0	486.71	97.3						
Cyanide									
Tin	1000.0	995.61	99.6						
Lithium									

7

LABORATORY CONTROL SAMPLE

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 95071 SAS No.: _____ SDG No.: 507125

Solid LCS Source: _____

Aqueous LCS Source: SPEX_____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony	100.0	100.17	100.2						
Arsenic	100.0	102.56	102.6						
Barium	2000.0	2344.75	117.2						
Beryllium	50.0	50.02	100.0						
Cadmium	50.0	53.15	106.3						
Calcium									
Chromium	200.0	210.94	105.5						
Cobalt	500.0	529.63	105.9						
Copper	250.0	271.81	108.7						
Iron									
Lead	500.0	535.14	107.0						
Magnesium									
Manganese									
Mercury									
Nickel	500.0	528.92	105.8						
Potassium									
Selenium	100.0	97.52	97.5						
Silver	100.0	102.11	102.1						
Sodium									
Thallium	100.0	108.82	108.8						
Vanadium	500.0	522.31	104.5						
Zinc	500.0	475.53	95.1						
Cyanide									
Tin	1000.0	1062.62	106.3						
Lithium									

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7

LABORATORY CONTROL SAMPLE

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 95071 SAS No.: _____ SDG No.: 507125

Solid LCS Source: _____

Aqueous LCS Source: SPEX_____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury	2.0	1.82	91.0						
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									
Tin									
Lithium									

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3
BLANKS

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 95071 SAS No.: _____ SDG No.: 507125

Preparation Blank Matrix (soil/water): SOIL_

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony	20.0	U	20.0	U	20.0	U	20.0	U	2.000	U	P
Arsenic	10.0	U	10.0	U	10.0	U	10.0	U	1.000	U	P
Barium	100.0	U	100.0	U	100.0	U	100.0	U	10.000	U	P
Beryllium	2.0	U	2.0	U	2.0	U	2.0	U	0.200	U	P
Cadmium	4.0	U	4.0	U	4.0	U	4.0	U	0.400	U	P
Calcium											NR
Chromium	10.0	U	10.0	U	10.0	U	10.0	U	1.000	U	
Cobalt	11.0	U	11.0	U	11.0	U	11.0	U	1.100	U	
Copper	25.0	U	25.0	U	25.0	U	25.0	U	2.500	U	P
Iron											NR
Lead	10.0	U	10.0	U	10.0	U	10.0	U	1.000	U	P
Magnesium											NR
Manganese											NR
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.100	U	AV
Nickel	15.0	U	15.0	U	15.0	U	15.0	U	1.500	U	P
Potassium											NR
Selenium	5.0	U	5.0	U	5.0	U	5.0	U	0.500	U	P
Silver	8.0	U	8.0	U	8.0	U	8.0	U	0.800	U	P
Sodium											NR
Thallium	10.0	U	10.0	U	10.0	U	10.0	U	1.000	U	P
Vanadium	16.0	U	16.0	U	16.0	U	16.0	U	1.600	U	P
Zinc	20.0	U	20.0	U	20.0	U	20.0	U	2.000	U	P
Cyanide											NR
Tin	250.0	U	250.0	U	250.0	U	250.0	U	25.000	U	P
Lithium											NR

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3
BLANKS

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 95071 SAS No.: _____ SDG No.: 507125

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L_

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony			20.0	U	20.0	U			20.000	U	P
Arsenic			10.0	U	10.0	U			10.000	U	P
Barium			100.0	U	100.0	U			100.000	U	P
Beryllium			2.0	U	2.0	U			2.000	U	P
Cadmium			4.0	U	4.0	U			4.000	U	P
Calcium											NR
Chromium			10.0	U	10.0	U			10.000	U	P
Cobalt			11.0	U	11.0	U			11.000	U	P
Copper			25.0	U	25.0	U			25.000	U	P
Iron											NR
Lead			10.0	U	10.0	U			10.000	U	P
Magnesium											NR
Manganese											NR
Mercury	0.2	U	0.2	U	0.2	U			0.200	U	AV
Nickel			15.0	U	15.0	U			15.000	U	P
Potassium											NR
Selenium			5.0	U	5.0	U			5.000	U	P
Silver			8.0	U	8.0	U			8.000	U	P
Sodium											NR
Thallium			10.0	U	10.0	U			10.000	U	P
Vanadium			16.0	U	16.0	U			16.000	U	P
Zinc			20.0	U	20.0	U			20.000	U	P
Cyanide											NR
Tin			250.0	U	250.0	U			250.000	U	P
Lithium											NR

AMERICAN ENVIRONMENTAL NETWORK, INC.

Client: MK Corp July 26, 1995

Project: NSWC-Crane

Contract: 9507125

Analysis: HERBICIDES by 8150

Client ID	Lab ID	Date Sampled	Date Received	Date Prepared	Date Analyzed
NSWC-24/00-044	L9507125-001	07/12/95	07/14/95	07/18/95	07/24/95
NSWC-24/00-045	L9507125-002	07/12/95	07/14/95	07/18/95	07/24/95
NSWC-24/00-046	L9507125-003	07/12/95	07/14/95	07/18/95	07/24/95
NSWC-24/00-047	L9507125-004	07/12/95	07/14/95	07/18/95	07/24/95
NSWC-24/00-048	L9507125-005	07/12/95	07/14/95	07/18/95	07/24/95
NSWC-24/00-049	L9507125-006	07/12/95	07/14/95	07/18/95	07/24/95
NSWC-24/00-050	L9507125-007	07/12/95	07/14/95	07/18/95	07/24/95
NSWC-24/00-FB1	L9507125-008	07/13/95	07/14/95	07/20/95	07/25/95
NSWC-24/00-RB1	L9507125-009	07/13/95	0714/95	07/20/95	07/25/95

Seven soils and two water samples were received, extracted and analyzed for 2,4-D, SILVEX and 2,4,5-T by method 8150.

The enclosed package contains tabulated results (Form I)'s, a surrogate recovery summary (Form II), a matrix spike/matrix spike dup recovery summary (Form III), a method blank summary (Form IV), an initial calibration summary (Form VI) and a continuing calibration summary (Form VII).

Form I (Organic Analysis Data Sheet)
The qualifier 'U' indicates that a compound was analyzed for but not detected above the specified detection limit. All samples were prepared and analyzed within the method specified holding times.

Form II (Surrogate Recovery Summary)
The percent recovery values for all surrogates are within criteria. The lab criteria for percent recovery is 50 to 150 percent.

Form III (Matrix Spike Recovery Summary)

Soil Matrix
A batch matrix spike and matrix spike duplicate on client sample and a blank spike are supplied. The percent recovery value for all analytes are outside of criteria. The lab criteria for component percent recoveries are listed in the Form III. The lab criteria for RPD is 0 to 30 percent.

Form IV (Method Blank Summary)
No target analytes were detected at or above the detection limit in th method blanks.

Form VI (Initial Calibration Summary)
The calibration points listed were used for sample quantitation. All r2 values are within lab criteria. The lab criteria for r2 is .990 or greater.

Form VII (Continuing Calibration Summary)
Three sets of continuing calibration standards are supplied. The percent recovery for 2,4-D for one of the standards is slightly low. All other analytes are within criteria. Lab criteria for percent recovery is 85 to 115 percent.

Data Released by _____
Charles E. Ferrin Jr.
GC/LC Laboratory Manager

ORGANIC ANALYSIS DATA SHEET

Client: MK Corp
Project: NSWC-Crane
Analysis: HERBICIDES
Method: 8150
Instrument: GC-H

BLANK
Sample:

Matrix: WATER
Sample: (ml) 1,000
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID. BLK0720LB
Lab Name: AENT - MD
Contract: 9507125
Date Sampled: N/A
Date Received: N/A
Date Prepared: 07/20/95
Date Analyzed: 07/25/95
Time Analyzed: 14:35

Compound	Concentration (ug/L)	Detection Limit	Qualifier
2,4 D		0 25	U
SILVEX		0.25	U
2,4,5-T		0.25	U

ORGANIC ANALYSIS DATA SHEET

Client: MK Corp
Project: NSWC-Crane
Analysis: HERBICIDES
Method: 8150
Instrument: GC-H

BLANK
Sample:

Matrix: SOIL
Sample (g): 50
Final Volume: (ml) 5.0
(%) Moisture: N/A
Dilution Factor: 1
Level (low/med): LOW

Lab Sample ID: BLK0718RC
Lab Name: AENT - MD
Contract: 9507125
Date Sampled: N/A
Date Received: N/A
Date Prepared: 07/18/95
Date Analyzed: 07/24/95
Time Analyzed: 12:47

Compound	Concentration (ug/Kg)	Detection Limit	Qualifier
2,4-D		5.0	U
SILVEX		5.0	U
2,4,5-T		5.0	U

SURROGATE RECOVERY SUMMARY

Client: MK Corp
Project: NSWC-Crane
Analysis: HERBICIDES
Method: 8150
Instrument GC-H

Surrogate: DCAA
Q.C. Criteria: 50 to 150 (%)
Lab Name: AENI - MD
Contract: 9507125

Sample	Lab Sample ID	(%) Recovery
BLANK	BLK0720LB	76
NSWC-24/00-FB1	L9507125-008	71
NSWC-24/00-RB1	L9507125-009	76

* - indicates values outside of criteria

Form II

SURROGATE RECOVERY SUMMARY

Client: MK Corp
Project: NSWC-Crane
Analysis: HERBICIDES
Method: 8150
Instrument GC-H

Surrogate: DCAA
Q.C. Criteria: 50 to 150 (%)
Lab Name: AENI - MD
Contract: 9507125

Sample	Lab Sample ID	(%) Recovery
BLANK	BLK0718RC	84
LAB CONTROL SAMPLE	LCS0718RC	107
NSWC-24/00-050MS	MS9507125-007	90
NSWC-24/00-050MSD	MSD9507125-007	89
NSWC-24/00-044	L9507125-001	99
NSWC-24/00-045	L9507125-002	69
NSWC-24/00-046	L9507125-003	94
NSWC-24/00-047	L9507125-004	96
NSWC-24/00-048	L9507125-005	100
NSWC-24/00-049	L9507125-006	97
NSWC-24/00-050	L9507125-007	100

* - indicates values outside of criteria

Form II

MATRIX SPIKE / MATRIX SPIKE DUPLICATE SUMMARY

Client: MK Corp
Project: NSWC-Crane
Analysis: HERBICIDES
Method: 8150
Instrument: GC-H

Matrix: SOIL
(%) Moisture: N/A
Dilution Factor: 1
Lab Name: AENI - MD
Contract: 9507125

Matrix Spike (S) - Sample: LAB CONTROL SAMPLE
Date Prepared 07/18/95

Lab Sample ID: LCS0718RC
Date Analyzed: 7/24/95

Matrix Spike Dup (D) Sample: LAB CONT SAMPLE DUP
Date Prepared 07/18/95

Lab Sample ID: N/A
Date Analyzed:

Compound	Concentration (ug/Kg)			Recovery			
	True	Found - S	Found - D	(%) - S	(%) - D	RPD	(%) Criteria
2,4-D	201	63		31 *			50 -150
SILVEX	212	79		37 *			50 -150

* - indicates values outside of criteria.

MATRIX SPIKE / MATRIX SPIKE DUPLICATE SUMMARY

Client:	MK Corp	Matrix:	SOIL
Project:	NSWC-Crane	(%) Moisture:	3
Analysis:	HERBICIDES	Dilution Factor:	1
Method:	8150	Lab Name:	AENT - MD
Instrument:	GC-H	Contract:	9507125

Matrix Spike (S) - Sample: LAB CONTROL SAMPLE
Date Prepared 07/18/95
Lab Sample ID. MS9507125-007
Date Analyzed: 7/24/95

Matrix Spike Dup (D) Sample: LAB CONT SAMPLE DUP
Date Prepared 07/18/95
Lab Sample ID: MSD9507125-007
Date Analyzed: 7/24/95

Compound	Concentration (ug/Kg)			Recovery			
	True	Found - S	Found - D	(%) - S	(%) - D	RPD	(%) Criteria
2,4-D	201	94	69	47 *	34 *	19	50 -150
SILVEX	212	69	77	33 *	36 *	7	50 -150

* - indicates values outside of criteria.

AMERICAN ENVIRONMENTAL NETWORK, INC.

July 31, 1995

Client: MK CORP

Case: 9507125

Project: NSWC-CRANE #4324

Analysis: Organophosphorus by method 8141

Client ID	AEN ID	Date Sampled	Date Received	Date Extracted	Date Analyzed	MATRIX
NSWC-24/00-044	9507125-001	07/12/95	07/14/95	07/19/95	07/28/95	SOIL
NSWC-24/00-045	9507125-002	07/12/95	07/14/95	07/19/95	07/28/95	SOIL
NSWC-24/00-046	9507125-003	07/12/95	07/14/95	07/19/95	07/27/95	SOIL
NSWC-24/00-047	9507125-004	07/12/95	07/14/95	07/19/95	07/27/95	SOIL
NSWC-24/00-048	9507125-005	07/12/95	07/14/95	07/19/95	07/27/95	SOIL
NSWC-24/00-049	9507125-006	07/12/95	07/14/95	07/19/95	07/27/95	SOIL
NSWC-24/00-050	9507125-007	07/12/95	07/14/95	07/19/95	07/27/95	SOIL
NSWC-24/00-FB1	9507125-008	07/13/95	07/14/95	07/19/95	07/27/95	WATER
NSWC-24/00-RB1	9507125-009	07/13/95	07/14/95	07/19/95	07/27/95	WATER

Two water and seven soil samples were analyzed for organophosphorus using method 8141.

The enclosed package consists specifically of tabulated results (Form I), surrogate spike recovery (Form II), blank spike recovery summary (Form III), method blank summary (Form IV), initial calibration summary (Form VI), and continuing calibration summary (Form VII).

Form I (Tabulated Results)

The qualifier "U" indicates that a compound was analyzed for but not detected above the detection limit. The samples were extracted and analyzed within holding times.

Form II (Surrogate Spike Recoveries)

All surrogate recoveries were within criteria (50-150%) except the ones with "*" flag.

Form III (Blank Spike Summary)

Blank spike was analyzed with the soil samples. All percent recoveries were within criteria. Matrix spike and matrix spike duplicate were performed on sample NSWC-24/00-046, all recoveries and RPDs were within criteria.

Form IV (Method Blank Summary)

No target analyte is detected in the method blanks.

Form VI (Initial Calibration Summary)

A five-point-curve was used for sample quantitation. The correlation coefficient for each component is greater 0.995.

Form VII (Continuing Calibration Summary)

The percent recoveries for all continuing calibration standards are within criteria except Disulfoton on DB5 column.

Data Released By _____
Charles E. Ferrin Jr.
GC/LC Lab Manager

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Organophosphorus

Case No ——— 9507125

Project Name: ——— NSWC-CRANE #4324

Client Name ——— MK CORP

Sample Number
BLANK

AENI # BLK 0719LA

Concentration: ——— Low

Date Sampled. ——— N/A

Date Received: ——— N/A

Date Ext Prepared: ——— 7/19/95

Date Analyzed: ——— 7/27/95

Conc/Dil Factor: ——— 1

Method ——— 8141

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	100	
Matrix	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		1.7	U
60-51-5	Dimethoate		3.3	U
23950-58-5	Pronamide		1.7	U
298-04-4	Disulfoton		1.7	U
298-00-0	Methyl Parathion		1.7	U
56-38-2	Ethyl Parathion		1.7	U
52-85-7	Famphur		1.7	U
3689-24-5	Tetraethyl dithiopyrophosphate		167	U

Vi - Volume of extract injected (ul) - _____ 1

Vs - Volume of Water extracted (ml) - _____ N/A

Ws - Weight of sample extracted (g) - _____ 30

Vt - Volume of total extract (ul) - _____ 1,000

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Organophosphorus

Case No ——— 9507125

Project Name ——— NSWC-CRANE #4324

Client Name ——— MK CORP

Sample Number
BLANK

AENI # BLK 0719JB

Concentration ——— Low

Date Sampled: ——— N/A

Date Received ——— N/A

Date Ext Prepared ——— 7/19/95

Date Analyzed: ——— 7/27/95

Conc/Dil Factor ——— 1

Method ——— 8141

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		X Yes
Continuous Liquid - Liquid Extration		Yes
Percent Solid	N/A	
Matrix	WATER	

CAS Number	Compound	Concentration ug/L	Detection Limit	Qualifier
298-02-2	Phorate		0.05	U
60-51-5	Dimethoate		0.10	U
23950-58-5	Pronamide		0.05	U
298-04-4	Disulfoton		0.05	U
298-00-0	Methyl Parathion		0.05	U
56-38-2	Ethyl Parathion		0.05	U
52-85-7	Famphur		0.05	U
3689-24-5	Tetraethyl dithiopyrophosphate		5.0	U

Vi - Volume of extract injected (ul) - _____ 1

Vs - Volume of Water extracted (ml) - _____ 1000

Ws - Weight of sample extracted (g) - _____ N/A

Vt - Volume of total extract (ul) - _____ 1,000

AMERICAN ENVIRONMENTAL NETWORK, INC
ORGANIC ANALYSIS DATA SHEET
SURROGATE PERCENT RECOVERIES
ORGANOPHOPHORUS

CLIENT NAME: MK CORP
PROJECT NAME: NSWC-CRANE #4324
CONTRACT NUMBER : 9507125
SURROGATE: Tolunthion
ACCEPTANCE CRITERIA: 50-150%
MATRIX: SOIL/WATER
METHOD 8141

CLIENT ID	AENI ID	DB5 COLUMN % RECOVERY	#	608 COLUMN % RECOVERY	#
BLANK	BLK 0719LA	23	*	4	*
BLANK SPIKE	LCS 0719LA	20	*	2	*
NSWC-24/00-044	9507125-001	52		86	
NSWC-24/00-045	9507125-002	85		112	
NSWC-24/00-046	9507125-003	32	*	53	
NSWC-24/00-046	9507125-003 MS	22	*	85	
NSWC-24/00-046	9507125-003 MSD	24	*	81	
NSWC-24/00-047	9507125-004	98		19	*
NSWC-24/00-048	9507125-005	69		54	
NSWC-24/00-049	9507125-006	121		58	
NSWC-24/00-050	9507125-007	117		43	*
BLANK	BLK 0719JB	140		127	
NSWC-24/00-FB1	9507125-008	134		106	
NSWC-24/00-RB1	9507125-009	125		108	

COLUMN TO BE USED TO FLAG RECOVERY VALUES
* VALUES OUTSIDE OF QC LIMITS

SOIL BLANK SPIKE RECOVERY

Lab Name: American Environmental Network, Inc. Contract: 9507125
Lab Code: NA Case No.: NA SAS No.: NA
Matrix Spike - EPA Sample No.: BLK 0719LA
Method 8141

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	BS CONCENTRATION (ug/Kg)	BS % REC	#
Phorate	6.7	0.0	4.7	70	
Disulfoton	6.7	0.0	4.2	63	
Methyl Parathion	0.83	0.0	0.52	63	

QC limits for %recovery 50-150%

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 3 outside limits.

SOIL MATRIX SPIKE AND MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: American Environmental Network, Inc. Contract: 9507125
Lab Code: NA Case No.: NA SAS No.: NA
Matrix Spike - EPA Sample No.: NSWC-24/00-046
Method: 8141

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	BS CONCENTRATION (ug/Kg)	BS % REC	#
Phorate	6.7	5.6	12	98	
Disulfoton	6.7	0.0	7.8	116	
Methyl Parathion	0 84	0.0	0 91	108	

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	BSD CONCENTRATION (ug/Kg)	BSD % REC	#	% RPD	#
Phorate	6 7	5 6	9 7	61		47	
Disulfoton	6 7	0 0	5 3	79		38	
Methyl Parathion	0 84	0.0	0 76	90		18	

QC limits for %recovery 50-150%

QC limits for RPD 50%

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 6 outside limits.
RPD: 0 out of 3 outside limits.

AMERICAN ENVIRONMENTAL NETWORK, INC.

July 31, 1995

Client: MK CORP

Case: 9507125

Project: NSWC-CRANE #4324

Analysis: Pesticide and PCBs by method 8080

Client ID	AEN ID	Date Sampled	Date Received	Date Extracted	Date Analyzed	MATRIX
NSWC-24/00-044	9507125-001	07/12/95	07/14/95	07/21/95	07/25/95	SOIL
NSWC-24/00-045	9507125-002	07/12/95	07/14/95	07/21/95	07/25/95	SOIL
NSWC-24/00-046	9507125-003	07/12/95	07/14/95	07/21/95	07/25/95	SOIL
NSWC-24/00-047	9507125-004	07/12/95	07/14/95	07/21/95	07/25/95	SOIL
NSWC-24/00-048	9507125-005	07/12/95	07/14/95	07/21/95	07/25/95	SOIL
NSWC-24/00-049	9507125-006	07/12/95	07/14/95	07/21/95	07/25/95	SOIL
NSWC-24/00-050	9507125-007	07/12/95	07/14/95	07/21/95	07/25/95	SOIL
NSWC-24/00-FB1	9507125-008	07/13/95	07/14/95	07/18/95	07/25/95	WATER
NSWC-24/00-RB1	9507125-009	07/13/95	07/14/95	07/18/95	07/25/95	WATER

Two water and seven soil samples were analyzed for Pesticide and PCBs using method 8080.

The enclosed package consists specifically of tabulated results (Form I), surrogate spike recovery (Form II), blank spike recovery summary (Form III), method blank summary (Form IV), initial calibration summary (Form VI), continuing calibration summary (Form VII), and retention time shifting summary (Form VIII).

Form I (Tabulated Results)

The qualifier "U" indicates that a compound was analyzed for but not detected above the detection limit. The samples were extracted and analyzed within holding times.

Form II (Surrogate Spike Recoveries)

All surrogate recoveries were within criteria (50-150%) except DCB in sample NSWC-24/00-RB1 on column 1.

Form III (Blank Spike Summary)

Blank spike was analyzed with the samples for each matrix. All percent recoveries were within criteria.

Form IV (Method Blank Summary)

No target analyte is detected in the method blanks.

Form VI (Initial Calibration Summary)

A five-point-curve was used for sample quantitation. The correlation coefficient for each component is shown on Form VI.

Form VII (Continuing Calibration Summary)

The percent recoveries for all continuing calibration standards are within criteria with the exception of followings:

DB5 column:			
Endrin	inda3	7/24/95	21:33
DB608 column:			
DDD, Methoxychlor	inda3	7/24/95	21:33
Endosulfan I	inda3	7/25/95	6:19
beta-BHC	indb3	7/25/95	7:00
Pentachloronitrobenzene	MKC STD3	7/25/95	5:39
Pentachloronitrobenzene	MKC STD3	7/25/95	12:27

Form VIII (Retention Time Shifting Summary)

All retention time shifting is within +/- 1.5% windows.

Data Released By _____
Charles E. Ferrin Jr.
GC/LC Lab Manager

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Pesticide/PCBs

Case No.: 9507125

Project Name NSWC-CRANE #4324

Client Name MK CORP

Sample Number
BLANK

AENI # BLK 0718RA

Concentration Low

Date Sampled N/A

Date Received. N/A

Date Ext Prepared: 7/18/95

Date Analyzed: 7/25/95

Conc/Dil Factor 1

Method: 8080

GPC Cleanup | | Yes | X | No

Seperatory Funnel Extraction | X | Yes

Continuous Liquid - Liquid Extraction | | Yes

Percent Moisture N/A

Matrix WATER

CAS Number	Compound	Concentration ug/L	Detection Limit	Qualifier
319-84-6	alpha-BHC		0.05	U
319-85-7	beta-BHC		0.05	U
319-86-8	delta-BHC		0.05	U
58-89-9	gamma-BHC (Lindane)		0.10	U
75-44-8	Heptachlor		0.05	U
309-00-2	Aldrin		0.05	U
1024-57-3	Heptachlor epoxide		0.05	U
959-98-8	Endosulfan I		0.05	U
60-57-1	Dieldrin		0.10	U
75-55-9	4, 4'-DDE		0.10	U
72-20-8	Endrin		0.10	U
33213-65-9	Endosulfan II		0.10	U
72-54-8	4, 4'-DDD		0.10	U
1031-07-8	Endosulfan Sulfate		0.10	U
50-29-3	4, 4'-DDT		0.10	U
72-43-5	Methoxychlor		0.50	U
53494-70-5	Endrin Ketone		0.10	U
7421-36-3	Endrin aldehyde		0.10	U
57-74-9	Chlordane		1.0	U
8001-35-2	Toxaphene		5.0	U
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		2.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
510-15-6	Chlorobenzilate		2.0	U
2303-16-4	Diallate		10	U
465-73-6	Isodrin		0.25	U
143-50-0	Kepone		1.0	U
82-68-8	Pentachloronitrobenzene		0.20	U

Vi - Volume of extract injected (ul) - 5

Vs - Volume of Water extracted (ml) - 1000

Ws - Weight of sample extracted (g) - N/A

Vt - Volume of total extract (ul) - 10,000

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Pesticide/PCBs

Case No.: 9507125
Project Name: NSWC-CRANE #4324
Client Name: MK CORP

Sample Number
BLANK

AENI # BLK 0721VA

Concentration: Low
Date Sampled: N/A
Date Received: N/A
Date Ext Prepared: 7/21/95
Date Analyzed: 7/25/95
Conc/Dil Factor: 1
Method: 8080

GPC Cleanup | | Yes | X | No
Seperatory Funnel Extraction | | Yes
Continuous Liquid - Liquid Extraction | | Yes
Percent Moisture 0
Matrix: SOIL

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		1.7	U
319-85-7	beta-BHC		1.7	U
319-86-8	delta-BHC		1.7	U
58-89-9	gamma-BHC (Lindane)		3.3	U
75-44-8	Heptachlor		1.7	U
309-00-2	Aldrin		1.7	U
1024-57-3	Heptachlor epoxide		1.7	U
959-98-8	Endosulfan I		1.7	U
60-57-1	Dieldrin		3.3	U
75-55-9	4, 4'-DDE		3.3	U
72-20-8	Endrin		3.3	U
33213-65-9	Endosulfan II		3.3	U
72-54-8	4, 4'-DDD		3.3	U
1031-07-8	Endosulfan Sulfate		3.3	U
50-29-3	4, 4'-DDT		3.3	U
72-43-5	Methoxychlor		17	U
53494-70-5	Endrin Ketone		3.3	U
7421-36-3	Endrin aldehyde		3.3	U
57-74-9	Chlordane		33	U
8001-35-2	Toxaphene		170	U
12674-11-2	Aroclor-1016		33	U
11104-28-2	Aroclor-1221		67	U
11141-16-5	Aroclor-1232		33	U
53469-21-9	Aroclor-1242		33	U
12672-29-6	Aroclor-1248		33	U
11097-69-1	Aroclor-1254		33	U
11096-82-5	Aroclor-1260		33	U
510-15-6	Chlorobenzilate		0.67	U
2303-16-4	Diallate		3.3	U
465-73-6	Isodrin		0.08	U
143-50-0	Kepone		0.33	U
82-68-8	Pentachloronitrobenzene		0.07	U

Vi - Volume of extract injected (ul) - 5
Vs - Volume of Water extracted (ml) - N/A
Ws - Weight of sample extracted (g) - 30
Vt - Volume of total extract (ul) - 10,000

2E

WATER PESTICIDE SURROGATE RECOVERY

Lab Name: American Environmental Network, Inc. Contract: 9507125
Lab Code: NA Case No.: NA SAS No.: NA
Instrument ID: GC-F
GC Column(1). DB-5 D: 0.53 mm GC Column(2): DB 608 ID: 0.53 mm
Dates of Analyses 7/25/95 to 7/25/95
Method: 8080

EPA SAMPLE NO	TCMX 1 %REC	#	TCMX 2 % REC	#	DCB 1 %REC	#	DCB 2 %REC	#	TOTAL OUT
BLK 0718RA	77		90		62		85		0
BLANK SPIKE	81		92		68		76		0
NSWC-24/00-FB1	85		86		79		90		0
NSWC-24/00-RB1	75		79		50	*	85		1
BLK 0721VA	82		94		82		88		0
BLANK SPIKE	79		100		84		95		0
NSWC-24/00-044	117		85		96		118		0
NSWC-24/00-045	81		97		79		93		0
NSWC-24/00-046	87		94		75		101		0
NSWC-24/00-047	80		95		77		90		0
NSWC-24/00-048	81		94		85		96		0
NSWC-24/00-049	89		112		99		100		0
NSWC-24/00-050	83		106		88		101		0

ADVISORY QC LIMITS

TCMX= Tetrachloro-m-xylene (60-150)
DCB= Decachlorobiphenyl (60-150)

COLUMN TO BE USED TO FLAG RECOVERY VALUES
* VALUES OUTSIDE OF QC LIMITS
D SURROGATE DILUTED OUT

3E

WATER BLANK SPIKE RECOVERY

Lab Name. American Environmental Network, Inc. Contract: 9507125

Lab Code: NA Case No.: NA SAS No.: NA

Matrix Spike - EPA Sample No.: BLANK

Method: 8080

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	BS CONCENTRATION (ug/L)	BS % REC	#	QC LIMITS REC.
gamma-BHC (Lindane)	0.20	0.0	0.17	85		56 - 123
Heptachlor	0.20	0.0	0 17	85		40 - 131
Aldrin	0.20	0.0	0.16	80		40 - 120
Dieldrin	0.50	0 0	0.48	96		52 - 126
Endrin	0.50	0.0	0.49	98		56 - 121
4,4'-DDT	0 50	0.0	0.45	90		38 - 127

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Spike Recovery. 0 out of 6 outside limits.

FORM III PEST-1

3F

SOIL BLANK SPIKE RECOVERY

Lab Name: American Environmental Network, Inc. Contract: 9507125

Lab Code: NA Case No.: NA SAS No.: NA

Matrix Spike - EPA Sample No.: BLANK

Method: 8080

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	BS CONCENTRATION (ug/Kg)	BS % REC	#	QC LIMITS REC.
gamma-BHC (Lindane)	6.7	0.0	5.2	78		46 - 127
Heptachlor	6.7	0.0	4.9	73		35 - 130
Aldrin	6.7	0.0	5.2	78		34 - 132
Dieldrin	17	0.0	16	94		31 - 134
Endrin	17	0.0	17	100		42 - 139
4,4'-DDT	17	0.0	15	88		23 - 134

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 6 outside limits.

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 RUMSEY ROAD
COLUMBIA, MD. 21045
(410) 730-8525

Project Number: 9507-125
Client Name: MK Corporation
Project Title: NSWC - Crane
#4324

Three water and seven soil samples were analyzed for the volatile organic compounds in the Appendix IX compound list by method 8260, capillary column, 5gr/5ml purge. Two water and seven soil samples were analyzed for the semivolatile organic compounds in the Appendix IX compound list by method 8270.
All analyses followed the standard AENI QA/QC and holding time requirements.

This package consists of the tabulated results of the samples and the method blanks, along with the QC forms II, III, IV, V, VI, VII and VIII.

Data Released Minh-Thuy L. Nguyen 8/12/95
Minh-Thuy L. Nguyen
GC/MS Lab Manager

VOLATILES Section:

Client ID	AENI ID	Matrix	Date Sampled	Date Received	Date Analyzed
NSWC-24/00-044	125-001	SOIL	07/12/95	07/14/95	07/25/95
NSWC-24/00-045	125-002	SOIL	07/12/95	07/14/95	07/25/95
NSWC-24/00-046	125-003	SOIL	07/12/95	07/14/95	07/25/95
NSWC-24/00-047	125-004	SOIL	07/12/95	07/14/95	07/25/95
NSWC-24/00-048	125-005	SOIL	07/12/95	07/14/95	07/25/95
NSWC-24/00-049	125-006	SOIL	07/12/95	07/14/95	07/25/95
NSWC-24/00-050	125-007	SOIL	07/12/95	07/14/95	07/25/95
NSWC-24/00-FB1	125-008	WATER	07/12/95	07/14/95	07/25/95
NSWC-24/00-RB1	125-009	WATER	07/12/95	07/14/95	07/26/95
NSWC-24/00-TB1	125-010	WATER	07/12/95	07/14/95	07/25/95

Form I (Tabulated Results)
Since the water samples are QC samples for the soils, they were analyzed under the conditions of the soil samples. All analyses were performed within the holding time requirement. The results for the soil samples were reported on the basis of dry weight.
Sample NSWC-24/00-RB1 was analyzed at 1:100 dilution due to the high level of target analytes.

Form II (Surrogate Recoveries)
The surrogate recoveries for the samples and the method blank were within the method specified limits.

Form III (MS/MSD Recoveries)
A batch MS/MSD analysis was reported. All spike recoveries and all %RPDs were within the method advisory limits.

Form IV (Method Blank Summary)
The method blanks were free of target analytes, except for methylene chloride which is a common lab artifact.

Form V (Tuning and Mass Calibration)
All calibration standards, method blanks and samples were analyzed within the method specified mass calibration and 12-hr tune criteria.

Form VI (Initial Calibration)
The initial calibration curve met the method specified Min mean RRF for the SPCC compounds and Max %RSD for the CCC compounds.

Form VII (Continuing Calibration)
All CCC and SPCC compounds for the daily continuing calibrations were within the method specified criteria for max %D and Min RRF50.

Form VIII (Internal Standard Summary)
All internal standard areas and all retention times were within the lab warning limits.

SEMIVOLATILES Section:

Client ID	AENI ID	Matrix	Date Sampled	Date Received	Date Extracted	Date Analyzed
NSWC-24/00-044	125-001	SOIL	07/12/95	07/14/95	07/20/95	07/25/95
NSWC-24/00-045	125-002	SOIL	07/12/95	07/14/95	07/20/95	07/25/95
NSWC-24/00-046	125-003	SOIL	07/12/95	07/14/95	07/20/95	07/25/95
NSWC-24/00-047	125-004	SOIL	07/12/95	07/14/95	07/20/95	07/25/95
NSWC-24/00-048	125-005	SOIL	07/12/95	07/14/95	07/20/95	07/25/95
NSWC-24/00-049	125-006	SOIL	07/12/95	07/14/95	07/20/95	07/25/95
NSWC-24/00-050	125-007	SOIL	07/12/95	07/14/95	07/20/95	07/25/95
NSWC-24/00-FB1	125-008	WATER	07/12/95	07/14/95	07/19/95	07/25/95
NSWC-24/00-RB1	125-009	WATER	07/12/95	07/14/95	07/19/95	07/25/95

Form I (Tabulated Results)
All analyses were performed within the holding time requirement. The results for the soil samples were reported on the basis of dry weight.

Form II (Surrogate Recoveries)
Water matrix: Both samples had surrogate recoveries below the lab limits, in duplicate analyses. No sample remained for re extraction. The method blank and the LCS were within criteria.
Soil matrix: The surrogate recoveries for the samples, QC and method blank were within the method specified limits.

Form III (LCS Recoveries)
Two sets of LCS analyses were reported. All spike recoveries were within criteria.

Form IV (Method Blank Summary)
The method blank was free of target analytes.

Form V (Tuning and Mass Calibration)
All calibration standards, method blanks, QC and samples were analyzed within the method specified mass calibration and 12-hr tune criteria.

Form VI (Initial Calibration)
The initial calibration curves met the method specified Min mean RRF for the SPCC compounds and Max %RSD for the CCC compounds. Note that due to high number of target analytes, two curves were prepared, one for the TCL compounds and one for the Appendix IX non TCL compounds.

Form VII (Continuing Calibration)
All CCC and SPCC compounds for the daily continuing calibrations were within the method specified criteria for max %D and Min RRF50. Note that methyl methyl methanesulfonate, 1,4-naphthoquinone, 2-naphthylamine and 1-naphthylamine were double spiked in the daily continuing calibration solution.

Form VIII (Internal Standard Summary)
All internal standard area recoveries and retention times shifting were within the lab warning limits, except for the first analysis of sample NSWC-24/00-FB1.

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: NSWC-CRANE Location: _____ Group: _____

Level: (low/med) LOW

	SAMPLE NO	SMC1 #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER #	TOT OUT
01	VBLK01	111	105	102		
02	NSWC24/00 044	104	103	82		
03	NSWC24/00-045	113	112	91		
04	NSWC24/00-046	113	108	95		
05	NSWC24/00-047	108	104	99		
06	NSWC24/00-048	110	105	98		
07	NSWC24/00-049	112	108	97		
08	NSWC24/00-050	110	106	97		
09	NSWC24/00-FB1	113	104	102		
10	NSWC24/00-TB1	111	101	101		
11	VBLK02	94	92	94		
12	NSWC24/00 RB1	97	83	86		
13						
14						
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27						
28						
29						
30						

	QC LIMITS
SMC1 = Dibromofluoromethane	(80-120)
SMC2 (TOL) = Toluene-d8	(81-117)
SMC3 (BFB) = Bromofluorobenzene	(74-121)

 # Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM II VOA-2 SW846

SOLVOLATILE MATRIX SPIKE MATRIX SPIKE DUPLICATE RECOVERY

Lab Name AENI MD Contract: MKC

Project No.: 9507125 Site: NSWC-CRA Location: Group:

Matrix Spike - Sample No.: BATCH QC 9507138-002 Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	74	0	83	112	(59-172)
Trichloroethene	74	0	51	69	(62-137)
Benzene	74	0	82	111	(66-142)
Toluene	74	5	86	110	(59-139)
Chlorobenzene	74	4	79	101	(60-133)

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MS % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1 Dichloroethene	74	88	119	6	22	(59-172)
Trichloroethene	74	50	68	2	24	(62-137)
Benzene	74	84	114	2	21	(66-142)
Toluene	74	88	113	2	21	(59-139)
Chlorobenzene	74	79	101	0	21	(60-133)

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

Comments.

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

VBLK01

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: NSWC-CRA Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 0725VBLK

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG249.D

Level: (low/med) LOW Date Received:

% Moisture: not dec 0 Date Analyzed: 7/25/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
126-98-7	Methacrylonitrile	5	U
74-95-3	Dibromomethane	5	U
106-93-4	1,2-Dibromoethane (EDB)	5	U
108-10-1	4-Methyl-2-Pentanone	50	U
591-78-6	2 Hexanone	50	U
127 18-4	Tetrachloroethene	5	U
79 34 5	1,1,2,2 Tetrachloroethane	5	U
108-88 3	Toluene	5	U
108 90 7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
108-38-3	m + p Xylene	5	U
95-47-6	o-Xylene	5	U
80-62-6	Methyl methacrylate	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
97-63 2	Ethyl methacrylate	5	U
76-01-7	Pentachloroethane	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
126-99-8	Chloroprene	5	UZ
123 91-1	1,4 Dioxane (TIC)	1000	U
78-83 1	Isobutyl Alcohol (TIC)	1000	U
	3 Chloroprene (TIC)	5	U

FORM I VOA SW846

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

VBLK02

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: MSWC-CRA Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 0726VBLK

Sample wt/vol: 5.0 (g/mL) G Lab File ID: E6268.D

Level: (low/med) LOW Date Received:

% Moisture not dec 0 Date Analyzed: 7/26/95

GC Column: CAP ID 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75 09-2	Methylene Chloride	5	U
67 64-1	Acetone	100	U
75 05 8	Acetonitrile	5	U
107-13-1	Acrylonitrile	1000	U
107-02 8	Acrolein	1000	U
75 69-4	Trichlorofluoromethane	5	U
75-15-0	Carbon Disulfide	5	U
75 35-4	1,1-Dichloroethene	5	U
75-34-4	1,1-Dichloroethane	5	U
540-59 0	trans 1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
75-71-8	Dichlorodifluoromethane	5	U
74-88-4	Iodomethane	5	U
107-12-0	Propionitrile	5	U
107-05 1	Allyl chloride	100	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79 01 6	Trichloroethene	5	U
71-43-2	Benzene	5	U
124-48-1	Dibromochloromethane	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2 Trichloroethane	5	U
75-25-2	Bromoform	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK02

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: NSWC-CRA Location: Group:

Matrix: (soil/water) SOIL Lab Sample ID: 0726VBLK

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG268.D

Level (low/med) LOW Date Received:

% Moisture not dec. 0 Date Analyzed: 7/26/95

GC Column: CAP ID 0.53 (mm) Dilution Factor 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
126-98-7	Methacrylonitrile	5	U
74-95-3	Dibromomethane	5	U
106-93-4	1,2-Dibromoethane (EDB)	5	U
108-10-1	4-Methyl-2-Pentanone	50	U
591-78-6	2-Hexanone	50	U
127 18-4	Tetrachloroethene	5	U
79 34 5	1,1,2,2 Tetrachloroethane	5	U
108 88-3	Toluene	5	U
108 90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
108-38-3	m + p-Xylene	5	U
95-47-6	o-Xylene	5	U
80-62 6	Methyl methacrylate	5	U
630-20-6	1,1,1,2-Tetrachloroethane	5	U
96-18-4	1,2,3-Trichloropropane	5	U
110-57-6	trans-1,4-Dichloro-2-butene	5	U
97-63-2	Ethyl methacrylate	5	U
76-01-7	Pentachloroethane	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
126-99-8	Chloroprene	5	UZ
123-91-1	1,4-Dioxane (TIC)	1000	U
78-83 1	Isobutyl Alcohol (TIC)	1000	U
	3 Chloroprene (TIC)	5	U

FORM I VOA SW846

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: AENI MD Contract: MKG

Project No.: 9507125 Site: _____ Location: _____ Group: _____

	SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	#	#	TOT OUT
01	SBLK01 MS	72	71	78	67	83	48			
02	SBLK01	64	66	69	62	69	33			
03	NSWC 24/00-FB1	4 *	12	76	70	8 *	78			2
04	NSWC-24/00 RB1	5 *	8 *	78	80	7 *	74			3
05	NSWC-24/00-FB1	4 *	12	72	68	8 *	100			2
06	NSWC-24/00-RB1	6 *	12	76	72	14	74			1
07										
08										
09										
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	QC LIMITS
S1 (2FP) = 2-Fluorophenol	(21-100)
S2 (PHL) = Phenol-d5	(10-94)
S3 (NBZ) = Nitrobenzene-d5	(34-114)
S4 (FBP) = 2-Fluorobiphenyl	(43-116)
S5 (TBP) = 2,4,6-Tribromophenol	(10-123)
S6 (TPH) = Terphenyl-d14	(33-141)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

FORM II SV-1 SW8-

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: _____ Location: _____ Group: _____

Level: (low/med) LOW

	SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	#	#	TOT OUT
01	SBLK02	51	59	57	54	64	70			
02	SBLK02 MS	57	67	67	61	61	74			
03	NSWC 24/00-044	61	70	78	76	80	78			
04	NSWC 24/00 045	49	55	60	72	74	84			
05	NSWC 24/80-046	53	56	60	66	64	70			
06	NSWC-24/00 047	56	66	68	72	78	92			
07	NSWC-24/00-048	58	69	76	76	83	80			
08	NSWC-24/00-049	55	64	72	72	82	78			
09	NSWC-24/00-050	59	70	78	80	83	90			
10										
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30										

	QC LIMITS
S1 (2FP) - 2-Fluorophenol	(25-121)
S2 (PHL) - Phenol-d5	(24-113)
S3 (NBZ) - Nitrobenzene-d5	(23-120)
S4 (FBP) - 2-Fluorobiphenyl	(30-115)
S5 (TBP) - 2,4,6-Tribromophenol	(19 122)
S6 (TPH) - Terphenyl-d14	(18-137)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

WATER SEMI-VOLATILE MATRIX SPIKE MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: AENI MD Contract: MKC

Project No.: 9507125 Site: Location: Group:

Matrix Spike - Sample No. S8LK01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Phenol	200	0	110	55	(12-89)
2 Chlorophenol	200	0	110	55	(27-123)
1,4-Dichlorobenzene	100	0	63	63	(36-97)
N-Nitroso-di-n-propylamine	100	0	78	78	(41-116)
1,2,4-Trichlorobenzene	100	0	68	68	(39-98)
4-Chloro-3-methylphenol	200	0	110	55	(23-97)
Acenaphthene	100	0	69	69	(46-118)
2,4-Dinitrotoluene	100	0	73	73	(24-96)
4-Nitrophenol	200	0	150	75	(10-80)
Pentachlorophenol	200	0	150	75	(9-103)
Pyrene	100	0	75	75	(26-127)

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol					42	(12-89)
2-Chlorophenol					40	(27-123)
1,4-Dichlorobenzene					28	(36-97)
N-Nitroso-di-n-propylamine					38	(41-116)
1,2,4-Trichlorobenzene					28	(39-98)
4-Chloro-3-methylphenol					42	(23-97)
Acenaphthene					31	(46-118)
2,4-Dinitrotoluene					38	(24-96)
4-Nitrophenol					50	(10-80)
Pentachlorophenol					50	(9-103)
Pyrene					31	(26-127)

(1) N-Nitroso-di-n-propylamine

* Values outside of QC limits

Comments:

SOIL SEMIVOLATILE MATRIX SPIKE MATRIX SPIKE DUPLICATE RECOVERY

Lab Name AENI MD Contract. MKC

Project No.: 9507125 Site: _____ Location: _____ Group: _____

Matrix Spike - Sample No.: SBLK02 Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Phenol	6700	0	4000	60	(26-90)
2 Chlorophenol	6700	0	3200	48	(25-102)
1,4-Dichlorobenzene	3300	0	2100	64	(28-104)
N-Nitroso-di-n-propylamine	3300	0	2600	79	(41-126)
1,2,4-Trichlorobenzene	3300	0	2300	70	(38-107)
4-Chloro-3-methylphenol	6700	0	4100	61	(26-103)
Acenaphthene	3300	0	2300	70	(31-137)
2,4-Dinitrotoluene	3300	0	2400	73	(28-89)
4-Nitrophenol	6700	0	5100	76	(11-114)
Pentachlorophenol	6700	0	5100	76	(17-109)
Pyrene	3300	0	2400	73	(35-142)

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol					35	(26-90)
2-Chlorophenol					50	(25-102)
1,4-Dichlorobenzene					27	(28-104)
N Nitroso-di-n-propylamine					38	(41-126)
1,2,4-Trichlorobenzene					23	(38-107)
4-Chloro-3-methylphenol					33	(26-103)
Acenaphthene					19	(31-137)
2,4-Dinitrotoluene					47	(28-89)
4-Nitrophenol					50	(11-114)
Pentachlorophenol					47	(17-109)
Pyrene					36	(35-142)

* Values outside of QC limits

Comments: _____

AMERICAN ENVIRONMENTAL NETWORK, INC.

9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

Client: MK Corp

Project: NSWC-Crane

Case: 9507125

Analysis: Dioxins

Date: July 31, 1995

Client ID	AENI ID	Date Sampled	Date Received
NSWC-24/00-044	9507125-001	07/12/95	07/14/95
NSWC-24/00-045	9507125-002	07/12/95	07/14/95
NSWC-24/00-046	9507125-003	07/12/95	07/14/95
NSWC-24/00-047	9507125-004	07/12/95	07/14/95
NSWC-24/00-048	9507125-005	07/12/95	07/14/95
NSWC-24/00-049	9507125-006	07/12/95	07/14/95
NSWC-24/00-050	9507125-007	07/12/95	07/14/95
NSWC-24/00-FB1	9507125-008	07/13/95	07/14/95
NSWC-24/00-RB1	9507125-009	07/13/95	07/14/95

Nine samples were received and analyzed for Dioxins by Method 8280. The samples were subcontracted to a third party lab for analysis.

The enclosed report consists of tabulated results.

Report Released By: Kristina C. Yamarik 7/31/95
Kristina C. Yamarik
Project Manager

TRIANGLE LABS

CASE NARRATIVE

Analysis of Samples for the Presence of

Polychlorinated Dibenzo-*p*-Dioxins and Dibenzofurans by

High-Resolution Chromatography / Low-Resolution Mass Spectrometry

Method 8280 Rev. 0 (9/86)

Date: July 28, 1995

Client ID: American Environmental Network

P.O. Number:

TLI Project Number: 33451A and 33451B

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Rev. 06/21/95

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Overview

The samples and any associated QC samples were extracted and analyzed according to procedures described in EPA Method 8280. Any particular difficulties encountered during the sample handling by Triangle Laboratories will be discussed in the QC Remarks section below. *Results reported relate only to the items tested.*

Sample Extraction

The water samples have been separatory funnel extracted with methylene chloride to produce a final extract. Eighty percent of the extract was archived while twenty percent was processed through the cleanup procedures.

The solid samples have been jar extracted with a series of solvents (hexane, methanol and/or toluene) to produce a final extract. Eighty percent of the extract was archived while twenty percent was processed through the cleanup procedures.

The cleanup of extracts may include the use of bulk acid/base washes, and acid silica, basic silica, activated alumina, and carbon column liquid chromatography.

Sample Analysis

A five point initial calibration curve was analyzed, in triplicate, on each instrument used for sample analysis. Calibration ranges are listed below and are based on sample size. A continuing calibration check and a column performance evaluation are analyzed at the beginning of each twelve hour period of sample analysis. The column performance solution, which is used to evaluate the GC resolution is also performed at the end of each twelve hour analytical sequence.

Calibration Ranges

Compounds	Solid (10 g sample)	Water (1 L sample)	
	ppb (µg/Kg)	ppt (ng/L)	ppb (µg/L)
TCDD/TCDF PeCDD/PeCDF	1-20	10-200	0.01-0.2
HxCDD/HxCDF HpCDD/HpCDF	2.5-50	25-500	0.025-0.5
OCDD/OCDF	5-100	50-1000	0.05-1.0

Some of the labeled standards used in the analysis have ion fragments with the same mass as the quantitation mass of some of the analytes. These lower mass fragments appear as peaks or 'breakthrough' in the analyte channels. This can often be witnessed in the cases of $^{13}C_{12}$-TCDF internal standard appearing in the TCDD analyte channels, $^{13}C_{12}$-HxCDD internal and recovery standards appearing the HpCDF analyte channels, and $^{13}C_{12}$-HpCDF internal standard appearing the HpCDD analyte channels. For most of the above situations, the interfering peaks due to the labeled standards lie outside the retention time window of the analyte. In the case of TCDD/TCDF, the interferences usually lie within the retention time window. Whenever breakthrough peaks occur from the labeled standards, these peaks are reported as EMPCs, and may be considered artifacts from the labeled standards. This is a limitation caused by the use of low-resolution mass spectrometry, recommended in the method.

Quality Control Samples

Two laboratory method blanks, identified as the TLI Water Blank and TLI Soil Blank, were prepared along with the samples. One such sample per 20 field samples (or less) of a given matrix is prepared. A report summarizing relative percent differences and analyte percent recovery of lab control spike (LCS) and lab control spike duplicate (LCSD) quality control samples (for soil samples) extracted and analyzed under TLI project number 33450 and lab control spike quality control sample extracted and analyzed under TLI project number 33452 (for water samples) are included in this data package.

The advisory quality control range for internal and clean-up standard percent recoveries is 40-120 percent recovery (25-120 for the OCDD internal standard). If recoveries are below the advisory range, analyte results are judged to be valid as long as the ratio of signal to noise for the standard is greater than ten to one and the percent recovery is greater than ten percent.

Quality Control Remarks

This release of this particular set of American Environmental Network analytical data by Triangle Laboratories was authorized by the Quality Control Chemist who has reviewed each sample data package individually following a series of inspections/reviews. When applicable, general deviations from acceptable QC requirements are identified below and comments are made on the effect of these deviations upon the validity and reliability of the results. Specific QC issues associated with this particular project are:

Sample receipt: Seven soil and two water samples were received from American Environmental Network at 15 °C in good condition July 19, 1995 and were stored in a refrigerator at 4°C until the time of extraction.

Sample Preparation Laboratory: The soil samples and water samples were extracted and analyzed separately under TLI project numbers 33451A and 33451B respectively.

Mass Spectrometry: None

Data Review: The internal and cleanup standards for these samples are within the QC advisory limits of 40-120 percent (25-120 percent for the OCDD internal standard) or meet ten to one signal to noise criteria in all cases.

Other Comments: No 2,3,7,8-substituted target analytes were detected in the TLI Blank above the method detection limit (MDL).

Sample Calculations:

Method 8280 does not specify which of the two monitored masses to use for quantitation of all of the isotope-labeled standards. Following the pattern established by the method, we have selected which mass to use for each analyte and standard based on the theoretical ratio For groups with theoretical ratios that are greater than one (the pentas, hexas and heptas), the first monitored mass should be larger and is therefore used for quantitation. For channels with theoretical ratios of less than one (the tetras and octas), the second monitored mass should generally be larger and is used for quantitation.

Analyte Concentration

The concentration or amount of any analyte is calculated using the following expression.

$$C_{(\sigma)} = \frac{A_\sigma * Q_\beta}{A_\beta * RRF_{(\sigma)} * W}$$

Where:

$C_{(\sigma)}$ is the concentration or amount of a given analyte,

A_σ is the integrated ion current of the quantitation ion of the analyte,

A_β is the integrated ion current of the quantitation ion of the corresponding internal standard,

Q_β represents the amount of internal standard added to the sample before extraction,

$RRF_{(\sigma)}$ is the analyte relative response factor from the continuing calibration and,

W is the sample weight or volume

Detection Limits

The detection limit reported for a target analyte was derived from a method validation study performed by Triangle Laboratories, Inc. The reported detection limit has been adjusted for each sample using the actual sample size extracted and any dilution factors associated with that sample analysis.

Data Flags

In order to assist with data interpretation, data qualifier flags are used on the final reports. Please note that all data qualifier flags are subjective and are applied as consistently as possible. Each flag has been reviewed by two independent Chemists and the impact of the data qualifier flag on the quality of the data discussed above. The most commonly used flags are:

A 'B' flag is used to indicate that an analyte has been detected in the laboratory method blank as well as in an associated field sample. The 'B' flag will be used only when the concentration of analyte found in the sample is less than 20 times that found in the associated blank. This flag denotes possible contribution of background laboratory contamination to the concentration or amount of that analyte detected in the field sample. Under Triangle Laboratories guidelines, a laboratory blank is acceptable if the analyte levels are all below the target detection limits (TDLS) or if the contamination levels are less than 5% of the levels detected in the associated field samples. If these conditions are satisfied or if the blank is unable to be reextracted, the interpretation of the contamination levels relative to the samples should be as follows: 1) analyte quantitations should be considered estimated if the level of blank contamination is less than five percent of the level detected in the field sample, 2) analyte quantitations should be considered estimated if the analyte level in the sample is five to twenty times the level of the analyte in the blank, or 3) analytes whose level in a sample is the same as or less than five times the level detected in the associated blank should be considered present likely due to laboratory contamination and not native to the sample.

An 'E' flag is used to indicate that a PCDF peak has eluted at the same time as the associated diphenyl ether (DPE) and that the DPE peak intensity is ten percent or more of the total PCDF peak intensity. Total PCDF values are flagged 'E' if the total DPE contribution to the total PCDF value is greater than ten percent. All PCDF peaks that are significantly influenced by the presence of DPE peaks are quantitated with EMPC values, regardless of the isotopic abundance ratio. These EMPC values are most likely overestimated due to the DPE contribution to the peak area.