DEPARTMENT OF THE NAVY
CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
300 HIGHWAY 361
CRANE, INDIANA 47522-5001

IN REPLY REFER TO

5090
Ser 095/0105

16 MAY 2000

U.S. Environmental Protection Agency, Region V
Waste, Pesticides, & Toxics Division
Waste Management Branch
Illinois, Indiana, and Michigan Section
Attn: Mr. Peter Ramanauskas (DW-8J)
77 West Jackson Blvd.
Chicago, IL 60604

Dear Mr. Ramanauskas:

Crane Division, Naval Surface Warfare Center (NAVSURFWARCENDIV Crane) submits, as enclosure (1), the following revisions for the Interim Measures Report (IMR) for the Battery Shop, Solid Waste Management Unit (SWMU) 23/00 based on your April 18, 2000 letter of approval. The required certification statement is included as enclosure (2).

NAVSURFWARCENDIV Crane point of contact is
Ms. Christine D. Freeman, Code 09511, telephone 812-854-4423.

Sincerely,

James M. Hunsicker

JAMES M. HUNSICKER
Director, Environmental Protection
Department
By direction of
the Commander

Encls:
(1) Replacement Pages SWMU 23/00 IMR
(2) Certification Statement

Copy to: (no encls)
Administrative Record
IDEM (D. Griffin)
MK Cleveland
SOUTHNAVFACENGCOM (Code 1864)
TolTest Crane

NSWC Crane
Crane, Indiana

COMMENT - RESOLUTION

Additional Comments to:
Final Draft Interim Measures Report for SWMU 23/00: Battery Shop
Dated January 2000

Commentor: Peter Ramanauskas, U.S. EPA Region 5

COMMENT 1: Correct the truncated Inorganic Data Qualifier Code Descriptions (N and U) for Table 3, Page 13.

RESPONSE 1: The truncated data qualifier codes have been corrected.

COMMENT 2: Add an explanation for the blank spaces in both Tables 2 and 3.

RESPONSE 2: An explanation for the blank spaces has been added to both tables.

NSWC Crane
Crane, Indiana

Final Draft Interim Measures Report for SWMU 23/00: Battery Shop

ERRATA SHEET

1. Remove white spine and binder cover dated January 2000 and replace with green spine and binder cover dated May 12, 2000 Final.

2. Remove title page and signature page dated January 26, 2000 and replace with title and signature page dated May 12, 2000.

3. Remove page 7 of Table 2 and replace with revised page 7 dated 5/12/2000.

4. Remove page 13 of Table 3 and replace with revised page 13 dated 5/12/2000

Interim Measures Report, SWMU 23/00
Battery Shop

Voluntary Interim Measures
NSWC Crane, Crane, Indiana

Contract No. N62467-93-D-1106

May 2000

Final

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

INTERIM MEASURES REPORT, SWMU 23/00
BATTERY SHOP

VOLUNTARY INTERIM MEASURES
NSWC CRANE, CRANE, INDIANA

May 12, 2000

Final

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

Prepared for

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11 May 00
Date

APPROVAL:

Alan Fosdick
Deputy Program Manager

11 May 00
Date

EXECUTIVE SUMMARY

This Interim Measures Report has been prepared by Morrison Knudsen for the Naval Facilities Engineering Command, Southern Division pursuant to the scope of work defined in Delivery Order #0009, under Contract #N62467-93-D-1106.

This Report details voluntary interim measures taken to remediate Solid Waste Management Unit 23/00, Battery Shop located at the Naval Surface Warfare Center, Crane, Indiana. Interim measure activities at Solid Waste Management Unit 23/00 were performed in accordance with the Resource Conservation and Recovery Act Part B Permit for Naval Surface Warfare Center, Crane.

At Solid Waste Management Unit 23/00, Battery Shop, the objectives were to remove and dispose surface debris, either on-site or off-site depending upon contaminant concentrations, and backfill disturbed areas to original grade. Soils were to be left in place and characterized for any future remediation requirements. Drawings and maps for the site that show the location and work zones established are included in Appendix A. Relevant correspondence concerning the project is provided in Appendix B.

A track backhoe was used to clear a path and to lower a skid mounted box down the slope. The debris was manually placed in the skid box and pulled up the slope with the hoe. The debris was appropriately sorted and any non-recyclable debris was transferred to a roll-off box and transported to an off-site landfill. Visual inspection and a metal detector were used to ensure all debris was removed from the area. Soil samples were collected and analyzed for comparison to predetermined cleanup levels. There were no contaminated soils transported from the site. Photographs that show the progress of the work are provided in Appendix C. Approximately four and one-half tons of debris was transported to an off-site landfill for disposal. Analytical methods and results are included in Appendix D.

Following the completion of debris removal, confirmation sampling was performed. Ten samples were collected and analyzed by a laboratory for Appendix IX criteria in accordance with the Sampling and Analysis Plan. Sample locations and analytical results are summarized in Tables 1 through 3. Sample types and methods used are provided in Appendix D. The contour of the area was basically undisturbed. The path of the skid box was provided with cover to protect it from potential erosion problems.

The Solid Waste Management Unit Acceptance and Turnover statement reflecting the final inspection of Solid Waste Management Unit 23/00 is included with the correspondence provided in Appendix B.

Although the goal of the remedial action was met, based on a review of confirmation sample analytical results, further characterization of soil contamination at Solid Waste Management Unit 23/00 should be performed.

TABLE OF CONTENTS

SECTION		PAGE
EXECUTIVE SUMMARY		i
ACRONYMS AND ABBREVIATIONS		iv
1.0	INTRODUCTION	1-1
1.1	PURPOSE AND OBJECTIVE	1-1
1.2	DOCUMENT ORGANIZATION	1-1
2.0	SITE BACKGROUND	2-1
2.1	SITE DESCRIPTION	2-1
2.2	ENVIRONMENTAL SETTING	2-1
3.0	WORK EXECUTION	3-2
3.1	SITE CHARACTERIZATION	3-2
3.2	EXCAVATION/REMOVAL PROCEDURES	3-2
3.3	SAMPLING	3-2
3.4	DISPOSAL	3-3
3.5	SITE RESTORATION	3-3
4.0	FIELD AND LABORATORY DATA QUALITY CONTROL	4-1
4.1	DATA QUALITY CONTROL	4-1
4.1.1	Field Quality Control	4-1
4.1.2	Laboratory Quality Control	4-1
5.0	SUMMARY AND CONCLUSIONS	5-1
6.0	REFERENCES AND BIBLIOGRAPHY	6-1

TABLE OF CONTENTS (Continued)

LIST OF TABLES

TABLE

1 ANALYTICAL METHODS SUMMARY
2 CHARACTERIZATION SAMPLES ANALYTICAL RESULTS SUMMARY
3 CONFIRMATION SAMPLES ANALYTICAL RESULTS SUMMARY
4 ANALYTICAL SAMPLES AND CORRESPONDING RINSE/TRIP BLANKS

LIST OF APPENDICES

APPENDIX		PAGE
A	DRAWINGS	A-1
B	REGULATORY FORMS/CORRESPONDENCE	B-1
C	PHOTOGRAPHS	C-1
D	ANALYTICAL RESULTS	D-1
E	SUMMARY OF MANIFESTS	E-1

ACRONYMS AND ABBREVIATIONS

CAAA	Crane Army Ammunition Activity
HSWA	Hazardous and Solid Waste Amendments
IM	Interim Measure
IMR	Interim Measures Report
LCS	Laboratory Control Samples
MK	Morrison Knudsen Corporation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NAVFACENGCOM	Naval Facilities Engineering Command
NEESA	Naval Energy and Environmental Support Activity
NSWC	Naval Surface Warfare Center
QC	Quality Control
RFI	RCRA Facility Investigation
RCRA	Resource Conservation and Recovery Act
SAP	Interim Measures Sampling and Analysis Plan
SOUTHDIV	Southern Division
SWMU	Solid Waste Management Unit
U.S. EPA	United States Environmental Protection Agency

1.0
INTRODUCTION

Promulgation of the United States Environmental Protection Agency's (U.S. EPA's) regulatory program under the Resource Conservation and Recovery Act (RCRA) provided the impetus to identify and control environmental contamination from past practices at Naval Surface Warfare Center (NSWC) Crane. On December 23, 1989, the U.S. 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 the 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 for NSWC Crane, obligating the US Navy to perform RCRA Facility Investigations (RFIs) at 30 Solid Waste Management Units (SWMUs), to conduct Corrective Measures Studies and to implement corrective measures, if needed. Voluntary interim measures were performed at SWMU 23/00.

1.1 PURPOSE AND OBJECTIVE

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 and Delivery Order #0027, Statement of Work #036 to remediate SWMUs at NSWC Crane, Crane, Indiana. This Interim Measures Report (IMR) summarizes environmental tasks associated with SWMU 23/00, Battery Shop. The work included the following:

- Characterization sampling and analysis
- Excavation and debris removal
- Confirmation sampling and analysis
- Waste disposal
- Site restoration

MK provided project management, construction management, scientific, environmental, health and safety oversight, and quality control oversight services for this project. MK's primary subcontractor, US Tech Group, provided excavation, removal and disposal, and backfilling/restoration services. Compuchem Environmental Corporation (Compuchem) provided analytical services under contract to MK.

The target cleanup levels for this Interim Measure (IM) were taken from a USEPA memo *RCRA Corrective Action Guidance; Human Data Quality Levels for RFI Projects* by Karl E. Bremer, June 18, 1994.

1.2 DOCUMENT ORGANIZATION

The intent of this document is to show the sequence of work that was completed at SWMU 23/00. Section 2.0 provides background information about the site and SWMU 23/00. Section 3.0 provides a discussion of the work that was performed and the dates when they were completed. Analytical data quality control is discussed in Section 4.0. A summary of conclusions with regards to the work completed is presented in Section 5.0 and Section 6.0 lists the documents referenced in preparing this report.

Pertinent information not contained in the body of the report is contained in the tables and appendices and include:

TABLE 1:	ANALYTICAL METHODS SUMMARY
TABLE 2:	CHARACTERIZATION SAMPLE ANALYTICAL RESULTS SUMMARY
TABLE 3:	CONFIRMATION SAMPLE ANALYTICAL RESULTS SUMMARY

TABLE 4: ANALYTICAL SAMPLES AND CORRESPONDING RINSE/TRIP BLANKS

APPENDIX A: FIGURES AND DRAWINGS
APPENDIX B: REGULATORY FORMS/CORRESPONDENCE
APPENDIX C: PHOTOGRAPHS
APPENDIX D: ANALYTICAL RESULTS
APPENDIX E: SUMMARY OF MANIFESTS

2.0
SITE BACKGROUND

2.1 SITE DESCRIPTION

NSWC Crane consists of 62,463 acres located approximately 75 miles south of Indianapolis, Indiana. The site, shown in Figure A-1 of Appendix A, provides support for equipment, shipboard weapons systems, and ordnance. NSWC Crane also 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.

The Battery Shop is located in north-central NSWC Crane as shown in Figure A-2 of Appendix A. About 2,000 gallons of battery acid per year, from 1940 to 1975, were discharged onto a sloped area behind the Battery Shop (Building B-36). In addition, miscellaneous debris and waste oils containing lead, sulfates and oily water were also discharged in the same area. (*Initial Assessment Study of Naval Weapons Support Center Crane, Indiana ;* NEESA 13-003. Naval Energy and Environmental Support Activity, May 1983). This debris area is situated north of Building 36 (B-36), as shown in Figure A-4 and A-5, sheet 1 of 2 in Appendix A, covers an area approximately 400 feet wide and 125 feet long and extends to the bottom of the ravine. A small stream is located at the bottom of the ravine. The area is rugged and wooded, with rock formations protruding from the slope causing sudden elevation changes of 12 to 14 feet. Access to the dump site is by foot. The debris was unevenly scattered throughout the site. Fallen leaves and brush covered some of the debris.

2.2 ENVIRONMENTAL SETTING

The topography of NSWC Crane consists of flat to gently rolling terrain dissected by numerous well-defined drainage ways. 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).

The surface drainage at NSWC Crane has formed a dense, dendritic pattern throughout the installation. Five drainage basins have been identified at Crane. All surface drainage from the NSWC empties into the East Fork of the White River south of the installation (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 flood plains 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 areas of Quaternary clay, silt and sand (Lacustrine deposits). The bedrock units beneath the facility, primarily Raccoon Creek and Stephensport Groups, reportedly dip gently from the Cincinnati Arch to the Illinois Basin in the southwest (NEESA, 1983).

3.0
WORK EXECUTION

3.1 SITE CHARACTERIZATION

Prior to work being performed at SWMU 23/00, four soil characterization samples were collected from the area. The characterization samples were collected to determine contaminant concentrations and evaluate disposal options. During the performance of this interim measure, samples of undisturbed soil below the removed debris were also collected. Table 1, Analytical Methods Summary, identifies all samples collected during this interim measure and the analytical methods performed on the samples; Table 2, Characterization Samples Analytical Results Summary, presents a summary of results of soil samples collected for disposal characterization.

Initial information and laboratory analytical data confirmed that no explosive ordnance was associated with conducted in the area of the Battery Shop. The type and condition of surface debris was primarily of a construction nature and included concrete, rebar, metal cans, drums, chairs, tires and battery components. Analytical results of material collected for disposal characterization showed the material to be classifiable as construction debris.

3.2 EXCAVATION/REMOVAL PROCEDURES

Materials were removed using both hand and machine methods. A track backhoe was used to clear a path to lower a skid mounted box down the slope and to extract large pieces of concrete or concrete encased material. The majority of the surface debris was removed by hand and placed into the box. Soil was removed from the materials and left in place prior to placing the debris into the box. The box was then pulled up the slope and the material was transferred to a roll-off box for transport off-site to a landfill. Approximately four and one-half tons of debris, including construction debris such as large sections of preformed concrete slabs, drums, cans, filters, and tires, were removed from the site. A metal detector was used to identify material covered by leaves or buried at a shallow depth. Photographs of the site before, during, and after remediation procedures are provided in Appendix C.

Plastic was used to protect the contents of the skid box and the roll-off box during periods of temporary shutdown, or inclement weather, prior to material being transported off-site for disposal.

3.3 SAMPLING

Eight soil and two water confirmation samples were collected for NSWC Crane SWMU 23/00 on February 22, 1996. The samples were transported under proper chain-of-custody procedures to Compuchem, an approved off-site laboratory, and analyzed for parameters listed in Appendix IX of the *Sampling and Analysis Plan for Interim Measures Cleanup* (SAP). 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 sample analysis per the SAP. The confirmation samples were marked and placed in a cooler with "blue ice" prior to shipment to maintain sample integrity. These samples, with the exception of the liquid samples 23/00-012 and 23/00-014, contained some combination of Arsenic, Beryllium, Cobalt or Lead at levels above the interim cleanup levels. One sample, 23/00-011, also contained the compound Methyl Parathion at a concentration 1 part per billion greater than the associated cleanup level. Samples did not contain the presence of any other target analytes greater than the interim cleanup levels. Interim Measures Cleanup Levels for soil analysis are shown in Table 5 of the SAP included in Appendix D. These levels were taken from USEPA memo *RCRA Corrective Action Guidance; Human Data Quality Levels for RFI Projects* by Karl E. Bremer, June 18, 1994 and were used as the predetermined cleanup levels for comparison in the absence of site-specific health risk based levels.

Table 3, Confirmation Samples Analytical Results Summary, presents a summary of the results of the confirmation samples collected. Sample locations are identified on Figure A-5 sheet 2 of 2 labeled "Battery Shop 23/00" in Appendix A.

All sampling was performed in accordance with the SAP. A summary of the sampling procedures employed is as follows:

Prior to sampling and between samples, all non-disposable sampling equipment was decontaminated according to the procedures summarized below:

- Manual scrub with Alconox® and tap water wash
- Tap water rinse
- Distilled/Deionized water rinse
- 10% nitric acid rinse (for metals only)
- Distilled/Deionized water rinse
- Isopropanol or acetone rinse
- Air dry

3.4 DISPOSAL

The collected debris from this SWMU was transported in a roll-off box to Rumpke landfill in Bloomington, Indiana as construction debris. No excavated soils were collected or transported off-site for disposal. A copy of the shipping ticket and landfill receipt weight ticket is provided in Appendix E.

3.5 SITE RESTORATION

The primary activity for remediation of this SWMU was to remove the surface debris from the slope and the ravine. Photographs of the site following remediation activities show ground cover to be virtually undisturbed. After completion of the cleanup, the skid box paths were restored with vegetative ground cover techniques. Survey activity was approved and conducted at the site. A contour map is provided in as Figure A-5 sheet 1 of 2 located in Appendix A. The area was monitored to ensure establishment of adequate ground cover to prevent subsequent erosion.

Adequate ground cover was re-established and this work was accepted by the Navy on March 28, 1996. A copy of the Acceptance and Turnover Statement reflecting final inspection of SWMU 23/00 is included with the correspondence in Appendix B.

4.0
FIELD AND LABORATORY DATA QUALITY CONTROL

4.1 DATA QUALITY CONTROL

The data from samples collected by MK during the remediation of SWMU 23/00 have been reviewed to ensure the data quality objectives were achieved. The data was verified and compared with field and laboratory quality control (QC) sample data to assess the data's usability for supporting closure decisions. The results of this data verification are presented in this section.

The data was verified by reviewing chain-of-custody forms, sample preservation records, analytical holding time, requested turnaround times, sample data in comparison to QC data, and reporting requirements. A summary of the samples collected and methods of analysis are shown in Table 1. All samples were analyzed for Volatile Organic Compounds by method CLP SOW OLMO3.1. All samples were analyzed for metals, pesticides, herbicides, semi-volatiles, dioxins/furans, cyanide and sulfides by methods SW 846 (6010), (8080/8140), (8150), (8270), (8280), (9010), and (9030), respectively. Some samples were analyzed for lithium by method SW 846 (6010).

Samples were received by the laboratory in good condition and at a recorded temperature of 4 ± 2 degrees C.

4.1.1 Field Quality Control

Analytical results for the trip blanks and equipment rinsates were evaluated to identify potential sources of error introduced during sampling, transportation, and storage.

A trip blank was sent in each cooler of samples and analyzed for volatile organic compounds to evaluate the potential for cross-contamination during shipping to the laboratory. The trip blank was received from the laboratory in a sealed container containing organic-free water, held intact at the site, and shipped back to the laboratory with the samples. Low levels of methylene chloride were found in the trip blanks and acetonitrile was found in one trip blank. Methylene chloride and acetonitrile are common laboratory solvents and are often found in low levels at many laboratories.

The equipment rinsate blanks were collected by rinsing decontaminated sampling equipment with deionized water, collecting the rinse water in appropriate sample containers, adding any sample preservative required by the analytical method, and then submitting the rinse water for analysis. Results are used to evaluate the effectiveness of decontamination procedures in preventing sample cross-contamination. Rinse blank RB12 did not have any parameters above the reporting limits; RB14 had chloroform at a low level concentration. Copper, nickel, lead and zinc were also found at low level concentrations in the rinse blank, all below their reporting limits. Dimethoate was found in the rinse blank at a level of 1.1 μg/l.

4.1.2 Laboratory Quality Control

The laboratory performed method blank, sample matrix spikes (MS), sample matrix spike duplicates (MSD), surrogates, and laboratory control samples (LCS) analyses to evaluate laboratory accuracy and precision.

Laboratory method blanks were prepared and analyzed with the samples in order to evaluate potential target compounds or interferences from laboratory glassware, reagents and/or solvents used in the preparation and analysis of samples. Some of the laboratory method blanks showed the presence of acetone and methylene chloride. Acetone and methylene chloride are commonly used as laboratory

solvents and are often present at levels in analytical laboratories.

The LCS is a sample prepared in the laboratory consisting of clean water spiked with known amounts of standard analytes which is processed through the same preparation as field samples. The percent recoveries in the LCS gives an indication of analysis accuracy in a clean matrix. The LCS results were acceptable for all analytes associated with these samples, except for one semi-volatiles analyte, 2,4-DNT being slightly high.

Sample MS/MSD are field samples which have been spiked with a known amount of target analytes and processed through the preparation and analysis with the field samples. Evaluation of the spike recoveries, and the variability between the MS and MSD, gives an indication of analysis accuracy and precision in the sample matrix. MS/MSD accuracy and precision can be affected by concentrations of both target and non-target compounds present in the original field sample, as well as the matrix of the sample itself. Percent recoveries for most sets of MS/MSD analyses were acceptable and three sets had matrix spike recoveries between 0% and 71% and the associated MSD had recoveries between 0% and 73%.

Surrogate spikes are known amounts of non-target compounds which are usually spiked into all organic samples prior to sample preparation in order to evaluate the efficiency of the sample preparation and analysis. Surrogate recoveries for most analytical parameters were acceptable. Some parameters had few surrogates outside their limits which may have resulted from matrix interference.

The data is felt to be acceptable for the purpose of the battery shop at this site. The QC data for this battery shop area shows acceptable accuracy and precision performed and therefore qualifies this data as usable information for the use of the battery shop.

5.0
SUMMARY AND CONCLUSIONS

At SWMU23/00, Battery Shop, miscellaneous debris was removed from the slope and revine behind the shop and placed into a skid mounted box. The debris was transferred to a roll-off box for off-site disposal. Approximately four and one-half tons of debris was transported off-site as construction debris to Rumpke Landfill in Bloomington, Indiana for disposal. Visual inspection and a metal detector were used to ensure all debris was removed from the area. There were no contaminated soils transported from the site. After all debris was removed from the area, no backfill was placed. The contour of the area was basically undisturbed.

Following the completion of debris removal, confirmation sampling was performed. Eight soil and two water samples were collected and analyzed by an approved off-site laboratory. Sample locations and analytical results are summarized in Table 1 and in Appendix D. Analytical parameters are shown in Table 3. Sample types and methods used are provided in Appendix D. Analytical results of soil samples collected after excavation show the presence of several metals (arsenic, beryllium, cobalt and lead) and one organophosphorus pesticide (methyl parathion) in the soil above the Interim Measures Cleanup Levels.

The goals and objectives of the interim work performed were attained. Since analytical data shows several contaminants are present in the soil at SWMU 23/00 above the generic, interim cleanup level, a RFI should be performed to determine and delineate the extent of contamination in the soil at SWMU 23/00 Battery Shop.

The SWMU Acceptance and Turnover statement reflecting the final inspection of SUMU 23/00 is included with the correspondence provided in Appendix B.

6.0
REFERENCES AND BIBLIOGRAPHY

REFERENCES

MK, 1995. *Sampling and Analysis Plan for Interim Measures Cleanup, NSWC Crane, Crane, Indiana*, Revision C, August 18, 1995.

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

U.S. EPA, 1994. *RCRA Corrective Action Guidance; Human Data Quality Levels for RFI Projects* by Karl E. Bremer, June 18, 1994.

U.S. EPA, 1986. *Test Methods for Evaluating Solid Waste, SW 846*, U.S. Environmental Protection Agency.

BIBLIOGRAPHY

MK, 1995a. *Work Plan for Interim Measures Cleanup at Solid Waste Management Units #23/00, #25/07D, and #26/08D*, Revision A, March 30, 1995.

MK, 1995b. *Quality Control Plan for Interim Measures Cleanup, NSWC Crane, Crane, Indiana*, Revision C, August 18, 1995.

MK, 1995c. *Quality Assurance Project Plan for RCRA Corrective Action Interim Measures Cleanup, NSWC Crane, Crane, Indiana*, Revision C, December 29, 1995.

MK, 1995d. *Waste Management Plan for Interim Measures Cleanup, NSWC Crane, Crane, Indiana*, Revision C, August 18, 1995.

MK, 1995e. *Sampling and Analysis Plan for Interim Measures Cleanup, NSWC Crane, Crane, Indiana*, Revision C, August 18, 1995.

MK, 1995f. *Environmental Protection Plan Interim Measures Cleanup, NSWC Crane, Crane, Indiana*, Revision C, August 18, 1995.

TABLE 1
SAMPLE COLLECTION SUMMARY

Sample No.	Medium	Type	Date Sampled	Analysis	Location
23/00-001	SOIL	WASTE CHARACTERIZATION	7/18/95	6010, 7471, 8080, 8140, 8150, 8240, 8270, 8280, 9010, 9030	See Figure A-5, "Battery Shop, 23/00 Sheet 2 of 2"
23/00-002	SOIL	WASTE CHARACTERIZATION	7/18/95	6010, 7471, 8080, 8140, 8150, 8240, 8270, 8280, 9010, 9030	See Figure A-5, "Battery Shop, 23/00 Sheet 2 of 2"
23/00-003	SOIL	WASTE CHARACTERIZATION	11/16/95	1311/6010, 7470, 8080, 8150, 8240, 8270, 9045, 9095, 1010, 7.3.4.1, 7.3.3.2, 9002	See Figure A-5, "Battery Shop, 23/00 Sheet 2 of 2"
23/00-004	SOIL	WASTE CHARACTERIZATION	1/16/95	1311/6010, 7470, 8080, 8150, 8240, 8270, 9045, 9095, 1010, 7.3.4.1, 7.3.3.2, 9002	See Figure A-5, "Battery Shop, 23/00 Sheet 2 of 2"
23/00-005	SOIL	CONFIRMATORY	2/22/96	6010, 7471, 8080, 8140, 8150, 8240, 8270, 8280, 9010, 9030	See Figure A-5, "Battery Shop, 23/00 Sheet 2 of 2"
23/00-006	SOIL	CONFIRMATORY	2/22/96	6010, 7471, 8080, 8140, 8150, 8240, 8270, 8280, 9010, 9030	See Figure A-5, "Battery Shop, 23/00 Sheet 2 of 2"
23/00-007	SOIL	CONFIRMATORY	2/22/96	6010, 7471, 8080, 8140, 8150, 8240, 8270, 8280, 9010, 9030	See Figure A-5, "Battery Shop, 23/00 Sheet 2 of 2"
23/00-008	SOIL	CONFIRMATORY	2/22/96	6010, 7471, 8080, 8140, 8150, 8240, 8270, 8280, 9010, 9030	See Figure A-5, "Battery Shop, 23/00 Sheet 2 of 2"
23/00-009	SOIL	CONFIRMATORY	2/22/96	6010, 7471, 8080, 8140, 8150, 8240, 8270, 8280, 9010, 9030	See Figure A-5, "Battery Shop, 23/00 Sheet 2 of 2"
23/00-010	SOIL	CONFIRMATORY	2/22/96	6010, 7471, 8080, 8140, 8150, 8240, 8270, 8280, 9010, 9030	See Figure A-5, "Battery Shop, 23/00 Sheet 2 of 2"
23/00-011	SOIL	CONFIRMATORY	2/22/96	6010, 7471, 8080, 8140, 8150, 8240, 8270, 8280, 9010, 9030	See Figure A-5, "Battery Shop, 23/00 Sheet 2 of 2"
23/00-012	LIQUID	CONFIRMATORY	2/22/96	6010, 7470, 8080, 8140, 8150, 8240, 8270, 8280, 9010, 9030	See Figure A-5, "Battery Shop, 23/00 Sheet 2 of 2"
23/00-013	SOIL	CONFIRMATORY	2/22/96	6010, 7471, 8080, 8140, 8150, 8240, 8270, 8280, 9010, 9030	See Figure A-5, "Battery Shop, 23/00 Sheet 2 of 2"
23/00-014	LIQUID	CONFIRMATORY	2/22/96	6010, 7470, 8080, 8140, 8150, 8240, 8270, 8280, 9010, 9030	See Figure A-5, "Battery Shop, 23/00 Sheet 2 of 2"

TABLE 2
SWMU 23/00 CHARACTERIZATION SAMPLES
ANALYTICAL RESULTS SUMMARY

	Sample No.	NSWC-23/00-001	NSWC-23/00-002	NSWC-23/00-003	NSWC-23/00-004
	Matrix	Soil	Soil	Leachate	Soil
	Cleanup Level	07/18/1995	07/18/1995	11/16/1995	11/16/1995
COMPOUNDS	µg/kg or µg/l	µg/kg	µg/kg	µg/L	µg/kg
1,1,1,2-TETRACHLOROETHANE	10000	<6.5 U	<7.4 U		
1,1,1-TRICHLOROETHANE	300000	<6.5 U	<7.4 U		
1,1,2,2-TETRACHLOROETHANE	10000	<6.5 U	<7.4 U		
1,1,2-TRICHLOROETHANE	2900	<6.5 U	<7.4 U		
1,1-DICHLOROETHANE	400000	<6.5 U	<7.4 U		
1,1-DICHLOROETHENE	70	<6.5 U	<7.4 U		
1,2,3-TRICHLOROPROPANE	310000	<6.5 U	<7.4 U		
1,2,4,5-TETRACHLOROBENZENE	12000	<330 U	<340 U		
1,2,4-TRICHLOROBENZENE	93000	<330 U	<340 U		
1,2-DIBROMO-3-CHLOROPROPANE	610	<6.5 U	<7.4 U		
1,2-DIBROMOETHANE	19	<6.5 U	<7.4 U		
1,2-DICHLOROBENZENE	230000	<330 U	<340 U		
1,2-DICHLOROETHANE	840	<6.5 U	<7.4 U	<50 U	<50 U
1,2-DICHLOROPROPANE	1300	<6.5 U	<7.4 U		
1,3-DICHLOROBENZENE	280000	<330 U	<340 U		
1,3-DINITROBENZENE	3900	<330 U	<340 U		
1,4-DICHLOROBENZENE	17000	<330 U	<340 U		
1,4-DIOXANE	32000	<1000 U	<1000 U		
1,4-NAPHTHOQUINONE	na	<330 U	<340 U		
1-NAPHTHYLAMINE	na	<330 U	<340 U		
1234678-HpCDD	na	<0.714 U	<0.755 U		
1234678-HpCDF	na	<0.081 U	<0.0856 U		
123478-HxCDD	na	<0.476 U	<0.503 U		
123478-HxCDF	na	<0.614 U	<0.649 U		
1234789-HpCDF	na	<0.175 U	<0.185 U		
123678-HxCDD	na	<0.288 U	<0.305 U		
123678-HxCDF	na	<0.363 U	<0.384 U		
12378-PeCDD	na	<0.526 U	<0.556 U		
12378-PeCDF	na	<0.489 U	<0.517 U		
123789-HxCDD	na	<0.276 U	<0.291 U		
123789-HxCDF	na	<0.426 U	<0.45 U		
2,3,4,6-TETRACHLOROPHENOL	1200000	<330 U	<340 U		
2,4,5-T	390000	<39 U	<44 U		
2,4,5-TRICHLOROPHENOL	930	<330 U	<340 U		
2,4,6-TRICHLOROPHENOL	77000	<330 U	<340 U		
2,4-D	390000	<39 U	<44 U	<0.5 U	<0.5 U
2,4-DICHLOROPHENOL	120000	<330 U	<340 U		
2,4-DIMETHYLPHENOL	780000	<330 U	<340 U		
2,4-DINITROPHENOL	78000	<1600 U	<1700 U		
2,4-DINITROTOLUENE	78000	<330 U	<340 U		
2,6-DICHLOROPHENOL	na	<330 U	<340 U		
2,6-DINITROTOLUENE	1300	<330 U	<340 U		
2-ACETYLAMINOFLUORENE	na	<330 U	<340 U		

TABLE 2
SWMU 23/00 CHARACTERIZATION SAMPLES
ANALYTICAL RESULTS SUMMARY

	Sample No.	NSWC-23/00-001	NSWC-23/00-002	NSWC-23/00-003	NSWC-23/00-004
	Matrix	Soil	Soil	Leachate	Soil
	Cleanup Level	07/18/1995	07/18/1995	11/16/1995	11/16/1995
COMPOUNDS	µg/kg oc µg/l	µg/kg	µg/kg	µg/l	µg/kg
2-BUTANONE	5200000	<130 U	<340 U	<1000 U	<1000 U
2-CHLORONAPHTHALENE	3100000	<330 U	<340 U		
2-CHLOROPHENOL	200000	<330 U	<340 U		
2-HEXANONE	50	<65 U	<74 U		
2-METHYLNAPYHTHALENE	660	<330 U	<340 U		
2-METHYLPHENOL	2000000	<330 U	<340 U		
2-NAPHTHYLAMINE	na	<330 U	<340 U		
2-NITROANILINE	2300	<1600 U	<1700 U		
2-NITROPHENOL	300	<330 U	<340 U		
2-PICOLINE	na	<330 U	<340 U		
234678-HxCDF	na	<0.501 U	<0.53 U		
23478-PeCDF	na	<0.614 U	<0.649 U		
2378-TCDD	0.0057	<0.0501 U	<0.053 U		
2378-TCDF	na	<0.0627 U	<0.0662 U		
3,3'-DICHLOROBENZIDINE	1900	<660 U	<680 U		
3,3'-DIMETHYLBENZIDINE	93	<330 U	<340 U		
3-CHLORO-1-PROPENE	5	<5 U	<5 U		
3-METHYLCHOLANTHRENE	na	<330 U	<340 U		
3-METHYLPHENOL	2000000	<330 U	<340 U		
3-NITROANILINE	3300	<1600 U	<1700 U		
4,4'-DDD	3500	<4 2 U	<4.9 U		
4,4'-DDE	2500	8 RL 4.2	<4.9 U		
4,4'-DDT	8	6.2 RL 4.2	<4.9 U		
4,6-DINITRO-2-METHYLPHENOL	3300	<1600 U	<1700 U		
4-AMINOBIPHENYL	na	<330 U	<340 U		
4-BROMOPHENYL-PHENYLETHER	660	<330 U	<340 U		
4-CHLOROANILINE	160000	<660 U	<680 U		
4-CHLOROPHENYL-PHENYLETHER	660	<330 U	<340 U		
4-CHLORO-3-METHYLPHENOL	210	<330 U	<340 U		
4-METHYL-2-PENTANONE	2000000	<65 U	<74 U		
4-METHYLPHENOL	200000	<330 U	<340 U		
4-NITROANILINE	na	<1600 U	<1700 U		
4-NITROPHENOL	190	<330 U	<340 U		
4-NITROQUINOLINE-1-OXIDE	na	<330 U	<340 U		
5-NITRO-O-TOLUIDINE	na	<330 U	<340 U		
7,12-DIMETHYLBENZ(A)ANTHRACENE	na	<330 U	<340 U		
A,A,A-DIETHYLPHENETHYLAMINE	na	<330 U	<340 U		
ACENAPHTHENE	36000	<330 U	<340 U		
ACENAPHTHYLENE	660	<330 U	<340 U		
ACETONE	9200000	<130 U	<150 U		
ACETONITRILE	230000	<6.5 U	<7 4 U		
ACETOPHENONE	3900000	<330 U	<340 U		
ACROLEIN	780000	<1300 U	<1500 U		

TABLE 2
SWMU 23/00 CHARACTERIZATION SAMPLES
ANALYTICAL RESULTS SUMMARY

	Sample No.	NSWC-23/00-001	NSWC-23/00-002	NSWC-23/00-003	NSWC-23/00-004
	Matrix	Soil	Soil	Leachate	Soil
	Cleanup Level	07/18/1995	07/18/1995	11/16/1995	11/16/1995
COMPOUNDS	µg/kg	µg/kg	µg/kg	µg/L	µg/kg
ACRYLONITRILE	260	<1300 U	<1500 U		
ACTINOLITE				<0* U	<0* U
ALDRIN	50	<2.1 U	<2.4 U		
ALLYL CHLORIDE	200000	<130 U	<150 U		
ALPHA-BENZENEHEXACHLORIDE	2.01	<2.1 U	<2.4 U		
ALPHA-CHLORDANE	660	<2.1 U	<2.4 U	<0.1 U	<0.1 U
AMOSITE				<0* U	<0* U
ANILINE	11000	<330 U	<340 U		
ANTHRACENE	1900	<330 U	<340 U		
ANTHOPHYLLITE				<0* U	<0* U
ANTIMONY	31000	<2600 U	<3000 U		
ARAMITE	34000	<330 U	<340 U		
PCB 1016	110	<42 U	<49 U		-
PCB 1221	110	<84 U	<97 U		-
PCB 1232	110	<42 U	<49 U		-
PCB 1242	110	<42 U	<49 U		-
PCB 1248	110	<42 U	<49 U		-
PCB 1254	110	<42 U	<49 U		-
PCB 1260	110	<42 U	<49 U		-
ARSENIC	970	10700 RL 1300	6800 RL 1500	<20 U	<20 U
BARIUM	5500000	74700 RL 12400	120000 RL 14800	1270 RL 500	766 RL 500
BENZENE	2700	<6.5 U	<7.4 U	<50 U	<50 U
BENZO[A]ANTHRACENE	660	<330 U	<340 U		
BENZO(A)PYRENE	660	<330 U	<340 U		
BENZO[B]FLUORANTHENE	660	<330 U	<340 U		
BENZO[GHI]PERYLENE	660	<330 U	<340 U		
BENZO[K]FLUORANTHENE	660	<330 U	<340 U		
BENZYL ALCOHOL	12000000	<660 U	<680 U		
BERYLLIUM	400	670 RL 260	1900 RL 300		
BETA-BENZENEHEXACHLORIDE	4.02	<2.1 U	<2.4 U		
BIS(2-CHLOROETHYL) ETHER	150	<330 U	<340 U		
BIS(2-CHLOROISOPROPYL) ETHER	12000	<330 U	<340 U		
BIS(2-CHLOROETHOXY) METHANE	660	<330 U	<340 U		
BIS(2-ETHYLHEXYL) PHTHALATE	61000	<330 U	<340 U		
BROMODICHLOROMETHANE	2900	<6.5 U	<7.4 U		
BROMOFORM	110000	<6.5 U	<7.4 U		
BROMOMETHANE	60000	<13 U	<15 U		
BUTYLBENZYL PHTHALATE	7800000	<330 U	<340 U		
CADMIUM	39000	<520 U	3000 RL 590	<40 U	<40 U
CARBON DISULFIDE	53000	<6.5 U	<7.4 U		
CARBON TETRACHLORIDE	920	<6.5 U	<7.4 U	<50 U	<50 U
CHLOROBENZENE	300000	<6.5 U	<7.4 U	<50 U	<50 U
CHLOROBENZILATE	3200	<84 U	<97 U		

TABLE 2
SWMU 23/00 CHARACTERIZATION SAMPLES
ANALYTICAL RESULTS SUMMARY

	Sample No.	NSWC-23/00-001	NSWC-23/00-002	NSWC-23/00-003	NSWC-23/00-004
	Matrix	Soil	Soil	Leachate	Soil
	Cleanup Level	07/18/1995	07/18/1995	11/16/1995	11/16/1995
COMPOUNDS	µg/kg or µg/L	µg/kg	µg/kg	µg/L	µg/kg
CHLOROETHANE	270000	<13 U	<15 U		
CHLOROFORM	960	<6.5 U	<7.4 U	<50 U	<50 U
CHLOROMETHANE	3700	<13 U	<15 U		
CHLOROPRENE	5	<5 U	<5 U		
CHROMIUM	940000	22800 RL 1300	23000 RL1500	<100 U	<100 U
CHRYSENE	800	<330 U	<340 U		
CHRYSOTILE				<0* U	<0* U
CIS-1,3-DICHLOROPROPENE	1000	<6.5 U	<7.4 U		
COBALT	100	5200 RL 1400	39100 RL 1600		
CORROSIVITY (as pH)				7.3 0.5 pH	8.9 0.5 Ph
COPPER	2900000	14700 RL 3200	139000 RL 3700		
CROCIDOLITE				<0* U	<0* U
CYANIDE	1600000	<1300 U	<1500 U		
DELTA-BENZENEHEXACHLORIDE	6.03	<2 1 U	<2.4 U		
DI-N-BUTYL PHTHALATE	3900000	<330 U	<340 U		
DI-N-OCTYL PHTHALATE	780000	<330 U	<340 U		
DIALLATE	14000	<422 U	<487 U		
DIBENZ[AH]ANTHRACENE	120	<330 U	<340 U		
DIBENZOFURAN	660	<330 U	<340 U		
DIBROMOCHLOROMETHANE	10000	<6 5 U	<7.4 U		
DIBROMOMETHANE	390000	<6.5 U	<7.4 U		
DICHLORODIFLUOROMETHANE	380000	<6.5 U	<7.4 U		
DIELDRIN	53	<4.2 U	<4 9 U		
DIETHYL PHTHALATE	31000000	<330 U	<340 U		
DIMETHOATE	7800	<42 U	<48 U		
DIMETHYL PHTHALATE	100000000	<330 U	<340 U		
DIPHENYLAMINE	980000	<330 U	<340 U		
DISULFONTON	1600	<21 U	<24 U		
ENDOSULFAN I	2000	<2.1 U	<2.4 U		
ENDOSULFAN II	2000	<4.2 U	<4.9 U		
ENDOSULFAN SULFATE	44.2	<4 2 U	<4 9 U		
ENDRIN	12000	<4.2 U	<4.9 U	<0.2 U	<0.2 U
ENDRIN ALDEHYDE	15 4	<4.2 U	<4.9 U		
ENDRIN KETONE	na	<4.2 U	<4.9 U		
ETHYL METHACRYLATE	38000	<6.5 U	<7.4 U		
ETHYL METHANESULFONATE	na	<330 U	<340 U		
ETHYL PARATHION	230000	<21 U	<24 U		
ETHYLBENZENE	58000	<6.5 U	<7.4 U		
FAMPHUR	na	<21 U	<24 U		
FLASHPOINT	na			<203** U	<203** U
FLUORANTHENE	1600000	<330 U	<340 U		
FLUORENE	28000	<330 U	<340 U		
GAMMA-BENZENEHEXACHLORIDE	2.68	<4.2 U	<4.9 U	<0.2 U	<0.2 U

TABLE 2
SWMU 23/00 CHARACTERIZATION SAMPLES
ANALYTICAL RESULTS SUMMARY

	Sample No.	NSWC-23/00-001	NSWC-23/00-002	NSWC-23/00-003	NSWC-23/00-004
	Matrix	Soil	Soil	Leachate	Soil
	Cleanup Level	07/18/1995	07/18/1995	11/16/1995	11/16/1995
COMPOUNDS	µg/kg or µg/L	µg/kg	µg/kg	µg/L	µg/kg
GAMMA-CHLORDANE	660	<2.1 U	<2.4 U	<0.1 U	<0.1 U
HEPTACHLOR	190	<2.1 U	<2.4 U	<0.1 U	<0.1 U
HEPTACHLOR EPOXIDE	94	<2.1 U	<2.4 U	<0.1 U	<0.1 U
HEXACHLOROETHANE	39000	<330 U	<340 U		
HEXACHLOROBENZENE	530	<330 U	<340 U		
HEXACHLORO-1,3-BUTADIENE	11000	<330 U	<340 U		
HEXACHLOROCYCLOPENTADIENE	270000	<330 U	<340 U		
HEXACHLOROPROPENE	na	<330 U	<340 U		
INDENO[1,2,3-CD]PYRENE	1200	<330 U	<340 U		
IODOMETHANE	5	<6.5 U	<7.4 U		
ISOBUTYL ALCOHOL	na	<1000 U	<1000 U		
ISODRIN	na	<11 U	<12 U		
ISOPHORONE	900000	<330 U	<340 U		
ISOSAFROLE	na	<330 U	<340 U		
KEPONE	47	<42 U	<49 U		
LEAD	500000	30800 RL 1300	40100 RL 1500	<100 U	<100 U
M + P-XYLENE	99000	<6.5 U	<7.4 U		
MERCURY	23000	<100 U	<120 U	<0.2 U	<0.2 U
METHACRYLONOTRILE	56000	<6.5 U	<7.4 U		
METHAPYRILENE	na	<330 U	<340 U		
METHOXYCHLOR	200000	<21 U	<24 U	<1 U	<1 U
METHYL METHACRYLATE	3200000	<6.5 U	<7.4 U		
METHYL METHANESULFONATE	na	<330 U	<340 U		
METHYL PARATHION	20	<21 U	<24 U		
METHYLENE CHLORIDE	3700	22 RL 0	41 RL 0		
N-NITROSODI-N-PROPYLAMINE	120	<330 U	<340 U		
N-NITROSODI-N-BUTYLAMINE	160	<330 U	<340 U		
N-NITROSODIETHYLAMINE	5.7	<330 U	<340 U		
N-NITROSODIPHENYLAMINE	170000	<330 U	<340 U		
N-NITROSOMETHYLETHYLAMINE	39	<330 U	<340 U		
N-NITROSOMORPHOLINE	na	<330 U	<340 U		
N-NITROSOPIPERIDINE	na	<330 U	<340 U		
N-NITROSOPYRROLIDINE	na	<330 U	<340 U		
NAPHTHALENE	80000	<330 U	<340 U		
NICKEL	1600000	13500 RL 1900	80200 RL 2200		
NITROBENZENE	20000	<330 U	<340 U		
O,O,O-TRIETHYL PHOSPHOROTHIOATE	na	<330 U	<340 U		
O-TOLUIDINE	na	<330 U	<340 U		
O-XYLENE	99000	<6.5 U	<7.4 U		
OCDD	na	5.6 RL .388	0.93 RL .411		
OCDF	na	<0.338 U	<0.358 U		
P-DIMETHYLAMINOAZOBENZENE	na	<330 U	<340 U		
P-PHENYLENEDIAMINE	7400000	<330 U	<340 U		

TABLE 2
SWMU 23/00 CHARACTERIZATION SAMPLES
ANALYTICAL RESULTS SUMMARY

	Sample No.	NSWC-23/00-001	NSWC-23/00-002	NSWC-23/00-003	NSWC-23/00-004
	Matrix	Soil	Soil	Leachate	Soil
	Cleanup Level	07/18/1995	07/18/1995	11/16/1995	11/16/1995
COMPOUNDS	µg/kg or µg/L	µg/kg	µg/kg	µg/L	µg/kg
PENTACHLOROBENZENE	31000	<330 U	<340 U		
PENTACHLOROETHANE	10	<6.5 U	<7.4 U		
PENTACHLORONITROBENZENE	3300	<8.4 U	<9.7 U		
PENTACHLOROPHENOL	7100	<1600 U	<1700 U		
PHENACETIN	na	<330 U	<340 U		
PHENANTHRENE	660	<330 U	<340 U		
PHENOL	23000000	<330 U	<340 U		
PHORATE	7800	<21 U	<24 U		
PRONAMIDE	2900000	<21 U	<24 U		
PROPIONITRILE	100	<6.5 U	<7.4 U		
PYRENE	1200000	<330 U	<340 U		
PYRIDINE	3900	<330 U	<340 U		
REACTIVE CYANIDE	na			<2000 U	<2000 U
REACTIVE SULFIDE	na			<40000 U	48000 RL 40000
SAFROLE	na	<330 U	<340 U		
SELENIUM	390000	<650 U	<740 U	<20 U	<20 U
SILVER	390000	<1000 U	4900 RL 1200	<50 U	<50 U
SILVEX	110	<39 U	<44 U	<0 5 U	<0.5 U
STYRENE	13000000	<6 5 U	<7.4 U		
SULFIDE	na	<52000 U	<59000 U		
SYM-TRINITROBENZINE	2000	<330 U	<340 U		
TETRACHLOROETHANE	22000	<6 5 U	<7.4 U	<50 U	<50 U
TETRAETHYL DITHIOPYROPHOSPHATE	20000	<2100 U	<2400 U		
THALLIUM	na	<1300 U	<1500 U		
THIONAZIN	na	<330 U	<340 U		
TIN	47000000	<32700 U	<36000 U		
TOLUENE	280000	<6.5 U	<7 4 U		
TOTAL ASBESTOS				<0* U	<0* U
TOTAL HpCDD	na	<0.714 U	<0.755 U		
TOTAL HpCDF	na	<0.175 U	<0 185 U		
TOTAL HxCDD	na	<0.276 U	<0.291 U		
TOTAL HxCDF	na	<0.426 U	<0.45 U		
TOTAL PeCDD	na	<0.526 U	<0.556 U		
TOTAL PeCDF	na	<0 614 U	<0.649 U		
TOTAL TCDD	na	<0.0501 U	0.74 RL 0		
TOTAL TCDF	na	<0.0627 U	<0 0662 U		
TOXAPHENE	770	<210 U	<240 U	<10 U	<10 U
TRANS-1,2-DICHLOROETHENE	620000	<6.5 U	<7.4 U		
TRANS-1,3-DICHLOROPROPENE	1000	<6.5 U	<7.4 U		
TRANS-1,4-DICHLORO-2-BUTENE	15	<6.5 U	<7.4 U		
TREMOLITE				<0* U	<0* U
TRICHLOROETHYLENE	14000	<6.5 U	<7.4 U	<50 U	540 RL 0
TRICHLOROFLUOROMETHANE	410000	<6.5 U	<7.4 U		

TABLE 2
SWMU 23/00 CHARACTERIZATION SAMPLES
ANALYTICAL RESULTS SUMMARY

COMPOUNDS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
VANADIUM	550000	25500 RL 2100	20600 RL 2400		
VINYL ACETATE	39000000	<6.5 U	<7.4 U		
VINYL CHLORIDE	9.7	<13 U	<15 U		
ZINC	23000000	45900 RL 2600	152000 RL 3000		
PAINT FILTER				<0 U	<0 U

Notes:

na = none available

* = %

** = degrees Fahrenheit

Blank space indicates compound not analyzed.

<xx=less than reporting limit (xx) as listed

RL=reporting limit

U=Compound or analyte for which sample was analyzed but not detected.

TABLE 3
SWMU 23/00 CONFIRMATION SAMPLES
ANALYTICAL RESULTS SUMMARY

	Sample No.	NSWC-23/00 005	NSWC-23/00 006	NSWC-23/00 007	NSWC-23/00 008	NSWC-23/00 009
	Matrix	Soil	Soil	Soil	Soil	Soil
	Cleanup Level	02/22/1996	02/22/1996	02/22/1996	02/22/1996	02/22/1996
COMPOUNDS	µg/kg or µg/L	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
2,4,5-T	390000	1.8 JPB (RL 0.0)	<32 U	<28 U	6.3 JBP (RL 0.0)	<29 U
2,4,5-TRICHLOROPHENOL	930	5.9 JPB (RL 0.0)	3.7JPB (RL 0.0)	1.4 JBP (RL 0.0)	1.7 JBP (RL 0.0)	<29 U
2,4-D	390000	<120 U	<130 U	11 JP (RL 0.0)	22 J (RL 0.0)	<120 U
ALPHA-BENZENEHEXACHLORIDE	2.01	0.067 JP (<2.0)	<1.3 U	<1.1 U	<1.2 U	0.048 JP (<2.0)
ENDOSULFAN I	2000	0.4 JP (<2.0)	0.13 JP (<2.0)	<1.7 U	0.5 JP (<2.0)	0.89 JP (<2.0)
SILVER	390000	<94U	<110 U	160 B (<790)	<93 U	<94 U
ALDRIN	50	<1.2U	<1.3 U	0.12 J (<2.0)	0.2JP (<2.0)	0.1 JP (<2.0)
ARSENIC	970	5400* (RL 3500)	4500* (RL 3700)	6000* (RL 3400)	5900* (RL 3500)	6300* (RL 3500)
BARIUM	5500000	30800 (RL 120)	66200 (RL 120)	40600 (RL 110)	48900 (RL 120)	43600 (RL 120)
BETA-BENZENEHEXACHLORIDE	4.02	0.49 JP (<2)	1 JP (<2.0)	0.19 J (<2.0)	0.2 JP (<2.0)	1.5 (<2.0)
BERYLLIUM	400	170 B (<350)	220 B (<370)	280 B (<340)	290 B (<350)	320 B (<350)
ENDOSULFAN II	2000	0.48 JPB (<4)	0.1 JBP (< 4.0)	0.49 JBP (<4.0)	0.25 JBP (<4.0)	0.84 BJP (<4.0)
CADMIUM	39000	30 B (<240)	<250 U	190 B (<230)	<23 U	<23 U
CHLORDANE	660	<4.7 U	<5.0 U	<4.5 U	<4.6 U	<4.6 U
COBALT	100	2800* (RL 590)	2700* (RL 620)	2600* (RL 560)	3500* (RL 580)	4500* (RL 590)
CHROMIUM	940000	30500 (RL 830)	11300 (RL 860)	11900 (RL 790)	11900 (RL 820)	14400 (RL 820)
COPPER	2900000	11200 (RL 830)	16900 (RL 860)	16700 (RL 790)	11600 (RL 820)	17700 (RL 820)
CYANIDE	1600000	<59 UN	<630 UN	<570 UN	<580 UN	<590 UN
DELTA-BENZENEHEXACHLORIDE	6.03	0.11 JP (<2)	<1.3 U	<1.1 U	<1.2 U	0.053 J (<2.0)
DIELDRIN	53	0.51 JP (<4)	0.37 JP (<4.0)	0.18 JP (<4.0)	0.48 JP (<4.0)	3.2 P (<4.0)
DIMETHOATE	7800	28 P (RL 0.0)	14 (RL 0.0)	8.4 JP (RL 0.0)	7.2 JP (RL 0.0)	<12 U
DISULFOTON	1600	<12 U	<13 U	<11 U	<12 U	17 (RL 0.0)
ENDRIN	12000	0.47 JP (<4)	0.6 J (<4.0)	0.23 JP (<4.0)	0.61 JP (<4.0)	1.3 JP (<4.0)
ENDRIN ALDEHYDE	15.4	1.7 P (<4)	4.1 P (RL 4)	0.6 JP (<4.0)	0.19 JP (<4.0)	2.5 P (<4.0)
ENDOSULFAN SULFATE	44.2	0.12 JP (<4)	0.14 JP (<4.0)	0.16 JP (<4.0)	0.075 JP (<4.0)	1.4 JP (<4.0)
FAMPHUR	na	2.7 JP (RL 0.0)	13 P (RL 0.0)	<11 U	<12 U	<12 U
MERCURY	23000	<140 U	<120 U	<120 U	<140 U	<140 U
HEPTACHLOR	190	0.043 JPB (<2.0)	<1.3 U	<1.1 U	0.059 JBP (<2.0)	0.16 JBP (<2.0)
HEPTACHLOR EPOXIDE	94	0.083 JP (<2)	<1.3 U	0.16 JP (<2.0)	1.0 JP (<2.0)	2.3 (RL 2.0)
LITHIUM	na	1700 B (<3200)	3900 B (RL 3300)	3500 B (RL 3000)	4600 B (RL 3200)	5900 B (RL 3200)
GAMMA-BENZENEHEXACHLORIDE	2.68	0.047 J (<2)	<1.3 U	<1.1 U	0.098 JP (<2 0)	0.37 J (<2.0)
METHOXYCHLOR	200000	5.8 BP (<20)	1 JBP (<21)	1.1 JBP (<19)	0.46 JBP (<20)	3.8 BJP (<19)
NICKEL	1600000	6400 (RL 1200)	10100 (RL 1200)	5500 (RL 1100)	6900 (RL 1200)	13300 (RL 1200)
LEAD	500000	227000 N (RL 1900)	776000 N (RL 2000)	109000 N (RL 1800)	119000 N (RL 1900)	161000 RL 1900)
PCB 1016	110	<23 U	<25 U	<23 U	<23 U	<23 U
PCB 1221	110	<23 U	<25 U	<23 U	<23 U	<23 U

TABLE 3
SWMU 23/00 CONFIRMATION SAMPLES
ANALYTICAL RESULTS SUMMARY

	Sample No.	NSWC-23/00-006	NSWC-23/00-006	NSWC-23/00-007	NSWC-23/00-008	NSWC-23/00-009
	Matrix	Soil	Soil	Soil	Soil	Soil
	Cleanup Level	02/22/1996	02/22/1996	02/22/1996	02/22/1996	02/22/1996
COMPOUNDS	µg/kg or µg/L	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
PCB 1232	110	<23 U	<25 U	<23 U	<23 U	<23 U
PCB 1242	110	<23 U	<25 U	<23 U	<23 U	<23 U
PCB 1248	110	<23 U	<25 U	<23 U	<23 U	<23 U
PCB 1254	110	<23 U	<25 U	<23 U	<23 U	<23 U
PCB 1260	110	<23 U	<25 U	<23 U	<23 U	<23 U
PHORATE	7800	<12 U	<13 U	<11 U	<12 U	<12 U
2,2-BIS(P-CHLOROPHENYL)-1,1-DICHLOROETHANE	na	0.5 J (<4)	0.17 JP (<4.0)	0.25 JP (<4.0)	0.24 JP (<4.0)	1.5 JP (<4.0)
2,2-BIS(P-CHLOROPHENYL)-1,1-DICHLOROETHENE	na	0.91 JP (<4)	0.14 JP (<4.0)	0.18 JP (<4.0)	3.4 JP (<4.0)	0.18 JP (<4.0)
2,2-BIS(PARA-CHLOROPHENYL)-1,1-TRICHLOROETHANE	na	0.61 JB (<4)	0.41 JB (<4.0)	0.75 JBP (<4.0)	0.37 JBP (<4.0)	7.9 BP (RL 4.0)
ANTIMONY	31000	1500 BN (<2100)	4200 BN (RL 2200)	990 BN (<2000)	1.4 BN (<2.1)	1800 BN (RL 2100)
SELENIUM	390000	<370 U	<400 U	350 B (<2900)	<350 U	<350 U
DITHIONE	20000	<12 U	<13 U	<11 U	<12 U	<12 U
TIN	47000000	1200 B (<5000)	1800 B (<5200)	1600 B (RL 4800)	1800 B (RL 4900)	3500 B (RL 4900)
THALLIUM	na	<480 U	<530 U	<450 U	<480 U	<480 U
TOXAPHENE	770	<23 U	<25 U	<23 U	<23 U	<23 U
VANADIUM	550000	7300 (RL 710)	10500 (RL 740)	12400 (RL 680)	14500 (RL 700)	15100 (RL 700)
ZINC	23000000	41900 (RL 3800)	45100 (RL 4000)	42200 (RL 3600)	46400 (RL 3700)	92400 (RL 3800)
1,1,1-TRICHLOROETHANE	300000	<12 U	<13 U	<11 U	<12 U	<12 U
1,1,2-TRICHLOROETHANE	2900	<12 U	<13 U	<11 U	<12 U	<12 U
1,1-DICHLOROETHENE	70	<12 U	<13 U	<11 U	<12 U	<12 U
1,1-DICHLOROETHANE	400000	<12 U	<13 U	<11 U	<12 U	<12 U
1,2,3-TRICHLOROPROPANE	310000	<24 U	<25 U	<23 U	<23 U	<24 U
1,2-DIBROMO-3-CHLOROPROPANE	810	<59 U	<63 U	<57 U	<58 U	<59 U
1,2-DIBROMOETHANE	19	<18 U	<19 U	<17 U	<17 U	<18 U
1,2-DICHLOROETHANE	840	<12 U	<13 U	<11 U	<12 U	<12 U
1,2-DICHLOROPROPANE	1300	<12 U	<13 U	<11 U	<12 U	<12 U
1,4-DIOXANE	32000	<60000 U	<65000	<59000 U	<59000 U	<60000 U
ISOBUTYL ALCOHOL	na	<15000 U	<16000	<15000 U	<15000 U	<15000 U
1,1,1,2-TETRACHLOROETHANE	10000	<24 U	<25 U	<23 U	<23 U	<24 U
3-CHLORO-1-PROPENE	5	<18 U	<19 U	<17 U	<17 U	<18 U
ACETONE	9200000	20 B (RL 12)	<13 U	<11 U	<12 U	<12 U
ACROLEIN	780000	<270 U	<290 U	<260 U	<270 U	<270 U
ACRYLONITRILE	260	<250 U	<270 U	<240	<240 U	<250 U
BROMODICHLOROMETHANE	2900	<12 U	<13 U	<11 U	<12 U	<12 U
CIS-1,3-DICHLOROPROPENE	1000	<12 U	<13 U	<11 U	<12 U	<12 U
VINYL ACETATE	39000000	<24 U	<25 U	<23 U	<23 U	<24 U

TABLE 3
SWMU 23/00 CONFIRMATION SAMPLES
ANALYTICAL RESULTS SUMMARY

	Sample No.	NSWC-23/00-005	NSWC-23/00-006	NSWC-23/00-007	NSWC-23/00-008	NSWC-23/00-009
	Matrix	Soil	Soil	Soil	Soil	Soil
	Cleanup Level	02/22/1996	02/22/1996	02/22/1996	02/22/1996	02/22/1996
COMPOUNDS	µg/kg or µg/L	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
VINYL CHLORIDE	9.7	<12 U	<13 U	<11 U	<12 U	<12 U
CHLOROETHANE	270000	<12 U	<13 U	<11 U	<12 U	<12 U
BENZENE	2700	<12 U	<13 U	<11 U	<12 U	<12 U
DICHLORODIFLUOROMETHANE	380000	<24 U	<25 U	<23 U	<23 U	<24 U
TRICHLOROFLUOROMETHANE	410000	<24 U	<25 U	<23 U	<23 U	<24 U
CARBON TETRACHLORIDE	920	<12 U	<13 U	<11 U	<12 U	<12 U
METHYLENE BROMIDE	na	<24 U	<25 U	<23 U	<23 U	<24 U
METHYLENE CHLORIDE	3700	11 JB (<12)	18 B (RL 13)	27 B (RL 11)	13 (RL 12)	11 JB (<12)
BROMOMETHANE	60000	<12 U	<13 U	<11 U	<12 U	<12 U
CHLOROMETHANE	3700	<12 U	<13 U	<11 U	<12 U	<12 U
ACETONITRILE	230000	<240 U	<250 U	<230 U	<230 U	<240 U
IODOMETHANE	5	<12 U	<13 U	<11 U	<12 U	<12 U
BROMOFORM	110000	<12 U	<13 U	<11 U	<12 U	<12 U
CHLOROFORM	960	<12 U	<13 U	<11 U	<12 U	<12 U
CHLOROBENZENE	300000	<12 U	<13 U	<11 U	<12 U	<12 U
CARBON DISULFIDE	53000	<12 U	<13 U	<11 U	<12 U	<12 U
DIBROMOCHLOROMETHANE	10000	<12 U	<13 U	<11 U	<12 U	<12 U
ETHYLBENZENE	58000	<12 U	<13 U	<11 U	<12 U	<12 U
TOLUENE	280000	<12 U	<13 U	<11 U	<12 U	<12 U
METHYL ETHYL KETONE	5200000	<12 U	<13 U	<11 U	<12 U	<12 U
4-METHYL-2-PENTANONE	2000000	<12 U	<13 U	<11 U	<12 U	<12 U
2-HEXANONE	50	<12 U	<13 U	<11 U	<12 U	<12 U
2-METHYL-2-PROPENENITRILE	na	<24 U	<25 U	<23 U	<23 U	<24 U
METHYL METHACRYLATE	3200000	<59 U	<63 U	<57 U	<58 U	<59 U
PROPIONITRILE	100	<690 U	<750 U	<680 U	<690 U	<690 U
STYRENE	13000000	<12 U	<13 U	<11 U	<12 U	<12 U
TRANS-1,2-DICHLOROETHENE	620000	<12 U	<13 U	<11 U	<12 U	<12 U
TRANS-1,3-DICHLOROPROPENE	1000	<12 U	<13 U	<11 U	<12 U	<12 U
1,1,2,2-TETRACHLOROETHANE	10000	<12 U	<13 U	<11 U	<12 U	<12 U
TETRACHLOROETHYLENE	22000					
TETRACHLOROETHANE	na	<12 U	<13 U	<11 U	<12 U	<12 U
TRANS-1,4-DICHLORO-2-BUTENE	15	<18 U	<19 U	<17 U	<17 U	<18 U
TRICHLOROETHYLENE	14000	<12 U	<13 U	<11 U	<12 U	<12 U
XYLENES	99000	<12 U	<13 U	<11 U	<12 U	<12 U
1,2,4-TRICHLOROBENZENE	93000	<650 U	<700 U	<630 U	<640 U	<640 U
1,2-DICHLOROBENZENE	230000	<690 U	<750 U	<680 U	<690 U	<690 U

TABLE 3
SWMU 23/00 CONFIRMATION SAMPLES
ANALYTICAL RESULTS SUMMARY

	Sample No.	NSWC-23/005	NSWC-23/006	NSWC-23/007	NSWC-23/008	NSWC-23/009
	Matrix	Soil	Soil	Soil	Soil	Soil
	Sampled	02/22/1996	02/22/1996	02/22/1996	02/22/1996	02/22/1996
COMPOUNDS	µg/kg or µg/L	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
1,3,5-TRINITROBENZENE	na	<1100 U	<1200 U	<1000 U	<1100 U	<1100 U
1,3-DICHLOROBENZENE	280000	<600 U	<850 U	<590 U	<590 U	<600 U
1,3-DINITROBENZENE	3900	<660 U	<710 U	<640 U	<650 U	<650 U
1,4-DICHLOROBENZENE	17000	<610 U	<660 U	<600 U	<600 U	<610 U
1,4-NAPHTHOQUINONE	na	<1900 U	<2000 U	<1800 U	<1900 U	<1900 U
1-NAPHTHYLAMINE	na	<1600 U	<1800 U	<1600 U	<1600 U	<1600 U
2,3,4,6-TETRACHLOROPHENOL	1200000	<1600 U	<1800 U	<1600 U	<1600 U	<1600 U
2,4,5-TRICHLOROPHENOL	930	<1500 U	<1600 U	<1500 U	<1500 U	<1500 U
2,4,6-TRICHLOROPHENOL	77000	<1500 U	<1600 U	<1500 U	<1500 U	<1500 U
2,4-DICHLOROPHENOL	120000	<650 U	<700 U	<630 U	<640 U	<640 U
2,4-DIMETHYLPHENOL	780000	<720 U	<770 U	<700 U	<710 U	<710 U
2,4-DINITROPHENOL	78000	<2000 U	<2200 U	<2000 U	<2000 U	<2000 U
2,4-DINITROTOLUENE	78000	<780 U	<840 U	<760 U	<770 U	<770 U
2,6-DICHLOROPHENOL	na	<1400 U	<1500 U	<1400 U	<1400 U	<1400 U
2,6-DINITROTOLUENE	1300	<880 U	<950 U	<860 U	<870 U	<880 U
2-CHLOROPHENOL	200000	<740 U	<800 U	<720 U	<730 U	<740 U
2-CLPPE	na	<710 U	<760 U	<690 U	<700 U	<700 U
2-CHLORONAPHTHALENE	3100000	<1100 U	<1200 U	<1100 U	<1100 U	<1100 U
2-METHYLNAPYHTHALENE	660	<990 U	<1100 U	<970 U	<980 U	<980 U
2-METHYLPHENOL	2000000	<760 U	<820 U	<750 U	<760 U	<760 U
2-NITROANILINE	2300	<1300 U	<1400 U	<1300 U	<1300 U	<1300 U
2-NAPHTHYLAMINE	na	<1000 U	<1100 U	<990 U	<1000 U	<1000 U
2-NITROPHENOL	300	<730 U	<780 U	<710 U	<720 U	<720 U
2-PICOLINE	na	<1400 U	<1500 U	<1400 U	<1400 U	<1400 U
3,3'-DICHLOROBENZIDINE	1900	<590 U	<630 U	<570 U	<580 U	<580 U
3,3'-DIMETHYLBENZIDINE	93	<530 U	<570 U	<520 U	<520 U	<530 U
3-METHYLPHENOL	2000000	<1500 U	<1600 U	<1500 U	<1500 U	<1500 U
3-NITROANILINE	3300	<810 U	<870 U	<790 U	<800 U	<810 U
2-METHYL-4,6-DINITROPHENOL	na	<2100 U	<2300 U	<2100 U	<2100 U	<2100 U
4-AMINOBIPHENYL	na	<480 U	<520 U	<470 U	<480 U	<480 U
4-BROMOPHENYL-PHENYLETHER	660	<880 U	<950 U	<860 U	<870 U	<880 U
4-CHLOROANILINE	160000	<810 U	<870 U	<790 U	<800 U	<810 U
3-METHYL-4-CHLOROPHENOL	na	<220 U	<240	<220 U	<220 U	<220 U
4-METHYLPHENOL	200000	<1500 U	<1600 U	<1500 U	<1500 U	<1500 U
4-NITROANILINE	na	<1300 U	<1400 U	<1300 U	<1300 U	<1300 U
4-NITROPHENOL	190	<810 U	<870 U	<790 U	<800 U	<810 U

TABLE 3
SWMU 23/00 CONFIRMATION SAMPLES
ANALYTICAL RESULTS SUMMARY

Sample No.		NSWC-23/00-005	NSWC-23/00-006	NSWC-23/00-007	NSWC-23/00-008	NSWC-23/00-009
Matrix		Soil	Soil	Soil	Soil	Soil
Cleanup Level		02/22/1996	02/22/1996	02/22/1996	02/22/1996	02/22/1996
COMPOUNDS	µg/kg or µg/L	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
4-NITROQUINOLINE-1-OXIDE	na	<5600 U	<6100 U	<5500 U	<5600 U	<5600 U
5-NITRO-O-TOLUIDINE	na	<1200 U	<1300 U	<1100 U	<1200 U	<1200 U
7,12-DIMETHYLBENZ[A]ANTHRACENE	na	<480 U	<520 U	<470 U	<480 U	<480 U
ACETOPHENONE	3900000	<780 U	<840 U	<760 U	<770 U	<770 U
ACENAPHTHENE	36000	<780 U	64 J (<420)	<760 U	<770 U	<770 U
ACENAPHTHYLENE	660	<790 U	<850 U	<770 U	<780 U	<780 U
ANILINE	11000	<660 U	<710 U	<640 U	<650 U	<650 U
ANTHRACENE	1900	<870 U	77 J (<420)	<850 U	<860 U	<860 U
ARAMITE	34000	<780 U	<840 U	<760 U	<770 U	<770 U
BIS(2-CHLOROETHOXY) METHANE	660	<790 U	<850 U	<770 U	<780 U	<780 U
BIS(2-CHLOROISOPROPYL) ETHER	12000	<760 U	<820 U	<750 U	<760 U	<760 U
BIS(2-CHLOROETHYL) ETHER	150	<330 U	<350 U	<320 U	<330 U	<330 U
BIS(2-ETHYLHEXYL) PHTHALATE	61000	70 J (<390)	86 J (<420)	67 J (<380)	200 J (<380)	96 J (<380)
BENZO[A]ANTHRACENE	660	40 J (<390)	240 J (<420)	<760 U	<770 U	34 J (<380)
BENZO[B]FLUORANTHENE	660	110 XJ (<390)	420 XJ (RL 420)	<880 U	<900 U	87 XJ (<380)
BUTYLBENZYL PHTHALATE	7800000	<800 U	<860 U	<780 U	<790 U	<790 U
BENZO[GHI]PERYLENE	660	43 J (<390)	110 J (<420)	<710 U	<720 U	<720 U
BENZO[K]FLUORANTHENE	660	110 XJ (<390)	440 XJ (RL 420)	<710 U	<720 U	92 XJ (<380)
BENZYL ALCOHOL	12000000	<650 U	<700 U	<630 U	<640 U	<640 U
CHRYSENE	800	54 J (<390)	280 J (<420)	<620 U	<630 U	46 J (<380)
PENTACHLOROBENZENE	31000	<780 U	<840 U	<760 U	<770 U	<770 U
HEXACHLOROBENZENE	530	<910 U	<970 U	<880 U	<900 U	<900 U
HEXACHLOROCYCLOPENTADIENE	270000	<780 U	<840 U	<760 U	<770 U	<770 U
HEXACHLOROETHANE	39000	<710 U	<760 U	<690 U	<700 U	<700 U
CHLOROBENZILATE	3200	<840 U	<900 U	<820 U	<830 U	<830 U
DIBENZ[AH]ANTHRACENE	120	<210 U	<230 U	<210 U	<210 U	<210 U
DIBENZOFURAN	660	<810 U	<870 U	<790 U	<800 U	<810 U
DIETHYL PHTHALATE	31000000	<850 U	<910 U	<830 U	<840 U	<840 U
DIALLATE	14000	<780 U	<840 U	<760 U	<770 U	<770 U
DIMETHYL PHTHALATE	100000000	<1100 U	<1200 U	<1100 U	<1100 U	<1100 U
DI-N-BUTYL PHTHALATE	3900000	<910 U	<970 U	<880 U	<900 U	<900 U
DI-N-OCTYL PHTHALATE	780000	<560 U	<610 U	<550 U	<560 U	<560 U
DIPHENYLAMINE	980000	<1600 U	<1800 U	<1600 U	<1600 U	<1600 U
ETHYL METHANESULFONATE	na	<710 U	<760 U	<690 U	<700 U	<700 U
FLUORANTHENE	1600000	83 J (<390)	520 J (RL 420)	<1100 U	<1100 U	45 J (<380)
FLUORENE	28000	<810 U	58 J (<420)	<790 U	<800 U	<810 U

TABLE 3
SWMU 23/00 CONFIRMATION SAMPLES
ANALYTICAL RESULTS SUMMARY

	Sample Point Nos.	NSWC-23/00-005	NSWC-23/00-006	NSWC-23/00-007	NSWC-23/00-008	NSWC-23/00-009
	Level/Matrix	Soil	Soil	Soil	Soil	Soil
	Cleanup Level	02/22/1996	02/22/1996	02/22/1996	02/22/1996	02/22/1996
COMPOUNDS	µg/kg or µg/L	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
HEXACHLORO-1,3-BUTADIENE	11000	<660 U	<710 U	<640 U	<650 U	<650 U
HEXACHLOROPROPENE	na	<670 U	<720 U	<660 U	<660 U	<670 U
INDENO[1,2,3-C,D]PYRENE	1200	<540 U	110 J (<420)	<530 U	<530 U	<540 U
ISODRIN	na	<1100 U	<1200 U	<1100 U	<1100 U	<1100 U
ISOPHORONE	900000	<800 U	<860 U	<780 U	<790 U	<790 U
ISOSAFROLE	na	<1500 U	<1600 U	<1500 U	<1500 U	<1500 U
METHAPYRILENE	na	<1500 U	<1600 U	<1500 U	<1500 U	<1500 U
METHYL METHANESULFONATE	na	<820 U	<890 U	<800 U	<810 U	<820 U
NAPHTHALENE	80000	<780 U	<840 U	<760 U	<770 U	<770 U
NITROBENZENE	20000	<800 U	<860 U	<780 U	<790 U	<790 U
N-NITROSODIETHYLAMINE	5.7	<260 U	<280 U	<260 U	<260 U	<260 U
N-NITROSODIMETHYLAMINE	17	<310 U	<330 U	<300 U	<300 U	<300 U
N-NITROSODI-N-BUTYLAMINE	160	<180 U	<190 U	<170 U	<170 U	<180 U
N-NITROSODI-N-PROPYLAMINE	120	<280 U	<300 U	<280 U	<280 U	<280 U
N-NITROSODIPHENYLAMINE	170000	<1600 U	<1800 U	<1600 U	<1600 U	<1600 U
N-NITROSOMETHYLETHYLAMINE	39	<280 U	<300 U	<280 U	<280 U	<280 U
N-NITROSOMORPHOLINE	na	<880 U	<950 U	<860 U	<870 U	<880 U
N-NITROSOPIPERIDINE	na	<870 U	<940 U	<850 U	<860 U	<860 U
N-NITROSOPYRROLIDINE	na	<620 U	<670 U	<610 U	<620 U	<620 U
PENTACHLOROPHENOL	7100	<1600 U	<1800 U	<1600 U	<1600 U	<1600 U
P-DIMETHYLAMINOAZOBENZENE	na	<790 U	<850 U	<770 U	<780 U	<780 U
PHENANTHRENE	660	46 J (<390)	470 J (RL 420)	<710 U	<720 U	<720 U
N-(4-ETHOXYPHENYL)ACETAMIDE	na	<720 U	<770 U	<700 U	<710 U	<710 U
PHENOL	23000000	<670 U	<720 U	<660 U	<660 U	<670 U
P-PHENYLENEDIAMINE	7400000	<780 U	<840 U	<760 U	<770 U	<770 U
PROPYZAMIDE	na	<760 U	<820 U	<750 U	<760 U	<760 U
PYRENE	1200000	100 J (<390)	540 J (RL 420)	<840 U	<850 U	53J (<380)
PYRIDINE	3900	<650 U	<700 U	<630 U	<640 U	<640 U
SAFROLE	na	110 (RL 0.0)	<730 U	<670 U	<670 U	<680 U
1,2,4,5-TETRACHLOROBENZENE	12000	<1500 U	<1600 U	<1500 U	<1500 U	<1500 U
TEPO3S	na	<6200 U	<6700 U	<6100 U	<6200 U	<6200 U
SULFIDE	na	56000 (RL 33000)	37000 (RL 33000)	<33000 U	<33000 U	36000 (RL 33000)

TABLE 3
SWMU 23/00 CONFIRMATION SAMPLES
ANALYTICAL RESULTS SUMMARY

	Sample No.	NSWC-23/00-010	NSWC-23/00-011	NSWC-23/00-012	NSWC-23/00-013	NSWC-23/00-014
	Matrix	Soil	Soil	liquid	soil	liquid
	Cleanup Level	02/22/1996	02/22/1996	02/22/1996	02/22/1996	02/22/1996
COMPOUNDS	µg/kg or µg/L	µg/kg	µg/kg	µg/L	µg/kg	µg/L
2,4,5-T	390000	<31 U	<31 U		1.8 JBP (RL 0.0)	
2,4,5-TRICHLOROPHENOL	930	2.3 JBP (RL 0.0)	9.5 JBP (RL 0.0)		2.5 JBP (RL 0.0)	
2,4-D	390000	<120 U	<130 U		<100 U	
ALPHA-BENZENEHEXACHLORIDE	2.01	<1.2 U	<1.3 U	<0.030 U	<1 U	<0.030 U
ENDOSULFAN I	2000	0.21 J (<2.0)	<1.9 U	0.0003 JP (<0.05)	<1.5 U	0.0011 JP (<0.05)
SILVER	390000	<110 U	<110 U	<0 7 U	<73 U	<0.7 U
ALDRIN	50	0.053 JP (<2.0)	0.093 J (<2.0)	<0.030 U	0.034 JP (<2.0)	<0.030 U
ARSENIC	970	6900* (RL 3700)	5900* (RL 3800)	<3 U	5100* (RL 3100)	<3 U
BARIUM	5500000	70700 (RL 120)	25600 (RL 120)	45.3 B (RL 0.1)	25400 (RL 100)	87.1 B (RL 0.1)
BETA-BENZENEHEXACHLORIDE	4.02	0.27 JP (<2.0)	<1.3 U	<0 030 U	<1 U	<0.030 U
BERYLLIUM	400	370 B (RL 370)	590 (RL 380)	0.32 B (RL 0.3)	2200 (RL 310)	4.3 B (RL 0.3)
ENDOSULFAN II	2000	<4.2 U	0.123 JP (<2.0)	<0.10 U	<3.6 U	<0.10 U
CADMIUM	39000	<25 U	<38 U	<0.2 U	<21 U	0.36 B (RL 0.2)
CHLORDANE	660	<4.8 U	<5.0 U	<0.12 U	<4.1 U	<0.12 U
COBALT	100	6300* (RL 620)	7700* (RL 630)	<0.64 U	9300* (RL 520)	3.4 (RL 0.5)
CHROMIUM	940000	12500(RL 870)	11200(RL 880)	1.9 B (RL 0.7)	10400(RL 730)	6.3 B (RL 0.7)
COPPER	2900000	12100(RL 870)	8200(RL 880)	3.1 B (RL 0.7)	8700(RL 730)	13.9 B (RL 0.7)
CYANIDE	1600000	<620 UN	<630 U	<10 U	<520 U	<10 U
DELTA-BENZENEHEXACHLORIDE	6.03	0 059 JP (<2.0)	0.12 JP (<2.0)	<0.030 U	<1 U	0.0014 J (<0.05)
DIELDRIN	53	<1.8 U	<1.9 U	<0.030 U	<1.5 U	0.0018 JP (<0.1)
DIMETHOATE	7800	18 P (RL 0.0)	16 (RL 0.0)	<0.5 U	<10 U	0.77 (RL 0.0)
DISULFOTON	1600	<12 U	<13 U	<0.5 U	<10 U	<0.5 U
ENDRIN	12000	0.55 JP (<4.0)	<3.1 U	<0 05 U	<2.6 U	<0.05 U
ENDRIN ALDEHYDE	15.4	0.35 JP (<4.0)	0.17 JP (<4.0)	<0.03 U	<1 U	<0.03 U
ENDOSULFAN SULFATE	44.2	0.1 JP (<4.0)	0.17 JP (<4.0)	0.0062 JP (<0.1)	0.19 JP (<3.0)	<0.05 U
FAMPHUR	na	30 P (RL 0.0)	9 JP (RL 0.0)	<0.5 U	<10 U	1 PB (RL 0.0)
MERCURY	23000	<150 U	<140 U	<0.2 U	<100 U	<0.2 U
HEPTACHLOR	190	0.047 JBP (<2.0)	0.063 JBP (<2.0)	0.0012 JP (<0.5)	0.036 JBP (<2.0)	<0.03 U
HEPTACHLOR EPOXIDE	94	0.057 J (<2.0)	<1.3 U	0.0017 J (<0.5)	<1 U	0.0019 JP (<0.05)
LITHIUM	na	6900 B (RL 3300)	2300 B (<3400)		4100 B (RL 2800)	
GAMMA-BENZENEHEXACHLORIDE	2.68	0.015 JP (<2.0)	<1.3 U	<0.030 U	<1 U	<0.030 U
METHOXYCHLOR	200000	0.49 JBP (<20)	0.52 JBP (<21)	<0.3 U	0.2 JBP (<17)	0.0097 JP (<0.5)
NICKEL	1600000	9600 (RL 1200)	86600 (RL 1200)	37.5 B (RL 1)	81100 (RL 1000)	316 (RL 1.0)
LEAD	500000	16800 N (RL 2000)	10500 N (RL 2000)	2.4 B (RL 1.6)	15300 N (RL 1700)	10.1 (RL 1.6)
PCB 1016	110	<24 U	<25 U	<0.5 U	<20 U	<0.5 U
PCB 1221	110	<24 U	<25 U	<0.5 U	<20 U	<0 5 U

TABLE 3
SWMU 23/00 CONFIRMATION SAMPLES
ANALYTICAL RESULTS SUMMARY

	Sample No.	NSWC-23/00-010	NSWC-23/00-011	NSWC-23/00-012	NSWC-23/00-013	NSWC-23/00-014
	Matrix	Soil	Soil	Liquid	Soil	Liquid
	Clean Up Level	02/22/1996	02/22/1996	02/22/1996	02/22/1996	02/22/1996
COMPOUNDS	µg/kg or µg/L	µg/kg	µg/kg	µg/L	µg/kg	µg/L
PCB 1232	110	<24 U	<25 U	<0.5 U	<20 U	<0.5 U
PCB 1242	110	<24 U	<25 U	<0.5 U	<20 U	<0.5 U
PCB 1248	110	<24 U	<25 U	<0.5 U	<20 U	<0.5 U
PCB 1254	110	<24 U	<25 U	<0.5 U	<20 U	<0.5 U
PCB 1260	110	<24 U	<25 U	<0.5 U	<20 U	<0.5 U
PHORATE	7800	<12 U	<13 U	<0.5 U	<10 U	<0.5 U
2,2-BIS(P-CHLOROPHENYL)-1,1-DICHLOROETHANE	na	0.16 JP (<4.0)	<4.4 U	<0.1 U	<3.6 U	0.0008 BJP (<0.1)
2,2-BIS(P-CHLOROPHENYL)-1,1-DICHLOROETHENE	na	0.09 JP (<4.0)	1.2 JP (<4.0)	<0.1 U	0.25 J (<3.0)	<0.1 U
2,2-BIS(PARA-CHLOROPHENYL)-1,1-TRICHLOROETHANE	na	0.12 JBP (<4.0)	0.11 JBP (<4.0)	<0.1 U	0.098 JBP (<3.0)	<0.1 U
ANTIMONY	31000	440 BN (<2200)	540 BN (<2300)	<1.8 U	440 BN (<1900)	<1.8 U
SELENIUM	390000	900 (<3200)	810 (<3300)	<2.6 U	320 B (<2700)	<2.6 U
DITHIONE	20000	<12 U	<13 U	<0.5 U	<10 U	<0.5 U
TIN	47000000	1200 B (<5200)	1400 B (<5300)	<4.2 U	950 B (<4400)	<4.2 U
THALLIUM	na	<530 U	<550 U	<3.5 U	<370 U	<3.5 U
TOXAPHENE	770	<24 U	<25 U	<1 U	<20 U	<1 U
VANADIUM	550000	21100 (RL 740)	10100 (RL 760)	0.9 B (RL 0.6)	11900 (RL 620)	5.9 (RL 0.6)
ZINC	23000000	28600 ((RL 4000)	91600 (RL 4000)	27.7 (RL 3.2)	80700 (RL 3300)	272 (RL 3.2)
1,1,1-TRICHLOROETHANE	300000	<12 U	<13 U	<10 U	<10 U	8 J (<31)
1,1,2-TRICHLOROETHANE	2900	<12 U	<13 U	<10 U	<10 U	<31 U
1,1-DICHLOROETHENE	70	<12 U	<13 U	<10 U	<10 U	5 J (<31)
1,1-DICHLOROETHANE	400000	<12 U	<13 U	<10 U	<10 U	<31 U
1,2,3-TRICHLOROPROPANE	310000	<25 U	<25 U	<10 U	<21 U	<31 U
1,2-DIBROMO-3-CHLOROPROPANE	610	<62 U	<63 U	<10 U	<52 U	<5 U
1,2-DIBROMOETHANE	19	<19 U	<19 U	<10 U	<16 U	<31 U
1,2-DICHLOROETHANE	840	<12 U	<13 U	<10 U	<10 U	<31 U
1,2-DICHLOROPROPANE	1300	<12 U	<13 U	<10 U	<10 U	<31 U
1,4-DIOXANE	32000	<63000 U	<65000 U	<3700 U	<53000 U	<12000 U
ISOBUTYL ALCOHOL	na	<16000 U	<16000 U	<2800 U	<14000 U	<8800 U
1,1,1,2-TETRACHLOROETHANE	10000	<25 U	<25 U	<10 U	<21 U	<31 U
3-CHLORO-1-PROPENE	5	<19 U	<19 U	<15 U	<16 U	<47 U
ACETONE	9200000	<12 U	<13 U	<10 U	<10 U	<31 U
ACROLEIN	760000	<280 U	<290 U	<90 U	<240 U	<280 U
ACRYLONITRILE	260	<260 U	<270 U	<95 U	<220 U	<300 U
BROMODICHLOROMETHANE	2900	<12 U	<13 U	<10 U	<10 U	<31 U
CIS-1,3-DICHLOROPROPENE	1000	<12 U	<13 U	<10 U	<10 U	<31 U
VINYL ACETATE	39000000	<25 U	<25 U	<10 U	<21 U	<31 U

TABLE 3
SWMU 23/00 CONFIRMATION SAMPLES
ANALYTICAL RESULTS SUMMARY

	Sample No	NSWC-23/00-X-010	NSWC-23/00-X-011	NSWC-23/00-X-012	NSWC-23/00-X-013	NSWC-23/00-X-014
	Matrix	Soil	Soil	liquid	Soil	liquid
	Date Sampled	02/22/1996	02/22/1996	02/22/1996	02/22/1996	02/22/1996
	Cleanup Level					
COMPOUNDS	µg/kg or µg/L	µg/kg	µg/kg	µg/L	µg/kg	µg/L
VINYL CHLORIDE	9.7	<12 U	<13 U	<10 U	<10 U	<31 U
CHLOROETHANE	270000	<12 U	<13 U	<10 U	<10 U	<31 U
BENZENE	2700	<12 U	<13 U	<10 U	<10 U	<31 U
DICHLORODIFLUOROMETHANE	380000	<25 U	<25 U	<10 U	<21 U	<31 U
TRICHLOROFLUOROMETHANE	410000	<25 U	<25 U	<10 U	<21 U	<31 U
CARBON TETRACHLORIDE	920	<12 U	<13 U	<10 U	<10 U	<31 U
METHYLENE BROMIDE	na	<25 U	<25 U	<10 U	<21 U	<31 U
METHYLENE CHLORIDE	3700	12 B (RL 12)	11 JB (<13)	1 J (<10)	12 B (RL 10)	8 J (<31)
BROMOMETHANE	60000	<12 U	<13 U	<10 U	<10 U	<31 U
CHLOROMETHANE	3700	<12 U	<13 U	<10 U	<10 U	<31 U
ACETONITRILE	230000	<250 U	<250 U	<60 U	<210 U	<190 U
IODOMETHANE	5	<12 U	<13 U	<5 U	<10 U	<16 U
BROMOFORM	110000	<12 U	<13 U	<10 U	<10 U	<31 U
CHLOROFORM	960	<12 U	<13 U	<10 U	<10 U	<31 U
CHLOROBENZENE	300000	<12 U	<13 U	<10 U	<10 U	<31 U
CARBON DISULFIDE	53000	<12 U	<13 U	<10 U	<10 U	<31 U
DIBROMOCHLOROMETHANE	10000	<12 U	<13 U	<10 U	<10 U	<31 U
ETHYLBENZENE	58000	<12 U	<13 U	<10 U	<10 U	<31 U
TOLUENE	280000	<12 U	<13 U	<10 U	<10 U	<31 U
METHYL ETHYL KETONE	5200000	<12 U	<13 U	<10 U	<10 U	<31 U
4-METHYL-2-PENTANONE	2000000	<12 U	<13 U	<10 U	<10 U	<31 U
2-HEXANONE	50	<12 U	<13 U	<10 U	<10 U	<31 U
2-METHYL-2-PROPENENITRILE	na	<25 U	<25 U	<20 U	<21 U	<62 U
METHYL METHACRYLATE	3200000	<62 U	<63 U	<20 U	<52 U	<62 U
PROPIONITRILE	100	<730 U	<750 U	<220 U	<610 U	<690 U
STYRENE	13000000	<12 U	<13 U	<10 U	<10 U	<31 U
TRANS-1,2-DICHLOROETHENE	620000	<12 U	<13 U	<10 U	<10 U	<31 U
TRANS-1,3-DICHLOROPROPENE	1000	<12 U	<13 U	<10 U	<10 U	<31 U
1,1,2,2-TETRACHLOROETHANE	10000	<12 U	<13 U	<10 U	<10 U	<31 U
TETRACHLOROETHYLENE	22000			<10 U		4 J (<31)
TETRACHLOROETHANE	na	<12 U	<13 U		<10 U	
TRANS-1,4-DICHLORO-2-BUTENE	15	<19 U	<19 U	<10 U	<16 U	<31 U
TRICHLOROETHYLENE	14000	<12 U	<13 U	65 (RL 10)	22 (RL 10)	460 (RL 31)
XYLENES	99000	<12 U	<13 U	<10 U	<10 U	<31 U
1,2,4-TRICHLOROBENZENE	93000	<680 U	<700 U	<5 U	<570 U	<5 U
1,2-DICHLOROBENZENE	230000	<730 U	<750 U	<10 U	<610 U	<10 U

TABLE 3
SWMU 23/00 CONFIRMATION SAMPLES
ANALYTICAL RESULTS SUMMARY

Sample No.	NSWC-23/00-010	NSWC-23/00-011	NSWC-23/00-012	NSWC-23/00-013	NSWC-23/00-014
Matrix	Soil	Soil	Liquid	Soil	Liquid
Date Collected	02/22/1996	02/22/1996	02/22/1996	02/22/1996	02/22/1996
COMPOUNDS	µg/kg or µg/L	µg/kg	µg/L	µg/kg	µg/L
1,3,5-TRINITROBENZENE	na	<1100 U	<1200 U	<45 U	<950 U	<45 U
1,3-DICHLOROBENZENE	280000	<630 U	<650 U	<10 U	<530 U	<10 U
1,3-DINITROBENZENE	3900	<690 U	<710 U	<15 U	<580 U	<15 U
1,4-DICHLOROBENZENE	17000	<640 U	<660 U	<10 U	<540 U	<10 U
1,4-NAPHTHOQUINONE	na	<2000 U	<2000 U	<35 U	<1700 U	<35 U
1-NAPHTHYLAMINE	na	<1700 U	<1800 U	<35 U	<1500 U	<35 U
2,3,4,6-TETRACHLOROPHENOL	1200000	<1700 U	<1800 U	<35 U	<1500 U	<35 U
2,4,5-TRICHLOROPHENOL	930	<1600 U	<1600 U	<25 U	<1400 U	<25 U
2,4,6-TRICHLOROPHENOL	77000	<1600 U	<1600 U	<25 U	<1400 U	<25 U
2,4-DICHLOROPHENOL	120000	<680 U	<700 U	<15 U	<570 U	<15 U
2,4-DIMETHYLPHENOL	780000	<750 U	<770 U	<35 U	<640 U	<35 U
2,4-DINITROPHENOL	78000	<2100 U	<2200 U	<75 U	<1800 U	<75 U
2,4-DINITROTOLUENE	78000	<810 U	<840 U	<10 U	<690 U	<10 U
2,6-DICHLOROPHENOL	na	<1500 U	<1500 U	<25 U	<1200 U	<25 U
2,6-DINITROTOLUENE	1300	<930 U	<950 U	<15 U	<780 U	<15 U
2-CHLOROPHENOL	200000	<780 U	<800 U	<15 U	<660 U	<15 U
2-CLPPE	na	<740 U	<760 U	<10 U	<620 U	<10 U
2-CHLORONAPHTHALENE	3100000	<1200 U	<1200 U	<15 U	<1000 U	<15 U
2-METHYLNAPYHTHALENE	660	<1000 U	<1100 U	<10 U	<880 U	<10 U
2-METHYLPHENOL	2000000	<800 U	<820 U	<20 U	<680 U	<20 U
2-NITROANILINE	2300	<1400 U	<1400 U	<20 U	<1100 U	<20 U
2-NAPHTHYLAMINE	na	<1100 U	<1100 U	<20 U	<900 U	<20 U
2-NITROPHENOL	300	<770 U	<780 U	<5 U	<650 U	<5 U
2-PICOLINE	na	<1500 U	<1500 U	<45 U	<1200 U	<45 U
3,3'-DICHLOROBENZIDINE	1900	<620 U	<630 U	<10 U	<520 U	<10 U
3,3'-DIMETHYLBENZIDINE	93	<560 U	<570 U	<10 U	<470 U	<10 U
3-METHYLPHENOL	2000000	<1600 U	<1600 U	<35 U	<1400 U	<35 U
3-NITROANILINE	3300	<850 U	<870 U	<30 U	<720 U	<30 U
2-METHYL-4,6-DINITROPHENOL	na	<2200 U	<2300 U	<45 U	<1900 U	<45 U
4-AMINOBIPHENYL	na	<510 U	<520 U	<10 U	<430 U	<10 U
4-BROMOPHENYL-PHENYLETHER	660	<930 U	<950 U	<15 U	<780 U	<15 U
4-CHLOROANILINE	160000	<850 U	<870 U	<5 U	<720 U	<5 U
3-METHYL-4-CHLOROPHENOL	na	<230 U	<240 U	<3 U	<200 U	<3 U
4-METHYLPHENOL	200000	<1600 U	<1600 U	<35 U	<1400 U	<35 U
4-NITROANILINE	na	<1400 U	<1400 U	<35 U	<1100 U	<35 U
4-NITROPHENOL	190	<850 U	<870 U	<12 U	<720 U	<12 U

TABLE 3
SWMU 23/00 CONFIRMATION SAMPLES
ANALYTICAL RESULTS SUMMARY

	Sample No.	NSWC-23/00-010	NSWC-23/00-011	NSWC-23/00-012	NSWC-23/00-013	NSWC-23/00-014
	Matrix	Soil	Soil	liquid	soil	liquid
	Cleanup Level	02/22/1996	02/22/1996	02/22/1996	02/22/1996	02/22/1996
COMPOUNDS	µg/kg or µg/L	µg/kg	µg/kg	µg/L	µg/kg	µg/L
4-NITROQUINOLINE-1-OXIDE	na	<5900 U	<6100 U	<75 U	<5000 U	<75 U
5-NITRO-O-TOLUIDINE	na	<1200 U	<1300 U	<30 U	<1000 U	<30 U
7,12-DIMETHYLBENZ[A]ANTHRACENE	na	<510 U	<520 U	<10 U	<430 U	<10 U
ACETOPHENONE	3900000	<810 U	<840 U	<20 U	<690 U	<20 U
ACENAPHTHENE	36000	<810 U	<840 U	<10 U	<690 U	<10 U
ACENAPHTHYLENE	660	<830 U	<850 U	<10 U	<700 U	<10 U
ANILINE	11000	<690 U	<710 U	<15 U	<580 U	<15 U
ANTHRACENE	1900	<910 U	<940 U	<15 U	<770 U	<15 U
ARAMITE	34000	<810 U	<840 U	<20 U	<690 U	<20 U
BIS(2-CHLOROETHOXY) METHANE	660	<830 U	<850 U	<15 U	<700 U	<15 U
BIS(2-CHLOROISOPROPYL) ETHER	12000	<800 U	<820 U	<15 U	<680 U	<15 U
BIS(2-CHLOROETHYL) ETHER	150	<350 U	<350 U	<4 U	<290 U	<4 U
BIS(2-ETHYLHEXYL) PHTHALATE	61000	46 J (<410)	69 J (<420)	1 J (RL 0.01)	44 J (<340)	<25 U
BENZO[A]ANTHRACENE	660	<810 U	<840 U	<10 U	<690 U	<10 U
BENZO[B]FLUORANTHENE	660	<950 U	<970 U	<10 U	<800 U	<10 U
BUTYLBENZYL PHTHALATE	7800000	<840 U	<860 U	<10 U	<710 U	<10 U
BENZO[GHI]PERYLENE	660	<770 U	<780 U	<10 U	<650 U	<10 U
BENZO[K]FLUORANTHENE	660	<770 U	<780 U	<20 U	<650 U	<20 U
BENZYL ALCOHOL	12000000	<680 U	<700 U	<20 U	<570 U	<20 U
CHRYSENE	800	<670 U	<680 U	<15 U	<560 U	<15 U
PENTACHLOROBENZENE	31000	<810 U	<840 U	<10 U	<690 U	<10 U
HEXACHLOROBENZENE	530	<950 U	<970 U	<15 U	<800 U	<15 U
HEXACHLOROCYCLOPENTADIENE	270000	<810 U	<840 U	<25 U	<690 U	<25 U
HEXACHLOROETHANE	39000	<740 U	<760 U	<10 U	<620 U	<10 U
CHLOROBENZILATE	3200	<880 U	<900 U	<10 U	<740 U	<10 U
DIBENZ[AH]ANTHRACENE	120	<220 U	<230 U	<5 U	<190 U	<5 U
DIBENZOFURAN	660	<850 U	<870 U	<10 U	<720 U	<10 U
DIETHYL PHTHALATE	31000000	<890 U	<910 U	<15 U	<750 U	<15 U
DIALLATE	14000	<810 U	<840 U	<20 U	<690 U	<20 U
DIMETHYL PHTHALATE	100000000	<1200 U	<1200 U	<10 U	<1000 U	<10 U
DI-N-BUTYL PHTHALATE	3900000	<950 U	<970 U	<15 U	<800 U	<15 U
DI-N-OCTYL PHTHALATE	780000	<590 U	<610 U	<20 U	<500 U	<20 U
DIPHENYLAMINE	980000	<1700 U	<1800 U	<30 U	<1500 U	<30 U
ETHYL METHANESULFONATE	na	<740 U	<760 U	<20 U	<620 U	<20 U
FLUORANTHENE	1600000	<1100 U	<1200 U	<20 U	<960 U	<20 U
FLUORENE	28000	<850 U	<870 U	<10 U	<720 U	<10 U

TABLE 3
SWMU 23/00 CONFIRMATION SAMPLES
ANALYTICAL RESULTS SUMMARY

Sample No.	NSWC-23/00	NSWC-23/00	NSWC-23/00	NSWC-23/00	NSWC-23/00	NSWC-23/00
	1010	1011	1012	1013	1014	1015
Matrix	Soil	Soil	Liquid	Soil	Liquid	Liquid
Date Sampled	02/22/1996	02/22/1996	02/22/1996	02/22/1996	02/22/1996	02/22/1996
COMPOUNDS	µg/kg or µg/L	µg/kg	µg/L	µg/kg	µg/L	µg/L
HEXACHLORO-1,3-BUTADIENE	11000	<690 U	<710 U	<5 U	<580 U	<5 U
HEXACHLOROPROPENE	na	<700 U	<720 U	<20 U	<590 U	<20 U
INDENO[1,2,3-C,D]PYRENE	1200	<570 U	<580 U	<10 U	<480 U	<10 U
ISODRIN	na	<1100 U	<1200 U	<15 U	<960 U	<15 U
ISOPHORONE	900000	<840 U	<860 U	<10 U	<710 U	<10 U
ISOSAFROLE	na	<1600 U	<1600 U	<10 U	<1400 U	<10 U
METHAPYRILENE	na	<1600 U	<1600 U	<30 U	<1400 U	<30 U
METHYL METHANESULFONATE	na	<860 U	<890 U	<20 U	<730 U	<20 U
NAPHTHALENE	80000	<810 U	<840 U	<5 U	<690 U	<5 U
NITROBENZENE	20000	<840 U	<860 U	<10 U	<710 U	<10 U
N-NITROSODIETHYLAMINE	5.7	<280 U	<280 U	<3 U	<230 U	<3 U
N-NITROSODIMETHYLAMINE	17	<320 U	<330 U	<5 U	<270 U	<5 U
N-NITROSODI-N-BUTYLAMINE	160	<190 U	<190 U	<3 U	<160 U	<3 U
N-NITROSODI-N-PROPYLAMINE	120	<300 U	<300 U	<4 U	<250 U	<4 U
N-NITROSODIPHENYLAMINE	170000	<1700 U	<1800 U	<30 U	<1500 U	<30 U
N-NITROSOMETHYLETHYLAMINE	39	<300 U	<300 U	<13 U	<250 U	<13 U
N-NITROSOMORPHOLINE	na	<930 U	<950 U	<10 U	<780 U	<10 U
N-NITROSOPIPERIDINE	na	<910 U	<940 U	<10 U	<770 U	<10 U
N-NITROSOPYRROLIDINE	na	<650 U	<670 U	<15 U	<55 U	<15 U
PENTACHLOROPHENOL	7100	<1700 U	<1800 U	<55 U	<1500 U	<55 U
P-DIMETHYLAMINOAZOBENZENE	na	<830 U	<850 U	<10 U	<700 U	<10 U
PHENANTHRENE	660	<770 U	<780 U	<15 U	<650 U	<15 U
N-(4-ETHOXYPHENYL)ACETAMIDE	na	<750 U	<770 U	<20 U	<640 U	<20 U
PHENOL	23000000	<700 U	<720 U	<15 U	<590 U	<15 U
P-PHENYLENEDIAMINE	7400000	<810 U	<840 U	<80 U	<690 U	<80 U
PROPYZAMIDE	na	<800 U	<820 U	<15 U	<680 U	<15 U
PYRENE	1200000	<900 U	<920 U	<10 U	<760 U	<10 U
PYRIDINE	3900	<680 U	<700 U	<20 U	<570 U	<20 U
SAFROLE	na	<720 U	<730 U	<5 U	<600 U	<5 U
1,2,4,5-TETRACHLOROBENZENE	12000	<1600 U	<1600 U	<15 U	<1400 U	<15 U
TEPO3S	na	<6500 U	<6700 U	<110 U	<5500 U	<110 U
SULFIDE	na	36000 (RL 33000)	47000 (RL 33000)	<2.5 U	70000 (RL 33000)	<2500 U

TABLE 3
SWMU 23/00 CONFIRMATION SAMPLES
ALALYTICAL RESULTS SUMMARY

Notes:

na = None available

RL = Reporting limit

<xx = less than reporting limit (xx) as listed

(<xx)= Compound or analyte detected at level less than reporting limit (<xx) as listed

Blank space indicates compound not analyzed.

Organic Data Qualifier Code Descriptions:

U = Compound or analyte was analyzed for but not detected.

J = Value is estimated.

B = Compound or analyte was found in the associated method blank.

N = Organics indicates presumptive evidence of compound only used for TICs.

P = Greater than 25% difference between two GC columns.The lower value is reported.

Inorganic Data Qualifier Code Description

N = *Inorganics spiked sample recovery not within control limits.*

U = Compound or analyte was analyzed for, but not detected.

B = Analyte was analyzed, but results less than the CRDL.

* = Inorganics duplicate precision not within control limits.

TABLE 4
ANALYTICAL SAMPLES AND CORRESPONDING RINSE/TRIP BLANKS

Samples	Rinse Blank	Trip Blank
NSWC 23/00-001	NO	NO
NSWC 23/00-002	NO	NO
NSWC 23/00-003	NSWC 23/00RB12	NO
NSWC 23/00-004	NSWC 23/00RB12	NO
NSWC 23/00-005	NSWC 23/00RB14	NSWC 23/00TB13,14,15,16
NSWC 23/00-006	NSWC 23/00RB14	NSWC 23/00TB13,14,15,16
NSWC 23/00-007	NSWC 23/00RB14	NSWC 23/00TB13,14,15,16
NSWC 23/00-008	NSWC 23/00RB14	NSWC 23/00TB13,14,15,16
NSWC 23/00-009	NSWC 23/00RB14	NSWC 23/00TB13,14,15,16
NSWC 23/00-010	NSWC 23/00RB14	NSWC 23/00TB13,14,15,16
NSWC 23/00-011	NSWC 23/00RB14	NSWC 23/00TB13,14,15,16
NSWC 23/00-012	NSWC 23/00RB14	NSWC 23/00TB13,14,15,16
NSWC 23/00-013	NSWC 23/00RB14	NSWC 23/00TB13,14,15,16
NSWC 23/00-014	NSWC 23/00RB14	NSWC 23/00TB13,14,15,16

APPENDIX A

DRAWINGS

DRAWINGS

FIGURE A-1 Vicinity Map . . . . . 1 page
FIGURE A-2 Location of Solid Waste Management Units . . . . . 1 page
FIGURE A-3 SWMU 23/00 Battery Shop Location Map . . . . . 1 page
FIGURE A-4 SWMU 23/00 Battery Shop Debris Removal Area . . . . . 1 page
FIGURE A-5 BATTERY SHOP 23/00 . . . . . 2 pages

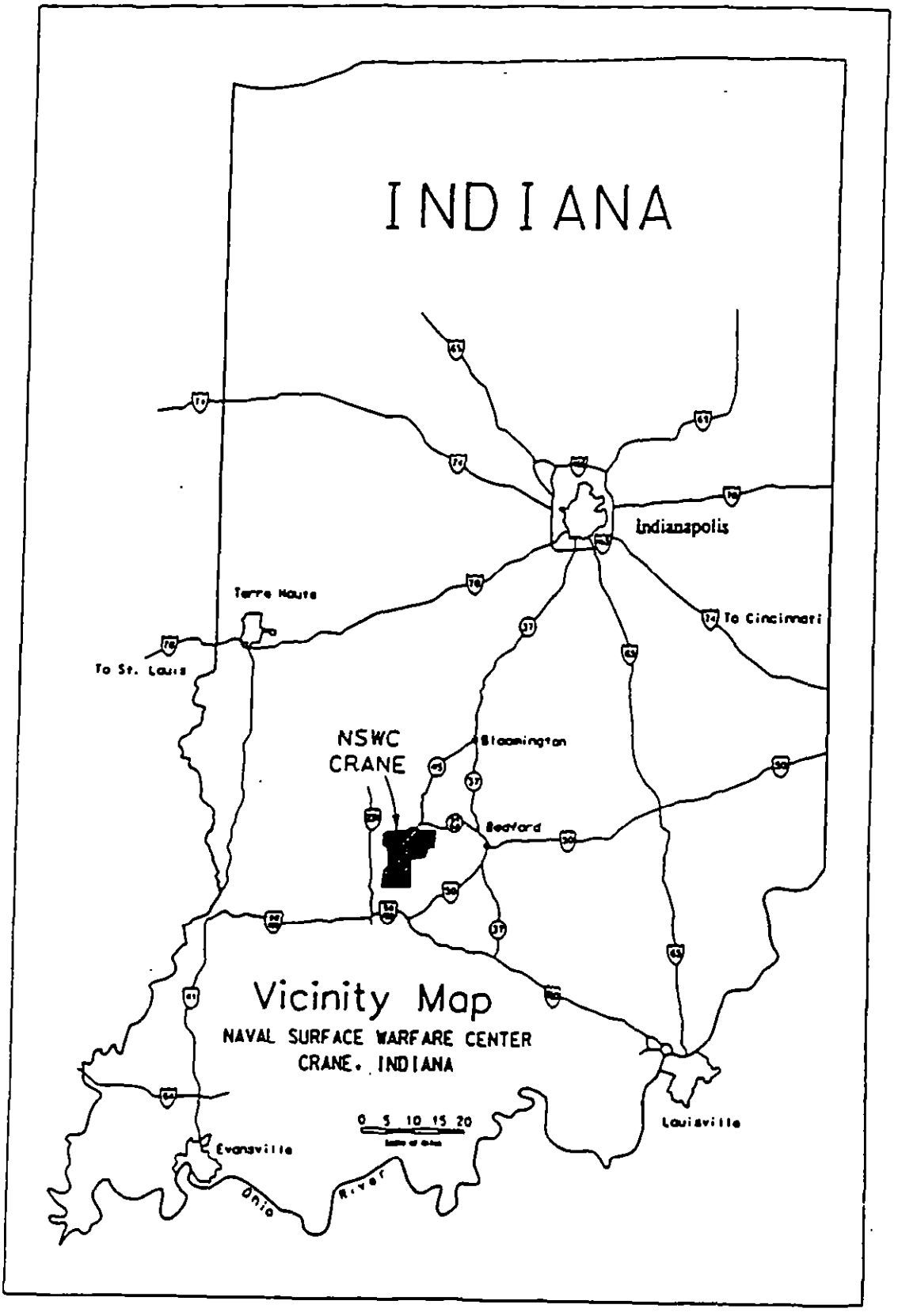
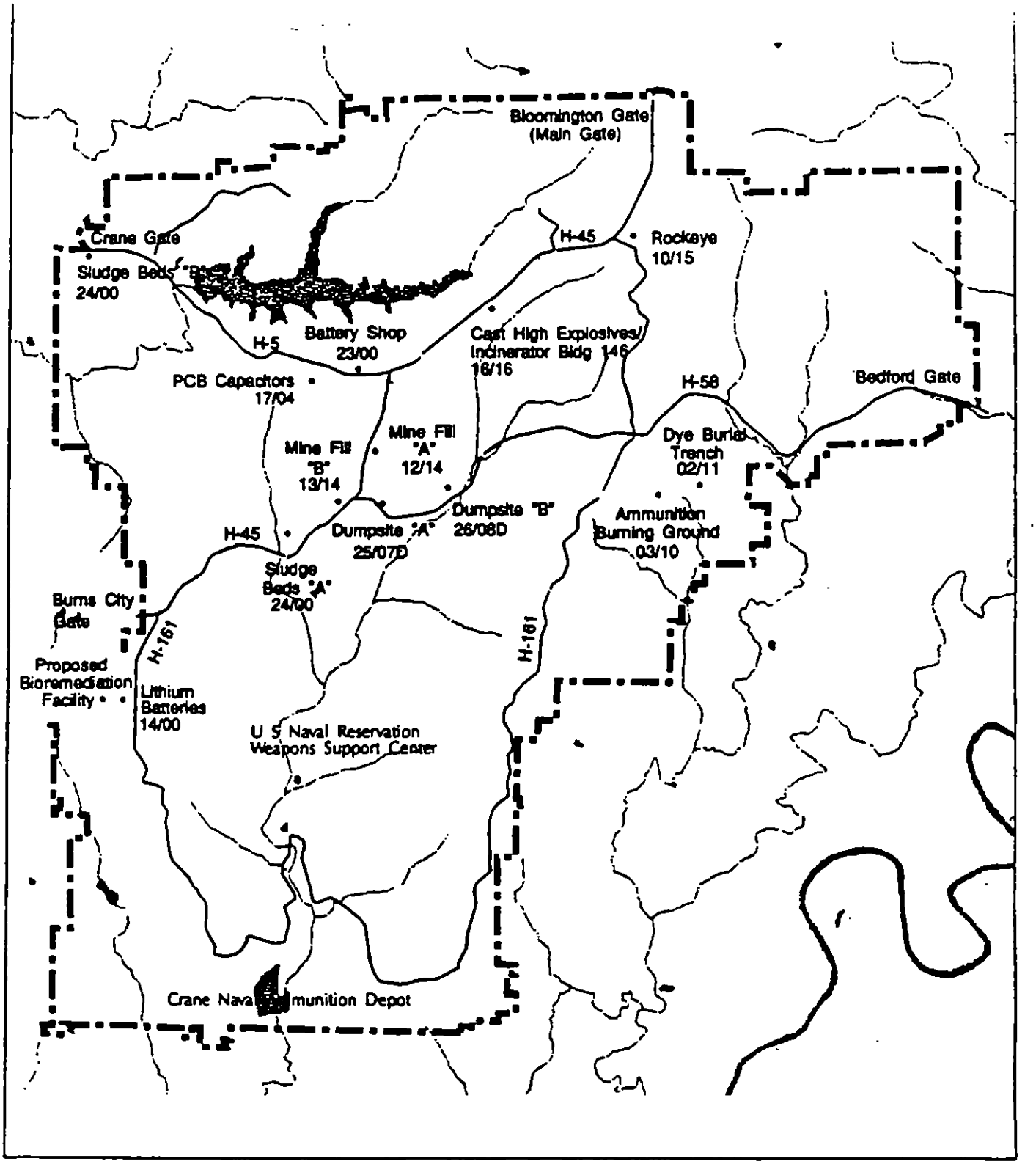


Figure A-1
Vicinity Map of NSWC Crane, Indiana



02/11	Dye Burial Ground
03/10	Ammunition Burning Ground Area
10/15	Rockeye
12/14	Mine Fill A
13/14	Mine Fill B
14/00	Sanitary Landfill and Lithium Batterey
16/16	Cast High Explosives Fill/Incineration complex
17/04	PCB Capacitor Burial/Pole Yard
23/00	Battery Shop
24/00	Sludge Drying Bed A
24/00	Sludge Drying Bed B
25/07D	Highway 58 Dump Site A
26/08D	Highway 58 Dump Site B

Figure A-2
Location of Solid Waste Management Units

MORRISON KNUDSEN CORPORATION
Engineering, Construction & Environmental Group

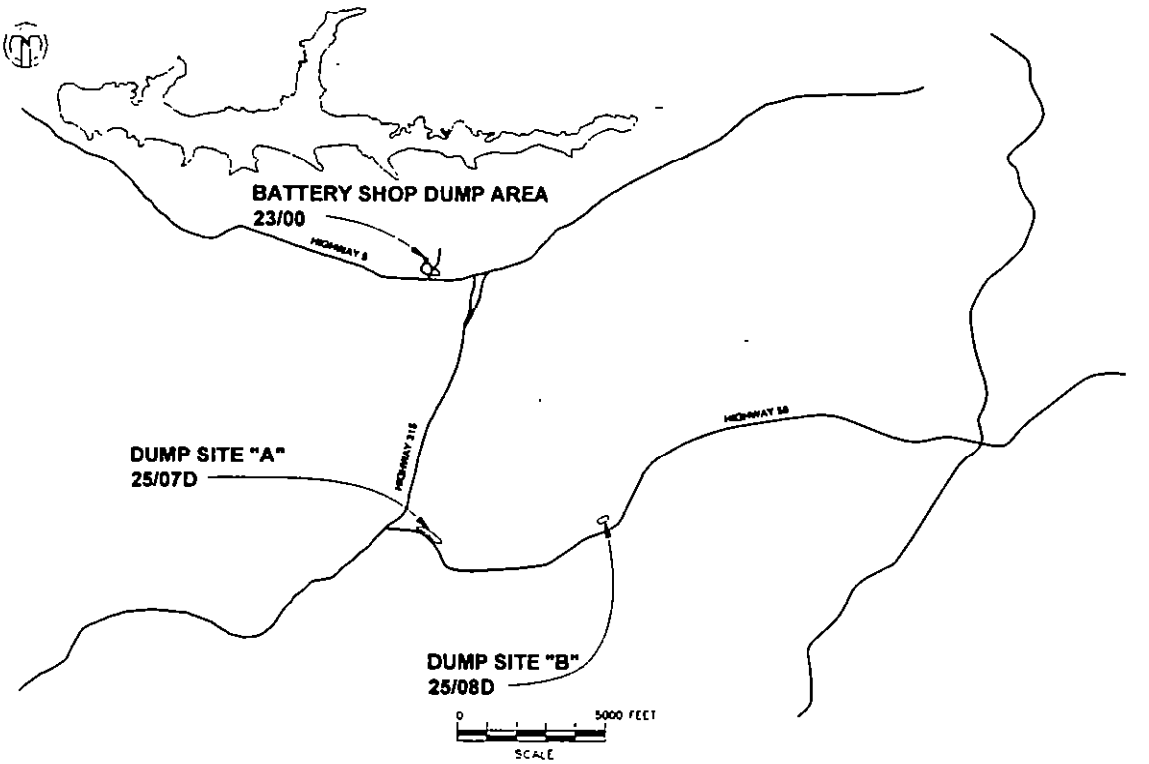


Figure A-3
SWMU #23/00 Battery Shop Location Map

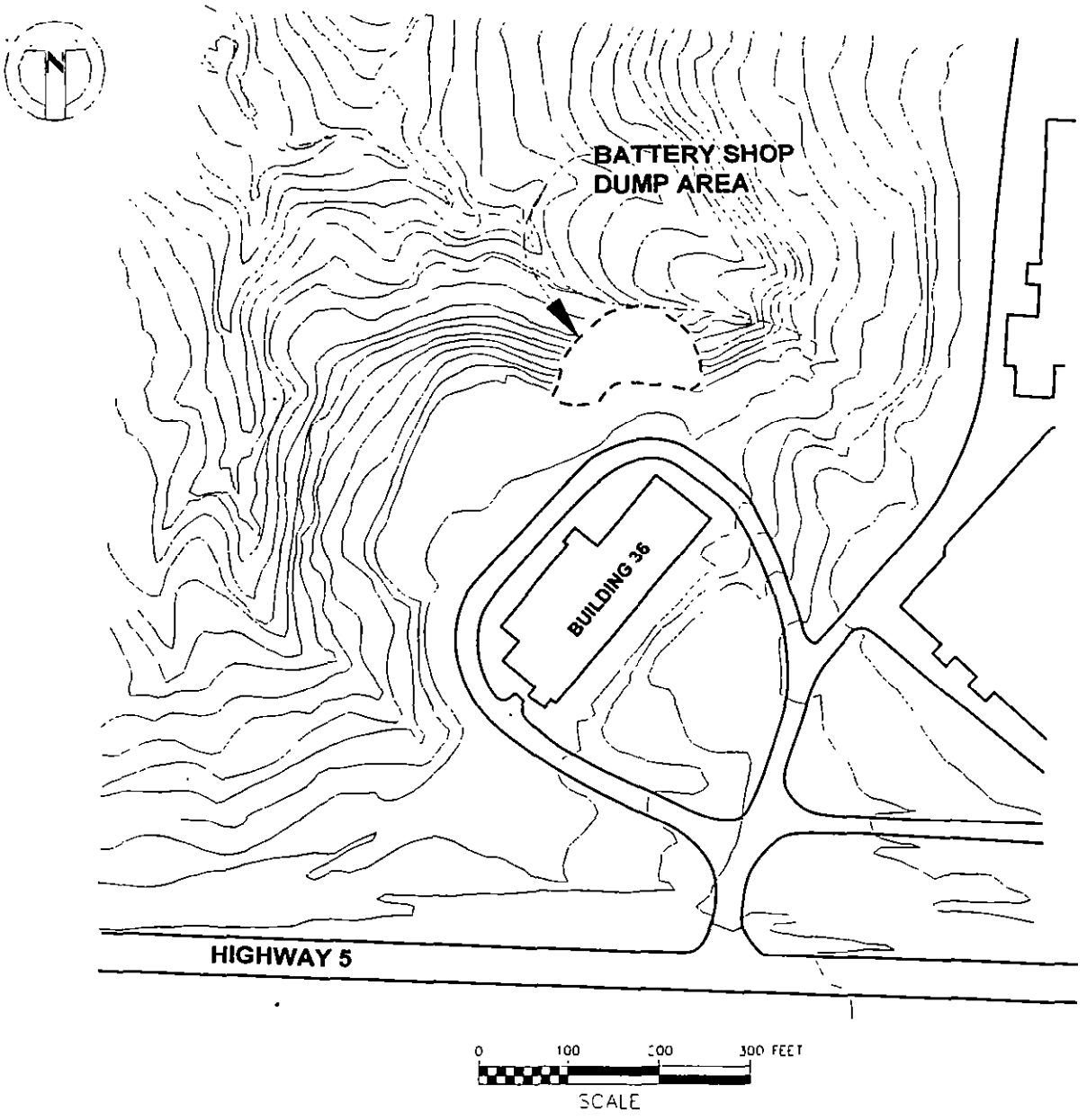
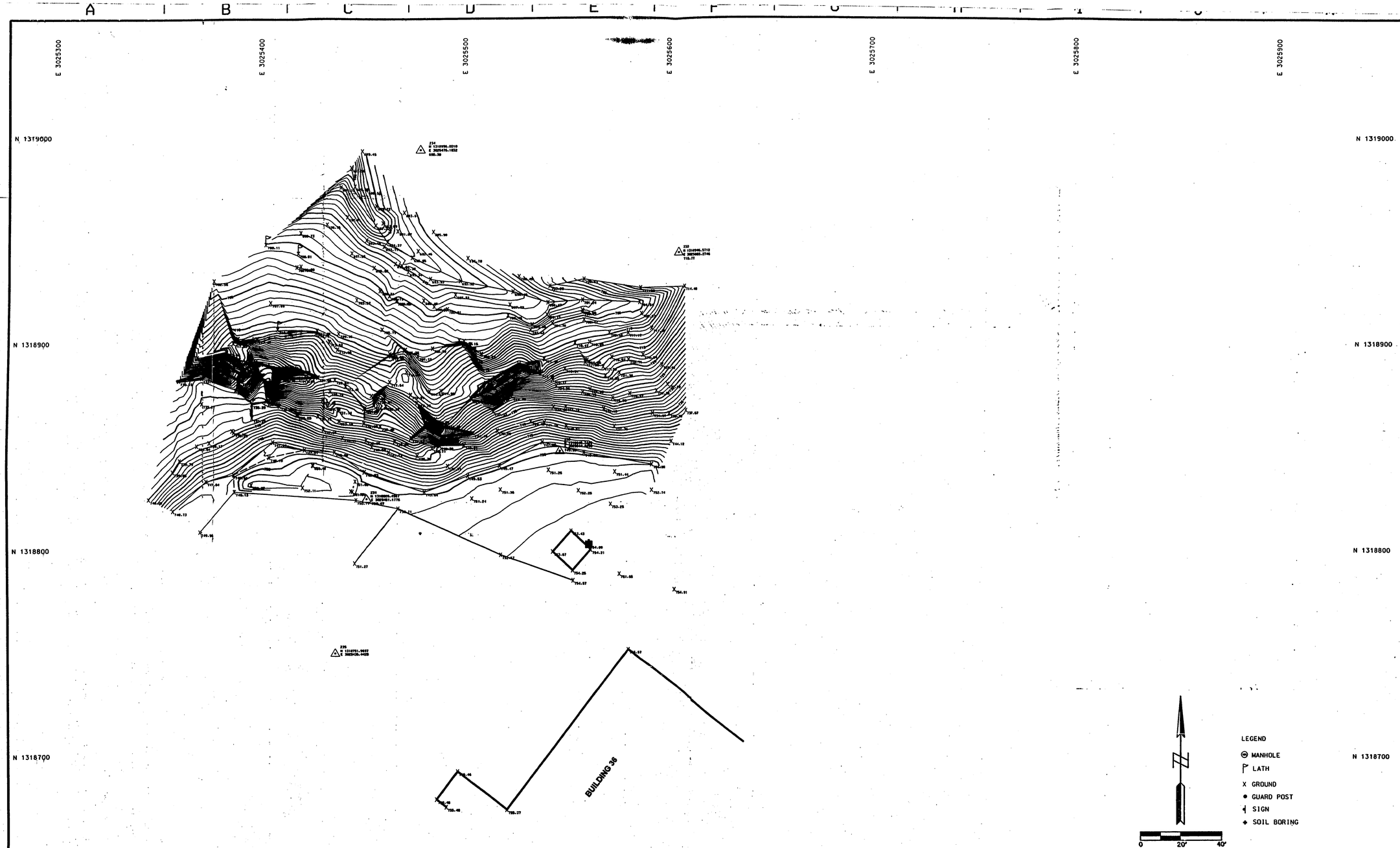
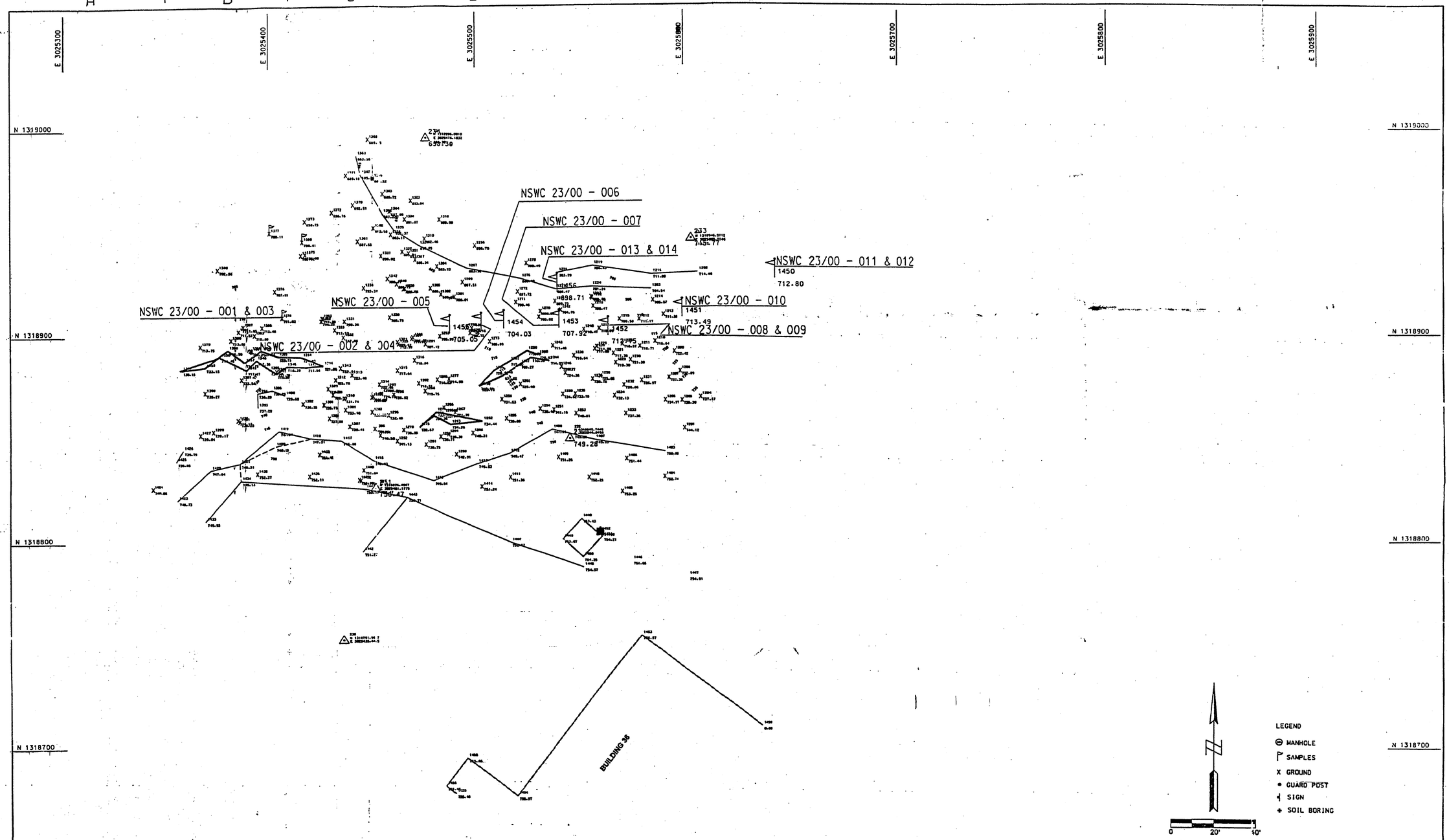


Figure A-4
SWMU #23/00 Battery Shop Debris Removal Area



REVISIONS AND DATES	DESIGNED BY:		MSE Surveying MSE CORPORATION 941 NORTH MERIDIAN STREET INDIANAPOLIS, IN 46204 1061 317 634-1000 317 634-3576 FAX	FIGURE A-5 **BATTERY SHOP** 23/00
	DRAWN BY: MDK			
	CHECKED BY: RLB			
	APPROVED BY: RLB	DATE: JUNE 6, 1995		SCALE: 1"=20' JOB No.: 121-2728 SHEET No.: 1 of 2



REVISIONS AND DATES	DESIGNED BY:	
3/2/96 ADDED SHOTS TAKEN FEB. 28. 96	DRAWN BY: MDK	
	CHECKED BY: RLB	
	APPROVED BY: RLB	DATE: JUNE 6, 1995

MSE Surveying
MSE CORPORATION
941 NORTH MERIDIAN STREET
INDIANAPOLIS, IN 46204 1061
317 634-8000
317 634-3576 FAX

FIGURE A-5
BATTERY SHOP
23/00

SCALE: 1"=20' JOB No.: 121-2728 SHEET No.: 2 of 2

APPENDIX B

REGULATORY FORMS/CORRESPONDENCE

REGULATORY FORMS/CORRESPONDENCE

Work Plan Documents ..... 52 pages
Daily Reports/Meeting Minutes ..... 45 pages
CIDs/Navy and EPA Correspondence ..... 26 pages

WORK PLAN DOCUMENTS

NAVAL SURFACE WARFARE CENTER
CRANE WORK PLAN

SOLID WASTE MANAGEMENT UNITS
#23/00, #25/07D, AND #26/08D

NSWC CRANE
CRANE, INDIANA

August 25, 1995
Revision B

CONTRACT N62467-93-D-1106
DELIVERY ORDER #0009
STATEMENT OF WORK #0007

Prepared by:

MORRISON KNUDSEN CORPORATION
2420 MALL DRIVE
CORPORATE SQUARE 1 - SUITE 211
NORTH CHARLESTON, SOUTH CAROLINA 92406

APPROVALS:

William Piispanen	26-Sep-95
MK Safety and Health Program Manager	Date
	26-Sep-95
MK Quality Program Manager	Date
	26 Sep 95
MK Sr. Project Manager	Date
	26 Sept 95
MK Program Manager	Date

ACCEPTANCE

	27 Sep 95
U.S. Navy Responsible Authority	Date

FACSIMILE TRANSMITTAL

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP

P.O. BOX 73
BOISE, IDAHO 83729

Date: 20 January 1995
Please Deliver the Following Pages to:

TO: Name: Adrienne P. Townsel Wilson

Company: Naval Facilities Engineering Command
Phone: 803-743-0582 Fax No.: 803-743-0465

FROM: Name: Tom Payne TPayne

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP

Phone: 216-523-5010 Fax No.: 216-523-5201

Total Number of Pages 3 (Including this cover sheet)

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

Name: Tom Payne
Phone: 216-523-5010

Remarks: Attached is a list of questions that need to be answered in regards to document preparation, mobilization to site, and performance of work.

We are sending out the first group of plans, to Charleston, today, Friday 20 January 1995. The plans to be submitted for review includes the work plans for SWMU's 14/00 and 17/04, the project QAP, project QCP, project SAP, and other general documents. We anticipate delivery of the second work plan for SWMU's 23/00, 25/07D, and 26/08D and the Waste Management Plan being submitted Friday 27 January 1995.

We are beginning to prepare a detailed milestone schedule and subcontract packages with a target of mobilizing contractors to site during the first half of March. This requires that we have in place three contracts; An excavation contractor to excavate, package, and dispose of contaminated equipment and soils; an analytical lab contract; and a surveying contract.

If you need any further information, please give me a call.

10.018.F
10.302.F
10.303.F
~~11.020.F~~

Questions:

1. What are the requirements for personnel to enter NSWC? I would assume that passes and badges are required and that the personnel must be citizens at a minimum.

2. What are the qualifications and requirements for land surveyors? Do we need to require a that the surveyor be licensed in the State of Indiana?

3. What coordinate system is to be utilized for surveying? Generally the State Plane Coordinate system is used, but some military installations have their own grid system.

4. What topographical maps of the NSWC site and each work area are available and can we obtain copies of them? We need to obtain topographical maps of the work areas at a reasonable scale. For the total site a 1:24,000 standard USGS maps would be fine. For each of the work areas a map at a scale of between 1:100 and 1:1000 would be desirable.

5. What are the compaction requirements generally set for work at NSWC? We require a general specification, that is both reasonable and enforceable, to invoke when there are no design specification for fill and backfill. I would expect that the requirements might be 80-85% in unimproved areas, 90% in improved areas near structures, and 95% under roads, parking lots, and structures. Also, need to know if percentages are to be based on Standard or Modified Proctor and what moisture content requirements are imposed.

6. What are the procedures for obtaining utility services? Utilities will be required to service both office facilities and the Bio-remediation facility. Who do we contact to locate the nearest point of access, who performs the tie-ins to the existing utility, which utilities will be metered, and who will inspect each installation. We also need to know the billing rate for each service if we are to expect the contractor to include the cost in their bid, this includes the basic monthly service fee and the unit cost for each (gas, water, sewer, and electricity). We also need to know what are the timeframes involved in obtaining services.

7. Are there truck fill stations available for filling water trucks for dust control? If so where are they located, who is the contact, and what is the procedure for accessing the water. If there are no fill stations can we access fire hydrants ? If we access fire hydrants do we need to install backflow preventers?

8. What are the requirements for obtaining telephone service at NSWC? Contact, leadtime, installation costs, monthly service fee, and long distance rates.

9. What are the requirements for using two way radios on site? Contact, frequency restrictions, frequencies available for use, emergency frequencies, and areas of restricted use.

10. What are the rules for cellular telephones? Can they be used and what if any restrictions are imposed?

11. What are the restrictions and requirements for cameras and tape recorders brought on site?

12. What, if any, emergency signals are used on site to signal personnel in the event of natural or man made disaster? Types of signals and the meaning of each.

13. When will the design for the RCRA Cap be delivered to MK?

14. What is the schedule status in regards to the finalization of the bio mix design?

15. What holiday schedule is observed by the personnel at NSWC, and what procedures do we need to follow in order to work on a holiday that we do not normally observe? We normally get 9 holidays per year whereas there are 12 or 13 federally observed holidays.

Sorry this took so long to get this to you. I tried to send it to you right after we talked, only to discover that communication lines are not yet well defined or that I don't understand all that I know about them.

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

RECEIVED
MAY 10 1995
MK-CRANE

OIC
4330
09 May 95

MEMORANDUM

From: Brent Robertson; ROICC Crane, IN
To: Adrienne Wilson; SDIV Code 18

Subj: RAC CONTRACT N62467-93-D-1106

1. The following are my comments on the subject contracts Work Plan for SWMU's 23/00, 25/07D and 26/08D submitted by Morrison Knudson dated 30 Mar 95.

1. More detail is needed on actual layout of area. Need plans showing Exclusion zone, contamination reduction zones, support zones, equipment storage, stockpile locations, drum storage, traffic flows etc. This is important so that Government owned material can be relocated away from areas, building supervisors can be coordinated with, and we are sure we have enough space available to do the work.

2. The intent of this work is to remove debris, not contaminated soil, the plan should reflect this. Items removed should have the dirt, unless it is obvious that it is highly contaminated, scraped from it and left in place. The idea here is basically to pick up the exposed trash and make assessments of the condition of the soils.

Sincerely,

Brent Robertson
By Direction

NSWC - CRANE			
4324-0009			
PROJECT MEMBER	ACT	INFO	INIT
PROJECT MANAGER		✓	
PROJECT ENGINEER	X		
GNL SUPT			
SAFETY AND HEALTH			
OA/QC SUPERVISOR			
PROJECT CONTROLS			
FIELD ENGINEERING			
PMO-CHARLESTON			
FILE 10.304.F			
FILE:			
FILE:			

Copy To:
P. Blanchard
MK Crane

DEPARTMENT OF THE NAVY
SOUTH NAVFAVENGCOM Environmental
Code 1864
P. O. Box 190010
N. Charleston, SC 29419-9010

RECEIVED
MAY 19 1995
MK-CRANE

FAX COVER SHEET

DATE:	May 19, 1995	TIME:	2:28 PM
TO:	Tom Payne M-K	PHONE: FAX:	812-854-6941 812-854-6944
FROM:	Adrienne P. Townsel Wilson South Div	PHONE: FAX:	803-743-0582 803-743-0465
RE:	Comments to Internal Draft Work Plan for SWMUs 23, 25, 26 Comments to Internal Draft Work Olan		
CC:	file		

Number of pages including cover sheet: 10

Message

Tom,

Please prepare responses to these comments and submit to Navy.

Also included are 09Ks comments to Int. Dft SSHPfor SWMUs: 16 &24, 3 Ground water remediation , and 03, 10, 12, 13 soils bioremediation.

NSWC - CRANE 4324-0009			
PROJECT MEMBER	ACT	INFO	INIT
PROJECT MANAGER			
PROJECT ENGINEER	X		
GNL SUPT			
SAFETY AND HEALTH		X	
CA/CC SUPERVISOR			
PROJECT CONTROLS			
FIELD ENGINEERING			
PMO-CHARLESTON			
RF		X	
FILE: 10.304.F			
FILE: 10.305.F			

HAVE COPY

10.306.F
10.307.F

DEPARTMENT OF THE NAVY
CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
300 HIGHWAY 361
CRANE, INDIANA 47522-5001

IN REPLY REFER TO
5090
Ser 095/U5118
8 MAY 1995

From: Commander, Crane Division, Naval Surface Warfare Center
To: Commanding Officer, Southern Division, Naval Facilities Engineering Command (Code 1864)

Subj: **REVIEW COMMENTS ON WORK PLANS**

Encl: (1) Comments on Internal Draft Work Plan for SWMUs 23/00, 25/07D, and 26/08D

1. Crane Division, Naval Surface Warfare Center (NAVSURFWARCENDIV Crane) submits comments on the Morrison Knudsen Corporation's Work Plan and Task-Specific Site Safety and Health Plan SWMUs #23/00, #25/07D, and #26/08D as enclosure (1). NAVSURFWARCENDIV Crane reviewed this workplan as an internal draft and has not forwarded it to the U.S. EPA. The revised report will be submitted to the U.S. EPA pending response to the comments.

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

L. A. LAWS
By direction

Copy to:
OICC

INTERNAL DRAFT INTERIM MEASURES WORKPLAN SWMUS #23/00, 25/07D, AND #26/08D

GENERAL: Clarify that soils sampled for disposal include only soils incidentally removed while removing debris. It is not the intent of this project to excavate all contaminated soils. Soils left in place after debris removal will be sampled to determine the presence of contamination.

GENERAL: Include background samples when sampling to characterize soils.

1. p.1 §1.0 ¶3

Delete references to the samples collected from the stream in 1989. This information is not pertinent to the debris removal and is better addressed in future RFI Phase I reports on the site.

2. p.7 §2.0

An RFI is a RCRA Facility Investigation.

3. p.8 next to last ¶

Typographical error: "solids wastes"

4. p.9 §2.2.2 ¶2

Soils should be sampled in advance of the work to determine whether or not stockpiling of the soils would create a waste pile.

5. p.14 §4.1.2 Last sentence

Should this be 50 cubic yards of contaminated debris, instead of soil?

6. p.15, §4.1.4 ¶2 (see also p.19 §4.2.4 and p.22 §4.3.4)

a. "Debris encountered during soil removal..." Again, the prime objective is debris removal, not soil removal.

b. MK should plan to dispose of non-hazardous debris off-site, in the event NSWC Crane decides the volume of material is too large to dispose in the NSWC Crane landfill.

DESIGN COORDINATION AND REVIEW - COMMENTS
SOUTHNAVFACENGCOM 11012-24 (8/78)

JOB ORDER NUMBER: 93-D-1106

COMMENTS BY: John Knox | CODE: 09K | PHONE: 0984 | DATE: 15 May 95

PROJECT TITLE AND LOCATION: SSHP Solid waste mgt units #23100, #25070 & #26080 NSWC Crane Indiana DO #9 SOW #7

TYPE OF REVIEW: 30% / 100% / FINAL / OTHER

DWG. NO. OR PAR. NO.	COMMENTS (Make general comments after specific comment(s))	REVIEW ACTION (& reasons where significant)
Table 3 Fig 3	- The Table was folded and reproduced improperly - ensure the on-site copy is correct.	
11.§ 129	- the medical facilities need to be contacted to ensure they have the capabilities to treat personnel exposed to these contaminates. If they do not have these capabilities, then the SSHP must be revised to reflect this situation.	
AHA	· Activity Hazard Analysis does not address fall protection to enable safe egress & access to the sloped work areas. The sloped work surface may create a situation requiring life lines etc. This needs to be evaluated.	

JEP x0966

Pg 25 para 5
1) What are the definable features of work?

2) You may want a preparatory phase at each site

3) Please call. John Parker @ 803-743-0966

SHEET 1 OF 1 SHEETS

DOCUMENT REVIEW COMMENTS

Comments by: Adrienne Townsel Wilson Code 1864 803-743-0582

Contract No. N62467-93-D-1106
Project Title and Location:
DRAFT Work Plan for Interim Measures Cleanup at SWMUs 23, 25, 26 - NAVAL SURFACE WARFARE CENTER, CRANE,IN

1. Sec. 1.1, These projects are to remove the debris, not the soil. Any fortuitous soil coming up with the objects may be removed and left at the site. *If it is more practicabler to stock pile these incidental soils please* refer to them as such in the work plan.

2. Sec. 4.1.5, Change first paragraph as follows:

"After the surface debris has been removed, the area will be sampled (as described in section4.1.6) for contamination. *Soil which is excavated from around the debris remain at the site.* The majority of excavation will be by hand..."

3. *Top of pg 16, Sec 4.1.5, How will solar evaporation pond be formed?*

4. Sec. 4.1.6, paragraph 1, sentence 1," The purpose of soil sampling at the Battery Shop *at the completion of the debris removal* is to determine..."

5. Sec 4.1.6, para.2, third line from the bottom, delete the word "Investigative" at beginning of sentence.

6. Sec. 4.1.6, last paragraph pg 16 .Add reference to Sec 4.1.7.

7. Pg 17, Sec 4.1.6, add-"*From this soil* samples will be ..."

8. Where will the temporary storage unit be located? Reference the WMP Sec. 2.1.

9. Sec 4.2.5 , Pg 19, and pg 22 Sec. 4.3.5, Change second sentence to read "Soil which is excavated from around debris will be palced in abermed storage area and covered with plastic sheeting to control water run-on and run-off. " Delete third sentence.

10. Sec. 4.3.4, para 2 , Delete third sentence. (Debris encountered...)
11. Please provide more accurate projections and more legible schedules.

SSHP

12. Include map of base indicating pertinent SWMUs and appropriate gates and roads to get to the various medical facilities.

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION
& ENVIRONMENTAL GROUP

P O. BOX 408
CRANE VILLAGE, IN 47522
PHONE. (812) 854-6941
FAX: (812)854-6944

20 Jun 95 4324-0009-125

Adrienne Townsel-Wilson
Department of the Navy
Southern Division, Naval Facilities Engineering Command
Post Office Box 190010
North Charleston, SC 29419-9010

Subject: Comment Resolutions for SWMU's 23, 25, & 26
D.O. #0009, S.O.W. #007
Contract No. N62467-93-0-1106

Dear Adrienne:

I previously sent you the proposed resolutions to the comments received for the Work Plan and Site Safety & Health Plan for the subject SWMU's. Per your request we are awaiting your comments prior to incorporating the changes into the documents. We request that you provide us with direction at your earliest possible convenience, so that we may resubmit the plans for approval and complete the preparation of the subcontract package.

If I may be of further assistance, please call me.

Very truly yours,
Morrison Knudsen Corporation

Thomas W. Payne

TWP/jlw

File: 10.304.F
11.021.
12.082.05.F

cc: Brent Robertson
Tom Brent
Scott Newman
Bob Hlavecek
Don Miller

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION
& ENVIRONMENTAL GROUP

P.O. BOX 408
CRANE VILLAGE, IN 47522
PHONE: (812) 854-6941
FAX: (812)854-6944

19 Sep 95

4324-0009-146

Adrienne Townsel-Wilson
Department of the Navy
Southern Division, Naval Facilities Engineering Command
2155 Eagle Drive
P.O. Box 190010
North Charleston, South Carolina 29419-9010

Subject: EPA Comments on the Work Plans and General Project Plans
D.O. #0009, S.O.W. #007
Contract No. N62467-93-0-1106

Dear Adrienne:

Attached are details of what was done to incorporate the EPA's comments into the plans for Crane.

Comments on SWMU's #14/00 and #17/04 will be addressed by the intermin measures reports being prepared at the present time.

Comments on SWMU's #1616, #24/00, #23/00, #25/07, and #26/08, have been incorporated into revision "B" along with the comments, and have been resubmitted for approval.

Comments on the SWMU's #02/11 (Dye Burial Ground) and the SWMU's related to the Biofacility are being rolled in with the Navy's comments and will be submitted in the near future. I will advise of dates by the end of this week.

The most problematic issue at present is the reformatting of the Quality Assurance Plan. The major issue being the receipt of the desired format from the EPA.

Very truly yours,
Morrison Knudsen Corporation

Thomas W. Payne
Project Manager

TWP:jlw

File: 11.021.F
10.301.F
10.303.F

cc: Brent Robertson
Tom Brent ✓
Scott Newman

RESPONSE TO COMMENTS
PROVIDED IN DOCUMENT ENTITLED
"ATTACHMENT I:
MODIFICATIONS TO THE SITE-SPECIFIC WORK PLAN
AND THE GENERAL PROJECT PLAN FOR
SWMU's 14/00 AND 17/04
NAVAL SURFACE WARFARE CENTER"

NOTE: The following comments have been responded to simultaneously with commencement of work at the two sites. Therefore, the Work Plan for SWMU's 14/00 & 17/04 will not be revised and reissued. Responses to comments will be addressed in the Draft Interim Measures Report documenting all decisions and changes to the work plans.

Commenter: Carol Witt-Smith, USEPA Region 5

A: Site-Specific Work Plan

1. Excavation Sampling

Comment a:

A minimum of three discrete samples (evenly distributed) shall be taken from the bottom of the excavation, regardless of the size of the excavation.

Response:

Only two samples were able to be taken at SWMU 14/00 as the base of the excavation was bedrock. The capacitors at SWMU 17/04 were never located, and excavation was discontinued. The Draft Interim Measures Report will document these findings.

Comment b:

Sample quantity at the bottom of the excavation shall be based on grid sampling. The size of the grid will be based on the excavation size. No greater than a 50 foot square grid shall be used, without consultation with the Agency.

Response:

See response to comment A.1.a

Comment c:

No Compositing of excavation samples within the pit shall be taken. All samples shall be discrete.

Response:

Normally compositing would not be performed, however, due to the base of the excavation being bedrock, samples were composited. The Draft Interim Measures Report will document there decisions.

Comment d:

Sidewall sampling shall be based on the size of the excavation. (examples if the length of the hole is 80 linear feet, sidewalls samples shall be taken every 20 linear feet).

Response:

Agreed, sidewall samples were taken every 20 feet (maximum) on a 100 foot circumference. The Draft Interim Measures Report will document the quality and location of the samples obtained.

Comment e:

The Interim Measures Report shall justify all field decisions on the exact sampling grid used and the location of samples (in three dimensions, i.e., on the sidewalls and on the base of the excavation).

Response:

Agreed, the Interim Measures Report shall justify all field decisions on the exact sampling grid used and the location of samples.

Comment f:

Samples shall be taken at any visible staining.

Response:

Agreed, the Interim Measures Report will document observations and field decisions on the samples being obtained.

2. Background Sampling

Comment a:

The Interim Measures Report shall document all background locations.

Response:

Agreed, the Interim Measures Report shall document all background sample locations.

Comment b:

Background samples must be taken within the same geologic unit in comparison to where the samples are taken within the excavation.

Response:

Agreed, the background samples will be taken in the same geologic unit and will be documented in the Interim Measures Report.

3. **Integrity of the Batteries and Capacitors**

Comment a:

The Permittee shall take all precautions necessary to ensure safety of the workers at the site, and in nearby buildings. In the case that the batteries or capacitors are not in good condition and are leaking, etc.

Response:

Agreed, precautions were taken and monitoring devices used. The Draft Interim Measures Report will document actual findings. The capacitors were not located and excavation was halted.

Comment b:

The contractor shall be prepared for the possibility of accidental damage to the casings while removing the material.

Response:

Agreed, however the casings were already deteriorated and not intact. The Draft Interim Measures Report will document these findings.

Comment c:

In the capacitor area, workers should be informed that a PID or FID is not for use as an indicator of PCB concentration in air. The ionization potential of PCB is too high for detection by a PID, and the chlorinated fluid may reduce the sensitivity of a FID.

Response:

Agreed, however the capacitors were never found and excavation ceased.

4. Excavated Soil Handling

Comment a:

Only soil from above the batteries or capacitors that is probably not impacted by the wastes, may be placed in soil piles.

Response:

Agreed, Draft Interim Measures Report will document any decisions and changes from the Work Plan.

Comment b:

Soil piles must be lined with plastic under them.

Response:

Agreed, Draft Interim Measures Report will document any decisions and changes from the Work Plan.

Comment c:

Any soil potentially in contact with the wastes or leaking materials must be placed in roll-off boxes or other containers. No soil piles may be used. The reason for this is that the materials removed are being handled as hazardous wastes. If there are any residues from the wastes, the soil is also hazardous. Creating "waste piles" would be

a violation of land ban requirements of 40 CFR Part 268. Therefore, all materials should be handled in containers for less than 90 days at the excavation area.

Response:

Agreed, however the contaminated soil (in the form of sludge) was excavated and loaded directly into lined vehicles for transport to the disposal facility, therefore, no soil piles were used.

5. **Water within the Excavation Area**

The draft Interim Measures Report must document all handling procedures for any water accumulated in the excavation. Any disposal of the water in the on-site wastewater treatment plant (WWTP) must be handled in accordance with the NPDES permit for that unit. No water that may contain hazardous wastes may be sent to the WWTP.

Response:

Agreed, the Draft Interim Measures Report will document handling procedures for any water accumulated in the excavation.

6. **Handling of the capacitors and batteries**

When the capacitors and the batteries are removed, they must be managed in a contained area (i.e., diked area).

Response:

Agreed, when the capacitors and the batteries are removed, they must be managed in a contained area (i.e., diked area) and documented in the Interim Measures Report.

7. **Disposal of the Batteries**

All the lithium batteries shall be sent to the on-site demolition range for treatment/disposal. The Demolition range is authorized under Interim Status to accept this waste type and capacity.

Response:

Agreed, the remaining portions of lithium battery casings were transported to the on-site

demolition range for treatment/disposal.

8. **PCB Field Screening**

The draft Interim Measures Report shall document all field decisions on the griding and sample locations for testing soil with PCB field screening test kits.

Response:

Agreed, the Draft Interim Measures Report shall document all field decisions on the griding and sample locations for testing soil with PCB field screening test kits.

B. **General Project Plan**

1. Quality Control Plan

Comment a:

Vertical Confirmation samples should be taken at an interval of two feet.

Response:

Agreed, The verification of vertical extent of contamination has been revised to "two feet beneath the base..." under the frequency heading of the Testing Plan and Log Sheets pages QCP-27 through QCP-33.

Comment b:

The Interim Measures Report must describe how background was established.

Response:

Agreed, the Interim Measures Reports will document how background levels were established for each SWMU.

2. Quality Assurance Project Plan

Comment a:

For SWMU's 14/00 and 17/04 the QAPP shall be considered acceptable in order to expedite the removal.

Response:

Understood

Comment b:

In Table 4 of the Sampling and Analysis Plan, reference to Method 624/8280, should be changed to 624/8260

Response:

Agreed, table 4 of the SAP will be revised from 624/8280 to 624/8260.

RESPONSE TO COMMENTS

DRAFT GENERAL PROJECT PLANS, NSWC CRANE
PROVIDED IN DOCUMENT ENTITLED
"ATTACHMENT II: COMMENTS ON THE GENERAL PROJECT PLAN
FOR INTERIM MEASURES
NAVAL SURFACE WARFARE CENTER"

Commenter: Carol Witt-Smith, USEPA Region 5

A. Section 1, Quality Control Plan

1. (General)

Comment:

Vertical Confirmation samples should be taken at an interval of two feet.

Response:

Confirmatory soil samples taken from the base of excavations will be collected from two feet beneath ground surface. The Quality Control Plan (QCP) Testing Plan Log sheets have been revised (QCP-27 through QCP-33).

2. Definable Features of Work

Comment a:

Delete all reference to the ground water treatment system for SWMU 02/11, since that project needs further evaluation on whether it is feasible or not.

Response:

As indicated in comments under the Quality Assurance Project Plan, references to the ground water treatment system will be deleted for the Ammunition Burning Ground (SWMU 03/10).

Comment b:

Delete all references to PCB issues for SWMU 13/14. The PCB issues are not being addressed in the Interim Measures.

Response:
References to PCBs will be deleted from discussion of SWMU 13/14, Mine Fill B.

Comment c:

For SWMU 14/00, the batteries will be disposed of on-site at the Demolition Range.

Response:

Lithium batteries which are unearthed will be disposed of on-site at the Demolition Range. Text in section 2.6 will be revised to reflect this comment.

Comment d:

For SWMU 24/00, decontamination water shall go to the WWTP.

Response:

Decontamination water generated during activities at SWMU 24/00 (Sludge Drying Beds) will be transported or pumped to the WWTP as described in section 2.10.

Comment e:

For SWMUs 25/07D and 26/08D, the intent of the Interim Measure is surficial debris

removal. Please clarify this.

Response:

Surficial debris will be removed from these sites (Dumpsites A and B). Soil will be "shaken" from the excavated debris to minimize the amount of soil removed. The text in section 2.11 and 2.12 will be revised to clarify this issue.

Comment f:

We recommend using the 1993 version of the Model QAPP for the bioremediation issues.

Response:

The QAPP will be reformatted to fit the Model QAPP guidelines, prior to EPA approval and start-up of work at the Bioremediation facility and the Dye Burial Ground Cap.
The existing QAPP will be used for the SWMU's 14/00, 17/04, 16/16, 23/00, 24/00, 25/07D and 26/08D.

3. (General)

Comment:

Submit a copy of the analytical lab's QAP to the Agency.

Response:

American Environmental Laboratories, Inc. has been chosen to provide analytical services. A copy of their QAP will be submitted to the U.S. EPA.

4. Support Organizations

Comment:

Naval Surface Warfare Center shall supply the work concerning disposal of the lithium batteries.

Response:

Lithium batteries unearthed from the SWMU 14/00 will be disposed on-site at the Demolition Range. The Project Manager will coordinate with Base personnel to have the batteries transported and demolished.

5. Table 4-1

Comment a:

Clarify the order of the backfilling and sampling for the units addressed by the compositing.

Response:

Soil to be treated at the bioremediation facility will be excavated from SWMU 03/10 (Ammunition Burning Ground), 10/15 (Rockeye), 12/14 (Mine Fill A) and 13/14 (Mine Fill B). Excavated soils will be combined with an amendment mix. The Amendment-Soil mix will be placed into windrows (for compositing). The windrows will be sampled at least twice: once, at the beginning of the treatment process and again at the end of the treatment process (confirmation sampling). Samples will be analyzed for explosives for both events. Field screening of the windrows for explosives will serve as an indicator of when bioremediation is complete (when levels of explosives are below those in Table 6 of the SAP).

The excavated areas will be backfilled with either approved clean, borrow source common backfill or with treated compost, depending on the backfill requirements (i.e. compaction testing). If treated compost is not used as backfill in the excavations, it may be placed in an alternate excavation or mixed with topsoil for revegetation, as directed by the Agencies and the NAVY The sampling methodologies are described in more detail in the respective Work Plan which is still under development.

Comment b:

Delete references to PCB at Mine Fill B.

Response:

References to PCBs at Mine Fill B will be deleted in section 2.5.

Comment c:

The lithium batteries shall be disposed on-site.

Response:

The text will be revised to state that the batteries will be disposed on-site at the Demolition Area in section 2.6 and table 4-1.

Comment d:

The governing standard for the Construction Quality Assurance (CQA) of the Dye Burial Grounds CAP shall be the most recent CPA documents (1993 and 1994 versions). These documents include the following:

1. Quality Assurance and Quality Control for Waste Containment Facilities, EPA/600/R-93/182 September, 1993
2. Seminars; Construction Quality Assurance/Construction Quality Control (CQA/CQC) for Waste Containment Facilities, Hydrologic Evaluation of Landfill Performance (HELP) model, EPA/625/K-94/001, May 1994
3. Technical Guidance Document; The Fabrication of Polyethylene, FML Field Seams;- EPA/530/SW-09/069, September 1990, and
4. Seminar Publication: Design and Construction of RCRA/CERCLA Final Covers. EPA/625/4-91/025, May 1991

Response:

Documents 1 and 4 will be obtained from ORD. Document 3 will be ordered from NTIS. Document 2 is not available from ORD or NTIS (distributed at seminars only).

These three documents (1,3 & 4), will be distributed to the site. Field personnel overseeing the design and installation of the cap at the Dye Burial Ground will familiarize themselves with the documents. These documents will also be referenced in the QCP, Table 4-1, with special emphasis on documentation procedures. The overall purpose of the CQC documents is to assure all aspects of design and installation are properly justified and documented to the EPA's and the Navy's satisfaction.

6. **Testing Plan Log**

Comment a:

Reference the site-specific Work Plan for the Dye Burial Ground standards.

Response:

The Army Corps Work Plan previously reviewed by EPA is referenced as the "WES Specifications" on pages QCP-25.

Comment b:

Delete the piping references for the Ammunition Burning Grounds.

Response:

References to the water treatment facility and piping will be deleted.

Comment c:

Justify all the grid spacings, and reference them on maps or the site-specific plans. The grid spacing seems too large.

Response:

The procedure for determining grid spacing is included in the site-specific Work Plans. Grid spacing is based on the procedures provided in the reference document, "Hazardous Waste Management Unit Closure Guidance," produced by the Indiana Department of Environmental Management (1994). The grid spacing will be overlayed on the Work Zone Maps which are developed by the subcontractor prior to start of work.

Comment d:

Which explosive field screening test kits are being proposed?

Response:

The explosive test kits proposed are for TNT/RDX. The kits are produced by DTECH and include individual tests for TNT and RDX. See Sampling and Analyses Plan for complete description.

Comment e:

Make sure existing delineation data is being utilized to judge area grid sizes.

Response:

Existing data has been used, as much as possible, to estimate the excavation area sizes and boundaries. The references and estimated areas are provided in the text and figures in the site-specific Work Plans.

Comment f:

Clarify the changes in the sampling quantities for SWMU 14/00 and 17/04.

Response:

The text in the QCP will be revised to incorporate the modifications EPA requested in Attachment 1, Section A, Part A. Sampling in the excavation will be based on a grid. Grid size will be based on excavation size. The base of the excavation will be subdivided into grids no larger than 50-feet by 50-feet in area. If the excavation area is small, no fewer than three samples will be collected. Sidewall sampling will be based on the size of the excavation. Samples will be collected every 20 lineal feet. If the wall is less than 20 feet in length, a minimum of one sample per wall will be collected. Also see General Note on "Response to Attachment I."

B. Section 2, Quality Assurance Project Plan

1. (General)

Comment:

The U.S. EPA recommends a reformatting of the document to be consistent with the "Region V Model RCRA Quality Assurance Project Plan" (May, 1993)

Response:

See paragraph A comment f.

2. Objectives.

Comment a.

The objective for the Dye Burial Grounds is to provide surficial containment and to prevent infiltration into the unit, not total containment.

Response:

The QAPP text will be revised to clarify the objectives.

Comment b:

Will the Interim Measures actions wait for the Risk Assessment Numbers to be established?

Response:

No, The Interim Measures actions will be based on the specific SWMU Work Plans. Confirmatory samples will be obtained to document remaining conditions.

Comment c:

Delete the reference to the ground water pump and treat system at the Ammunition Burning Grounds.

Response:

References to the Ground Water Treatment System will be deleted.

Comment d:

Delete the reference to PCBs at Mine Fill B.

Response:

Reference to PCBs will be deleted.

Comment e:

Clarify that the Highway Dump Sites are having surficial debris removal only. And, the purpose behind any soil sampling.

Response:

Clarification will be added to the QAPP for superficial debris removal only. Soil will not be removed unless incidental and attached to the debris.

3 Table 2-1.

Comment:

Under Data Quality add permeability standard for the drainage layers, thicknesses of synthetic materials and the amount of testing per linear feet of materials.

Response:

The QAPP will be revised to reflect this data.

C. **Section 3. Environmental Protection Plan**

1. (General)

Comment:

Delete the reference to the ground water pump and treat system at the Ammunition Burning Grounds.

Response:

The reference will be deleted.

2. (General)

Comment:

Delete the reference to PCBs at Mine Fill B.

Response:

Sentence referring to PCB-contaminated soils at Mine Fill B will be deleted.

3. (General)

Comment:

Any discharges to streams must be in compliance with the Clean Water Act.

Response:

Discharges to any stream will be regulated under existing NPDES permits or will require submittal of a new permit. Wherever possible, discharge to streams will be avoided and

Site activities will comply with the *National Historic Preservation Act*. This comment will be incorporated into the text. See page EPP-3, Section 2.5.

D. **Section 4, Waste Management Plan**

1. (General)

Comment:

All temporary storage areas must be < 90 days accumulations areas.

Response:

This comment will be incorporated into the text of this Plan.

2. (General)

Comment:

Delete reference to a Corrective Action Order since all actions are required under the permit.

Response:

The reference will be deleted.

BROWN
ASSOCIATES

OILS-LUBRICANTS-CHEMICALS
SALES-RECLAMATION-DISPOSAL

R.J. BROWN ASSOCIATES, INC.
1946 N. 13th ST.-SUITE 437
TOLEDO, OHIO 43624
OFFICE: (419) 244-0010
FAX: (419) 244-0515

Morrison Knudsen Corporation
Attn Steve Downey
NWSC-Crane Project
P O Box 408
Crane Village, IN 47522

RE: Subcontract No. SC-4324-033 Contract N62467-93-D-1106

Dear Steve:

R. J. Brown Associates, Inc. respectfully submits the following submittal 1-03.
Please feel free to contact me if I can be of further assistance.

Sincerely,

Timothy J. Chandler for Sylvia Chandler

Sylvia D. Chandler
Office Manager

Enclosure

NSWC - CSME
4324-0009

PROJECT MEMBER	OCT	NOV	DEC
PROJECT MANAGER			
PROJECT ENGINEER			
CNL SUPT			
SAFETY & HEALTH			
CHIEF SUPERINTENDENT			
PE [illegible]			
FIELD ENGINEERING			
[illegible]			
FILE 17.408.05			
FILE 13.050.06			
FILE 04.070.01			

O.J. Brown
R30

PERMIT # 5 T.C. _____

DIGGING PERMIT REQUEST

FROM:

TO: 0932

DATE: 10-19-95

A DIGGING PERMIT is requested by Robert E Porter
EMPLOYEE NAME

for Morrison Knudson who will be working at NSWC
CONTRACTOR/ORGANIZATION LOCATION

TYPE OF WORK BEING PERFORMED

Sumu 23/00 Battery shop, Sumu 25/070 Highway 58 Dumpsite A, Sumu 26/080 Highway 58 Dumpsite B.

PRINT/SKETCH # attached Sketch's

DIGGING PERMIT is needed by 10-23-95
DATE

REMARKS

ROICC P.O.C.

0932 P.O.C.

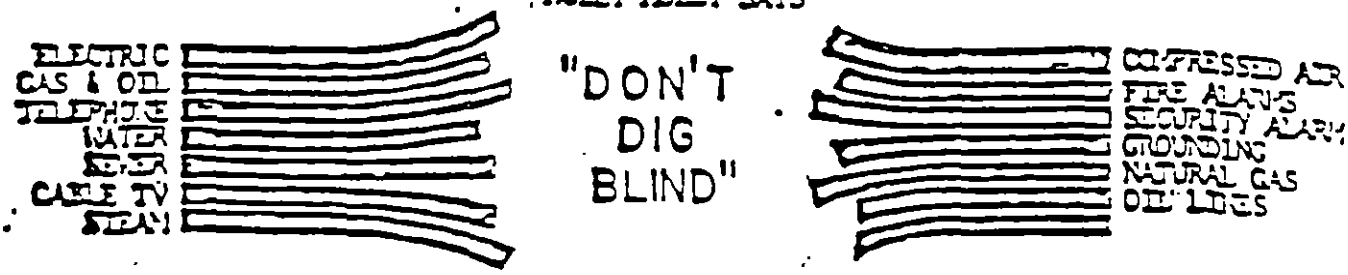
"I hereby certify that the (equipment) (material) (article) shown and marked in this submittal is that proposed to be incorporated into Contract Number N62467-93-D-1106, is in compliance with the contract drawings and specification, can be installed in the allocated spaces, and is APPROVED FOR USE.

Certified by Submittal Reviewer (signature when applicable) Steve Davis Date 11-6-95

Certified by QC Manager (signature) Jerry Smith Date 11-8-95

DEPARTMENT OF THE NA
NAVAL WEAPONS SUPPORT CENTER
GRANT, INDIANA 47511-5000

MOLEY MOLEY SAYS



MEMORANDUM 16 Feb 88

From: 093
To: 097

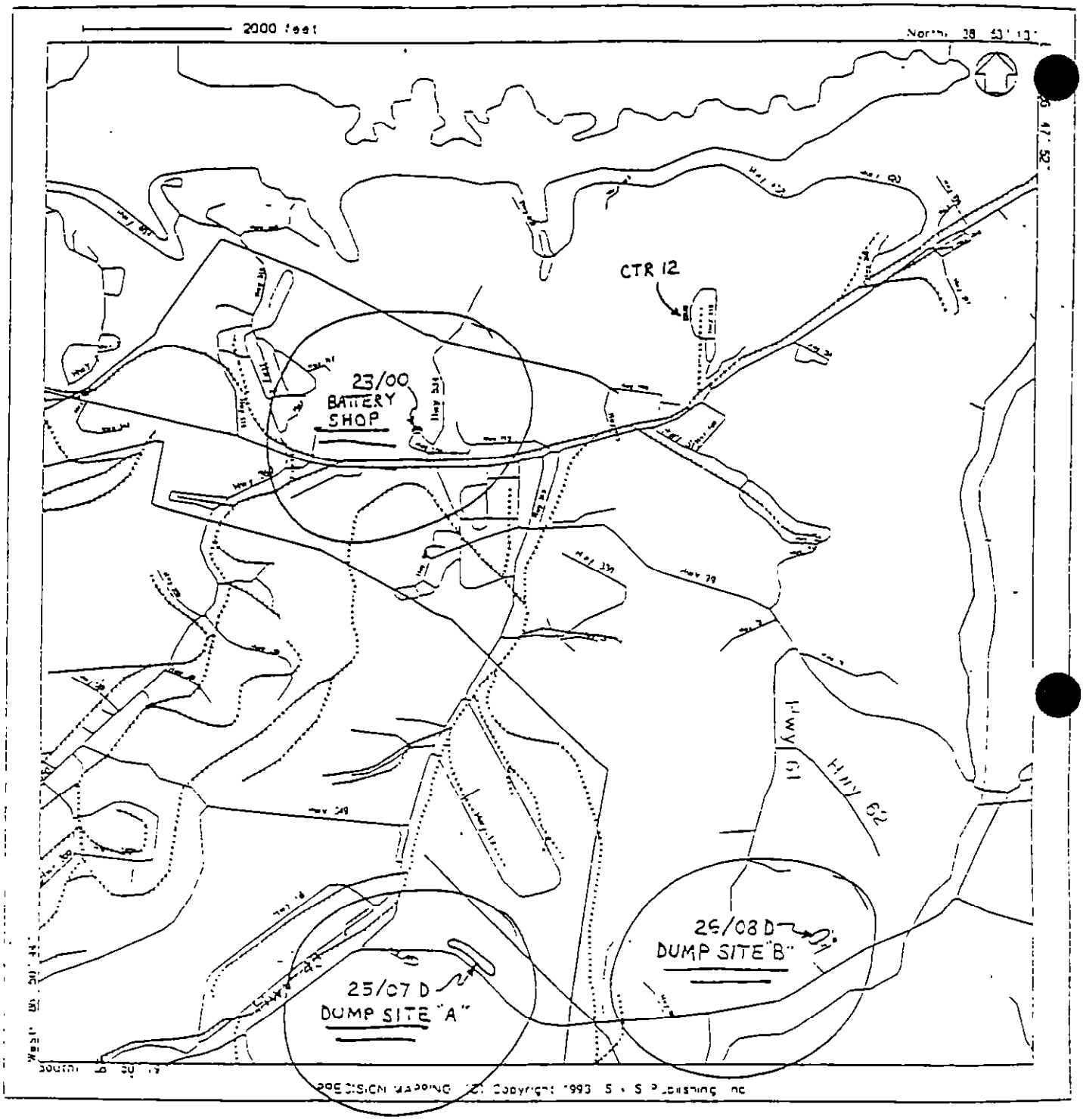
Subj: MARKING OF UNDERGROUND UTILITIES

Ref: (a) NAVWPNSUPPCEN Instruction 11000.10 Digging Permits

1. Reference (a) provides instructions for obtaining digging permits. In an effort to standardize the colors used in marking underground utilities, the following shall be used when marking with stakes, flags, tape, spray paint or other means:

(a) Red - Electric lines
(b) Yellow - Natural gas, oil, liquid petroleum gas, gasoline
(c) Orange - Telephone, cable TV, security alarm, fire alarm, communications
(d) Blue - Water
(e) Green - Sewer
(f) White - Steam, condensate, air, hydraulic lines.

JOHN B. ALLEN


2000 feet
CTR 12
23/00
BATTERY
SHOP
25/07 D
DUMP SITE "A"
25/08 D
DUMP SITE "B"
Hwy 51
Hwy 62
PRECISION MAPPING © Copyright 1993 S + S Publishing Inc

TC 0450

DIGGING PERMIT
NWSCC 11000/3 (REV. 12/89)

1558

REQUESTED BY ROBERT E. PORTER | DATE 10-19-95

WORK REQUEST OR E/S NO. | LOCATION B-36 S HS8 Comp, T HS8 Comp

WORK WILL BE PERFORMED BY MORRISON KNUDSON | DATE (Start on or about) 10-23-95

WORK DESCRIPTION RECOVER OF OLD BATTERIES

EQUIPMENT TYPE

☐ HAND TOOLS ☐ CORE DRILL ☐ TRENCHER ☒ BACKHOE ☒ HEAVY EQUIPMENT

UNDERGROUND UTILITIES LOCATED IN WORK SITE

UTILITY	PRESENT	MARKED	NOT LOCATED	REMARKS
COMPRESSED AIR	N/A			WOLK
ELECTRICAL	B36 NP	✓		SRB
FIRE ALARM	N/A			SEG
GROUNDING	N/A			WOLK
NATURAL GAS	✓	YES	YES	≠ 954-07756
SECURITY ALARM	N/A			[illegible]
SEWER	N/A			RM
STEAM	N/A			[illegible]
TELEPHONE	N/A			[illegible]
WATER	N/A			RM

In addition to the general precautions for excavating where underground utilities are present, comply with the following:

AREAS WILL BE FLAGED

PERMIT HOLDER SIGNATURE [signature] | DATE 10-26-95

DIGGING PERMIT APPROVED BY [signature] | DATE 25 Oct 95

DISTRIBUTION:

ORIGINAL - Code 0932 File
YELLOW - Supv. at work site

BROWN
ASSOCIATES

OILS-LUBRICANTS-CHEMICALS
SALES-RECLAMATION-DISPOSAL

R.J. BROWN ASSOCIATES, INC.
1948 N. 13th ST.-SUITE 437
TOLEDO, OHIO 43624
OFFICE. (419) 244-0010
FAX. (419) 244-0515

Morrison Knudsen Corporation
Attn Steve Downey
NWSC-Crane Project
P O Box 408
Crane Village, IN 47522

RE: Subcontract No. SC-4324-033 Contract N62467-93-D-1106

Dear Steve:

R. J. Brown Associates, Inc. respectfully submits the following submittal 1-12.
Please feel free to contact me if I can be of further assistance.

Sincerely,

for Sylvia Chandler

Sylvia D. Chandler
Office Manager

Enclosure

1-12 Work Zone Maps

RECEIVED

OCT 20 1995

MK-CRANE

NSWC - CRANE			
4321-0009			
PROJECT MEMBER	ACT	INFO	INIT
PROJECT MANAGER			
PROJECT ENGINEER	X		
CIVIL SUPT			
SAFETY AND HEALTH	X		
QA/QC SUPERVISOR	X		
PROJECT CONTROLS			
FIELD ENGINEERING			
FMO-CHARLESTON			
FILE: 11.408.05F			
FILE: 13.030.06F			
FILE: 12.082.05F			
12.043.06F			

"I hereby certify that the 'equipment' (material) (article) shown and marked in this submittal is that proposed to be incorporated into Contract Number N62467-93-D-1106, is in compliance with the contract drawings and specification, can be installed in the allocated spaces, and is APPROVED FOR USE

Certified by Submittal Reviewer _____ Date 10/20/95
(signature when applicable)

Certified by QC Manager _____ Date 10-20-95
(signature)

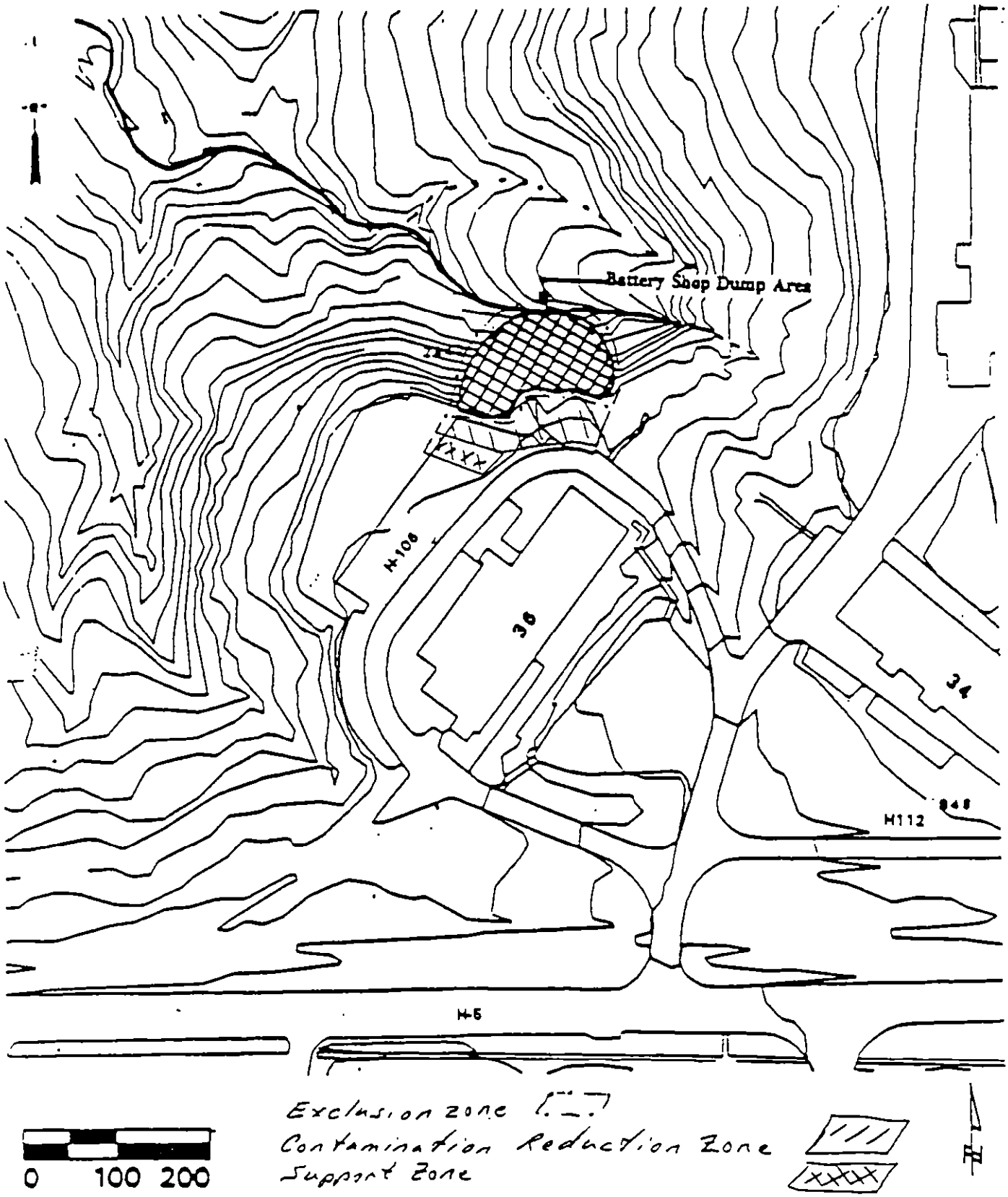


Figure 1-2
SWMU #23/00 Battery Shop Debris Removal Area

BROWN
ASSOCIATES

OILS-LUBRICANTS-CHEMICALS
SALES-RECLAMATION-DISPOSAL

R.J. BROWN ASSOCIATES, INC
1946 N. 13th ST.-SUITE 437
TOLEDO, OHIO 43624
OFFICE: (419) 244-0010
FAX. (419) 244-0515

Morrison Knudsen Corporation
Attn Steve Downey
NWSC-Crane Project
P O Box 408
Crane Village, IN 47522

RE: Subcontract No. SC-4324-033 Contract N62467-93-D-1106

Dear Steve:

R. J. Brown Associates, Inc. respectfully submits the following submittal 1-30.
Please feel free to contact me if I can be of further assistance.

Sincerely,

Sylvia D Chandler
Office Manager

Enclosure

RECEIVED

NOV 14 1995

MK-CRANE

NSWC - CRANE 4324-0009			
PROJECT MEMBER	ACT	INFO	IN
PROJECT MANAGER	X		
PROJECT ENGINEER			
GNL SUPT			
SAFETY AND HEALTH			
QA/CC SUPERVISOR	X		C
PROJECT CONTROLS			
FIELD ENGINEERING			
PMO-CHARLESTON			
FILE: 17.403.05			
FILE: 13.050.06			
FILE: 10.304.5			
12.082.05			

1-30 **Subcontractor Work Plan**

General Requirements:

The text found in this section supplements issues discussed at length in other sections of the Work Plan.

1.0 Preparation

RJ Brown will request utility clearance for the proposed work sites prior to beginning excavation. RJ Brown will notify NSWC Crane Public Works Office.

RJ Brown will identify and cordon off the Exclusion Zones and Contamination Reduction Zones in each of the work areas prior to beginning work in each of the respective areas.

2.0 Excavating Debris

RJ Brown will:

Excavate debris as per the Scope of Work.

Remove brush and trees necessary to obtain access to the work sites. Tree removal will be limited to two inches in diameter or smaller, unless approved by the Contractor.

Prior to debris removal, RJ Brown will visually inspect the clean-up sites to identify potential hazards, mainly chemical drums and transite material. Drums will be handled in accordance with Section 0251, Part 3.2.D of the Specification. RJ Brown will establish a drum decon area as required at each of the work sites. Rinsate will be absorbed into solid waste of same waste stream or containerized for disposal

3.0 Sorting and Disposal of Debris

RJ Brown will sort the debris in to four categories: Recycling/salvageable materials, solid non-hazardous waste, and hazardous/ potentially hazardous waste.

RJ Brown will secure a list of salvageable debris accepted by DRMO. RJ Brown will secure acceptance approval with DRMO for actual material shipped to DRMO for salvage

RJ Brown proposes to ship non-hazardous debris to the Rumpke Landfill for disposal. RJ Brown will negotiate an alternate method with the Contractor to ship

This submittal is that proposed to be used in compliance with the Contract Drawings and Specification, and is APPROVED FOR USE
Certified by Submittal Reviewer (Signature when applicable) Date 11/14/95
Certified by QC Manager (Signature) Date 11-14-95

the non-hazardous debris waste to Crane Naval Warfare Landfill if that possibility exists.

Landscaping debris will be chipped and stockpiled on-site at each of the three work sites.

RJ Brown will store hazardous wastes in accordance with 40 CFR 261. Drummed waste will be stored in a lined and bermed area. Roll-off containers will be lined with plastic and tarped. Containers will be labled and inventoried as required at such time as they are fully characterized.

4.0 Metal Detector Screening

RJ Brown will screen each work site with a metal detector as work progresses. Workers will excavate metal objects, discovered during screening, at the direction of the Contractor. RJ Brown will mark areas that screen "clean" for the Contractors review and approval.

5.0 Characterization and Disposal of Incidentally Removed Soil

Typically soils excavated during the course of debris removal will be placed back into the same excavation immediately after the debris is removed. RJ Brown will place stained or otherwise suspect soils on poly at the Contractor's direction for for chemical characterization. Stockpiled soils will be covered with poly until the material is fully charcterized or placed as backfill.

RJ Brown will use analytical results furnished by the contractor to secure disposal in an appropriately licensed facility RJ Brown will provide the Contractor with supporting documentation verify the facility prior to scheduling waste shipment.

6.0 Protection of the Worksite and Environment

RJ Brown will employ the following procedures to protect the work site.

- Erect temporary silt fence adjacent to streams and drainage courses to minimize suspended solids runoff from the work sites.
- Cover all excavated material with with six mill poly.
- Store all material characterized as hazardous or special waste in roll-offs or haul directly to the disposal facility upon excavation.
- Collect storm water from excavations for characterization by the Contractor.
- Dispose of the water at the Crane Naval Warfare sewage treatment facility if approved.
- Store drummed waste in lined and bermed areas.

7.0 Waste Packaging

RJ Brown will furnish on-site staff trained in accordance with DOT 49 CFR172 Subpart H for shipping of hazardous waste if applicable.

Excavated soils characterized as hazardous will be placed into lined containers for shipment. The Contractor will furnish RJ Brown with full hazardous waste characterization analysis required for disposal.

Decontamination water will be collected in bulk poly tanks or 55-gallon drums and labeled prior to disposal. Decon water may be mixed with waste material of like kind of the same waste stream for disposal.

Spent PPE will be stored in poly bags in roll-off containers or drums prior to disposal. Spent PPE will be transported with bulk shipments of waste of like kind for disposal.

8.0 Preparation for Transport

RJ Brown will furnish on-site staff trained in accordance with DOT 49CFR172 Subpart H.

RJ Brown will submit proposed waste characterization and DOT labeling to the Contractor for approval. The DOT shipping name will be based on 49 CFR 172. Hazardous waste characterization will be based on 40 CFR 261.

RJ Brown will prepare all shipping documents and submit all documents requiring generators signature to the Contractor for signature by Crane Naval Warfare Contracting Representative.

RJ Brown will prepare all containers for shipping including proper labeling, tarping, and or lagging.

9.0 Package Loading and Transportation

RJ Brown will load, label, and transport shipments from the work site in accordance to applicable DOT requirements. RJ Brown will notify the Contractor prior to shipments to provide the Contractor an opportuity to inspect loads prior to shipment.

10. Post Loading Requirements

RJ Brown will provide the Contractor with copies of all manifests and bills of lading associated with the shipment of waste from NSWC Crane.

RJ Brown will retain copiés of records regarding shipments of wastes until written acknowledgment is received from the consignee for the respective shipments.

RJ Brown will submit daily logs of waste transported and its storage location by 1000 Hours the following morning.

Execution of Work

SWMU #23/00, Battery Shop

Task Description The work involves the removal of discarded debris on a lightly wooded hillside and ravine, approximately 125 feet to the bottom. The debris is scattered along the hill and at the base of the ravine, and consists of construction material and discarded chemical containers.

Technical Approach
Site mobilization at this specific work site will be minimal, as RJ Brown anticipates that this clean-up task will be completed in one to two days, with less than one day of site restoration following.

Job Start-up Preliminary work at the site will involve:

- Site-specific worker orientation and safety/hazard training.
- Implementing site control.
- Work zone delineation.
- Equipment staging.

The level of effort required for this work site, as well as the other two sites does not justify support equipment beyond the mobile job truck. The mobile job truck will provide a center for project coordination, record keeping, training, and tool storage.

During orientation and safety/hazard training the project manager will discuss the scope of work and delegate assignments to workers. Site specific hazards and work procedures also will be discussed.

Traffic barricades and caution tape will be set up in the parking lot within proximity to the hillside to control site access.

The superintendent and project manager, in conjunction with the Contractor, will establish work zones; exclusion zone - primarily on the hillside and waste handling area in the parking lot, contamination reduction zone - primarily in the parking lot

area in the designated decon area, support zone - primarily in the parking lot where the mobile job truck is parked and clean equipment is staged.

Depending on the volume of waste generated, temporary waste storage, i.e. self-contained diked drum storage units may be consolidated at one of the three work areas SMWU's based on direction from the Contractor (MK). At a minimum one roll-off of debris collected during the clean-up will be staged at the work site pending transport to the ultimate disposal facility.

Work Methods RJ Brown proposes to complete the site cleanup using hand labor with minimal disturbance to the hillside. Workers (2) will hand pick debris and place the material into a skid-mounted metal box. An equipment operator located at the crest of the hillside, on the edge of the parking lot, will wench the box to the top of the hill. RJ Brown proposes to use a small bulldozer (JD450) or a logging skidder with a mounted wench. A skidsteer loader will dump the box into a staged roll-off container for temporary storage and transportation to the ultimate disposal facility.

During debris clean-up workers will scan completed areas with a metal detector to confirm removal of all debris. Additional debris identified by the metal detector will be remove at the direction of the Contractor. Excavated soils will be staged for characterization and disposal off base.

Some discarded containers located on the hillside may still contain liquids other than water. Workers will overpack containers as required (at the direction of the Contractor) at the point of discovery prior to wenching the containers to the top of the hill. Overpacked containers will be staged based on compatibility in a diked area for disposal characterization.

It is anticipated that most waste collected during this project will be non-hazardous debris which will be staged in roll-offs or staged on poly and covered with poly prior to transport to the ultimate disposal facility Hazardous materials, whose quantities and type are unknown at this time will be managed in accordance with appropriate OSHA, EPA, and DOT regulations regarding handling (compatibles), storage, and packaging and shipment.

RJ does not anticipate that this work will generate significant fugitive dust emissions. In the event that dust control does become necessary, RJ Brown will mist emitting sources with water to control dust and minimize excessive runoff from the work area.

Site Restoration Backfill and topsoil will be placed to the extent required to establish positive drainage. Workers will install soil net on the hillside and straw bales or silt fence along the stream to minimize erosion and promote re-vegetation. The residual acidic nature of the soil resulting from years of battery acid disposal

on the hillside will probably stress re-vegetated areas. Soil treatment including metals stabilization may be required to promote re-vegetation.

Personnel/Equipment Decontamination

Personnel and equipment will require decontamination prior to leaving the Decontamination Reduction Zone.

Personnel will establish and utilize a dry decon line where workers will complete the following tasks in a visqueen lined area:

1. Wash boots in a wash tub in Alonox/water solution, rinse with spray bottle.
2. Remove outer gloves (work gloves).
3. Remove tyvex and place discarded items in poly bag.
4. Remove inner gloves (if required) and place discarded items in poly bag.
5. Move to exclusion zone.

Personnel will establish and utilize an equipment decon line where workers will complete the following tasks in a visqueen lined area:

1. Scrape mud and dirt from equipment.
2. Scrub equipment in Alonox/water solution, rinse with spray bottle.
3. Large track equipment will be power washed.
4. Move equipment to exclusion zone.

Discarded personnel equipment will be placed in roll-offs with the respective waste stream(s) for appropriate disposal. Rinse water will either be adsorbed in roll-offs containing the respective waste stream(s) or containerized for separate transportation and disposal.

SWMU #25/07D, Highway 58 Dump Site A

Task Description The work involves the removal of discarded debris on a lightly wooded hillside adjacent to Highway 58. The debris is scattered along the hill and consists of construction material, discarded containers, concrete-filled ammunition shells, and a limited amount of non-friable transite(less than one cubic yard).

Technical Approach
Site mobilization at this specific work site will be minimal, as RJ Brown anticipates that this clean-up task will be completed in less than one week, with less than one day of site restoration following.

Job Start-up Preliminary work at the site will involve:

- Site-specific worker orientation and safety/hazard training.
- Implementing site control.
- Work zone delineation.
- Equipment staging.

The level of effort required for this work site, as well as the other two sites does not justify support equipment beyond the mobile job truck. The mobile job truck will provide a center for project coordination, record keeping, training, and tool storage.

During orientation and safety/hazard training the project manager will discuss the scope of work and delegate assignments to workers. Site specific hazards and work procedures also will be discussed. Workers will have asbestos awareness training for this work task.

Access to the work site will be via the access road below the work site. Traffic barricades and caution tape will be set up at the entrance to the access road and adjacent to the road to control site access.

The superintendent and project manager, in conjunction with the Contractor, will establish work zones; exclusion zone - primarily on the hillside and waste handling area in the access road, contamination reduction zone - primarily in the access road in the designated decon area, support zone - primarily in the access road where the mobile job truck is parked and clean equipment is staged.

Depending on the volume of waste generated, temporary waste storage, i.e. self-contained diked drum storage units may be consolidated at one of the three work areas SMWU's based on direction from the Contractor (MK). At a minimum one roll-off of debris collected during the clean-up will be staged at the work site pending transport to the ultimate disposal facility. Transite material collected during the course of site clean-up will be placed into double poly bags and staged in the roll-off prior to disposal. RJ Brown anticipates that the non-hazardous

debris and transite will be transported together to either the Outer Loop Landfill in Louisville, or the Twin Bridges Landfill in Indianapolis.

Work Methods RJ Brown proposes to complete the site cleanup using a small excavator and skid steer loader to remove large debris and the ammunition shells. Personnel will hand pick random debris throughout the work area where possible, with minimal disturbance to the hillside.

As transite material is identified during clean-up, workers will wet the material then place it in double poly bags. RJ Brown anticipates that these instances will be minimal, however workers will visually scan the work area as clean-up progresses for additional transite material.

During debris clean-up workers will scan completed areas with a metal detector to confirm removal of all metallic debris. Additional debris identified by the metal detector will be remove at the direction of the Contractor. Excavated soils will be staged for characterization and disposal off base.

It is anticipated that most waste collected during this project will be non-hazardous debris which will be staged in roll-offs or staged on poly and covered with poly prior to transport to the ultimate disposal facility. Hazardous materials, whose quantities and type are unknown at this time will be managed in accordance with appropriate OSHA, EPA, and DOT regulations regarding handling (compatibles), storage, and packaging and shipment.

RJ does not anticipate that this work will generate significant fugitive dust emissions. In the event that dust control does become necessary, RJ Brown will mist emitting sources with water to control dust and minimize excessive runoff from the work area.

Site Restoration Backfill and topsoil will be placed to the extent required to establish positive drainage. Workers will install soil net, silt fence, or straw bales on the hillside to minimize erosion and promote re-vegetation.

Personnel/Equipment Decontamination

Personnel and equipment will require decontamination prior to leaving the Decontamination Reduction Zone.

Personnel will establish and utilize a dry decon line where workers will complete the following tasks in a visqueen lined area:

1. Wash boots in a wash tub in Alonox/water solution, rinse with spray bottle.
2. Remove outer gloves (work gloves).
3. Remove tyvex, (double tyvex in the case of handling transite) and place discarded items in poly bag.
4. Remove inner gloves (if required) and place discarded items in poly bag.
5. Move to exclusion zone.

Personnel will establish and utilize an equipment decon line where workers will complete the following tasks in a visqueen lined area:

1. Scrape mud and dirt from equipment.
2. Scrub equipment in Alonox/water solution, rinse with spray bottle.
3. Large track equipment will be power washed.
4. Move equipment to the exclusion zone.

Discarded personnel equipment will be placed in roll-offs with the respective waste stream(s) for appropriate disposal. Rinse water will either be adsorbed in roll-offs containing the respective waste stream(s) or containerized for separate transportation and disposal.

SWMU #26/08D, Highway 58 Dump Site B

Task Description The work involves the removal of discarded debris adjacent to a highwall off of Highway 58. The debris is scattered at the base of a rock cut and consists of construction material and discarded containers.

Technical Approach
Site mobilization at this specific work site will be minimal, as RJ Brown anticipates that this clean-up task will be completed in less than one week, with less than one day of site restoration following.

Job Start-up Preliminary work at the site will involve:

- Site-specific worker orientation and safety/hazard training.
- Implementing site control.
- Work zone delineation.
- Equipment staging.

The level of effort required for this work site, as well as the other two sites does not justify support equipment beyond the mobile job truck. The mobile job truck will provide a center for project coordination, record keeping, training, and tool storage.

During orientation and safety/hazard training the project manager will discuss the scope of work and delegate assignments to workers. Site specific hazards and work procedures also will be discussed.

Access to the work site will be via the access road adjacent to the work site. Traffic barricades and caution tape will be set up at the entrance to the access road to control site access.

The superintendent and project manager, in conjunction with the Contractor, will establish work zones; exclusion zone - primarily at the base of the highwall, contamination reduction zone - primarily in the access road where decon will be completed, support zone - primarily in the access road where the mobile job truck is parked and clean equipment is staged.

Depending on the volume of waste generated, temporary waste storage, i.e. self-contained diked drum storage units may be consolidated at one of the three work areas SMWU's based on direction from the Contractor (MK). At a minimum one roll-off of debris collected during the clean-up will be staged at the work site pending transport to the ultimate disposal facility.

Work Methods RJ Brown proposes to complete the site cleanup using a small excavator and skid steer loader to remove large debris.

During debris clean-up workers will scan completed areas with a metal detector to confirm removal of all metallic debris. Additional debris identified by the metal detector will be remove at the direction of the Contractor. Excavated soils will be staged for characterization and disposal off base.

It is anticipated that most waste collected during this project will be non-hazardous debris which will be staged in roll-offs or staged on poly and covered with poly prior to transport to the ultimate disposal facility. Hazardous materials, whose quantities and type are unknown at this time will be managed in accordance with appropriate OSHA, EPA, and DOT regulations regarding handling (compatibles), storage, and packaging and shipment.

RJ does not anticipate that this work will generate significant fugitive dust emissions. In the event that dust control does become necessary, RJ Brown will mist emitting sources with water to control dust and minimize excessive runoff from the work area.

Site Restoration Backfill and topsoil will be placed to the extent required to establish positive drainage. Workers will install mulch the disturbed area to minimize erosion and promote re-vegetation.

Personnel/Equipment Decontamination
Personnel and equipment will require decontamination prior to leaving the Decontamination Reduction Zone.

Personnel will establish and utilize a dry decon line where workers will complete the following tasks in a visqueen lined area:

1. Wash boots in a wash tub in Alonox/water solution, rinse with spray bottle.
2. Remove outer gloves (work gloves).
3. Remove tyvex, (double tyvex in the case of handling transite) and place discarded items in poly bag.
4. Remove inner gloves (if required) and place discarded items in poly bag.
5. Move to exclusion zone.

Personnel will establish and utilize an equipment decon line where workers will complete the following tasks in a visqueen lined area:

1. Scrape mud and dirt from equipment.
2. Scrub equipment in Alonox/water solution, rinse with spray bottle.
3. Large track equipment will be power washed.
4. Move equipment to the exclusion zone.

Discarded personnel equipment will be placed in roll-offs with the respective waste stream(s) for appropriate disposal. Rinse water will either be adsorbed in roll-offs containing the respective waste stream(s) or containerized for separate transportation and disposal.

1-31 Hazardous Waste Transportation Certification

RJ Brown will submit certifications for transporters upon confirmation of waste streams, disposal facilities, and actual transporters.

RECEIVED
NOV 20 1995
MK-CRANE

NSWC - CRAN 4324-0009			
PROJECT MEMBER	ACT	INFO	INT
PROJECT MANAGER			RTO
PROJECT ENGINEER			
GNL SUPT		✓	
SAFETY AND HEALTH		✓	
QA/CC SUPERVISOR		✓	
PROJECT CONTROLS		✓	
FIELD ENGINEERING		✓	
ENG-CHARLESTON			
K.T.			
FILE: 13.050.06			
FILE: 12.082.05			
FILE: 18.900.01			

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP

2420 MALL DRIVE
CORPORATE SQUARE ONE SUITE 211
NORTH CHARLESTON, SC 29406
PHONE: (803) 554-0100
FAX: (803) 740-0160

MKC/RJB-005

November 14, 1995

Brown Associates, Inc.
1946 North 13th Street
Toledo, OH 43624

Attention: Mr. R.J. Brown

Subject: Subcontract SC-4324-033, NSWC Crane, IN
Interim Measures Clean Up at SWMU's #23/00, #25/07D and #26/08D
Notice to Proceed

Dear Mr. Brown:

This is to inform you that the documents submitted pursuant to the award letter have been received. You are directed to proceed with the construction work in accordance with the Subcontract provisions. All work is to be coordinated with the designated MK Site Project Manager, Mr. Steve Downey. He may be reached by telephone at 812-854-6941. The Performance period of this Subcontract is from the date of this notice (November 14, 1995) through March 13, 1996.

Please acknowledge your receipt of this letter by signing, dating and returning the enclosed acknowledgment copy to our office. Thank you for your cooperation. We are looking forward to a successful project. If you should have any questions, feel free to contact Willard D. John McCumbers at 803-554-0905.

Sincerely,

Robert E. Hlavacek
Program Manager

Receipt and Acknowledgment

WDM/amb

File 13-4.33
Subcontract File 4324-033

Signature *Brown Associates, Inc.* **Date**

cc: S. Downey
R. Thompson
K. Deshayes

DAILY REPORTS/MEETING MINUTES

ENGINEERS
AND
CONSTRUCTORS

MORRISON KNUDSEN CORPORATION
MK-FERGUSON GROUP

MK-FERGUSON PLAZA
1500 WEST 3RD STREET
CLEVELAND, OHIO 44113-1406
PHONE: (216) 523-5600
FAX: (216) 523-5922

Reply to: 2420 Mall Drive
Corporate Square 1, Suite 211
North Charleston, SC 29406
PHONE: (803)554-0100
FAX: (803)740-0160

September 16, 1994

MKC/NAV-100

Mr. Robert J. Meddick, Contracting Officer
Department of the Navy
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
Post Office Box 10068
Charleston, SC 29411-0068

Attention: Ms. Adrienne Townsel Wilson

Subject: Contract N62467-93-D-1106
NSWC Crane, Delivery Order 9

Attached are the meeting minutes for the site meeting conducted on 16-17 August, 1994.

Sincerely,

Robert E. Hlavacek
Program Manager

RSN/csc

Enclosure

cc: Mr. James Jones

File 11-1
meetmin8.do9

bcc: Scott Newman
Bob Centinaro

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: 11.020.F w/o			
FILE: 11.050.F w/att			
FILE:			

MEETING MINUTES - SITE MEETING
(REVISED 9/12/94)

Dates 16-17 August 1994

Location NSWC Crane, Crane, IN.

1. ATTENDANCE: On 16 and 17 August 1994 a meeting and site visit was conducted at NSWC Crane. Personnel listed in Attachment A were in attendance.

2. AGENDA: Discuss and achieve consensus on priorities, process actions and tasks for interim remediation activities at the site.
Discuss and change as necessary the Responsibility Assignment Matrix of the site remediation.

3. MEETING SUMMARY:

NSWC Crane is an active facility. The scope of this work involves the following:

- Excavation and composting of explosive contaminated soil at ABG, Mine Fill A, Mine Fill B, and Rockeye(SWMUs 3, 10, 12, and 13);
- Removal actions at a former battery shop area, a lithium battery disp area, the Cast High Explosive Fill Building, a capacitor disposal area, and a debris disposal site. (SWMUs 14, 17, 16, 23, and 25);
- Installation of a RCRA cap at the Dye Burial Grounds (SWMU 2); and,
- Excavation of sludge drying beds (SWMU 24).

Decisions and procedures reached during the meeting are summarized in Attachment 2, PLAN OF ACTION. A marked up copy of the RESPONSIBILITY MATRIX is attached also.

PLAN OF ACTION
DO - 0009 - 2B
NSWC CRANE, IN

TASK

Ammunition Burning Ground (ABG) - SWMU #3

Army controls area. Groundwater and soil remediation. Opening burning of ammunition on ground. Now burned in steel pans. Contaminates RDX, HMX TNT, TCE.

Groundwater Remediation

- Four wells show contamination in aquifer at about 30 feet.
- WES to install 4 extraction wells (Nos. 3, 8, 11, 20) this summer. WES installation to include pumps, controls, to well head. MK to pick up at that point.
- MK to install power, pipe, insulation, tanks, water treatment, system controls, and permits.
- MK requested drawings and specs of treatment system at Rockeye. Similar contaminants treated at that site with carbon at 40 gpm.
- MK to provide O&M one year.

Contaminated Soil

- WES investigated samples to 8 feet. Additional sample results will be available to further delineate area.
- WES estimates 277000 cy.
- WES will run bench tests for composting. Results expected within 5 months. Dr. Preston will provide method of composting for estimate purposes.
- MK to install compost facility, method of composting, excavate material, O&M operation for one year.
- Area at Bunker 943 (H-58 at H-61) could be site of composting facility.

Revised 9/12/94

Cost estimate:

- GW transport and collection (design and construct).
- GW Treatment facility (design and construct) similar to existing one a Rockeye site.
- Composting facility (design and construct) at Bunker 943.
- Excavate/Backfill contaminated soil.
- Soil transport to Bunker 943 area.
- Composting O&M for one year.
- Budget estimate by 9/15/94
- Construction 3/95
- Operation 5/95 to 5/96

Notes:

Revised 9/12/94

PLAN OF ACTION
DO - 0009 - 2B
NSWC CRANE, IN

TASK

Rockeye - SWMU #10

Army controls area. Wash water discharged to streams. GW treatment facility active. Clean up soil around discharge points and exhaust areas. Same contaminants as ABG.

Contaminated Soil

- WES estimates 18000 cy.
- MK to excavate material, O&M operation for one year.
- Area at Bunker 943 (H-58 at H-61) could be site of composting facility.

Cost Estimate

- Excavate/Backfill contaminated soil (18000 cy)
- Soil transport to Bunker 943 area.
- Composting O&M for one year.
- Budget estimate by 9/15/94
- Construction 3/95
- Operation 5/95 to 5/96

Notes

Revised 9/12/94

PLAN OF ACTION
DO - 0009 - 2B
NSWC CRANE, IN

TASK

Lithium Battery Site - SWMU #14

Area adjacent to landfill marked with poles.

Batteries and Contaminated soil

- Soil adjacent to batteries.
- Batteries are large (Approx 600lbs)
- WES to perform geophysical testing to pinpoint batteries in '94.
-

Cost Estimate

- Remove batteries and dispose.
- Remove contaminated soil adjacent to batteries if necessary. Est 100 cy.
- Sample and confirm - 2 samples ??? per area.
- Backfill pit with clean fill
- Budget estimate by 9/15
- Construction 3/95

Notes

Revised 9/12/94

PLAN OF ACTION
DO - 0009 - 2B
NSWC CRANE, IN

TASK

PCB Disposal Area - SWMU #17

3 Capacitors

- Capacitors are small
- WES will try to locate with geophysical testing in '94.
- Remove capacitor and adjacent contaminated soil if necessary.

Cost Estimate

- Remove capacitors and dispose.
- Remove contaminated soil adjacent to capacitors, if necessary. Est 50 cy.
- Sample and confirm - 2 samples ??? per area.
- Backfill with clean fill
- Budget estimate by 9/15
- Construction 3/95

Notes

Revised 9/12/94

PLAN OF ACTION
DO - 0009 - 2B
NSWC CRANE, IN

TASK

Dye Burial Ground - SWMU #2

Install RCA Cap over disposal area approx 50'x300'

- WES to design cap by end of '94
- WES to evaluate borrow source.

Cost Estimate

- 6' subgrade
- 40 mil HDPE
- Leachate collection layer - geonet
- 12" clay
- 24" cover soil
- E&S controls
- Budget estimate by 9/15
- Construction 3/95

Notes

Revised 9/12/94

PLAN OF ACTION
DO - 0009 - 2B
NSWC CRANE, IN

TASK

Mine Fill A - SWMU #12

Army controls area. Contaminated soil around receiving areas. Clean up soil around discharge points and exhaust areas. Same contaminants as ABG.

Contaminated Soil

- WES estimates 300000 cy.
- MK to estimate material around receiving buildings.
- Bunker 943 composting facility would be centrally located for all composting.

Cost Estimate

- Excavate/Backfill contaminated soil (200' dia x 2.5' deep) around 2 receiving buildings. 12,000 cy per receiving building (10,000cy soil and 500/blowout wall - 4) = 24,000 cy
- Sample and confirm.
- Soil transport to Bunker 943 area.
- Composting O&M for one year.
- Budget estimate by 9/15/94
- Construction 3/95
- Operation 5/95 to 5/96

Notes

Revised 9/12/94

PLAN OF ACTION
DO - 0009 - 2B
NSWC CRANE, IN

TASK

Mine Fill B - SWMU #13

Army controls area. Contaminated soil around receiving areas. Clean up soil around receiving buildings. Unloaded explosives and ANFO. Two areas had oil heating units that contained PCBs. Same contaminants as ABG.

Contaminated Soil

- Southdiv estimates 300000 cy.
- MK to estimate material around receiving buildings (4).
- Bunker 943 composting facility.
- Two areas of possible PCB contamination.

Cost Estimate

- Excavate/Backfill contaminated soil (200' dia x 2.5' deep) around 4 receiving buildings. 12,000 cy per receiving building (10,000cy/dia and 500cy/blowout wall - 4) = 48,000 cy
- Excavate/Backfill two PCB contaminated areas (50'x100'x3'd). Est. 1200cy.
- Soil transport to Bunker 943 area.
- Dispose of PCB contaminated soil.
- Composting O&M for one year.
- Budget estimate by 9/15/94
- Construction 3/95
- Operation 5/95 to 5/96

Notes

Revised 9/12/94

PLAN OF ACTION
DO - 0009 - 2B
NSWC CRANE, IN

TASK

Drying Beds - SWMU #24

3 Dry beds. May have contamination.

- Beds approx 75'x30'x3'deep.
- CRANE will locate drawings.
- Remove soil and dispose.
- May be able to compost.

Cost Estimate

- Sample soil prior to excavation.
- Remove soil and dispose off site. Est 1000cy
- Budget estimate by 9/15
- Construction 3/95

Notes

Revised 9/12/94

PLAN OF ACTION
DO - 0009 - 2B
NSWC CRANE, IN

TASK

Highway 58 Dump Site - SWMU #25

Debris dumped over hill. General police area.

- Clean up debris. Approx area 7 acres.
- CRANE will tell us where to place debris.
- Sample soil at suspect areas.

Cost Estimate

- Remove debris and dispose off site.
- Assume 2 labor, 1 oper, one triaxle for 10 days and 20 loads of debris.
- Sample and confirm.
- Budget estimate by 9/15
- Construction 3/95

Notes

Revised 9/12/94

PLAN OF ACTION
DO - 0009 - 2B
NSWC CRANE, IN

TASK

Battery Shop - SWMU #23

Debris dumped over hill. General police area.

- Clean up debris down over hill. Approx area 1 acre.
- CRANE will tell us where to place debris.
- Sample soil at suspect areas.

Cost Estimate

- Remove debris and dispose off site.
- Assume 2 labor, 1 oper, one triaxle for 2 days and 4 loads of debris.
- Est 50cy contaminated soil (TCLP)
- Sample and confirm.
- Budget estimate by 9/15
- Construction 3/95

Notes

Revised 9/12/94

PLAN OF ACTION
DO - 0009 - 2B
NSWC CRANE, IN

TASK

Cast High Explosives - SWMU #16

Army controls area. Building 146. Contaminated soil around receiving areas. Clean up soil around discharge points and exhaust areas. Same contaminants as ABG.

Contaminated Soil

- MK to estimate material around drainage ditches.
- Bunker 943 composting facility.
- Two former oil faced kilns contained PCBs.

Cost Estimate

- Remove contaminated soil. Est 50 cy.
- Sample and confirm.
- Backfill with clean fill
- Budget estimate by 9/15
- Construction 3/95

Notes

Revised 9/12/94

Robert Centinaro	Project Manager	MK	(216)523-3419
Lynn Rogozinski	Project Engineer	MK	(216)523-5541
Jimmy Jones	COTR	SOUTHDIV	(803)743-0544
David Bennett	Corps of Engineers	WES	(601)643-3974
Bill Murphy	Corps of Engineers	WES	(601)643-3373
Mark A. Vispi	Corps of Engineers	WES	(601)643-2254
Jim Riggins	Supervising Engineer	ROICC	(812)854-3257
Brent Robertson	Project Manager/NRT	ROICC	(812)854-3318
John O'Toole	Senior Project Engineer	OHM	(800)537-9560
Fred Olenick	Senior Environmental Engineer	Jacobs	(713)669-2397
Adrienne Townsel Wilson	RPM	SOUTHDIV	(803)743-0582
Roy Wade		WES	(601)643-4019
Jim Hunsergr	Environmental Engineer		(812)854-3233

WES - Waterways Experimental Station
(601)636-3111
Dr. Curt Preston Compost.

RESPONSIBILITY MATRIX
NSWC CRANE, IN
INTERIM MEASURES RAC

TASK	WES	MK	SDIV	ACT	STATE	EPA	ROICC
BENCH	L	R	A	A	R	R	NA
P & T	L	R	A	A	R	R	NA
CAP	L	R	A	A	R	A	R
TECH	M/L	M/S	M	M	M	M	M
PERFOR	R	L	A	R	R	R	R
SPC	R	L	A	R	R	R	R
PERMITS	R	L	R	R	S/A	S/A	R
CONSTR	R	L	R	A	R	R	S/A
O & M		L	R	S	R	R	R

L = LEAD
S = SUPPORT
R = REVIEW
A = APPROVAL
M = MEETING
NA = NOT APPLICABLE

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP

MEETING NOTES

Date:	Written By:	Sheet
January 26, 1996	Marvin G. Chidester Jr. STO	1 of 3

Meeting With:	Project:
MK/NSWC Personnel	SouthDiv ERAC - NSWC Crane

Location of Meeting:	Meeting Date:	D.O. No.
CTR 12 Conference Room	January 25, 1996	4324-0009

Purpose
Weekly Three-Week Coordination Meeting

Attended By: Tom Brent, NSWC-Crane Environmental Site Representative;Chris Freeman, Environmental Engineer;Tim Sears, NSWC-Crane CONREP/ROICC (X3268);Steve Downey, MK Project Manager (X6941);Robert Porter, MK Superintendent (X6941);Jerry Smith, MK Quality Control Supervisor (X6941);Bill Kemp, MK Environmental Sampling Technician (X6941);Elvin Graves, MK Site Safety/Health Officer (X6941);Marvin Chidester, MK Project Controls Engineer (X6941)

Item	Description of Discussion	Action By:	Comp. Date
1.0	Subcontract Scheduling; SWMU's 16/24B (US Tech Group): • Went over three-week schedule, explanation of milestone dates and fixed dates in the schedule. •Tom Brent wants to review the analytical data for SWMU 16/16. This meeting is scheduled for Tuesday, January 30th, 1996, @1:30pm. Meeting members scheduled are: Steve Downey, Bill Kemp, and Tom Brent. • Old Business: None • New Business: None		
2.0	Subcontract Scheduling; SWMU's 23/25/26 (R.J. Brown & Assoc.): • Went over three-week schedule, explanation of milestone dates and fixed dates in the schedule. • Coordination questions: None • Old Business: US Tech is going to complete the work for Dump Sites A & B and the work area located behind the Battery Shop. R.J. Brown will not perform the remainder of the scope of work for these areas. The subcontract will be closed out. • New Business: Adrienne Wilson has indicated that the "Go Ahead" for the [illegible] additional work to clean up Dump Sites "A" & "B" is forth coming.		

PROJECT MANAGER		
PROJECT MANAGER		
PROJECT ENGINEER		
GNL SUPT		
SAFETY AND HEALTH		
QA/QC SUPERVISOR		
PROJECT CONTROLS		
FIELD ENGINEERING		
PMO-CHARLESTON		
FILE:	13.1	

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP

MEETING NOTES

Date:	Written By:	Sheet 2 of 3
January 26, 1996	Marvin G. Chidester Jr.	

Item	Description of Discussion	Action By:	Comp. Date
3.0	Subcontract Scheduling; SWMU Bio-Facility (US Tech Group): • Went over three-week schedule, explanation of milestone dates and fixed dates in the schedule. • Coordination questions: MK wants to establish a meeting with Tom Brent to determine sampling criteria for contaminated soil sources for the Bio-Facility. • Old Business: The meeting scheduled for Friday, January 19th, 1996, was held with MK and US Tech Group to review the vender data submittals required for the Bio-Facility structural subcontract. • New Business: The design review of the civil package may not be approved by the EPA this week. MK was given design review comments on the Bio-Facility from the Commander, Crane Div. NSWC.		
4.0	Subcontract Scheduling; SWMU 02 (unawarded): • Went over three-week schedule, explanation of milestone dates and fixed dates in the schedule. • Coordination questions: None • Old Business: None • New Business: Carol Witt-Smith will release the drawings for the Dye Burial Cap as "Approved for Construction" with comments this week.		
5.0	Old Business: • The "Interim Measures Report" for SWMU's 14&17 has not been forgotten. These reports are going to Cleveland on Friday, January 26, 1996, to the project chemist for review, prior to issuing to South Div. • The amendments supply concern is proving not to be a factor due to the available supply on the market. With the use of the "Internet" supply sources have proven to be substantial. • Friday, January 26, 1996, will be the last day for the MK Site Safety and Health Officer, Elvin Graves. He is transferring to the MK office in South Carolina for interim training prior to reporting to a project in Texas.		
6.0	New Business: • Tom Brent will be put on distribution for the "Daily Report" beginning January 26, 1996. • A new "Analytical Testing Laboratory" has been brought on board to perform sample analyses for this project.		

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP

MEETING NOTES

Date:	Written By:	Sheet 3 of 3
January 26, 1996	Marvin G. Chidester Jr.	

Item	Description of Discussion	Action By:	Comp. Date
7.0	Other Business: • Chem Waste was here January 24, 1996, to take representative samples of Dump Sites "A" & "B" for disposal characterization. • The Farm Equipment and Tractor show in Evansville, Indiana, will take place the week of February 11th. MK will have representatives attending the show to investigate new and innovative equipment that could be utilized in the Bio-Facility.		

DAILY REPORT FOR 01/30/96
DELIVERY ORDER 0009.007.30
NSWC CRANE, INDIANA

MORRISON KNUDSEN CORPORATION N62467-63-D-1106

SUMMARY OF WORK IN PROGRESS ON-AND OFF-SITE

There was no sub-contractor work on-or off-site today.

SUMMARY OF SAMPLING AND TESTING

There was no sampling or testing conducted today.

SUMMARY OF QUALITY CONTROL CONCERNS

QCS Jerry Smith started turn-over of QCS duties to Bill Kemp. Jerry is being transferred as of 2/1/96.

SUMMARY OF HEALTH AND SAFETY CONCERNS

Walked down and checked the barricades/tape at Dump Sites A and B, Sludge Bed B, Dye Burial ground, Cast High Explosives and the Bio Facility. All Areas are secured.

LIST OF ALL WASTE MATERIALS GOING OFF-SITE

There were no waste materials transported off-site today.

DESCRIPTIONS OF INSTRUCTIONS AND GUIDANCE RECEIVED FROM THE GOVERNMENT

Received an "Advance Copy" from SOUTHDIV representative Adrienne Wilson, the Bioremediation Facility Design Issues For Contaminated Media Treatment from USEPA representative Carol Witt-Smith.

Meeting was held between Thomas Brent, Chris Freeman, Steve Downey, and Bill Kemp, to discuss areas requiring additional remediaiton at SWMU #16/16 and SWMU #23/00. The additional remediaiton is within the existing scope of work for these SWMU's.

SWMU #16/16

The area where the fuel tanks were located will be excavated until visually clean. There is one "pile" which will be cleaned up outside the fence just north of the ditch. All other areas will be left as is. Minimum back filling - ie; topsoil and seeding

may be required in some areas. Conformation sampling will be only to the areas of the fuel tanks and areas outside of the fence (1-sample per area cleaned).

The Navy will replace the "Weir" in the ditch.

Information, clarification from the Morrison Knudsen Project chemist is required for Thomas Brent following sample analysis results, NSWC - #16/16 - 68, 67, 39, and 44.

Contacted MORRISON KNUDSEN Project Chemist Allan Fosdick and requested that he contact Thomas Brent.

Thomas Brent will confer with DRMO as to how to handle the fuel tanks and what documentation is required.

The west side sump, once cleaned, will have a final Rinse Blank analysis.

SWMU#23/00

Confirmation sampling will be conducted as follows; Three samples (top, middle, and bottom) where "sled" was used, Two samples from each side that was cleaned up, and four samples (2 liquid, 2 soil) from the stream at the bottom.

A walk down of SWMU #23/00, 25/07D, and 26/08D, will be conducted by MORRISON KNUDSEN and the Navy to close out R.J. Brown's scope of work.

COMMUNICATIONS, INTERFACES AND MEETINGS WITH TEAM MEMBERS

JoAnn Mingus from Koester, General Constructor from Evansville, Ind., met with Steve Downey, MK Project Manager, to inquire on bidding the work at the Dye Burial Ground and the Civil-Mech. package for the Bio Facility and was referred to John Mc Cumbers to be put on the bidders list.

Received verbal prices from Jeff Day Hoff on alfalfa at $145 a ton, 2'x3' bales (can delivery 40 tons a week) and manure at $17 to $18 a ton (can delivery 200 tons a week).

Received Standard Lease Quotation and specifications from Space Master Buildings for the change trailer.

Received IOC from Allan Fosdick, Project Chemist, the proposed revised Crane Reporting Limits to be reviewed by MK and Thomas Brent. A copy of the IOC was given to Thomas Brent for review and response by 1/31/96.

DAILY REPORT FOR January 31, 1996
DELIVERY ORDER 0009.007.30
NSWC CRANE, INDIANA

MORRISON KNUDSEN CORPORATION N62467-63-D-1106

SUMMARY OF WORK IN PROGRESS ON-AND OFF-SITE
There were no work activities on site today.

SUMMARY OF SAMPLING AND TESTING
There were no sampling or testing activities on site today.

SUMMARY OF QUALITY CONTROL CONCERNS
Duties and responsibilities were turned over to Bill Kemp. Jerry Smith was transferred to another site. Along with QCS responsibilities and duties Bill Kemp will coordinate and conduct sampling activities.

Preparatory meeting will be held with U.S. Tech on February 2, 1996.

SUMMARY OF HEALTH AND SAFETY CONCERNS
There will be no radios allowed at Dump Site "A".
Task Specific Briefing will be held the morning of February 1, 1996 for SWMU's #25/07D and 26/08D. Reviewing Bioremediation Facilities work packages.
PID was calibrated in the morning and after lunch and was documented in the log book.

LIST OF ALL WASTE MATERIALS GOING OFF-SITE
There were no waste materials going off site.

DESCRIPTIONS OF INSTRUCTIONS AND GUIDANCE RECEIVED FROM THE GOVERNMENT
Walked down SWMU #23/00 with site representative Tom Brent. MORRISON KNUDSEN will collect and dispose of a few scattered items at the site.

COMMUNICATIONS, INTERFACES AND MEETINGS WITH TEAM MEMBERS
Sub-contractor U.S. Tech will be on site February 1, 1996 to begin work activities on SWMUs #16/16, 23/00, 24/00, 25/07D, 26/08D. Tentative schedule is as follows:

2/1/96	Thursday Remove debris from Dump Site "B" - SWMU #25/07D about 2-3:00pm will send qualification load of hazardous waste to disposal facility.
2/2/96	Friday Removal of special waste from Dump Site "A" - SWMU #26/08D.
2/5/96	Monday Removal of TCE contaminated soil and liquid from Cast High SWMU #16/16.
2/6/96	Tuesday Removal of Diesel fuel contaminated soil from Cast High.
2/7,8,9/96	Wednesday thru Friday Removal of hazardous waste from Dump Site "B" (6 trucks per day).

After walk down of SWMU #23/00 in it was considered to release R.J. Brown from any further work on this contract.

Received space master pricing on change trailer. MORRISON KNUDSEN, once SWMU#23/00 is finished, will pull samples - minor clean up and check erosion in the spring. Once completed, MORRISON KNUDSEN will have site representative Tim Sears conduct a final walkdown and turnover.

RECEIVED
FEB 08 1996
MK-CRA

DATE 2/8/96

Officer in Charge of Construction
Naval Weapons Support Center
Crane, IN 47522-5082

Re: Contract N62472-4324

It is requested that Morrison Knudsen (firm or company) be authorized to work outside normal contract hours.

Location: CTR 12

Personnel (Names): Steven T. Downey
Donald J. Miller

Date: 2/10/96 & 2/11/96

Time Frame: 8:00 AM to 5:00 PM

Work to be performed: Office work

PROJECT MGR
PROJECT ENGINEER
GNL SUPT
FILE 11.011.F
FILE 28.130.F
FILE 28.040.F

APPROVED C.R. _____ DISAPPROVED

APPROVED P.M. _____ DISAPPROVED

APPROVED S.C.R. _____ DISAPPROVED

YOUR REQUEST FOR WORKING OUTSIDE THE NORMAL CONTRACT HOURS IS

_____ APPROVED _____ DISAPPROVED

REMARKS (IF DISAPPROVED)

DAILY REPORT FOR 02/19/96
DELIVERY ORDER 0009.007.30
NSWC CRANE, INDIANA

MORRISON KNUDSEN CORPORATION N62467-63-D-1106

SUMMARY OF WORK IN PROGRESS ON-AND OFF-SITE

The Project Mgr. and Eng. are continuing the review of Bio Facility drawings, specifications and procedures. Working on the presentation material for the Remediation Advisory Board (RAB) meeting and Operations Plan for the Bio Facility.

Gen. Superintendent walked down SMWU 23/00 to ensure cleanup activities are completed prior to MK and ROICC walkdown on Tuesday Feb. 20, 1995. Sampling of SWMU 23/00 will be performed after clean up activities are acceptable.

SUMMARY OF SAMPLING AND TESTING

There was no sampling/testing conducted today. There no was analytical date received by the Project Chemist today.

SUMMARY OF QUALITY CONTROL CONCERNS

The QCS is reviewing submittals from US Tech. for SC 4324-048.(Boi Facility Structures).

SUMMARY OF HEALTH AND SAFETY CONCERNS

Contact was made with Mary Music and Bedford Hospital to recieve information on CPR Training.

LIST OF ALL WASTE MATERIALS GOING OFF-SITE

There were no waste materials transported off-site today.

DESCRIPTIONS OF INSTRUCTIONS AND GUIDANCE RECEIVED FROM THE GOVERNMENT

There were no instructions or guidance received from the government today.

COMMUNICATIONS,INTERFACES AND MEETINGS WITH TEAM MEMBERS

Discussed the possibility of operating the Bio Facility with MK personnel with Ron Thomson (MK-PMO) and E.L. Pilcher (MK-Clev.).

DAILY REPORT FOR February 21, 1996
DELIVERY ORDER 0009.007.30
NSWC CRANE, INDIANA

MORRISON KNUDSEN CORPORATION **N62467-63-D-1106**

SUMMARY OF WORK IN PROGRESS ON-AND OFF-SITE

Walk down was conducted on SWMU #23/00 by Morrison Knudsen General Superintendent and OICC to verify it was cleaned up. SWMU #23/00 was found acceptable and ready for sampling. Project Manager and Project Engineer continue working on Biofacility specifications and operating procedures. Interim Closure Report for SWMU #14/00 and 17/00 will be forwarded to PMO for review and issue Thursday.

SUMMARY OF SAMPLING AND TESTING

SWMU #23/00 will be sampled Thursday, February 22, 1996.

SUMMARY OF QUALITY CONTROL CONCERNS

Close out review on R.J. Brown (SC-4324-033) is being conducted.

SUMMARY OF HEALTH AND SAFETY CONCERNS

Contacted U.S. Tech to submit asbestos records for personnel whom will be working at SWMU #26/08D and SWMU #25/07D. Contacted Anderson County Red Cross, Washington, Indiana, there will be CPR/First Aid classes on March 9, 1996 form 08:00 to 16:00 for $30.00.

Walked down and inspected Dump Site A & B (SWMU #25/07D and SWMU #26/08D). Reworked barrier and flagging (Danger Stay Out).

LIST OF ALL WASTE MATERIALS GOING OFF-SITE

There were no waste materials transported off site.

DESCRIPTIONS OF INSTRUCTIONS AND GUIDANCE RECEIVED FROM THE GOVERNMENT

There were no instructions/guidance received form the government today.

COMMUNICATIONS, INTERFACES AND MEETINGS WITH TEAM MEMBERS

Contacted Dayhoff and received weight (PCF) on menure, 25LB TO 30 LB. 50% moisture and 10% to 14% nitrogen.

Received leasing/pricing information from Indiana Mack Leasing, Inc.

Ben Shepard contacted Morrison Knudsen General Superintendent on the change-room estimate.

DAILY REPORT FOR February 22, 1996
DELIVERY ORDER 0009.007.30
NSWC CRANE, INDIANA

MORRISON KNUDSEN CORPORATION **N62467-63-D-1106**

SUMMARY OF WORK IN PROGRESS ON-AND OFF-SITE
Continued review of subcontractor submittals. Issued bid package for Bioremediation Facility Civil/Mechanical/Electrical.

SUMMARY OF SAMPLING AND TESTING
Confirmatory sampling was conducted at SWMU #23/00. Eight soil samples and two liquid samples were collected (NSWC - #23/00-05 to 14), will be analyzed for Appendix IX (complete) list. Samples will be sent to the lab on February 23, 1996.

SUMMARY OF QUALITY CONTROL CONCERNS
On going review of R.J. Brown's submittals for close out of Subcontract SC-4324-033.

SUMMARY OF HEALTH AND SAFETY CONCERNS
There were no health and safety concerns today.

LIST OF ALL WASTE MATERIALS GOING OFF-SITE
There were no waste materials transported off site today.

DESCRIPTIONS OF INSTRUCTIONS AND GUIDANCE RECEIVED FROM THE GOVERNMENT
Transmitted response to comments by Navy and EPA to Adrienne Townsel-Wilson.

COMMUNICATIONS, INTERFACES AND MEETINGS WITH TEAM MEMBERS
Site progress meeting was held at 13:00 in CTR-12, meeting notes will be incorporated in February 23, 1996 daily report.

11.05C.F

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP

MEETING NOTES

Date:	Written By:	Sheet 1 of 2
February 22, 1996	Marvin G. Chidester Jr.	

Meeting With:	Project:	
MK/NSWC Personnel	SouthDiv ERAC - NSWC Crane	
Location of Meeting:	**Meeting Date:**	**D.O. No..**
CTR 12 Conference Room	February 22, 1996	4324-0009

Purpose:
Weekly Three-Week Coordination Meeting

Attended By: Tom Brent, NSWC-Crane Environmental Site Representative;Chris Freeman, Environmental Engineer;Steve Downey, MK Project Manager (X6941);Robert Porter, MK Superintendent (X6941);Bill Kemp, MK Quality Control Supervisor, Environmental Sampling Technician (X6941) ;Marvin Chidester, MK Project Controls Engineer (X6941)

Item	Description of Discussion	Action By	Comp Date
1.0	Subcontract Scheduling; SWMU's 14/17: • The Interim Measures Report was FedX'd to the PMO February 22, 1996. • The photos that were used in the Interim Measures Report were reviewed and further discussion of additional details that would be included in the presentation to the RAB. • Old Business: None • New Business: None		
2.0	Subcontract Scheduling; SWMU's 16/24B (U.S. Tech Group, Inc.): • Went over three-week schedule, explanation of milestone dates and fixed dates in the schedule. • Coordination questions: None • Old Business: Analytical Results have not been received for samples taken at SWMU 24B. • New Business: Adrienne Wilson is working on the scope of work decision to remove the sumps around building 146.		
3.0	Subcontract Scheduling; SWMU's 23/25/26: • Went over three-week schedule, explanation of milestone dates and fixed dates in the schedule. • Coordination questions: None • Old Business: SWMU 23 has been walked down with the Navy representative. The Navy has accepted the cleanup objectives. Erosion Control Measures were mentioned as a concern and will be addressed by MK. There has been no decision on the remainder of debris and the additonal scope of work to be performed within the SWMU 25 site. • New Business: None	A.Wilson	

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP

MEETING NOTES

Date:	Written By:	Sheet 2 of 2
February 22, 1996	Marvin G. Chidester Jr.	

Item	Description of Discussion	Action By:	Comp. Date
4.0	Subcontract Scheduling; SWMU 02 (unawarded): • Went over three-week schedule, explanation of milestone dates and fixed dates in the schedule. • Coordination questions: With the evolution of the drawings, specifications and details, the Work Plan will have to be revised and reissued to incorporate. • Old Business: None • New Business: Boise is incorporating the comments to the Work Plan. Data needs to be sent to WES for review and final disposition of criteria.	T.Brent	
5.0	Subcontract Scheduling; BioFacility: • Went over three-week schedule, explanation of milestone dates and fixed dates in the schedule. • Coordination questions: Additional schedule slippage is shown. The structural subcontract package has not been progressed with probable complete dates. The subcontractor does not see our schedule; he is bound by the contract complete date of June 1, 1996. • Old Business: Sampling criteria for the compost piles/windrows were discussed for frequency of samples. If the samples taken are based on the Umatilla site then the number of samples taken here would be very expensive and prohibitive to the duration of time to operate the facility. • New Business: The Civil/Mechanical Package has been sent to the PMO for final assembly and issuance of the Bid Package to the street. The Bid Walk is scheduled for next week. Discussion of submittal review requirements of the next construction package was initiated by Steve Downey. Further discussion will be tabled until the package is formally issued.		
6.0	New Business: • None. •		
7.0	Other Business: • None. •		

DAILY REPORT FOR February 23, 1996
DELIVERY ORDER 0009.007.30
NSWC CRANE, INDIANA

MORRISON KNUDSEN CORPORATION **N62467-63-D-1106**

SUMMARY OF WORK IN PROGRESS ON-AND OFF-SITE
Project Manager and Project Engineer worked on specification, drawing/calculations, review, and establishing operating procedures for the Biofacility.

Contacted MSE to survey SWMU #16/16, 23/00, and 24/00 sampling locations and excavations.

SUMMARY OF SAMPLING AND TESTING
Samples collected from SWMU #23/00 were shipped to Compu Chemical (lab). All samples will be analyzed for Appendix IX requirements.

SUMMARY OF QUALITY CONTROL CONCERNS
Continuing reviewing of U.S. Tech submittals for SC 4324-048 and 034 and close out review of SC 4324-033 (R.J. Brown) submittals.

SUMMARY OF HEALTH AND SAFETY CONCERNS
There were no Health and Safety concerns today.

LIST OF ALL WASTE MATERIALS GOING OFF-SITE
There were no waste material transported off site today.

DESCRIPTIONS OF INSTRUCTIONS AND GUIDANCE RECEIVED FROM THE GOVERNMENT
There were no instructions or guidance received from the government today.

COMMUNICATIONS, INTERFACES AND MEETINGS WITH TEAM MEMBERS
Received estimate on Model 2820 Tanden Trailer, 1625 gallon tank with gas pump (5hp).

Contacted Rochester FNH, Inc. James Streeter on price/leasing on barrel chopper.

Valpo FNH, Inc. Michael Gentry will send us a price/leasing for barrel chopper.

DAILY REPORT FOR February 26, 1996
DELIVERY ORDER 0009.007.30
NSWC CRANE, INDIANA

MORRISON KNUDSEN CORPORATION N62467-63-D-1106

SUMMARY OF WORK IN PROGRESS ON-AND OFF-SITE
Received and reviewed revised concrete calculations for the Biofacility. Issued letter of deficiencies to U.S. Tech.

SUMMARY OF SAMPLING AND TESTING
Reviewing the analytical results from SWMU #16/16, 24/00, and 26/08D. These are preliminary results and will be forwarded to Thomas Brent.

SUMMARY OF QUALITY CONTROL CONCERNS
Completed review of submittals on SC-4324-033 (R.J. Brown). For close out. One submittal (return of NSWC badges is required). Updated submittal log for SC-4324-034 & 048.

SUMMARY OF HEALTH AND SAFETY CONCERNS
There were no Health and Safety concerns today.

LIST OF ALL WASTE MATERIALS GOING OFF-SITE
There were no waste materials going off site today.

DESCRIPTIONS OF INSTRUCTIONS AND GUIDANCE RECEIVED FROM THE GOVERNMENT
There were no instructions or guidance received from the government today.

COMMUNICATIONS, INTERFACES AND MEETINGS WITH TEAM MEMBERS
MSE contacted MORRISON KNUDSEN to come to the site Wednesday to conduct surveying activities at SWMU's #24/00, 16/00, 23/00, and the Biofacility.

Received pricing/leasing information from Rochester Ford in New Holland for 700 series barrel chopper, mixer, and truck mount.

Received information form Diamond construction Equipment on 580 SH tractor loader backhoe. Case 1840, 921B, 721B, and 4-390.

Contacted R.J. Brown again to return NSWC Badges from personnel.

Contacted U.S. Tech to verify they had submitted the asbestos training certification for personnel who will be working on SWMU #25/07D and 26/08D.

DAILY REPORT FOR February 28, 1996
DELIVERY ORDER 0009.007.30
NSWC CRANE, INDIANA

MORRISON KNUDSEN CORPORATION **N62467-63-D-1106**

SUMMARY OF WORK IN PROGRESS ON-AND OFF-SITE
RFP-4324-049 Bioremediation Facility Civil/Utility work, bid proposal walk down was conducted at 10:00. There were 10 companies represented in the walk-down.

Reviewed Biofacility concrete design calculation deficiencies with U.S. Tech representatives. Schedule concerns were discussed (U.S. Tech should have mobilized by February 12, 1996 per the contract).

MSE Surveying was on site to survey in sample locations at SWMU #16/16, 23/00, 24/00, and Biofacility benchmarks.

SUMMARY OF SAMPLING AND TESTING
On going review being conducted by Project Chemist on analytical data being received on SWMU #16/16, 23/00, 24/00B, and 26/08D.

SUMMARY OF QUALITY CONTROL CONCERNS
The 35 drums and 3 roll offs at SWMU 16/16 are labeled and identified. Chris Freeman (Base Environmental Rep.) And Morrison Knudsen QCS attached labels. The 90 day clock starts February 6, 1996.

SUMMARY OF HEALTH AND SAFETY CONCERNS
Held Pre-Briefing with MSE on general safety and precautions to be aware of.

CPR/First Aid training will be held March 5, 1996 at 8:00am.

LIST OF ALL WASTE MATERIALS GOING OFF-SITE
There were no waste material transported off site.

DESCRIPTIONS OF INSTRUCTIONS AND GUIDANCE RECEIVED FROM THE GOVERNMENT
There were no instructions/guidance received from the government today.

COMMUNICATIONS, INTERFACES AND MEETINGS WITH TEAM MEMBERS
R.J. Brown's Tim Culp contacted MORRISON KNUDSEN to state that badges would be returned and close out report will follow.

DEPARTMENT OF THE NAVY
CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
300 HIGHWAY 361
CRANE INDIANA 47522 5001

RECEIVED
MAR 26 1996
MK-CRANE

IN REPLY REFER TO
25 March 1996

MEMORANDUM

From: Director, Environmental Protection Department
To: Restoration Advisory Board (RAB) Members

Subj: RAB MEETING MINUTES

Encl: (1) RAB Meeting Minutes - 12 March 1996

Crane Division, Naval Surface Warfare Center (NAVSURFWARCENDIV Crane) conducted, on Center, the first official RAB meeting on Tuesday, 12 March 1996. A copy of the minutes from that meeting are included as enclosure (1). Attachment (1) is a list of the attendees.

At the meeting, the attending community RAB members decided to hold the Community Co-Chair election at a later date. Therefore, a meeting has been scheduled for 11 April 1996, whereby the seven community RAB members will meet with the Installation Co-Chair, Mr. James M. Hunsicker, to determine the terms and conditions to govern the RAB and elect a Community Co-Chair.

NAVSURFWARCENDIV Crane point of contact is
Ms. Christine D. Freeman, Code 09511, telephone 812-854-4423.

James M Hunsicker
Mr. James M. Hunsicker,
Director, Env. Prot. Dept.

Copy to:
CAPT J. Carney, NSWC
CDR L.A. Laws, NSWC 09
Gerald K. Hill, NSWC 09A
Carol Witt-Smith, EPA Region V
Jim Ferro, NAVFAC
Art Sandford, NAVFAC
Adrienne Townsel-Wilson, NAVFAC
Brian Von Gunten, IDEM
Dr. James May, WES ACOE
Roy Wade, WES ACOE
Cathy Andrews, NSWC PPO
Sue Webster, NSWC PA
Jim Riggins, NSWC OICC
Brent Robertson, NSWC OICC
Doug Johnson, NSWC CAAA
Roger Clark, B&R Env.
Karen Smecker, B&R Env.
Steve Downey, MK Corp.
Don Miller, MK Corp.
Martin Wilson, MK Corp.

NSWC - CRANE			
4324-0000			
PROJECT MEMBER	ACT	INFO	INIT
PROJECT MANAGER			BTO
PROJECT ENGINEER			
GNL SUPT			
SAFETY AND HEALTH			
QA/QC SUPERVISOR			
PROJECT CONTROLS			
FIELD ENGINEERING			
PMO-CHARLESTON			
FILE 11 01.5			
22.04.05			
(Double Sided)			

Restoration Advisory Board Meeting Minutes - March 12, 1996

The first official Crane Division, Naval Surface Warfare Center (NAVSURFWARCENDIV Crane) Restoration Advisory Board meeting was held on March 12, 1996 at 0900 hours on Center in Crane, IN, at Building 3241 in Conference room B. Attachment (1) is a list of attendees. Presentations were given on the proposed Risk Assessment and Interim Measures work that is being performed, wherein guests were given the opportunity to be informed and ask questions about the RAB and environmental programs going on at NSWC Crane. Persons from NSWC Crane, Southern Division, Federal and State governing agencies, as well as individuals representing Government contracts were on hand to answer questions. Guests were given a briefing booklet containing background information about the RAB and much of the same information introduced during the presentations.

From 0900 to 1100 hours an informal meeting was called to order. The meeting was opened by Mr. Jim Hunsicker who introduced Captain Carney. Captain Carney gave a welcome and emphasized his commitment to the environmental program at NSWC Crane. At that time, Captain Carney dismissed himself, due to prior commitments, and turned the meeting over to Mr. Jim Hunsicker. Mr. Hunsicker then introduced the key NSWC Crane and regulatory people present and then discussed the agenda of the meeting. The agenda called for two presentations to be given by government contractors, lunch at Club Lakeview, a tour of various sites discussed in the presentations, and the election of the Community Co-Chair. It was decided to hold the Community Co-Chair election sometime during the first week of April so that all community RAB members could be present.

At 0920 hours, Mr. Hunsicker turned the meeting over to the first presenter, Dr. Roger Clark, Senior Geologist and project manager from Brown and Root Environmental. Dr. Clark gave an introduction to the objectives of the Risk Assessment and an overview of the five areas of concern that will be included in the proposed Risk Assessment. Brown & Root Environmental passed out an additional handout to that which was included in the briefing booklet. Dr. Clark then asked Ms. Karen Smecker, Risk Assessment Specialist, also from Brown and Root Environmental, to speak about the purpose and specifics involved in conducting the Risk Assessment. Ms. Smecker concluded her talk around 1000, then Mr. Hunsicker suggested a five minute break before the next presentation was to begin.

After the break, Mr. Hunsicker introduced Mr. Steve Downey, project manager from Morrison Knudsen Corporation. Mr. Downey discussed the Interim Measures work that is being performed at NSWC Crane. The briefing booklet contains a detailed overview and some photos shown during Mr. Downey's presentation. At 1055 hours Mr. Downey concluded his presentation. Mr. Hunsicker announced that the morning session was now over and invited everyone to attend lunch at Club Lakeview.

At 1200 hours, those interested reconvened again at Bldg. 3241 to begin the tour of some of the sites mentioned in the presentations. The briefing booklet contains a short site history for each site visited. The last site on the list, Cast High Explosives - Old Incinerator Site (B146) SWMU 16/16, was not visited due to time constraints. The tour and the first official RAB meeting was adjourned at 1520 hours.

Attendees

Community RAB Members

Mr. David Cox
Daviess Co. Growth Council
P.O. Box 191
Washington, IN 47501
Phone: (812) 254-1508
Fax: (812) 254-2550

Mr. John H. Longfellow
c/o Stone City Bank
1502 I St.
Bedford, IN 47421
Phone: (812) 279-6604
Fax: (812) 279-1796

Mr. Thomas P. Medina
P.O. Box 100
Scotland, IN 47457
Phone: (812) 295-4189
Fax: (812) 295-9418

Mr. Douglas D. Rose
R.R. #3 Box 410A
Linton, IN 47441
Phone: (812) 847-6020
Fax: (812) 847-8659

Government RAB Representatives

Ms. Carol Witt-Smith
U.S Environmental Protection Agency, Region V
Waste, Pesticides, and Toxics Division
Waste Management Branch
Illinois, Indiana, and Michigan Section
Attn: Ms. Carol Witt-Smith (DRP-8J)
77 West Jackson Blvd.
Chicago, IL 60604
Phone: (312) 886-6146

Mr. Jim Ferro
Department of the Navy
South NAVFACENGCOM
Attn: Mr. Jim Ferro
2155 Eagle Drive
N. Charleston, SC 29419-9010
Phone: (803) 820-7483

Mr. Art Sanford
Department of the Navy
South NAVFACENGCOM
Attn: Mr. Art Sandford
2155 Eagle Drive
N. Charleston, SC 29419-9010
Phone: (803) 820-7482

Mr. Brian Von Gunten
Indiana Department of Environmental Management
Defense Environmental Restoration Program
Attn: Mr. Brian Von Gunten
P.O. Box 6015 (Room N-1255)
100 N. Senate Ave.
Indianapolis, IN 46206-6015
Phone: (317) 233-6333
Fax: (317) 233-3658

Dr. James May
U.S. Army Corps of Engineers
Waterways Experiment Station
Attn: Dr. James May (CEWES-GG)
3909 Halls Ferry Road
Vicksburg, MS 39180-6199
Phone: (601) 634-3395
Fax: (601) 634-3139

Mr. Roy Wade
U.S. Army Corps of Engineers
Waterways Experiment Station
Attn: Mr. Roy Wade (EE-R)
3909 Halls Ferry Road
Vicksburg, Miss 39180-6199
Phone: (601) 634-4019

NAVSURFWARCENDIV Crane
RAB Representatives
Address:
Commander
Attn: Code and Bldg.
NAVSURFWARCENDIV
300 Highway 361
Crane, IN 47522-5001

CAPT J. Carney
Code A Bldg. 1

CDR L. A. Laws
Code 09 Bldg. 2516
Phone: (812) 854-1344

Mr. Gerald K. Hill
Code 09A Bldg. 2516
Phone: (812) 854-1331

Mr. James M. Hunsicker
Code 095 Bldg. 3260
Phone: (812) 854-3233

Mr. Thomas J. Brent
Code 09510 Bldg. 3260
Phone: (812) 854-6160

Ms. Christine D. Freeman
Code 09511 Bldg. 3260
Phone: (812) 854-4423

Ms. Cathy Andrews
Code PPO Bldg. 120
Phone: (812) 854-3391

Ms. Sue Webster
for Mr. Tim Callahan
Code PA Bldg. 1
Phone: (812) 854-1394

Mr. Jim Riggins
Code ROICC Bldg. 2516
Phone: (812) 854-3257

Mr. Brent Robertson
Code ROICC Bldg. 2516
Phone: (812) 854-3318

Mr. Doug Johnson
Code CAAA Bldg. 13
Phone: (812) 854-1481

NAVSURFWARCENDIV Crane
Contractors

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Brown & Root Environmental
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Phone: (412) 921-8415
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Ms. Karen M. Smecker
Brown & Root Environmental
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661 Andersen Dr.
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Mr. Steve T. Downey
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Fax: (812) 854-6944

Mr. Don Miller
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Mr. Martin Wilson
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N. Charleston, SC 29406
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DAILY REPORT FOR 03/28/96
DELIVERY ORDER 0009.007.30
NSWC CRANE, INDIANA

MORRISON KNUDSEN CORPORATION N62467-63-D-1106

SUMMARY OF WORK IN PROGRESS ON-AND OFF-SITE

Continuing to draft up the equipment specifications for the Biofacility.
Reviewing submittals, work plans, safety procedures for active SWMUs.
Transmitted the "Draft" Operational Plan for Interim Measures Cleanup at SWMUs 3/10, 10/15, 12/14, 13/14 and the Bioremediation Facility to PMO/Navy/EPA for review and comment.

SUMMARY OF SAMPLING AND TESTING

There was no sampling activities conducted today

SUMMARY OF QUALITY CONTROL CONCERNS

There was no QC concerns today.

SUMMARY OF HEALTH AND SAFETY CONCERNS

There was no safety concerns today. All active SWMUs the Biofacility were inspected to ensure sites were secure.

LIST OF ALL WASTE MATERIALS GOING OFF-SITE

There was no waste transported off site today.

DESCRIPTIONS OF INSTRUCTIONS AND GUIDANCE RECEIVED FROM THE GOVERNMENT

The Weekly Progress Meeting was held at 1300 at CTR-12. The three week look ahead schedule was reviewed. Received the RCRA Data Quality Level Table Update #1 at the Weekly Progress Meeting. Requested from the EPA Site Representative if there is any sampling that should be conducted at the SWMU-02/11, there are none required by the SAP. This request is initiated from a question asked by the bidders at the Pre Bid meeting for the Dye Burial Cap held earlier today.

SWMU-23/00 Final inspection and acceptance (for physical work) was signed by the ROICC. MK will check area periodically for any erosion concerns.

COMMUNICATIONS,INTERFACES AND MEETINGS WITH TEAM MEMBERS

Discussed with PMO the Davis Bacon wages for Tri Axel Dump Truck and Farm Tractor Group #5.

The Pre-Bid Meeting and Site Walk Down for RFP-4324-054, Dye Burial Cap SWMU-02/11 was held at CTR-12 at 1000 today. Nine (9) companies attended the Pre-Bid Meeting. Review and discussion on the importance for the bidders to read and understand the complete package/reference codes and standards requirements. Specific attention to Vendor Submittal Data Schedule and other submittals within the package, reference codes/standards which may not be identified in the Vendor Data Schedule, Quality and Health/Safety documentation/record requirements and any questions/request for clarification be in writing to MK 4/2/96. MK will respond to all questions.

Received quote from Gordon Wells on 9030 tractor with loader, bale spearer and bale fork.

DAILY REPORT FOR 04/15/96
DELIVERY ORDER 0009.007.30
NSWC CRANE, INDIANA

MORRISON KNUDSEN CORPORATION **N62467-63-D-1106**

SUMMARY OF WORK IN PROGRESS ON-AND OFF-SITE

Received transmittals from PMO for Operational Plan SWMUs-03/10, 10/15, 12/14, 13/14 and Soils Bioremediation Facility for information (one to Thomas Brent for Review and Comment) and the March 1996 monthly status reports to be forwarded to Brent Robertson. Transmitted to PMO the equipment bid packages 4324-036, 037 and 038 with PMO comments incorporated. Reviewing submittals, work plans, safety procedures for active SWMUs. Review and cost comparisons for alternatives to composting (ie, Daramend and Simplot).

US Tech at SWMU-16/16 removing 36 drums for transport to an approved off site disposal facility. The 36 drums at SWMU-16/16 were transported by TSMT freight to Excel TSD facility in Memphis Tn.

SUMMARY OF SAMPLING AND TESTING

There was no samples collected today. Notified the MK project Chemist that the review of all analytical data for SWMUs 25/07D and 26/08D will be needed by 4/18/96.

There are 21 days left on the "90 day clock" to remove the three roll-offs at SWMU-16/16.

SUMMARY OF QUALITY CONTROL CONCERNS

The Land Disposal Restriction Notification (LDRN) and the Excel TSD Inc. Material Profile Form (originals) for the one (1) drum of FO sludge at SWMU 16/16 was reviewed by MK and the EPD. Contacted representative for EXCEL to confirm the Technology Code "FSUBS" which was missing on the LDRN. This was verified as correct, entered on the LDRN and all documentation was acceptable for removal for the one drum of FO sludge.

SUMMARY OF HEALTH AND SAFETY CONCERNS

All active SWMUs and the Biofacility erosion control measures, barricades, tapping and drum/roll-off storage were inspected for compliance and are secure for the weekend.

The US Tech representative is not 40 hour HAZWST trained and could not enter the area to move the drums at SWMU 16/16. The truck driver and laborers training certifications were verified as current and proceeded to load the drums.

LIST OF ALL WASTE MATERIALS GOING OFF-SITE

There were 35 drums (waste Classification D040) and 1 drum (waste classification D004) transported off site from SWMU 16/16 for disposal at an approved facility.

DESCRIPTIONS OF INSTRUCTIONS AND GUIDANCE RECEIVED FROM THE GOVERNMENT

Received copy of letter, 4/10/95, from Indiana Department of Environmental Management on the Permit Pre-Application Meeting, Crane NSWC Landfill held on 43/19/96.

Guidance from the EPD; the TSMT truck with the SWMU-16/16 drums was not required to be weighted in or out nor were placards required on the truck.

The MK Proj. Mgr. and Proj. Eng. attended a conference call with the EPD, ROICC, RPM (Adrienne Wilson) and ACOE (Roy Wilson) on the comments to the ACOE Bench Scale Testing Preliminary Report. Discussions only included the recipes for Pilot Scale operation at the Biofacility. The agreed upon recipes are:

1) Cow Manure and Alfalfa
2) Cow Manure, Alfalfa and Wood Chips
3) Chicken Manure and Corn Stalks
4) Chicken Manure and Straw

Each recipe will be preformed at 25% and 30% soil by volume in 50' long windrow. This is approx. 165 cuff per pile. This represents a significant increase in volume from the original pilot scale plan.

ACOE requested a schedule update for coordination of ACOE activities at site during Pilot Scale operations. The MK Proj. Mgr. indicated a 4 week slip at present and the landfill permit modification drawings have yet to be completed be Comarco. The ROICC was expecting completion of drawings for submittal to IDEM. The EPD also discussed the possibility of IDEM approval to proceed without final permit modification approval based on the force main as is and not relocating.

COMMUNICATIONS,INTERFACES AND MEETINGS WITH TEAM MEMBERS

Received the analytical data (preliminary only) from the MK Project Chemist on SWMUs 23/00, 25/07D, 16/16 and 24/00. Copies were made and given to the EPD with the understanding that the data had not received the MK Project Chemist verification or validation.

DAILY REPORT FOR 04/17/96
DELIVERY ORDER 0009.007.30
NSWC CRANE, INDIANA

MORRISON KNUDSEN CORPORATION N62467-63-D-1106

SUMMARY OF WORK IN PROGRESS ON-AND OFF-SITE

Review and cost comparisons for alternatives to composting (ie, Daramend and Simplot).

The drawing for the change room at the Biofacility is being revised for access to clean up area.

Continuing to establish specifications for equipment and amendments for the Biofacility. Review of the compost mix designs to establish proportions necessary to achieve desired carbon: nitrogen ratio.

MSE was on site to survey the Biofacility for cut /fill for excavation of the complete area. The survey determined that building "3" will need to be relocated (approx) 80' to the NW and the lower pond will need to be relocated (approx.) 70' to the NW to clear the power pole at the SW corner. The MK Proj. Eng. marked up the drawings late today and Jacobs will be notified Thursday.

SUMMARY OF SAMPLING AND TESTING

There was no samples collected today.

SUMMARY OF QUALITY CONTROL CONCERNS

There are 19 days left on the "90 day clock" to remove the three roll-offs at SWMU-16/16. The CID 034-018 were written to change the disposal method for the sludge from the west sump at SWMU 16/16, contained in 3 roll-offs, to address the additional cost of disposal. CID was sent to PMO for review and approval.

SUMMARY OF HEALTH AND SAFETY CONCERNS

All active SWMUs and the Biofacility erosion control measures, barricades, taping and roll-off storage were inspected for compliance and are secure.

Held safety meeting with MSE on general construction safety prior to conducting surveying activities at the Biofacility.

LIST OF ALL WASTE MATERIALS GOING OFF-SITE

There was no waste materials transported off site today. Transmitted the signed manifests, from the off-site landfill, for SWMU 14/00 and 24/00 to the EPD.

DESCRIPTIONS OF INSTRUCTIONS AND GUIDANCE RECEIVED FROM THE GOVERNMENT

There were no instructions or guidance received from the government. Updated the EPD on the status of the 5 samples collected at SWMU26/08D (analytical results will be here 4/18/96), west sump sample at SWMU 16/16 (analytical results will be here 4/18/96) and sample location drawings for SWMU 16/16, 23/00, 24/00, 25/07D, 26/08D were reviewed, red lined, and returned to MSE for corrections. The drawings should be back by Monday at the latest.

Tony Steele (OICC) notified MK that one day next week the contractor working next to us would be relocating the power pole and from 1300 to 1900 the power will be off at CTR 12. MK requested a 1 day notice prior to the event.

COMMUNICATIONS,INTERFACES AND MEETINGS WITH TEAM MEMBERS

The MK Proj. Mgr. and P.E. met with Rose Hill Farms to discuss compost mix designs.

Smith Environmental will be on site Thursday with the Electrical contractor to look at the Biofacility.

Proposed suppliers are calling as to when the equipment and amendments packages will be issued.

DAILY REPORT FOR JUNE 21st, 22nd and 23rd, 1996
DELIVERY ORDER 0009.007

NSWC CRANE, INDIANA

MORRISON KNUDSEN CORPORATION **N62467-63-D-1106**

SUMMARY OF WORK IN PROGRESS ON-AND OFF-SITE

As of 0630 the reading was (6/24/96) 74,900. A total of 191,800 gallons of water have been processed through the stripper to date. There was 200 gal. water processed today.

All seeding and mulching at SWMUS 24/00, 25/07D and 16/00 will proceed as weather permits. SWMUs 16/16, 24/00 and 25/07D areas are dry with no standing water and ready to seed and mulch.

Reviewing the Biofacility Operational Plan, Dye Burial Cap work Plan, U.S. Tech and Smith submittals for the Biofacility and Dye Burial Cap.

Writing the work request for Jacobs to prepare the IMRs.

Copies of the Equipment bid packages, RFQs #4324-036, 038, 039, 040, 041, 042, 043, 044, 051 and 052, were recieved today. These had been issued from MK Cleveland on June 14th and 17th.

Weekly Progress Meeting Minutes are attached to this report.

Smith Environmental (SETC) mobilized for subcontract work on SC-4324-054 and SC-4324-049. SETC began clearing and cutting the Dye Burial Cap (DBC) area over the weekend. The first of two SETC trailers arrived on 6/21/96 and was set up at the DBC. The second trailer, for the Biofacility, has not arrived. Orange fencing was installed at the enterence of the site. Procceding to weed eat grass/small shrubs and cut small trees on trench #3.

CID (Draft) was written to clarify/expand the requirements of SWMU-02/11 Work Plan 4.0 Project Excution , 4.2.2 "Vegetation Removal". The change will be reviewed by the ROICC and the EPD Monday prior to issue.

MK met with landfill operator and has determined locations for stock piling top soil and compost material from the Biofacility and wood chips from the DBC.

SUMMARY OF SAMPLING AND TESTING

There were no samples collected today. Reviewing the sample results from SWMU 10/15 has determined the area to collect the "average" sample to send to GRACE Dearborn. DeTecK field testing Samples dilution kits were received today. Samples will be collected and shipped to GRACE Dearborn by June 28th.

SUMMARY OF QUALITY CONTROL CONCERNS

Preparatory Phase Meeting was held with Smith Environmental to review all required submittals, SWMU 02/11 Work Plan (specifically section 02200), viewed the tape on the Three Phases of QC. Meeting was documented on DBP-01 checklist

(attached). Item #4 on the checklist for Decontamination Plan (procedure from Smith) was recieved 6/22/96. All required submittals were acceptable to begin this phase of work.

SUMMARY OF HEALTH AND SAFETY CONCERNS

Inspected all active SWMUs and the Biofacility erosion control measures, barricades, and taping (Erosion Control inspection report attached). Held Site Safety and POD meeting with Smith personal to review daily Health and Safety requirements.

Photoionzation Detecton equipment will be returned to MK next week.

Conducted safety check on 855 J/D tractor and brush hog. SETC made there checklist out (copy attached).

LIST OF ALL WASTE MATERIALS GOING OFF-SITE

There was no waste transported off-site for disposal.

DESCRIPTIONS OF INSTRUCTIONS AND GUIDANCE RECEIVED FROM THE GOVERNMENT

Per EPD request, information on the disposal of soil/trash from SWMUs 24/00 and 23/00, was located. On 11/28/9~~8~~7 two roll-offs (1 with trash/1 empty) were picked up by Rumpke and disposed of off-site as trash (2 tons) from SWMU 23/00. On 10/16/9~~8~~5 and 10/17/9~~8~~5 a total of 18-(14yd trucks = (378 tons) of soil from SWMU 24/00 was disposed of on-site. These trucks from SWMU 24/00 were not weighed in or out.

COMMUNICATIONS, INTERFACES AND MEETINGS WITH TEAM MEMBERS

A conference call between the MK site and PMO is scheduled the 26th of June at 1000 hrs (0900 site time) and will become a weekly interface.

The Proj. Eng. in Cleveland has requested specific documents (E-Mail attached) from the PNO. The ROICC and the EPD may be able to provide copies of these documents if they have not been transmitted to PMO.

Contacted U.S. Tech as to the submittals for the 4,000 psi concrete mix design and curing method to be used.

CIDs/NAVY and EPA CORRESPONDENCE

CONSTRUCTION INTERFACE DOCUMENT

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP

DATE: 10/13/95

MK CID NO: 023-002

DELIVERY ORDER NO. 4324-0009-007-30

SUBCONTRACT NO. SC-4324-023

ORIGINATOR PROBLEM NO. MK-006

SUBCONTRACTOR: MSE Surveying

TO: Tom Payne

PROJECT DESCRIPTION: NSWC Crane

FROM: Steve Downey

REFERENCE: WORK PLAN/DRAWINGS/SPECIFICATIONS N/A

SUBJECT: Additional Survey Work

ATTACHMENTS: YES ☐ NO ☒

PROBLEM / DEFICIENCY

CLARIFICATION ☐ CHANGE ☒ INFORMATION ☐

Additional surveying services are required at Crane for SWMU's 16/16, 24/00, 23/00, 25/07D, 26/08D and the Bioremediation facility. Previously authorized survey hours are inadequate due to relocation of the Bioremediation facility which necessitated a new survey.

ADDITIONAL COSTS YES ☒ NO ☐

SCHEDULE CHANGE YES ☐ NO ☒

PROPOSAL YES ☐ NO ☐

RECOMMENDED SOLUTION

Issue a change order to the existing subcontract with MSE to increase the budget ceiling from $75,000 to $95,000.

CID DISPOSITION REPORT

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP

DATE: 10/13/95

MK CID NO: 023-002

DELIVERY ORDER NO. 4324-0009-007-30

SUBCONTRACT NO. SC-4324-023

ORIGINATOR PROBLEM NO. MK-006

SUBCONTRACTOR: MSE Surveying

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
  - ☒ $20,000 (estimate)
  - ☐ Schedule impact: _____ days
  - ☐ Engineering estimate attached? ☐ Yes ☐ No
  - ☐ Requisition # _____

13050.01.5
10.024(1)DOC
10.024(1)DOC
10.024(1)DOC
10.024(1)DOC

DETAILED DISPOSITION

Recommended solution is acceptable.

Dispositioned by: Steve T Doong Date: 10/13/95 Title: Project En.

APPROVALS

Steve T Doong 10/13/95
MK Project Engineer Date

MK Contract Admin. Mgr. Date

Thomas Tyre 10/13/95
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

M RISON KNUDSON CORI RATION

SUBCONTRACT / PURCHASE ORDER ACTION AUTHORIZATION

Date: October 16, 1995 To: Tom Payne / Steve Downey

Return to SA: William D. John McCumbers

Order Title:

Order Number: 0009

Subcontract Number: 4324-023 - MSE-Surveying

Purchase Order Number:

Subcontract / Proposal Attached for Review Approval

ACTION	AMOUNT
Subcontract / Award Amount	$ 63,000.00 NTE
Prior Subcontract CO's 01	$ 12,000.00
Subcontract Change Order No.: 02	$ 20,000.00
Covering CID No.: 002 Additional Surveying Work	
Covering Claims Dated:	
Total Subcontract / Value including this action	$ 95,000.00

Comment: This is to confirm that adequate funds are available to support this change order.
The additional work is for Sumps: 16/16, 24/00, 25/07D, 26/08D and the Bioremediation facility.

WD John McCumbers

Confirming Verbal Direction of: October 13, 1995

Adequate funding is available, equal to, or exceeding, the total value shown above.

Sign / Date: [signature] 10/16/95
Site Project Manager

Distribution:

Project Manager [signature]

Site Proj. Control [signature]

PMO Proj. Control

Subcontract / File SC 4324-023

JM 5/95

10.023
10.024 CID000002

4/3/96 COMPLETED MOI #01 ORIGINAL

CONSTRUCTION INTERFACE DOCUMENT

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP

DATE: 3/4/96

MK CID NO: 033-003

RECEIVED APR 05 1996 MK-CRANE

ORIGINAL

DELIVERY ORDER NO.
4324-0009-007-30

SUBCONTRACT NO.
SC-4324-033

ORIGINATOR PROBLEM NO.
MK-015

SUBCONTRACTOR:
R.J. Brown Associates

RECEIVED MAR 29 1996 MK CORP

TO:
Steve Downey

PROJECT DESCRIPTION:

FROM:
Marvin G. Chidester Jr.

REFERENCE: WORK PLAN/DRAWINGS/SPECIFICATIONS
N/A

SUBJECT:
Contract Closure for SWMU 23, SWMU 25, & SWMU 26

ATTACHMENTS: YES [X] NO [ ]
Reduced Schedule of Values for SWMU's 23/25/26

PROBLEM / DEFICIENCY CLARIFICATION [ ] CHANGE [X] INFORMATION [ ]

The scope of work for SWMU's 23/25/26 has changed due to the type of contamination/debris within the SWMU areas. R.J. Brown has performed work activities within SWMU's 23/25/26 and cannot proceed under the current scope of work.

ADDITIONAL COSTS YES [X] NO [ ]

SCHEDULE CHANGE YES [X] NO [ ]

PROPOSAL YES [X] NO [ ]

RECOMMENDED SOLUTION

Reduce the contract scope of work to reflect the current value of work performed to-date. Attached is a revised Schedule of Values with the reduced quantities and values incorporated. MK recommends that a modification to SC-4324-033 ,to reduce the current quantities and value be issued.

NSWC - CRANE 4324-0009			
PROJECT MEMBER	ACT	INFO	INIT
PROJECT MANAGER			STC
PROJECT ENGINEER			
GNL SUPT			
SAFETY AND HEALTH			
QA/QC SUPERVISOR			
PROJECT CONTROLS	K		
FIELD ENGINEERING			
PMO-CHARLESTON			
FILE: ~~10.024.CRA.005~~			
FILE: 12.082.055			
FILE: 13.050.045			

C-4324			
DIST	I	A	R
PM			
PIM	✓		
PCM	✓		
CAM	✓		
BM			
FURCH	✓		
OCM			
SAFETY			
Downey	✓		
FILE: C/O 0009			

Wilson

CID DISPOSITION REPORT

MORRISON KNUDSEN CORPORATION ENGINEERING, CONSTRUCTION & ENVIRONMENTAL GROUP	DATE: 3/4/96 ORIGINAL
	MK CID NO: 033-003
DELIVERY ORDER NO. 4324-0009-007-30	SUBCONTRACT NO. SC-4324-033
ORIGINATOR PROBLEM NO. MK-015	SUBCONTRACTOR: R.J. Brown Associates

DISPOSITION CATEGORIES

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

- [ ] No cost/schedule impact
- [X] Cost/schedule impact
  - [X] Cost increase / decrease
  - [ ] <$ 31,875> (estimate)
  - [ ] Schedule impact: — days
  - [X] Engineering estimate attached?
    Yes [ ] No [X]
  - [ ] Requisition # _____

DETAILED DISPOSITION

Reduce the scope of work to SC-4324-~~044~~ 033 to reflect the actual **"Schedule of Values"** line items that are either complete or reduced. See the attached **"Schedule of Values"** for details.

Dispositioned by: [signature] Date: 3/19/96 Title: Project Control Eng.

APPROVALS

[signature] 3/19/96 MK Project Engineer Date	[signature] 3/25/96 MK Contract Admin. Mgr. Date
[signature] 3-19-96 MK Project Manager Date	[signature] 26 Mar 96 MK Program Manager (over $5000) Date
[signature] 3/25/96 MK Sr. Project Manager (over $5000) Date	[signature] 3/25/96 MK Project Controls Manager Date
	_____ MK Quality Control Manager (Work Plan or Design Changes only) Date

BROWN
ASSOCIATES

OILS-LUBRICANTS-CHEMICALS
SALES-RECLAMATION-DISPOSAL

R.J. BROWN ASSOCIATES, INC.
1946 N. 13th ST.-SUITE 437
TOLEDO, OHIO 43624
OFFICE: (419) 244-0010
FAX: (419) 244-0515

RECEIVED
JAN 26 1996

MK CORP
RJB/MKC-006

January 23, 1996

Morrison Knudsen Corporation
Attn: Willard D. McCumbers
2420 Mall Drive
North Charleston, SC 29406

Reference: Subcontract No., 4324-033
Completion of project at SWMU's #23/00, #25/07D, and 26/08D
NSWC Crane, IN

As a result of the changed conditions at the project sites in Crane, it is our opinion that it would be cost effective to all parties involved to close out the project as complete. There is retainage on the contract primarily for demobilization that needs your consideration.

Any additional work would be handled through a separate line item under the new contract. We acknowledge that closing out this contract is beneficial to us and feel it makes good sense to Morrison Knudsen and the Navy. We trust this action in no way reflects negatively with Morrison Knudsen or the government.

If this is agreeable, we would prefer to complete the minimal remaining requirements of the project. Please advise.

Sincerely,

Robert J. Brown

Robert J. Brown,
President

RJB/sdc

cc: Steve Downey/MK Crane

C-4324			
DIST	1	A	R
	✓		
	✓		
	✓		
	✓		
PURCH	✓		
OCM			
SAFETY			
WBM	✓		
File			

SC-4234-033 Revised "Schedule of Values"

ORIGINAL

SWMU 23/00 Battery Shop

Item Number	Estimated Quantity	Units	DESCRIPTION	Unit Price Level "D"	Extended Price	Changed Quantities	Changed Extended Prices
1	1	LS	Mobilization and Demobilization	$5,800.0	$ 5,800.00	1	$ 5,800.00
2	1	LS	Performance/Payment Bond	$586.5	$ 586.50	1	$ 586.50
3	1	LS	Tree and Brush Clearing	$500.0	$ 500.00	1	$ 500.00
4	50	CY	Excavation and Sorting of Debris	$60.0	$ 3,000.00	20	$ 1,200.00
5	30	CY	Backfill and Compaction (from off-site borrow source)	$30.0	$ 900.00	0	$ -
6	5	EA	Transportation and Disposal of Hazardous Drums	$350.0	$ 1,750.00	0	$ -
7	10	CY	Transportation and Disposal of Hazardous Debris	$320.0	$ 3,200.00	0	$ -
8	40	CY	Transportation and Disposal of Nonhazardous Debris	$80.0	$ 3,200.00	30	$ 2,400.00
9	3000	SY	Site Restoration (Topsoil/Seeding/Mulch/Fertilizer)	$0.3	$ 750.00	0	$ -
10	1	LS	Decontamination/Surface Water Offsite Disposal	$450.0	$ 450.00	0	$ -
					$ 20,136.50		$ 10,486.50

SWMU 25/07D Dump Site "A"

Item Number	Estimated Quantity	Units	DESCRIPTION	Unit Price Level "D"	Extended Price	Changed Quantities	Changed Extended Prices
1	1	LS	Mobilization and Demobilization	$ 4,800.00	$ 4,800.00	1	$ 4,800.00
2	1	LS	Performance/Payment Bond	$ 550.50	$ 550.50	1	$ 550.50
3	1	LS	Tree and Brush Clearing	$ 1,000.00	$ 1,000.00	1	$ 1,000.00
4	100	CY	Excavation and Sorting of Debris	$ 15.00	$ 1,500.00	0	$ -
5	50	CY	Backfill and Compaction (from off-site borrow source)	$ 30.00	$ 1,500.00	0	$ -
6	5	EA	Transportation and Disposal of Hazardous Drums	$ 350.00	$ 1,750.00	0	$ -
7	10	CY	Transportation and Disposal of Hazardous Debris	$ 320.00	$ 3,200.00	0	$ -
8	40	CY	Transportation and Disposal of Nonhazardous Debris	$ 80.00	$ 3,200.00	0	$ -
9	2000	SY	Site Restoration (Topsoil/Seeding/Mulch/Fertilizer)	$ 0.25	$ 500.00	0	$ -
10	1	LS	Decontamination/Surface Water Offsite Disposal	$ 400.00	$ 400.00	0	$ -
11	1	CY	Decontamination/Surface Water Offsite Disposal	$ 500.00	$ 500.00	0	$ -
					$ 18,900.50		$ 6,350.50

SWMU 26/08D Dump Site "B"

Item Number	Estimated Quantity	Units	DESCRIPTION	Unit Price Level "D"	Extended Price	Changed Quantities	Changed Extended Prices
1	1	LS	Mobilization and Demobilization	$ 5,700.00	$ 5,700.00	1	$ 5,700.00
2	1	LS	Performance/Payment Bond	$ 506.00	$ 506.00	1	$ 506.00
3	1	LS	Tree and Brush Clearing	$ 1,500.00	$ 1,500.00	1	$ 1,500.00
4	50	CY	Excavation and Sorting of Debris	$ 15.00	$ 750.00	0	$ -
5	30	CY	Backfill and Compaction (from off-site borrow source)	$ 20.00	$ 600.00	0	$ -
6	2	EA	Transportation and Disposal of Hazardous Drums	$ 350.00	$ 700.00	0	$ -
7	10	CY	Transportation and Disposal of Hazardous Debris	$ 320.00	$ 3,200.00	0	$ -
8	40	CY	Transportation and Disposal of Nonhazardous Debris	$ 80.00	$ 3,200.00	0	$ -
9	1300	SY	Site Restoration (Topsoil/Seeding/Mulch/Fertilizer)	$ 0.25	$ 325.00	0	$ -
10	1	LS	Decontamination/Surface Water Offsite Disposal	$ 400.00	$ 400.00	0	$ -
11	1	CY	Decontamination/Surface Water Offsite Disposal	$ 500.00	$ 500.00	0	$ -
					$ 17,381.00		$ 7,706.00

Original Subcontract Value	$ 56,418.00	Reduced Subcontract Value	$ 24,543.00

CHANGE ORDER
TO
SUBCONTRACT AGREEMENT

MORRISON KNUDSEN CORPORATION

SUBCONTRACT NO.	CHANGE ORDER NO.	DATE
SC-4324-033	1	4/3/96

JOBSITE ADDRESS:	ISSUED TO:
Mk Corp. NSWC Crane CTR 12	R.J. Brown Associates
	NAME OF CONSTRUCTOR
300 Highway 361	1946 North 13th Street
	ADDRESS
Crane . Indiana	Toledo. Ohio 43624
	CITY, STATE, AND ZIP CODE

THIS CHANGE ORDER IS ISSUED TO CHANGE AS DESCRIBED BELOW THE TERMS AND CONDITIONS OF THE SUBCONTRACT IDENTIFIED BY NUMBER ABOVE PURSUANT TO THE TERMS OF THE SUBCONTRACT THIS CHANGE ORDER INCLUDES ALL PREVIOUS CHANGES FOR WHICH CHANGE ORDERS HAVE BEEN ISSUED ALL OTHER TERMS AND CONDITIONS OF THE SUBCONTRACT AS MODIFIED BY THE PREVIOUSLY ISSUED CHANGE ORDERS REMAIN IN FULL FORCE AND EFFECT BY SIGNING, SUBCONTRACTOR ACCEPTS THIS CHANGE ORDER.

$ 56,418.00	SUBCONTRACT PRICE INCLUDING AMOUNT ADDED AND DELETED BY ALL PREVIOUS C.O.'S
$ (31,875.00)	TOTAL AMOUNT ADDED OR DELETED BY THIS CHANGE ORDER.
$ 24,543.00	TOTAL AMOUNT SUBCONTRACT PRICE INCLUDING THIS CHANGE ORDER.

MORRISON KNUDSEN CORPORATION
BY Willard D. McCumber
TITLE Sr Subcontract Administrator
APPROVAL
TLE

R.J. Brown and Associates
BY
AUTHORIZED REPRESENTATIVE
PLEASE RETURN SIGNED COPY

IDENTIFICATION NO.	DESCRIPTION OF CHANGE	AMOUNT
	THIS CHANGE ORDER IS ISSUED UNDER THE NAVAL FACILITIES ENGINEERING COMMAND SOUTHERN DIVISION CONTRACT NO. N-62467-93-D-1106. THIS CHANGE ORDER HAS A DOD C2 RATING.	
	This Change Order provides for full and complete settlement of all cost and obligations of any nature whatsoever associated with the de-scoping SWMU changes under this CID-003 directions. This Change Order provides final quantities for SWMU's 23/25/26 scopes of work reflects the actual Schedule of Values.	
1. CID-4324-033-003 dated 3-4-96	A. This Change Order de-scopes the work under SWMU 23/00 battery shop and changes the value from: $20,136.50 to: $10,486.50, a reduction in the amount of -$9,650.00.	$ (9,650.00)
	B. This Change Order de-scopes the work under SWMU 25/07D. Dump site "A" and changes the value from $18,900.50 to: $6,350.50, a reduction in the amount of -$12,550.00.	$ (12,550.00)
	C. The Change Order de-scopes the work under SWMU 26/08D. Dump site "B", and changes the value from: $17,381.00 to: $7,706.00, a reduction in the amount of -$9,675.00.	$ (9,675.00)
	Continued on page 2	

CHANGE ORDER CONTINUATION SHEET
TO
SUBCONTRACT AGREEMENT

MORRISON KNUDSEN CORPORATION

SUBCONTRACT NO.	CHANGE ORDER NO.	DATE
SC-4324-033	1	4/3/96

JOBSITE ADDRESS:	ISSUED TO:
NSWC Crane CTR 12	R.J. Brown Associates
	NAME OF CONTRACTOR
300 Highway 361	1946 North 13th Street
	ADDRESS
Crane, Indiana	Toledo, Ohio 43624
	CITY, STATE, AND ZIP CODE

IDENTIFICATION NO.	DESCRIPTION OF CHANGE	AMOUNT
	THIS CHANGE ORDER IS ISSUED UNDER THE NAVAL FACILITIES ENGINEERING COMMAND SOUTHERN DIVISION CONTRACT NO. N-62467-93-D-1106. THIS CHANGE ORDER HAS A DOD C2 RATING.	
	Continued from page 1	
	The Total reduced amount of this Change Order is -$31,875.00.	-$31,875.00
	This is also a reconciliation change that defines the quantities and work performed. The execution of this Change Order will allow final acceptance of the work performed under this Subcontract.	

All other Terms and Conditions remain unchanged.

WBS. No. 4324.Various

SUBCONTRACTOR JOBSITE OFFICE CONTRACTS DEPT. CORPORATE OFFICE ACCOUNTING PROJECT CONTROLS

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

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: 10.304.F w/			
FILE: 10.305.F w/o ATT			
FILE: 11.011.F w/o ATT			

IN REPLY REFER TO:

October 6, 1994

Mr. Jeff Overton
Mc Ferguson Plaza
Environmental Services Division
1500 W. 3rd Street
Cleveland, OH 44113-1406

Dear Mr. Overton:

Enclosed is information you requested during your October 13, 1994 visit. The following is an explanation of the enclosures:

Figure: Battery Shop Area

This is a dump area north of B-36. Area is rugged and wooded, with much of the debris located on steep slopes. Access to the site is gained on foot. A small stream is located at the bottom of the ravine. Dump area is discontinuous with debris unevenly scattered throughout the site. Some debris has washed downstream of the site. Additionally, water samples collected from the stream in 1989, following a release from the B-38 plating shop, showed levels as high as .665 ppm and .119 ppm for lead and copper, respectively.

Figure: Highway 58 Dump Site B

This a dump site at the bottom of stone cliff. Debris is fairly well contained within the area indicated, and mostly continuous. Access to the site is via a graveled lane off H-58. Site covers an area approximately 160 feet by 43 feet.

Figure: Highway 58 Dump Site A

This is a dump site directly off of H-58. Area is rugged and wooded, with much of the debris located on moderate slopes. Access to the site is via H-58 and a monitoring well trail, however the site is located on the slopes between the two roads. The dump area is discontinuous with debris unevenly scattered throughout the site. Two primary dump areas are noted on the map. The larger site is approximately 39 feet by 150 feet. The smaller site to the southeast contains primarily transite (asbestos) tiles, and is approximately 25 feet by 10 feet.

Figure: Incinerator Area

Residues from a small arms rotary kiln furnace were deposited around B-146. Much of the material was removed in the early 1980's. Most of the indicated area is gravel containing metallic slag, casings, and bullets. Solid shaded areas to the south and southeast of B-146 are soil contaminated areas.

Figure: 146 Sump Area

This figure shows additional limits to the area of furnace residues. Additionally, sumps and assumed associated discharges are indicated. These sumps probably accepted discharge to floor drains within B-146 and most likely were used for settling explosives from washout operations prior to discharge to surface waters. The sumps are constructed of concrete, with wood slats covering the tops. Each sump measures approximately 13 feet long by 7 feet wide by 7 feet deep. The bottom of a 12 inch diameter discharge pipe is located roughly 3.5 feet from the bottom of the sump.

Sections from RCRA Facility Investigation Phase I Environmental Monitoring Reports are also enclosed. Specifically, these address B-146, Minefill A, and Minefill B. Additional information concerning limits of contamination at Minefills A and B is not submitted at this time. If additional information is needed, please request. Additional figures and information are also not submitted for the sludge drying beds, in that previous submittals should be adequate.

If I can be of further assistance, please call at (812) 854-6160.

Sincerely,

Thomas J. Brent

Thomas J. Brent
Code 09510
Crane NSWC

encl.

Copy to:
SOUTHNAVFACENGOM (Code 185ND)

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION
& ENVIRONMENTAL GROUP

2420 MALL DRIVE
CORPORATE SQUARE ONE, SUITE 211
NORTH CHARLESTON SC 29406
PHONE. (803) 554-0100
FAX (803) 740-0160

March 14, 1995

MKC/NAV-223

Mr. Robert J. Meddick, Contracting Officer
Department of the Navy
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
Post Office Box 190010
North Charleston, SC 29419-9010

Attention: Ms. Adrienne Townsel-Wilson

Subject: Contract N62467-93-D-1106
Delivery Order 0009, NSWC Crane
Milestone Schedule

Attached is our current milestone schedule for the subject site which complements the bar chart schedule forwarded earlier. Our current plan is to mobilize to the site on March 24, 1995. Preliminary work at the site, including site surveying and the completion of Environmental Conditions Reports, will be accomplished following establishment of the project trailer and work site.

To meet this schedule and proceed with the work, our field personnel will forward the revised general plans (Quality Control Plan, Quality Assurance Project Plan, Environmental Protection Plan, Waste Management Plan and Sampling and Analysis Plan) by the end of this week. Work Plans and associated task-specific Site Safety and Health Plans for the following will be forwarded as indicated below:

- SWMUs 23/25/26 — 07 April
- SWMUs 16/24 — 14 April
- SWMU 03 (Dewatering) — 21 April
- SWMUs 03/10/12/13 and Biomix Facility — 28 April

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: 11.020.F w/o			
FILE: 15.204.F w/ATT			
FILE: 10.304.F w/o			

10.305.F w/o
10.306.F w/o
10.307.F w/o

Betty Jennings
Diana Byers

DEPARTMENT OF THE NAVY

CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
300 HIGHWAY 361
CRANE, INDIANA 47522-5000

IN REPLY REFER TO:

8020/15
067
21 Mar 95

MEMORANDUM

From: Explosives Safety Officer
To: OIC (NAVFAC Contracts)
Via: Manager, Information Services Branch (Code 0543)

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

Ref: (a) OP-5 Volume 1, Explosives Safety Ashore

Encl: (1) OIC memo OIC 4330 of 9 Mar 95
(2) HERO Stand-off Distances (in feet), Environmental Response Action Contract, Hand Held Radios

1. In response to enclosure (1), Hazards of Electromagnetic Radiation to Ordnance (HERO) calculations were performed for the proposed radios in accordance with the requirements of reference (a). Approval is granted for the use of the proposed radios on Center recognizing the restrictions that must be employed in posted "No Transmitting" areas. A briefing of the contractor representative has already been conducted by the Crane Division HERO Program Manager (Mr. Divine). For record purposes, the results of the HERO calculations are provided as enclosure (2).

2. Point of contact is Mr. Kirby Divine, Code 0671KD, Building 12, Extension 1517.

D. L. Groh

D. L. GROH

Copy to:
0671KD

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: 11.011.F			
FILE: 27.180.F			
FILE:			

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
31 Mar 95

Morrison Knudsen Corp.
Corporate Square 1
2420 Mall Drive, Suite 211
North Charleston, SC 29406

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

Encl: NSWC Memo dtd. 21 Mar 95.

Gentlemen:

Enclosed is the approval to use handheld radios at NSWC Crane during your work here and to place the repeater on WT#43. Please follow all instructions in this enclosure.

Should you have any questions, please call me at 812-854-3318.

Sincerely,

Brent Robertson
Navy Technical Representative

cc: MK Crane, IN
Paul Blanchard; SDIV Code 0511 w/o enlc.
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			
SAFETY AND HEALTH			
QA/QC SUPERVISOR			
PROJECT CONTROLS			
FIELD ENGINEERING			
PMO-CHARLESTON			
FILE: 11,011.F w/o			
FILE: 27,180.F w/ RTS			
FILE:			

MORRISON KNUDSEN CORPORATION
ENGINEERING, CONSTRUCTION
& ENVIRONMENTAL GROUP

2420 MALL DRIVE
CORPORATE SQUARE ONE SUITE 211
NORTH CHARLESTON SC 29406
PHONE (803) 554-0100
FAX. (803) 740-0160

Reply to: Morrison Knudsen Corporation
P O Box 408
Crane Village, IN 47522
(812) 854-5941

27 April 1995

4324-0009-0105

Brent Robertson
Officer in Charge of NAVFAC Contracts
Crane Division, Naval Surface Warfare Center
Building 2516
Crane, Indiana 47522-5082

SUBJECT: EOD Clearances of Work Areas

Dear Mr. Robertson:

We are in the process of scheduling survey work in the SWMU's to begin Monday, 29 April. Prior to performing intrusive operations, we need to obtain EOD clearances from base personnel.

The sequence of work will be as follows:

1. SWMU #14/00 - Lithium Battery Burial Site
2. SWMU #17/04 - PCB Capacitor Burial Site
3. SWMU #23/00 - Battery Shop
4. SWMU #25/07D - Highway 58 Dumpsite A
5. SWMU #26/08D - Highway 58 Dumpsite B
6. SWMU #02/11 - Dye Burial Ground
7. Bioremediation Facility Area
8. SWMU #16/16 - Cast High Explosives / Incinerator Building
9. SWMU #24/00 - Sludge Drying Beds A & B
10. SWMU #10/15 - Rockeye
11. SWMU #03/10 - Ammunition Burning Ground
12. SWMU #12/14 - Mine Fill A
13. SWMU #13/14 - Mine Fill B

The performance of work in the first seven areas listed above will be accomplished within two weeks after start of work and is required prior to finalization of bid packages for the remediation work. Clearance of these areas is required at your earliest possible convenience.

The performance of our work in the other areas will required coordination with base personnel and is not critical at this time.

Sincerely,

Thomas W. Payne
Project Manager

TWP:jw

File: 10.302.F
10.304.F
10.305.F
10.306.F
10.307.F
11.021.F

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

RECEIVED
MAY 31 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 enlc.
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: 11.011.F			
FILE:			
FILE:			

10.302.F
10.304.F
10.305.F
10.306.F
10.307.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

RECEIVED

JAN 11 1996

MK-CRANE

January 11, 1996

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. Code 09725 reviewed MK's proposal to remove a section of sewer line and four manholes at the landfill in support of the biofacility. The action has been approved. Enclosure (2) is a copy of a Wordperfect Office message approving the removals. Call me at x-6160 if you have any questions.

Thomas J. Brent

Thomas J. Brent

Copy to:
095
09A
SOUTHNAVFACENGCOM (Code1864)
MK (Steve Downey)

PROJECT MANAGER		X	Done
PROJECT ENGINEER			
GNL SUPT	X	Done	
SAFETY AND HEALTH			
QA/QC SUPERVISOR			
PROJECT CONTROLS			
FIELD ENGINEERING	X		Done
PMO-CHARLESTON			
FILE: 11 02165			
FILE: 21 150 E			
FILE: 11 06056			

Status and Needs Pertaining To MK

The following are decision items concerning MK, as well as issues to be addressed.

1. **Cast High Explosives Fill - Incineration Complex (16/16)**: We are still waiting on a map and brief description of the sampling locations to date. These items are necessary in order to evaluate the large amount of analytical results. Decisions to be made concern additional soils removal from the area in general, additional soils removal from the drainage trench, disposition of the tanks and associated soils, and disposition and additional excavations from the sump.

2. **Battery Shop (23/00):** Awaiting analysis from the cleanup of this site, including sediment analysis. Results were being reviewed by Alan Fosdick prior to being forwarded to the Navy.

3. **Sanitary Landfill and Lithium Batter (14/00) and PCB Capacitor Burial/Pole Yard (15/06):** MK was to rewrite the Interim Measures (IM) Completion Report and provide a draft copy by December 30. NSWC Crane's federal permit requires the submittal of an IM Draft (internal?) Report within 180 days after completion of the IM. Therefore, a draft report is due to the U.S. EPA by March 1, 1996.

MORRISON KNUDSEN CORPORATION

INTER-OFFICE CORRESPONDENCE

RECEIVE
JAN 15 1996
MK-CRANE

DATE: Jan. 15, 1996

TO: Steve Downey

FROM: Bill Kemp

LOCATION: NSWC Crane

LOCATION: NSWC Crane

SUBJECT: Response to Thomas Brent Memorandum Jan.11, 1996 to Brent Robertson

1. CAST HIGH EXPLOSIVES-INCINERATION COMPLEX (16/16)

On Jan. 11, 1996 Bob Porter contacted MSE and inquired as to where are the SWMU 16/16. MSE stated the drawings would be in here the first of next week. the SWMU 16/16 drawings are the only set we have not received. As soon as we receive these drawings we will transmit a copy to Thomas Brent.

2. BATTERY SHOP (23/00)

Appears to be some confusion in communication. Our subcontractor (Brown) has not completed their scope of work. Once Brown has completed their scope of work sampling will be conducted. All analysis will then be reviewed by Allen Fosdick.

3. SANITARY LANDFILL AND LITHIUM BATTERY (14/00 AND PCB CAPACITOR BURIAL/POLE YARD (17/04)

IMR (Interim-Measures Report) is being reviewed by the Site Project Manager. Comments will be incorporated and draft report will be sent to Allen Fosdick for Analytical review for completion and closure reports per IOC Nov. 28 1995.

NSWC - CRANE			
4024-0000			
PROJECT VENDER	ACT	INFO	INT
PROJECT MANAGER	X		TCR
PROJECT ENGINEER			
GNL SUPT			
SAFETY AND HEALTH			
QUALITY SUPERVISOR			
PROJECT CONTROLS			
FIELD ENGINEERING			
PMC-CHARLESTON			
11.021.F			
FILE: 11.096.F			
FILE: 12.082.04.F			
FILE: 12.082.05.F			
12.082.09.F			

RECEIVED
JAN 22 1996
MK-CRANE

To: inet[atwilson@efdsouth.navfac.navy.mil]

Cc: inet[br7245@smtp.nwscc.sea06.navy.mil]
Robert Hlavacek@NAVFAC@MKEnvironmental
Martin O. Wilson@NAVFAC@MKEnvironmental
Scott Newman@NAVFAC@MKEnvironmental
Ron Thompson@NAVFAC@MKEnvironmental
John McCumbers@NAVFAC@MKEnvironmental

Bcc:
From: Steve Downey@NAVFAC@MKEnvironmental
Subject:
Date: Monday, January 22, 1996 16:42:38 EST
Attach:
Certify: N
Forwarded by:

Adrienne,

Our plan was to have R.J. Brown complete removal of surface debris at the dump sites (SWMU's #23/00, 25/07D, and 26/08D) and then have U.S. Tech perform the additional remediation (upon approval from SOUTHDIV). Brown has indicated it will be about two weeks before they can return to Crane to complete their remaining scope. Having reviewed the unit prices in R.J. Brown's original price schedule for the dump sites, I have concluded it will be more cost effective to have U.S. Tech complete all of the remaining remediation in these areas. Brown's unit prices are as follows:

Excavation and sorting of Debris	$60.00/CY
Transportation and Disposal of Nonhazardous Debris	$80.00/CY

This totals $140.00/CY to remove the surface debris. U.S. Tech quoted a price of $85.00/Ton for excavation, transportation and disposal of special waste including backfill. At a density of about 1.5 Tons/CY this equates to a rate of $127.50/CY which is less that the Brown rate for nonhazardous debris. Additionally, having U.S. Tech complete all remaining remediation will save the cost of remobilization of a second subcontractor. I feel the 220 Tons and the 450 Tons in our estimate (reference CID's 033-001 & 033-002 and letter MKC/NAV-488 from Hlavacek to Meddick dated 1/16/95) will be adequate to include this small amount of surface debris. Upon approval of the delivery order modification we will modify U.S. Tech's Subcontract No. 4324-034 and expedite their completing this remediation.

If you have any questions or comments, feel free to give me a call.

Thanks,

Steve

PROJECT MANAGER			BTD
PROJECT ENGINEER			
GNL SUPT		✓	
SAFETY AND HEALTH			
QA/QC SUPERVISOR			
PROJECT CONTROLS			
FIELD ENGINEERING			
PMO-CHARLESTON			
FILE: 11.041.5			
FILE: 12.082.055			

13.050.055

BROWN
ASSOCIATES

OILS-LUBRICANTS-CHEMICALS
SALES-RECLAMATION-DISPOSAL

R.J. BROWN ASSOCIATES, INC.
1946 N. 13th ST.-SUITE 437
TOLEDO, OHIO 43624
OFFICE: (419) 244-0010
FAX: (419) 244-0515

RECEIVED
JAN 26 1996
MK-CRANE

January 23, 1996

Morrison Knudsen Corporation
Attn: Willard D. McCumbers
2420 Mall Drive
North Charleston, SC 29406

Reference: Subcontract No , 4324-033
Completion of project at SWMU's #23/00, #25/07D, and 26/08D
NSWC Crane, IN

As a result of the changed conditions at the project sites in Crane, it is our opinion that it would be cost effective to all parties involved to close out the project as complete. There is retainage on the contract primarily for demobilization that needs your consideration.

Any additional work would be handled through a separate line item under the new contract. We acknowledge that closing out this contract is beneficial to us and feel it makes good sense to Morrison Knudsen and the Navy. We trust this action in no way reflects negatively with Morrison Knudsen or the government.

If this is agreeable, we would prefer to complete the minimal remaining requirements of the project. Please advise.

Sincerely,

Robert J. Brown

Robert J. Brown,
President

RJB/sdc

cc: Steve Downey/MK Crane

write CID

NSWC - CRANE
4324-0033

PROJECT MEMBER.	ACT	INFO	INIT
PROJECT MANAGER			BTO
PROJECT ENGINEER			
GNL SUPT			
SAFETY AND HEALTH			
QA/QC SUPERVISOR			
PROJECT CONTROLS	X		
FIELD ENGINEERING			
PMO-CHARLESTON			

FILE: 13.020.06
FILE: 13.200.04
FILE: 13.080.05

Status and Needs Pertaining To MK

The following are decision items concerning MK, as well as issues to be addressed.

1. **Cast High Explosives Fill - Incineration Complex (16/16):** After reviewing the sampling results received to date and discussing the results with Adrienne Townsel Wilson at SOUTHDIV, as well as Carol Witt-Smith at the U.S. EPA, the following issues were discussed with MK:

   a. Post-removal confirmation sample results indicate the presence of lead contamination south and west of the incinerator bays. Some of these samples were taken 18-inches below current grade. Due to the fact that the limits of the contamination are undetermined, and the potential volume of contaminated soils involved, Adrienne and I feel that attempting to remove additional soils from these areas is unwise at this time;

   b. MK wants an approval letter to backfill the areas that will not be excavated any further, which I assume would come either from ROICC or SOUTHDIV. I question the necessity for backfilling the site, especially since the ground was pretty barren to begin with. We will need to look into this further and come to a decision;

   c. There is at least one debris pile outside the fence on the west side of the facility. MK should remove this pile and inspect the area for additional piles;

   d. Currently, there are no sample locations outside the fence where debris piles have been removed. MK will need to collect approximately six samples in these areas (one for each area cleaned); and

   e. Two soil samples were taken where the tanks were removed. One of the samples was high in phenanthrene. Removal of any obviously stained soils from around the base of the tanks should render this area clean.

2. **Battery Shop (23/00):** Steve Downey requested that I meet with Bob Porter at the site to determine if R.J. Brown had completed their effort and can be released from the project. There are a few small remaining items that need to be picked up off the slopes, and the site needs to be sampled. However, MK said they will collect and dispose of the remaining trash once the weather breaks and will sample the slopes and stream.

MORRISON KNUDSEN CORPORATION
ENVIRONMENTAL AND GOVERNMENT DIVISION

RECEIVED
MAR 28 1996
MK-CRANE

SWMU ACCEPTANCE AND TURNOVER

DATE: March 27, 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-23/00 was conducted on March 28, 1996. The completed physical work was accepted by the ROICC on March 28, 1996 establishing the beneficial date.

MORRISON KNUDSEN CORPORATION

Signature _____ Date 3 28-96
Signature _____ Date 3.28-96
Signature _____ Date _____

ROICC

Signature _____ Date 28 Mar 96
Signature _____ Date _____

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			
4324-0000			
PROJECT MEMBER	ACT	INFO	INST
PROJECT MANAGER	X		
PROJECT ENGINEER			
G&L SUPT			
SAFETY AND HEALTH			
QA/QC SUPERVISOR			
PROJECT CONTROLS			
FIELD ENGINEERING			
PMO-CHARLESTON			
FILE: 11.096.05			
FILE: 12.082.05.05			
FILE: 18.900.01.5			

APPENDIX C

PHOTOGRAPHS

PHOTOGRAPHS

Photo	Page
SWMU 23/00 Before Remediation	1 page
SWMU 23/00 Old Battery Found at Dumpsite	1 page
SWMU 23/00 Debris in Roll-off Box Awaiting Disposal	1 page
SWMU 23/00 After Remediation	1 page

SITE NAME/LOCATION

SWMU 23/00

NSWC CRANE
CRANE, INDIANA
VOLUNTARY INTERIM MEASURES

SWMU 23/00 before remediation.

SWMU 23/00 Old battery found at dumpsite

SWMU 23/00 Debris in Roll-off box awaiting disposal.

SWMU 23/00 after remediation.

APPENDIX D

ANALYTICAL RESULTS

ANALYTICAL RESULTS

Table 1: Analytical Summary . . . . . 1 page
Table 4: Analytical Methods . . . . . 2 pages
Table 5: Interim Measures Cleanup Levels . . . . . 6 pages
Table 6: Cleanup Levels Determined Through Risk Assessment . . . . . 1 page
Chain of Custody . . . . . 3 pages
Laboratory Data . . . . . 241 pages

TABLE 1
ANALYTICAL SUMMARY

SWMU Number	Analytical Parameters	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*, 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

- These parameters are preliminary and are not to be used until confirmed by the Project Manager
- 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
Organochlorine Pesticides/PCBs	8080	1 x 250 mL glass jar	Refrigerate at 4°C	14/40 days
Organophosphate Pesticides	8140	1 x 250 mL glass jar	Refrigerate at 4°C	14/40 days
Chlorinated Herbicides	8150	1 x 250 mL glass jar	Refrigerate at 4°C	14/40 days
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
Explosives	8330	1 x 250 mL glass jar	Refrigerate at 4°C	14/40 days
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[2]	9040	1 x 500 mL plastic bottle	Refrigerate at 4°C	ASAP
Corrosivity - pH[2]	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[1]	Sec.7.3.3.2	1 x 1 L plastic bottle	Refrigerate at 4°C NaOH pH > 12	14 days
Cyanide reactivity[1]	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*	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*	*6010 7470	2 x 250 mL plastic bottle	HNO_3 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
* - 14 days for extraction and 40 days from extraction to analysis
- Liquid samples only
* - Solid samples only
* - 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[1] 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.[2]
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	520,000	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]	Hexachlorophene	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- · pirazinylphosphorothioate	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-Dimethylphenethylamine	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	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	2,300
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	8	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

TABLE 6
CLEANUP LEVELS DETERMINED THROUGH RISK ASSESSMENT

Compound	*Abbrev*	*Cleanup Level*
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	HMX	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	RDX	
1,3,5-trinitrobenzene	TNB	
Methyl-2,4,6-trinitrophenylnitramine	Tetryl	
o-nitrotoluene	2NT	
m-nitrotoluene	3NT	
p-nitrotoluene	4NT	

[1]Note Cleanup levels are to be determined by bench- and pilot-scale studies. This table is being developed by another contractor The compounds listed are those identified by EPA SW-846 Method 8330 Cleanup levels may be limited to only several of the compounds listed

003

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) [illegible]
Sampler: (Print) Wes Lamarque

Analysis Required — App. IX

Sample Type	Sampling Point Description	Sample Date	Time	Sample I.D. Number	Split Samples Yes	Split Samples No	8330 (Explosives)	8240 (VOC)	6010A (As, Al, Ba, Cd, Cu, Cr, Fe, Hg, Pb, Ni, Zn)			8240 (VOC)									Remarks
Soil	Battery Shop	7-18-95	0917	NSWC-23/00-001		X						X	X	X	X	X	X	X	X	X	14 day [illegible]
Soil	Battery Shop	7-18-95	0939	NSWC-23/00-002		X						X	X	X	X	X	X	X	X	X	
Soil	Dumpsite A	7-18-95	1045	NSWC-25/170-001		X						X	X	X	X	X	X	X	X	X	
Soil	Dumpsite A	7-18-95	1055	NSWC-25/170-002		X						X	X	X	X	X	X	X	X	X	
Soil	Dumpsite B	7-18-95	1142	NSWC-21/170-001		X						X	X	X	X	X	X	X	X	X	
Soil	Dumpsite B	7-18-95	1151	NSWC-21/170-002		X						X	X	X	X	X	X	X	X	X	
Soil	Rockeye	7-18-95	1400	NSWC-10/15-001		X	X	X	X												7 day [illegible]
Soil	Rockeye	7-18-95	1410	NSWC-10/15-002		X	X	X	X		Duplicate										14 day [illegible]
Soil	Rockeye	7-[illegible]	0954	NSWC-10/15-005			X	X	X												
Soil	Rockeye	7-[illegible]	1013	NSWC-10/15-007			X	X	X												
Soil	Rockeye	[illegible]	1107	NSWC-10/15-010			X	X	X												
Water	Rockeye - Rinsate	[illegible]	1030	NSWC-10/15-RB2			X	X	X												
Water	Trip Blank	[illegible]	1300	NSWC-10/15-TB2																	14 day [illegible]
		~~7-[illegible]-95~~	[illegible]																		

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Relinquished By: (Signature)	Date/Time	Received By: (Signature)
Company: Morrison Knudsen	7-21-95 5:[illegible] pm	Company:	Company:		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:

FEDEX Air Bill 5719918502

MORRISON KNUDSEN CORPORATION

CHAIN OF CUSTODY RECORD

720 Park Blvd., P.O. Box 73
Boise, Idaho 83729
(208) 386-5000

C-023

AMERICAN ENVIRONMENTAL

Project No: 9329 0009-007-80 | Project Name: CRAWFORD NSWC IN

Samplers: (Signature) [signature]
Sampler: (Print) Bill Kemp

Sample Type	Sampling Point Description	Sample Date	Time	Sample I.D. Number	Split Samples Yes	Split Samples No	9095	1010	9095	5D 8310	5D 8310	8270	6020	6150	6010A	7470	8240	1013B 9100L	9040				Remarks
Soil	LEFT	11-16-95	1115	RBWC 23/00 003		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				Rinsate
Soil	RIGHT	11-16-95	1130	RBWC 23/00 004		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					Non-Rinsate
Liquid	Equip RINSATE	11-16-95	0830	RBWC 23/00 RB12		✓	NO	✓	NO	✓	✓	✓	✓	✓	✓	✓	✓		✓				all

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Relinquished By: (Signature)	Date/Time	Received By: (Signature)
Company: AKC	11-16-95 1500	Company:	Company:		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:

MORRISON KNUDSEN CORPORATION

CHAIN OF CUSTODY RECORD

720 Park Blvd., P.O. Box 73
Boise, Idaho 83729
(208) 386-5000

CdC-032

MK-ITL-4324-2565 COMPAC-CHEMICAL ENVIRONMENTAL CORP.

Project No.: [illegible]
Project Name: NSWC [illegible] CRADLE
Samplers: (Signature) [illegible]
Sampler: (Print) [illegible]

Split Samples

Analysis Required: APPENDIX IX (COMPLETE) LIST.

Sample Type	Sampling Point Description	Sample Date	Time	Sample I.D. Number	Yes	No	8240	8270/8620	8150/8140	9010/9020	8280	6010A	7471	1.4/1.4MD	9010/9012	6010A/7470	7030					Remarks
SOIL	[illegible]	2-22-96	1400	NSWC 23/00 005			X	X	X	X	X	X	X	X								14 DAY TURN AROUND TIME FOR ALL SAMPLES ms/msd
SOIL	[illegible]	2-22-96	1415	NSWC-23/00 006			X	X	X	X	X	X	X	X								
SOIL	[illegible]	2-22-96	1430	NSWC-23/00 007			X	X	X	X	X	X	X	X								
SOIL	[illegible]	2-22-96	[illegible]	NSWC 23/00 008			X	X	X	X	X	X	X	X								
SOIL	" "	2-22-96	1500	NSWC 23/00 009			X	X	X	X	X	X	X	X								Duplicate
SOIL	[illegible]	2-22-96	1515	NSWC 23/00 010			X	X	X	X	X	X	X	X								
SOIL	[illegible]	2-22-96	[illegible]	NSWC 23/00 011			X	X	X	X	X	X	X	X								
LIQUID	[illegible]	2-22-96	1545	NSWC 23/00 012			X	X	X		X				X	X	X					ms/msd
SOIL	[illegible]	2-22-96	1600	NSWC 23/00 013			X	X	X	X	X	X	X	X								
LIQUID	[illegible]	2-22-96	1615	NSWC 23/00 014			X	X	X		X				X	X	X					
LIQUID	EQUIPMENT BLANK	2-22-96	1000	NSWC 23/00 EB 14			X	X	X		X				X	X	X					
LIQUID	TRIP BLANK	2-22-96	1120	NSWC 23/00 TB 13			X	X	X		X				X	X	X					
LIQUID	TRIP BLANK	2-22-96	1735	NSWC-23/00 TB 14			X															
LIQUID	TRIP BLANK	2-22-96	1740	NSWC-23/00 TB 15			X															
LIQUID	TRIP BLANK	2-22-96	1745	NSWC-23/00 TB 16			X															

Relinquished By: (Signature) / Company:	Date/Time	Received By: (Signature) / Company:	Relinquished By: (Signature) / Company:	Date/Time	Received By: (Signature) / Company:
[illegible] / MKC	2-23-96 1503				
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:

23/00 001

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

Report Number: 9507195
Report To: MK Corp
Project: NSWC - Crane #4324
Date: July 31, 1995
Analysis: Total Sulfide, SW846 9030M

Client ID	AENI ID	%Solids	Result, mg/Kg
NSWC-23/00-001	9507195-001	77.3	<52
NSWC-23/00-002	9507195-002	67.5	<59
NSWC-25/07D-001	9507195-003	62.3	<64
NSWC-25/07D-002	9507195-004	80.1	<50
NSWC-26/08D-001	9507195-005	85.4	<47
NSWC-26/08D-002	9507195-006	86.7	46

(1) Results reported on a dry weight basis.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC-23/09-001

Lab Name: AENI MD Contract: MKC

Project No.: 9507195 Site: NSWC Location: CRANE Group:

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

Sample wt/vol: 5.0 (g/mL) G Lab File ID: E6309.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: not dec. 23 Date Analyzed: 7/27/95

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	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	22	
67-64-1	Acetone	130	U
75-05-8	Acetonitrile	6.5	U
107-13-1	Acrylonitrile	1300	U
107-02-8	Acrolein	1300	U
75-69-4	Trichlorofluoromethane	6.5	U
75-15-0	Carbon Disulfide	6.5	U
75-35-4	1,1-Dichloroethene	6.5	U
75-34-4	1,1-Dichloroethane	6.5	U
540-59-0	trans-1,2-Dichloroethene	6.5	U
67-66-3	Chloroform	6.5	U
107-06-2	1,2-Dichloroethane	6.5	U
75-71-8	Dichlorodifluoromethane	6.5	U
74-88-4	Iodomethane	6.5	U
107-12-0	Propionitrile	6.5	U
107-05-1	Allyl chloride	130	U
78-93-3	2-Butanone	130	U
71-55-6	1,1,1-Trichloroethane	6.5	U
56-23-5	Carbon Tetrachloride	6.5	U
108-05-4	Vinyl Acetate	6.5	U
75-27-4	Bromodichloromethane	6.5	U
78-87-5	1,2-Dichloropropane	6.5	U
10061-01-5	cis-1,3-Dichloropropene	6.5	U
79-01-6	Trichloroethene	6.5	U
71-43-2	Benzene	6.5	U
124-48-1	Dibromochloromethane	6.5	U
10061-02-6	trans-1,3-Dichloropropene	6.5	U
79-00-5	1,1,2-Trichloroethane	6.5	U
75-25-2	Bromoform	6.5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
NSWC-23/00-001

Lab Name: AENI MD Contract: MKC

Project No.: 9507195 Site: NSWC Location: CRANE Group:

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

Sample wt/vol: 5.0 (g/mL) 6 Lab File ID: E6309.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: not dec. 23 Date Analyzed: 7/27/95

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	6.5	U
74-95-3	Dibromomethane	6.5	U
106-93-4	1,2-Dibromoethane (EDB)	6.5	U
108-10-1	4-Methyl-2-Pentanone	65	U
591-78-6	2-Hexanone	65	U
127-18-4	Tetrachloroethene	6.5	U
79-34-5	1,1,2,2-Tetrachloroethane	6.5	U
108-88-3	Toluene	6.5	U
108-90-7	Chlorobenzene	6.5	U
100-41-4	Ethylbenzene	6.5	U
100-42-5	Styrene	6.5	U
108-38-3	m + p-Xylene	6.5	U
95-47-6	o-Xylene	6.5	U
80-62-6	Methyl methacrylate	6.5	U
630-20-6	1,1,1,2-Tetrachloroethane	6.5	U
96-18-4	1,2,3-Trichloropropane	6.5	U
110-57-6	trans-1,4-Dichloro-2-butene	6.5	U
97-63-2	Ethyl methacrylate	6.5	U
76-01-7	Pentachloroethane	6.5	U
96-12-8	1,2-Dibromo-3-chloropropane	6.5	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

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

SWC-23/00-001

Lab Name: AENI MD Contract: MKC

Project No.: 9507195 Site: Location: Group:

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

Sample wt/vol: 30.7 (g/mL) G Lab File ID: DG431.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: 1 decanted: (Y/N): N Date Extracted: 7/26/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/28/95

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
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

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC-23/00-001

Lab Name: AENI MD Contract: MKC

Project No.: 9507195 Site: Location: Group:

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

Sample wt/vol: 30.7 (g/mL) G Lab File ID: DG431.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: 1 decanted: (Y/N): N Date Extracted: 7/26/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/28/95

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
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	1600	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	1600	U
51-28-5	2,4-Dinitrophenol	1600	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	1600	U
95-94-3	1,2,4,5-Tetrachlorobenzene	330	U
99-65-0	1,3-Dinitrobenzene	330	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC-23/00-001

Lab Name: AENI MD Contract: MKC

Project No.: 9507195 Site: Location: Group:

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

Sample wt/vol: 30.7 (g/mL) G Lab File ID: DG431.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: 1 decanted: (Y/N): N Date Extracted: 7/26/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/28/95

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
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	1600	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	1600	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

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MSWC-23/00-001

Lab Name: AENI MD Contract: MKC

Project No.: 9507195 Site: Location: Group:

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

Sample wt/vol: 30.7 (g/mL) G Lab File ID: D6431.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: 1 decanted: (Y/N): N Date Extracted: 7/26/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/28/95

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

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Pesticide/PCBs

Case No.:——— 9507195
Project Name:——— NSWC-CRANE #4324
Client Name:——— MK CORP

Sample Number
NSWC-23/00-001

AENI # 9507195-001

Concentration:——— Low
Date Sampled:——— 7/18/95
Date Received:——— 7/22/95
Date Ext Prepared:— 7/26/95
Date Analyzed:——— 8/2/95
Conc/Dil Factor:——— 1
Method: ——— 8080

GPC Cleanup | | Yes | X | No
Seperatory Funnel Extraction | | Yes
Continuous Liquid - Liquid Extraction | | Yes
Percent Moisture 22.7
Matrix: SOIL

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		2.1	U
319-85-7	beta-BHC		2.1	U
319-86-8	delta-BHC		2.1	U
58-89-9	gamma-BHC (Lindane)		4.2	U
75-44-8	Heptachlor		2.1	U
309-00-2	Aldrin		2.1	U
1024-57-3	Heptachlor epoxide		2.1	U
959-98-8	Endosulfan I		2.1	U
60-57-1	Dieldrin		4.2	U
75-55-9	4, 4'-DDE	8.0	4.2	
72-20-8	Endrin		4.2	U
33213-65-9	Endosulfan II		4.2	U
72-54-8	4, 4'-DDD		4.2	U
1031-07-8	Endosulfan Sulfate		4.2	U
50-29-3	4, 4'-DDT	6.2	4.2	
72-43-5	Methoxychlor		21	U
53494-70-5	Endrin Ketone		4.2	U
7421-36-3	Endrin aldehyde		4.2	U
57-74-9	Chlordane		42	U
8001-35-2	Toxaphene		210	U
12674-11-2	Aroclor-1016		42	U
11104-28-2	Aroclor-1221		84	U
11141-16-5	Aroclor-1232		42	U
53469-21-9	Aroclor-1242		42	U
12672-29-6	Aroclor-1248		42	U
11097-69-1	Aroclor-1254		42	U
11096-82-5	Aroclor-1260		42	U
510-15-6	Chlorobenzilate		84	U
2303-16-4	Diallate		422	U
465-73-6	Isodrin		11	U
143-50-0	Kepone		42	U
82-68-8	Pentachloronitrobenzene		8.4	U

Vi - Volume of extract injected (ul) - _____ 5
Vs - Volume of Water extracted (ml) - _____ N/A
Ws - Weight of sample extracted (g) - _____ 30.64
Vt - Volume of total extract (ul) - _____ 10,000

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23/00-001

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 95071 SAS No.: _____ SDG No.: 507195

Matrix (soil/water): SOIL_ Lab Sample ID: 950719501

Level (low/med): LOW__ Date Received: 07/22/95

% Solids: _77.3

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_	2.6	U	N	P_
7440-38-2	Arsenic__	10.7			P_
7440-39-3	Barium___	74.7			P_
7440-41-7	Beryllium	0.67			P_
7440-43-9	Cadmium__	0.52	U	N	P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	22.8		EN	P_
7440-48-4	Cobalt___	5.2			P_
7440-50-8	Copper___	14.7			P_
7439-89-6	Iron____				NR
7439-92-1	Lead____	30.8			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.10	U		AV
7440-02-0	Nickel___	13.5			P_
7440-09-7	Potassium				NR
7782-49-2	Selenium_	0.65	U	N	P_
7440-22-4	Silver___	1.0	U		P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_	1.3	U	N	P_
7440-62-2	Vanadium_	25.5			P_
7440-66-6	Zinc____	45.9		E	P_
	Cyanide__				NR
7440-31-5_	Tin____	32.7	U		P_
7439-93-2_	Lithium__				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

CLIENT_ID:__NSWC-23/00-001

AMERICAN ENVIRONMENTAL NETWORK INC.
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC-23/00-001

Case No.: 9507195
Client Name: MK CORP
Project Name: NSWC-CRANE

AENI # 9507195-001

Concentration: Low
Date Sampled: 7/18/95
Date Received: 7/22/95
Date Extract Prepared: 7/27/95
Date Analyzed: 8/2/95
Conc/Dil Factor: 1
Matrix SOIL

GPC Cleanup No
Shaker: Yes
Continuous Liq-Liq Ext.: No
Percent Solid 77

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4 D		39	U
SILVEX		39	U
2,4,5-T		39	U

Vi - Volume of extract injected (ul) 1
Vs - Volume of water extracted (ml) N/A
Ws - Mass of soil extracted (g) 50.01
Vt- Volume of total extract (ul) 5000

FORM I

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Organophosphorus

Case No.:——— 9507195

Project Name:——— NSWC-CRANE #4324

Client Name:——— MK CORP

Sample Number
NSWC-23/00-001

AENI # 9507195-001

Concentration:——— Low

Date Sampled:——— 7/18/95

Date Received:——— 7/22/95

Date Ext Prepared:— 7/26/95

Date Analyzed:——— 7/28/95

Conc/Dil Factor:——— 10

Method: ——— 8141

GPC Cleanup		Yes	X	No
Seperatory Funnel Extraction				Yes
Continuous Liquid - Liquid Extration				Yes
Percent Solid	77.3			
Matrix	SOIL			

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		21	U
60-51-5	Dimethoate		42	U
23950-58-5	Pronamide		21	U
298-04-4	Disulfoton		21	U
298-00-0	Methyl Parathion		21	U
56-38-2	Ethyl Parathion		21	U
52-85-7	Famphur		21	U
3689-24-5	Tetraethyl dithiopyrophosphate		2100	U

Vi - Volume of extract injected (ul) - _____ 1

Vs - Volume of Water extracted (ml) - _____ N/A

Ws - Weight of sample extracted (g) - _____ 30.9

Vt - Volume of total extract (ul) - _____ 1,000

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
NSWC-23/00-001RE

Lab Name: AENI MD Contract: MXC

Project No.: 9507195 Site: NSWC Location: CRANE Group:

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

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG352.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: not dec. 23 Date Analyzed: 7/31/95

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	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	33	B
67-64-1	Acetone	130	U
75-05-8	Acetonitrile	6.5	U
107-13-1	Acrylonitrile	1300	U
107-02-8	Acrolein	1300	U
75-69-4	Trichlorofluoromethane	6.5	U
75-15-0	Carbon Disulfide	6.5	U
75-35-4	1,1-Dichloroethene	6.5	U
75-34-4	1,1-Dichloroethane	6.5	U
540-59-0	trans-1,2-Dichloroethene	6.5	U
67-66-3	Chloroform	6.5	U
107-06-2	1,2-Dichloroethane	6.5	U
75-71-8	Dichlorodifluoromethane	6.5	U
74-88-4	Iodomethane	6.5	U
107-12-0	Propionitrile	6.5	U
107-05-1	Allyl chloride	130	U
78-93-3	2-Butanone	130	U
71-55-6	1,1,1-Trichloroethane	6.5	U
56-23-5	Carbon Tetrachloride	6.5	U
108-05-4	Vinyl Acetate	6.5	U
75-27-4	Bromodichloromethane	6.5	U
78-87-5	1,2-Dichloropropane	6.5	U
10061-01-5	cis-1,3-Dichloropropene	6.5	U
79-01-6	Trichloroethene	6.5	U
71-43-2	Benzene	6.5	U
124-48-1	Dibromochloromethane	6.5	U
10061-02-6	trans-1,3-Dichloropropene	6.5	U
79-00-5	1,1,2-Trichloroethane	6.5	U
75-25-2	Bromoform	6.5	U

FORM I VOA SW846

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
NSWC-23/00-001RE

Lab Name: AENI MD Contract: MKC

Project No.: 9507195 Site: NSWC Location: CRANE Group:

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

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG352.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: not dec. 23 Date Analyzed: 7/31/95

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	6.5	U
74-95-3	Dibromomethane	6.5	U
106-93-4	1,2-Dibromoethane (EDB)	6.5	U
108-10-1	4-Methyl-2-Pentanone	65	U
591-78-6	2-Hexanone	65	U
127-18-4	Tetrachloroethene	6.5	U
79-34-5	1,1,2,2-Tetrachloroethane	6.5	U
108-88-3	Toluene	6.5	U
108-90-7	Chlorobenzene	6.5	U
100-41-4	Ethylbenzene	6.5	U
100-42-5	Styrene	6.5	U
108-38-3	m + p-Xylene	6.5	U
95-47-6	o-Xylene	6.5	U
80-62-6	Methyl methacrylate	6.5	U
630-20-6	1,1,1,2-Tetrachloroethane	6.5	U
96-18-4	1,2,3-Trichloropropane	6.5	U
110-57-6	trans-1,4-Dichloro-2-butene	6.5	U
97-63-2	Ethyl methacrylate	6.5	U
76-01-7	Pentachloroethane	6.5	U
96-12-8	1,2-Dibromo-3-chloropropane	6.5	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

TL-RTP Project: 33571 Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC-23/00-001 Analysis File: E952
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	0.0501	ND
1,2,3,7,8-PeCDD	ND	0.526	ND
1,2,3,4,7,8-HxCDD	ND	0.476	ND
1,2,3,6,7,8-HxCDD	ND	0.288	ND
1,2,3,7,8,9-HxCDD	ND	0.276	ND
1,2,3,4,6,7,8-HpCDD	ND	0.714	ND
1,2,3,4,6,7,8,9-OCDD	5.59	0.388	ND
2,3,7,8-TCDF	ND	0.0627	ND
1,2,3,7,8-PeCDF	ND	0.489	ND
2,3,4,7,8-PeCDF	ND	0.614	ND
1,2,3,4,7,8-HxCDF	ND	0.614	ND
1,2,3,6,7,8-HxCDF	ND	0.363	ND
2,3,4,6,7,8-HxCDF	ND	0.501	ND
1,2,3,7,8,9-HxCDF	ND	0.426	ND
1,2,3,4,6,7,8-HpCDF	ND	0.081	ND
1,2,3,4,7,8,9-HpCDF	ND	0.175	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.338	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	0.0501
Total PeCDD	ND	0.526
Total HxCDD	ND	0.276
Total HpCDD	ND	0.714
Total TCDF	ND	0.0627
Total PeCDF	ND	0.614
Total HxCDF	ND	0.426
Total HpCDF	ND	0.175

8280_PSR v2.07, LARS 6

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American Environmental Network

TL-RTP Project: 33571 — Method 8280 PCDD/PCDF Analysis (b)

Client Sample: NSWC-23/00-001 — Analysis File: E952825

Client Project:	Indiana-Navy Project				
Sample Matrix:	SOIL	Date Received:	07/27/95	Spike File:	SP828050
TLRTP ID:	103-239-1	Date Extracted:	07/28/95	ICal:	E855275
		Date Analyzed:	07/31/95	ConCal:	E952821
Sample Size:	10.570 g	Dilution Factor:	n/a	% Moisture:	24.5
Dry Weight:	7.980 g	Blank File:	E952824	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JF	% Solids:	75.5

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0501				—
1,2,3,7,8-PeCDD	ND	0.526				—
1,2,3,4,7,8-HxCDD	ND	0.476				—
1,2,3,6,7,8-HxCDD	ND	0.288				—
1,2,3,7,8,9-HxCDD	ND	0.276				—
1,2,3,4,6,7,8-HpCDD	ND	0.714				—
1,2,3,4,6,7,8,9-OCDD	5.59			0.89	36:15	—
2,3,7,8-TCDF	ND	0.0627				—
1,2,3,7,8-PeCDF	ND	0.489				—
2,3,4,7,8-PeCDF	ND	0.614				—
1,2,3,4,7,8-HxCDF	ND	0.614				—
1,2,3,6,7,8-HxCDF	ND	0.363				—
2,3,4,6,7,8-HxCDF	ND	0.501				—
1,2,3,7,8,9-HxCDF	ND	0.426				—
1,2,3,4,6,7,8-HpCDF	ND	0.081				—
1,2,3,4,7,8,9-HpCDF	ND	0.175				—
1,2,3,4,6,7,8,9-OCDF	ND	0.338				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.497	—
Total PeCDD	ND	0	0.526		—
Total HxCDD	ND	0	0.276		—
Total HpCDD	ND	0	0.714		—
Total TCDF	ND	0	0.0627		—
Total PeCDF	ND	0	0.614		—
Total HxCDF	ND	0	0.426		—
Total HpCDF	ND	0	0.175		—

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TL-RTP Project: 33571 Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC-23/00-001 Analysis File: E95282

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.56	40.9	40%-120%	0.77	20:07	—
$^{13}C_{12}$-2,3,7,8-TCDD	2.57	41.0	40%-120%	0.79	21:15	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.32	68.9	40%-120%	1.29	30:29	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	9.38	74.9	40%-120%	1.05	32:33	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	9.54	76.1	25%-120%	0.90	36:14	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits		RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.33	42.4	40%-120%		21:17	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	20:58	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.24	30:48	—

Data Reviewer: RCB 08/08/95

8280_PSR v2.07. LARS 6.0

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American Environmental Network

TL-RTP Project: 33571 — Toxicity Equivalents Report

Client Sample: NSWC-23/00-001 — Analysis File: E952825

Client Project:	Indiana-Navy Project				
Sample Matrix:	SOIL	Date Received:	07/27/95	Spike File:	SP828050
TLRTP ID:	103-239-1	Date Extracted:	07/28/95	ICal:	E855275
		Date Analyzed:	07/31/95	ConCal:	E952821
Sample Size:	10.570 g	Dilution Factor:	n/a	% Moisture:	24.5
Dry Weight:	7.980 g	Blank File:	E952824	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JF	% Solids:	75.5

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	5.6	x	0.001	=	0.0056
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: 0.0056 ppb

TEFPR.prg v3.07 LARS 6.0 ...

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42

23/00 002

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
NSWC-23/00-002

Lab Name: AENI MD Contract: MKC

Project No.: 9507195 Site: NSWC Location: CRANE Group:

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

Sample wt/vol: 5.0 (g/mL) G Lab File ID: E6310.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: not dec. 32 Date Analyzed: 7/27/95

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	15	U
74-83-9	Bromomethane	15	U
75-01-4	Vinyl Chloride	15	U
75-00-3	Chloroethane	15	U
75-09-2	Methylene Chloride	41	
67-64-1	Acetone	150	U
75-05-8	Acetonitrile	7.4	U
107-13-1	Acrylonitrile	1500	U
107-02-8	Acrolein	1500	U
75-69-4	Trichlorofluoromethane	7.4	U
75-15-0	Carbon Disulfide	7.4	U
75-35-4	1,1-Dichloroethene	7.4	U
75-34-4	1,1-Dichloroethane	7.4	U
540-59-0	trans-1,2-Dichloroethene	7.4	U
67-66-3	Chloroform	7.4	U
107-06-2	1,2-Dichloroethane	7.4	U
75-71-8	Dichlorodifluoromethane	7.4	U
74-88-4	Iodomethane	7.4	U
107-12-0	Propionitrile	7.4	U
107-05-1	Allyl chloride	150	U
78-93-3	2-Butanone	150	U
71-55-6	1,1,1-Trichloroethane	7.4	U
56-23-5	Carbon Tetrachloride	7.4	U
108-05-4	Vinyl Acetate	7.4	U
75-27-4	Bromodichloromethane	7.4	U
78-87-5	1,2-Dichloropropane	7.4	U
10061-01-5	cis-1,3-Dichloropropene	7.4	U
79-01-6	Trichloroethene	7.4	U
71-43-2	Benzene	7.4	U
124-48-1	Dibromochloromethane	7.4	U
10061-02-6	trans-1,3-Dichloropropene	7.4	U
79-00-5	1,1,2-Trichloroethane	7.4	U
75-25-2	Bromoform	7.4	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
NSWC-23/00-002

Lab Name: AENI MD Contract: MKC

Project No.: 9507195 Site: NSWC Location: CRANE Group:

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

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG310.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: not dec. 32 Date Analyzed: 7/27/95

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		7.4	U
74-95-3	Dibromomethane		7.4	U
106-93-4	1,2-Dibromoethane (EDB)		7.4	U
108-10-1	4-Methyl-2-Pentanone		74	U
591-78-6	2-Hexanone		74	U
127-18-4	Tetrachloroethene		7.4	U
79-34-5	1,1,2,2-Tetrachloroethane		7.4	U
108-88-3	Toluene		7.4	U
108-90-7	Chlorobenzene		7.4	U
100-41-4	Ethylbenzene		7.4	U
100-42-5	Styrene		7.4	U
108-38-3	m + p-Xylene		7.4	U
95-47-6	o-Xylene		7.4	U
80-62-6	Methyl methacrylate		7.4	U
630-20-6	1,1,1,2-Tetrachloroethane		7.4	U
96-18-4	1,2,3-Trichloropropane		7.4	U
110-57-6	trans-1,4-Dichloro-2-butene		7.4	U
97-63-2	Ethyl methacrylate		7.4	U
76-01-7	Pentachloroethane		7.4	U
96-12-8	1,2-Dibromo-3-chloropropane		7.4	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

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MSWC-23/00-002

Lab Name: AENI MD Contract: MKC

Project No.: 9507195 Site: Location: Group:

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

Sample wt/vol: 30.2 (g/mL) G Lab File ID: D6432.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: 2 decanted: (Y/N): N Date Extracted: 7/26/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/28/95

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

SAMPLE NO.

NSWC-23/00-002

Lab Name: AENI MD Contract: MKC

Project No.: 9507195 Site: Location: Group:

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

Sample wt/vol: 30.2 (g/mL) G Lab File ID: D6432.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: 2 decanted: (Y/N): N Date Extracted: 7/26/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/28/95

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

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

BSWC-23/00-002

Lab Name: AENI MD Contract: MKC

Project No.: 9507195 Site: Location: Group:

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

Sample wt/vol: 30.2 (g/mL) G Lab File ID: D6432.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: 2 decanted: (Y/N): N Date Extracted: 7/26/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/28/95

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
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

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
SSWC-23/00-002

Lab Name: AEMI MO Contract: MKC

Project No.: 9507195 Site: Location: Group:

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

Sample wt/vol: 30.2 (g/mL) G Lab File ID: D6432.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: 2 decanted: (Y/N): N Date Extracted: 7/26/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/28/95

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

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Pesticide/PCBs

Case No.:——— 9507195
Project Name:——— NSWC-CRANE #4324
Client Name:——— MK CORP

Sample Number
NSWC-23/00-002

AENI # 9507195-002

Concentration:——— Low
Date Sampled:——— 7/18/95
Date Received:——— 7/22/95
Date Ext Prepared:— 7/26/95
Date Analyzed:——— 8/2/95
Conc/Dil Factor:——— 1
Method: ——— 8080

GPC Cleanup	Yes	X No
Seperatory Funnel Extraction		Yes
Continuous Liquid - Liquid Extraction		Yes
Percent Moisture	32.5	
Matrix:	SOIL	

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
319-84-6	alpha-BHC		2.4	U
319-85-7	beta-BHC		2.4	U
319-86-8	delta-BHC		2.4	U
58-89-9	gamma-BHC (Lindane)		4.9	U
75-44-8	Heptachlor		2.4	U
309-00-2	Aldrin		2.4	U
1024-57-3	Heptachlor epoxide		2.4	U
959-98-8	Endosulfan I		2.4	U
60-57-1	Dieldrin		4.9	U
75-55-9	4, 4'-DDE		4.9	U
72-20-8	Endrin		4.9	U
33213-65-9	Endosulfan II		4.9	U
72-54-8	4, 4'-DDD		4.9	U
1031-07-8	Endosulfan Sulfate		4.9	U
50-29-3	4, 4'-DDT		4.9	U
72-43-5	Methoxychlor		24	U
53494-70-5	Endrin Ketone		4.9	U
7421-36-3	Endrin aldehyde		4.9	U
57-74-9	Chlordane		49	U
8001-35-2	Toxaphene		240	U
12674-11-2	Aroclor-1016		49	U
11104-28-2	Aroclor-1221		97	U
11141-16-5	Aroclor-1232		49	U
53469-21-9	Aroclor-1242		49	U
12672-29-6	Aroclor-1248		49	U
11097-69-1	Aroclor-1254		49	U
11096-82-5	Aroclor-1260		49	U
510-15-6	Chlorobenzilate		97	U
2303-16-4	Diallate		487	U
465-73-6	Isodrin		12	U
143-50-0	Kepone		49	U
82-68-8	Pentachloronitrobenzene		9.7	U

Vi - Volume of extract injected (ul) - _____ 5
Vs - Volume of Water extracted (ml) - _____ N/A
Ws - Weight of sample extracted (g) - _____ 30.43
Vt - Volume of total extract (ul) - _____ 10,000

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23/00-002

Lab Name: AMERICAN_ENVIRON_NETWORK_ Contract: MK_CORP___

Lab Code: _____ Case No.: 95071 SAS No.: _____ SDG No.: 507195

Matrix (soil/water): SOIL_ Lab Sample ID: 950719502

Level (low/med): LOW__ Date Received: 07/22/95

% Solids: _67.5

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_	3.0	U	N	P_
7440-38-2	Arsenic__	6.8			P_
7440-39-3	Barium___	120			P_
7440-41-7	Beryllium	1.9			P_
7440-43-9	Cadmium__	3.0		N	P_
7440-70-2	Calcium__				NR
7440-47-3	Chromium_	23.0		EN	P_
7440-48-4	Cobalt___	39.1			P_
7440-50-8	Copper___	139			P_
7439-89-6	Iron____				NR
7439-92-1	Lead____	40.1			P_
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__	0.12	U		AV
7440-02-0	Nickel___	80.2			P_
7440-09-7	Potassium				NR
7782-49-2	Selenium_	0.74	U	N	P_
7440-22-4	Silver___	4.9			P_
7440-23-5	Sodium___				NR
7440-28-0	Thallium_	1.5	U	N	P_
7440-62-2	Vanadium_	20.6			P_
7440-66-6	Zinc____	152		E	P_
	Cyanide__				NR
7440-31-5_	Tin____	36.0	U		P_
7439-93-2_	Lithium__				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

CLIENT_ID: NSWC-23/00-002

AMERICAN ENVIRONMENTAL NETWORK INC.
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC-23/00-002

Case No.:_____ 9507195
Client Name:_____ MK CORP
Project Name:_____ NSWC-CRANE

AENI # 9507195-002

Concentration: _____ Low
Date Sampled:_____ 7/18/95
Date Received:_____ 7/22/95
Date Extract Prepared:_ 7/27/95
Date Analyzed:_____ 8/2/95
Conc/Dil Factor:_____ 1
Matrix_____ SOIL

GPC Cleanup _____ No
Shaker: _____ Yes
Continuous Liq-Liq Ext.: ___ No
Percent Solid _____ 68

Compound	Concentration ug/kg	Reporting Limit	Qualifier
2,4 D		44	U
SILVEX		44	U
2,4,5-T		44	U

Vi - Volume of extract injected (ul)___ 1
Vs - Volume of water extracted (ml)__ N/A
Ws - Mass of soil extracted (g)_____ 50.12
Vt- Volume of total extract (ul)_____ 5000

FORM I

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

Organophosphorus

Case No.: 9507195

Project Name: NSWC-CRANE #4324

Client Name: MK CORP

Sample Number
NSWC-23/00-002

AENI # 9507195-002

Concentration: Low

Date Sampled: 7/18/95

Date Received: 7/22/95

Date Ext Prepared: 7/26/95

Date Analyzed: 7/28/95

Conc/Dil Factor: 10

Method: 8141

GPC Cleanup		Yes	X	No
Seperatory Funnel Extraction				Yes
Continuous Liquid - Liquid Extration				Yes
Percent Solid	67.5			
Matrix	SOIL			

CAS Number	Compound	Concentration ug/Kg	Detection Limit	Qualifier
298-02-2	Phorate		24	U
60-51-5	Dimethoate		48	U
23950-58-5	Pronamide		24	U
298-04-4	Disulfoton		24	U
298-00-0	Methyl Parathion		24	U
56-38-2	Ethyl Parathion		24	U
52-85-7	Famphur		24	U
3689-24-5	Tetraethyl dithiopyrophosphate		2400	U

Vi - Volume of extract injected (ul) - 1

Vs - Volume of Water extracted (ml) - N/A

Ws - Weight of sample extracted (g) - 30.89

Vt - Volume of total extract (ul) - 1,000

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
NSWC-23/00-002

Lab Name: AENI MD Contract: MKC

Project No.: 9507195 Site: NSWC Location: CRANE Group:

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

Sample wt/vol: 5.0 (g/mL) G Lab File ID: E6310.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: not dec. 32 Date Analyzed: 7/27/95

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	15	U
74-83-9	Bromomethane	15	U
75-01-4	Vinyl Chloride	15	U
75-00-3	Chloroethane	15	U
75-09-2	Methylene Chloride	41	
67-64-1	Acetone	150	U
75-05-8	Acetonitrile	7.4	U
107-13-1	Acrylonitrile	1500	U
107-02-8	Acrolein	1500	U
75-69-4	Trichlorofluoromethane	7.4	U
75-15-0	Carbon Disulfide	7.4	U
75-35-4	1,1-Dichloroethene	7.4	U
75-34-4	1,1-Dichloroethane	7.4	U
540-59-0	trans-1,2-Dichloroethene	7.4	U
67-66-3	Chloroform	7.4	U
107-06-2	1,2-Dichloroethane	7.4	U
75-71-8	Dichlorodifluoromethane	7.4	U
74-88-4	Iodomethane	7.4	U
107-12-0	Propionitrile	7.4	U
107-05-1	Allyl chloride	150	U
78-93-3	2-Butanone	150	U
71-55-6	1,1,1-Trichloroethane	7.4	U
56-23-5	Carbon Tetrachloride	7.4	U
108-05-4	Vinyl Acetate	7.4	U
75-27-4	Bromodichloromethane	7.4	U
78-87-5	1,2-Dichloropropane	7.4	U
10061-01-5	cis-1,3-Dichloropropene	7.4	U
79-01-6	Trichloroethene	7.4	U
71-43-2	Benzene	7.4	U
124-48-1	Dibromochloromethane	7.4	U
10061-02-6	trans-1,3-Dichloropropene	7.4	U
79-00-5	1,1,2-Trichloroethane	7.4	U
75-25-2	Bromoform	7.4	U

FORM I VOA SW846

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

BSWC-23/00-002

Lab Name: AENI MD Contract: MKC

Project No.: 9507195 Site: NSWC Location: CRANE Group:

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

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EG3100

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: not dec. 32 Date Analyzed: 7/27/95

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		7.4	U
74-95-3	Dibromomethane		7.4	U
106-93-4	1,2-Dibromoethane (EDB)		7.4	U
108-10-1	4-Methyl-2-Pentanone		74	U
591-78-6	2-Hexanone		74	U
127-18-4	Tetrachloroethene		7.4	U
79-34-5	1,1,2,2-Tetrachloroethane		7.4	U
108-88-3	Toluene		7.4	U
108-90-7	Chlorobenzene		7.4	U
100-41-4	Ethylbenzene		7.4	U
100-42-5	Styrene		7.4	U
108-38-3	m + p-Xylene		7.4	U
95-47-6	o-Xylene		7.4	U
80-62-6	Methyl methacrylate		7.4	U
630-20-6	1,1,1,2-Tetrachloroethane		7.4	U
96-18-4	1,2,3-Trichloropropane		7.4	U
110-57-6	trans-1,4-Dichloro-2-butene		7.4	U
97-63-2	Ethyl methacrylate		7.4	U
76-01-7	Pentachloroethane		7.4	U
96-12-8	1,2-Dibromo-3-chloropropane		7.4	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

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC-23/00-002

Lab Name: AENI MD Contract: MKC

Project No.: 9507195 Site: Location: Group:

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

Sample wt/vol: 30.2 (g/mL) G Lab File ID: DG432.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: 2 decanted: (Y/N): N Date Extracted: 7/26/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/28/95

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

SAMPLE NO.

NSWC-23/00-002

Lab Name: AENI MD Contract: MKC

Project No.: 9507195 Site: Location: Group:

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

Sample wt/vol: 30.2 (g/mL) G Lab File ID: D6432.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: 2 decanted: (Y/N): N Date Extracted: 7/26/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/28/95

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
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

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
NSWC-23/00-002

Lab Name: AENI MD Contract: MKC

Project No.: 9507195 Site: Location: Group:

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

Sample wt/vol: 30.2 (g/mL) G Lab File ID: DG432.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: 2 decanted: (Y/N): N Date Extracted: 7/26/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/28/95

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

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC-23/00-002

Lab Name: AENI MD Contract: MKC

Project No.: 9507195 Site: Location: Group:

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

Sample wt/vol: 30.2 (g/mL) G Lab File ID: DG432.D

Level: (low/med) LOW Date Received: 7/22/95

% Moisture: 2 decanted: (Y/N): N Date Extracted: 7/26/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/28/95

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

American Environmental Network

TL-RTP Project: 33571 — Method 8280 PCDD/PCDF Analysis (b)

Client Sample: NSWC-23/00-002 — Analysis File: E952835

Client Project:	Indiana-Navy Project				
Sample Matrix:	SOIL	Date Received:	07/27/95	Spike File:	SP828050
TLRTP ID:	103-239-2	Date Extracted:	07/28/95	ICal:	E855275
		Date Analyzed:	08/01/95	ConCal:	E952832
Sample Size:	10.830 g	Dilution Factor:	n/a	% Moisture:	30.3
Dry Weight:	7.549 g	Blank File:	E952824	% Lipid:	n/a
GC Column:	DB-5	Analyst:	RSL	% Solids:	69.7

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.053				—
1,2,3,7,8-PeCDD	ND	0.556				—
1,2,3,4,7,8-HxCDD	ND	0.503				—
1,2,3,6,7,8-HxCDD	ND	0.305				—
1,2,3,7,8,9-HxCDD	ND	0.291				—
1,2,3,4,6,7,8-HpCDD	ND	0.755				—
1,2,3,4,6,7,8,9-OCDD	0.929			0.89	36:14	—
2,3,7,8-TCDF	ND	0.0662				—
1,2,3,7,8-PeCDF	ND	0.517				—
2,3,4,7,8-PeCDF	ND	0.649				—
1,2,3,4,7,8-HxCDF	ND	0.649				—
1,2,3,6,7,8-HxCDF	ND	0.384				—
2,3,4,6,7,8-HxCDF	ND	0.53				—
1,2,3,7,8,9-HxCDF	ND	0.45				—
1,2,3,4,6,7,8-HpCDF	ND	0.0856				—
1,2,3,4,7,8,9-HpCDF	ND	0.185				—
1,2,3,4,6,7,8,9-OCDF	ND	0.358				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.897	—
Total PeCDD	ND	0	0.556		—
Total HxCDD	ND	0	0.291		—
Total HpCDD	ND	0	0.755		—
Total TCDF	ND	0	0.0662		—
Total PeCDF	ND	0	0.649		—
Total HxCDF	ND	0	0.45		—
Total HpCDF	ND	0	0.185		—

8280_PSR v2.07, LARS 6.01.02

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TL-RTP Project: 33571 — Method 8280 PCDD/PCDF Analysis (b)

Client Sample: NSWC-23/00-002 — Analysis File: _E95283

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.29	49.6	40%-120%	0.80	20:07	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.26	49.3	40%-120%	0.79	21:16	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.86	73.4	40%-120%	1.27	30:29	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	9.25	69.8	40%-120%	1.09	32:33	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	8.03	60.6	25%-120%	0.91	36:13	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.66	50.0	40%-120%	21:17	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	20:58	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.28	30:48	—

Data Reviewer: _____ 08/07/95

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TL-RTP Project: 33571 — Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC-23/00-002 — Analysis File: E952835
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	0.053	ND
1,2,3,7,8-PeCDD	ND	0.556	ND
1,2,3,4,7,8-HxCDD	ND	0.503	ND
1,2,3,6,7,8-HxCDD	ND	0.305	ND
1,2,3,7,8,9-HxCDD	ND	0.291	ND
1,2,3,4,6,7,8-HpCDD	ND	0.755	ND
1,2,3,4,6,7,8,9-OCDD	0.929	0.411	ND
2,3,7,8-TCDF	ND	0.0662	ND
1,2,3,7,8-PeCDF	ND	0.517	ND
2,3,4,7,8-PeCDF	ND	0.649	ND
1,2,3,4,7,8-HxCDF	ND	0.649	ND
1,2,3,6,7,8-HxCDF	ND	0.384	ND
2,3,4,6,7,8-HxCDF	ND	0.53	ND
1,2,3,7,8,9-HxCDF	ND	0.45	ND
1,2,3,4,6,7,8-HpCDF	ND	0.0856	ND
1,2,3,4,7,8,9-HpCDF	ND	0.185	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.358	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	0.053
Total PeCDD	ND	0.556
Total HxCDD	ND	0.291
Total HpCDD	ND	0.755
Total TCDF	ND	0.0662
Total PeCDF	ND	0.649
Total HxCDF	ND	0.45
Total HpCDF	ND	0.185

8280_PSR v2.07 LARS 6.01.02

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TL-RTP Project: 33571 — Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC-23/00-002 — Analysis File: E9528
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	0.053	ND
1,2,3,7,8-PeCDD	ND	0.556	ND
1,2,3,4,7,8-HxCDD	ND	0.503	ND
1,2,3,6,7,8-HxCDD	ND	0.305	ND
1,2,3,7,8,9-HxCDD	ND	0.291	ND
1,2,3,4,6,7,8-HpCDD	ND	0.755	ND
1,2,3,4,6,7,8,9-OCDD	0.929	0.411	ND
2,3,7,8-TCDF	ND	0.0662	ND
1,2,3,7,8-PeCDF	ND	0.517	ND
2,3,4,7,8-PeCDF	ND	0.649	ND
1,2,3,4,7,8-HxCDF	ND	0.649	ND
1,2,3,6,7,8-HxCDF	ND	0.384	ND
2,3,4,6,7,8-HxCDF	ND	0.53	ND
1,2,3,7,8,9-HxCDF	ND	0.45	ND
1,2,3,4,6,7,8-HpCDF	ND	0.0856	ND
1,2,3,4,7,8,9-HpCDF	ND	0.185	ND
1,2,3,4,6,7,8,9-OCDF	ND	0.358	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	0.053
Total PeCDD	ND	0.556
Total HxCDD	ND	0.291
Total HpCDD	ND	0.755
Total TCDF	ND	0.0662
Total PeCDF	ND	0.649
Total HxCDF	ND	0.45
Total HpCDF	ND	0.185

8280_PSR v2.07, LARS 6 01 02

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TL-RTP Project: 33571 — Method 8280 PCDD/PCDF Analysis (b)

Client Sample: NSWC-23/00-002 — Analysis File: E952835

Client Project:	Indiana-Navy Project				
Sample Matrix:	SOIL	Date Received:	07/27/95	Spike File:	SP828050
TLRTP ID:	103-239-2	Date Extracted:	07/28/95	ICal:	E855275
		Date Analyzed:	08/01/95	ConCal:	E952832
Sample Size:	10.830 g	Dilution Factor:	n/a	% Moisture:	30.3
Dry Weight:	7.549 g	Blank File:	E952824	% Lipid:	n/a
GC Column:	DB-5	Analyst:	RSL	% Solids:	69.7

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.053				—
1,2,3,7,8-PeCDD	ND	0.556				—
1,2,3,4,7,8-HxCDD	ND	0.503				—
1,2,3,6,7,8-HxCDD	ND	0.305				—
1,2,3,7,8,9-HxCDD	ND	0.291				—
1,2,3,4,6,7,8-HpCDD	ND	0.755				—
1,2,3,4,6,7,8,9-OCDD	0.929			0.89	36:14	—
2,3,7,8-TCDF	ND	0.0662				—
1,2,3,7,8-PeCDF	ND	0.517				—
2,3,4,7,8-PeCDF	ND	0.649				—
1,2,3,4,7,8-HxCDF	ND	0.649				—
1,2,3,6,7,8-HxCDF	ND	0.384				—
2,3,4,6,7,8-HxCDF	ND	0.53				—
1,2,3,7,8,9-HxCDF	ND	0.45				—
1,2,3,4,6,7,8-HpCDF	ND	0.0856				—
1,2,3,4,7,8,9-HpCDF	ND	0.185				—
1,2,3,4,6,7,8,9-OCDF	ND	0.358				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.897	—
Total PeCDD	ND	0	0.556		—
Total HxCDD	ND	0	0.291		—
Total HpCDD	ND	0	0.755		—
Total TCDF	ND	0	0.0662		—
Total PeCDF	ND	0	0.649		—
Total HxCDF	ND	0	0.45		—
Total HpCDF	ND	0	0.185		—

8280_PSR v2.07 LARS 6.01.02

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TL-RTP Project: 33571 Method 8280 PCDD/PCDF Analysis (b)
Client Sample: NSWC-23/00-002 Analysis File: E9528

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.29	49.6	40%-120%	0.80	20:07	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.26	49.3	40%-120%	0.79	21:16	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.86	73.4	40%-120%	1.27	30:29	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	9.25	69.8	40%-120%	1.09	32:33	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	8.03	60.6	25%-120%	0.91	36:13	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.66	50.0	40%-120%	21:17	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	20:58	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.28	30:48	—

Data Reviewer: PCB 08/08/95

8280_PSR v2.07 LARS 6.01

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American Environmental Network

TL-RTP Project: 33571 — Toxicity Equivalents Report

Client Sample: NSWC-23/00-002 — Analysis File: E952835

Client Project:	Indiana-Navy Project				
Sample Matrix:	SOIL	Date Received:	07/27/95	Spike File:	SP828050
TLRTP ID:	103-239-2	Date Extracted:	07/28/95	ICal:	E855275
		Date Analyzed:	08/01/95	ConCal:	E952832
Sample Size:	10.830 g	Dilution Factor:	n/a	% Moisture:	30.3
Dry Weight:	7.549 g	Blank File:	E952824	% Lipid:	n/a
GC Column:	DB-5	Analyst:	RSL	% Solids:	69.7

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	0.93	x	0.001	=	0.00093
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: 0.00093 ppb

TEFPR.prg v5.07 LARS 6.01.02

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

Report Number: 9511143
Report To: MK Corp
Project: Crane NSWC IN
Date: December 01, 1995
Sample ID: NSWC 23/00 003, dated 11/16/95

Parameter	Method	Result	Date Analyzed
Corrosivity (as pH)	SW846 9045	7.9	11/29/95
Flashpoint, °F	SW846 1010	>203	11/29/95
Paintfilter	SW846 9095	(3)	12/01/95
Reactive Cyanide, mg/Kg	(1)	<2	12/01/95
Reactive Sulfide, mg/Kg	(2)	<40	11/30/95

(1) SW846 Chapter 7.3.3
(2) SW846 Chapter 7.3.4
(3) No Free Liquid.

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23/00 003

Lab Name: AENI Contract: 9511143

Lab Code: Case No.: MKC70 SAS No.: SDG No.: 23/00

Matrix (soil/water): WATER Lab Sample ID: 951114301

Level (low/med): LOW Date Received: 11/17/95

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	20.0	U		P
7440-39-3	Barium	1270			P
7440-43-9	Cadmium	40.0	U		P
7440-47-3	Chromium	100	U		P
7440-50-8	Copper				NR
7439-92-1	Lead	100	U		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel				NR
7782-49-2	Selenium	20.0	U		P
7440-22-4	Silver	50.0	U		P
7440-66-6	Zinc				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CLIENT_ID: NSWC_23/00_003

TCLP

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC 23/00 003

Lab Name: AENI Contract: 9511143

Project No.: MKC70 Site: Location: Group:

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

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: FK388.D

Level: (low/med) Date Received: 11/17/95

% Moisture: not dec. 100 Date Analyzed: 11/22/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 10.0

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

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

CAS No.	Compound		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

SAMPLE NO.

NSWC 23/00 003

Lab Name: AENI Contract: 95[illegible]143

Project No.: MKC70 Site: CRANE Location: NSWC Group: _____

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

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: CK308.D

Level: (low/med) _____ Date Received: 11/17/95

% Moisture: _____ decanted: (Y/N): N Date Extracted: 11/21/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/25/95

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	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

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

TCLP PESTICIDES

Case No.:——— 9511143

Project Name:——— CRANE NSWC

Client/Account #:—— MK CORP/MKC70

Sample Number
NSWC 23/00 003

AEN# # 9511143-001

Concentration:——— Low

Date Sampled:——— 11/16/95

Date Received:——— 11/17/95

Date Ext Prepared:— 11/20/95

Date Analyzed:——— 11/22/95

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	
Matric	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

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC 23/00 003

AENI # 9511143-001

Case No.: 9511143
Client Name: MK CORP
Project Name: CRANE NSWC
Account #: MKC70

Concentration: Low
Date Sampled: 11/16/95
Date Received: 11/17/95
Date Extract Prepared: 11/24/95
Date Analyzed: 11/30/95
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

23/00 004

AMERICAN ENVIRONMENTAL NETWORK, INC.
3151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

Report Number: 9511143
Report To: MK Corp
Project: Crane NSWC IN
Date: December 01, 1995
Sample ID: NSWC 23/00 004, dated 11/16/95

Parameter	Method	Result	Date Analyzed
Corrosivity (as pH)	SW846 9045	8.9	11/29/95
Flashpoint, °F	SW846 1010	>203	11/29/95
Paintfilter	SW846 9095	(3)	12/01/95
Reactive Cyanide, mg/Kg	(1)	<2	12/01/95
Reactive Sulfide, mg/Kg	(2)	48	11/30/95

(1) SW846 Chapter 7.3.3
(2) SW846 Chapter 7.3.4
(3) No Free Liquid.

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23/00 004

Lab Name: AENI Contract: 9511143

Lab Code: Case No.: MKC70_ SAS No.: SDG No.: 951114

Matrix (soil/water): WATER Lab Sample ID: 951114302

Level (low/med): LOW Date Received: 11/17/95

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	20.0	U		P
7440-39-3	Barium	766			P
7440-43-9	Cadmium	40.0	U		P
7440-47-3	Chromium	100	U		P
7440-50-8	Copper				NR
7439-92-1	Lead	100	U		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel				NR
7782-49-2	Selenium	20.0	U		P
7440-22-4	Silver	50.0	U		P
7440-66-6	Zinc				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CLIENT_ID: NSWC_23/00_004

TCLP

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
NSWC 23/00 004

Lab Name: AENI Contract: 9511143

Project No.: MKC70 Site: Location: Group:

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

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: FK389.D

Level: (low/med) Date Received: 11/17/95

% Moisture: not dec. 100 Date Analyzed: 11/22/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 10.0

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

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

CAS No.	Compound		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	540	D
71-43-2	Benzene	50	UD
127-18-4	Tetrachloroethene	50	UD
108-90-7	Chlorobenzene	50	UD

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC 23/00 004

Case No.: 9511143
Client Name: MK CORP
Project Name: CRANE NSWC
Account #: MKC70

AENI # 9511143-002

Concentration: Low
Date Sampled: 11/16/95
Date Received: 11/17/95
Date Extract Prepared: 11/24/95
Date Analyzed: 11/30/95
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

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

TCLP PESTICIDES

Case No.: 9511143

Project Name: CRANE NSWC

Client/Account #: MK CORP/MKC70

Sample Number
NSWC 23/00 004

AENI # 9511143-002

Concentration: Low

Date Sampled: 11/16/95

Date Received: 11/17/95

Date Ext Prepared: 11/20/95

Date Analyzed: 11/22/95

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

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

NSWC 23/00 004

Lab Name: AENI Contract: 9511143

Project No.: MKC70 Site: CRANE Location: NSWC Group:

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

Sample wt/vol: 500.0 (g/mL) ML Lab File ID: CK309.D

Level: (low/med) Date Received: 11/17/95

% Moisture: decanted: (Y/N): N Date Extracted: 11/21/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/25/95

Injection Volume: 1.0 (uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH:

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

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

23/00 005

1D
ORGANOCHLORINE PESTICIDES AND PCBs ANALYSIS DATA SHEET

SAMPLE NO.
23-00-005

Lab Name: COMPUCHEM, RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0250C

Matrix: (soil/water) SOIL Lab Sample ID: 785750

Sample wt/vol: 30.10 (g/ml) G Lab File ID:

% Moisture: 15 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 03/01/96

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 03/04/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.4 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
58-89-9	gamma-BHC (Lindane)	0.047	J
76-44-8	Heptachlor	0.043	JBP
309-00-2	Aldrin	1.2	U
959-98-8	Endosulfan I	0.40	JP
60-57-1	Dieldrin	0.51	JP
33213-65-9	Endosulfan II	0.48	JBP
50-29-3	4,4'-DDT	0.61	JB
72-43-5	Methoxychlor	5.8	BP
319-84-6	alpha-BHC	0.067	JP
319-85-7	beta-BHC	0.49	JP
319-86-8	delta-BHC	0.11	JP
1024-57-3	Heptachlor epoxide	0.083	JP
72-55-9	4,4'-DDE	0.91	JP
72-20-8	Endrin	0.47	JP
72-54-8	4,4'-DDD	0.50	J
7421-93-4	Endrin aldehyde	1.7	P
1031-07-8	Endosulfan sulfate	0.12	JP
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

1D
ORGANOPHOSPHORUS PESTICIDES ANALYSIS DATA SHEET

SAMPLE NO.

23-00-005

Lab Name: COMPUCHEM, RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0258C

Matrix: (soil/water) SOIL Lab Sample ID: 785751

Sample wt/vol: 30.40 (g/ml) G Lab File ID:

% Moisture: 15 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 03/04/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 03/04/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.4 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
298-02-2	Phorate	12	U
3689-24-5	Sulfotepp	12	U
298-04-4	Disulfoton	12	U
60-51-5	Dimethoate	28	P
298-00-0	Methyl-Parathion	6.6	JP
56-38-2	Ethyl-Parathion	9.4	JP
52-85-7	Famphur	2.7	JP

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-005

Lab Name: COMPUCHEM ENV. CORP. Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0266C

Matrix: (soil/water) SOIL Lab Sample ID: 785772

Sample wt/vol: 50.0 (g/ml) G Lab File ID:

% Moisture: 15 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 03/06/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 03/08/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.4 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)	5.9	JBP
93-76-5	2,4,5-T	1.8	JBP

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-005

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

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 242C__

Matrix (soil/water): SOIL_ Lab Sample ID: 785698

Level (low/med): LOW__ Date Received: 02/24/96

% Solids: _84.6

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: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

Undecanted_Dry_Weights____Container:0.82g__Wet:5.82g__Dry:5.05g_____

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-005

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____
Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 234C__
Matrix (soil/water): SOIL_ Lab Sample ID: 785688
Level (low/med): LOW__ Date Received: 02/24/96
% Solids: _84.6

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

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony_	1470	B	N	P
7440-38-2	Arsenic__	5390		*	P
7440-39-3	Barium___	30800			P
7440-41-7	Beryllium	170	B		P
7440-43-9	Cadmium__	30.9	B		P
7440-47-3	Chromium_	30500			P
7440-48-4	Cobalt___	2780		*	P
7440-50-8	Copper___	11200			P
7439-92-1	Lead____	227000		N	P
7440-02-0	Nickel___	6360			P
7782-49-2	Selenium_	307	U		P
7440-22-4	Silver___	82.7	U		P
7440-28-0	Thallium_	414	U		P
7440-62-2	Vanadium_	7260			P
7440-66-6	Zinc____	41900			P
7439-93-2	Lithium__	1720	B		P
7440-31-5	Tin_____	1180	B		P

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM
Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:
Undecanted_Dry_Weights____Container:0.82g__Wet:5.82g__Dry:5.05g_____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-005

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785731

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085731A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 15 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

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

SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

23-00-005

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785731

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085731A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 15 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

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	110	J
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-Naphthylamine	1000	U
58-90-2	2,3,4,6-Tetrachlorophenol	1600	U
134-32-7	1-Naphthylamine	1600	U
84-66-2	Diethylphthalate	850	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-005

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785731

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085731A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 15 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

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	46	J
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	Isodrin	1100	U
206-44-0	Fluoranthene	83	J
129-00-0	Pyrene	100	J
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	70	J
91-94-1	3,3'-Dichlorobenzidine	590	U
56-55-3	Benzo(a)Anthracene	40	J
218-01-9	Chrysene	54	J

SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

23-00-005

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785731

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085731A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 15 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

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	110	XJ
207-08-9	Benzo(k)fluoranthene	110	XJ
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	43	J
122-09-08	a,a-Dimethylphenethylamine	780	U
106-50-3	p-Phenylenediamine	780	U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
23-00-005

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785731

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085731A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 15 decanted: (Y/N) N Date Extracted:03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL	3.83	240	JA
2.		UNKNOWN (BC)	4.01	980	JB
3.		ALDOL (BC)	4.23	12000	JAB
4.		UNKNOWN (BC)	4.88	650	JB
5.		ADVISORY SURROGATE COMPOUND	5.68	1400	JB
6.		ADVISORY SURROGATE COMPOUND	6.21	1000	JB
7.		UNKNOWN CARBOXYLIC ACID	17.05	210	J
8.					
9.					
10.					
11.					
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Compuchem Environmental Corp.

TLI Project: 36343B
Client Sample: 23-00-005=785730
Client Project: Crane Navy Project

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E960638
Matrix: SOIL

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0458	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	0.0458
Total PeCDD	ND	0.481
Total HxCDD	ND	0.317
Total TCDF	ND	0.0572
Total PeCDF	ND	0.504
Total HxCDF	ND	0.435

8280_PSR v2.07, LARS 6.04.00

Triangle Laboratories, Inc.
801 Capitola Drive • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

Printed: 20:23 03/07/96

Compuchem Environmental Corp.

TLI Project: 36343B
Client Sample: 23-00-005=785730

Method 8280 PCDD/PCDF Analysis
Analysis File: E960630

Client Project:	Crane Navy Project				
Sample Matrix:	SOIL	Date Received:	02/27/96	Spike File:	SP828050
TLI ID:	114-248-8A	Date Extracted:	02/29/96	ICal:	E852096
		Date Analyzed:	03/05/96	ConCal:	E960624
Sample Size:	10.040 g	Dilution Factor:	n/a	% Moisture:	13.0
Dry Weight:	8.735 g	Blank File:	E960630	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JF	% Solids:	87.0

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0458				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.232	—
Total PeCDD	ND	0	0.481		—
Total HxCDD	ND	0	0.317		—
Total TCDF	ND	0	0.0572		—
Total PeCDF	ND	0	0.504		—
Total HxCDF	ND	0	0.435		—

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.45	42.8	40%-120%	0.79	21:30	—
$^{13}C_{12}$-2,3,7,8-TCDD	2.8	48.9	40%-120%	0.77	22:15	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.88	85.2	40%-120%	1.27	29:55	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	9.07	79.2	40%-120%	1.03	31:51	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.87	65.3	40%-120%	22:16	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	22:04	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.26	30:11	—

Data Reviewer: KJ 03/07/96

8280_PSR v2.07. LARS 6 04 00

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Printed: 20:23 03/07/96

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-005

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785710

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085710B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 15 Date Analyzed: 02/27/96

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	11	JB
67-64-1	Acetone	20	B
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.
23-00-005

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785710

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085710B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 15 Date Analyzed: 02/27/96

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.
23-00-005

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785710

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085710B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 15 Date Analyzed: 02/27/96

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	760	JB
2.				
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23/00 006

1D
ORGANOCHLORINE PESTICIDES AND PCBs ANALYSIS DATA SHEET

SAMPLE NO.
23-00-006

Lab Name: COMPUCHEM, RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0250C

Matrix: (soil/water) SOIL Lab Sample ID: 785741

Sample wt/vol: 30.20 (g/ml) G Lab File ID:

% Moisture: 21 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 03/01/96

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 03/04/96

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)	1.3	U
76-44-8	Heptachlor	1.3	U
309-00-2	Aldrin	1.3	U
959-98-8	Endosulfan I	0.13	JP
60-57-1	Dieldrin	0.37	JP
33213-65-9	Endosulfan II	0.10	JBP
50-29-3	4,4'-DDT	0.41	JB
72-43-5	Methoxychlor	1.0	JBP
319-84-6	alpha-BHC	1.3	U
319-85-7	beta-BHC	1.0	JP
319-86-8	delta-BHC	1.3	U
1024-57-3	Heptachlor epoxide	1.3	U
72-55-9	4,4'-DDE	0.14	JP
72-20-8	Endrin	0.60	J
72-54-8	4,4'-DDD	0.17	JP
7421-93-4	Endrin aldehyde	4.1	P
1031-07-8	Endosulfan sulfate	0.14	JP
11096-82-5	Aroclor-1260	25	U
12674-11-2	Aroclor-1016	25	U
11104-28-2	Aroclor-1221	25	U
11141-16-5	Aroclor-1232	25	U
53469-21-9	Aroclor-1242	25	U
12672-29-6	Aroclor-1248	25	U
11097-69-1	Aroclor-1254	25	U
8001-35-2	Toxaphene	25	U
57-74-9	Chlordane (Technical)	5.0	U

1D
ORGANOPHOSPHORUS PESTICIDES ANALYSIS DATA SHEET

SAMPLE NO.
23-00-006

Lab Name: COMPUCHEM,RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0258C

Matrix: (soil/water) SOIL Lab Sample ID: 785761

Sample wt/vol: 30.10 (g/ml) G Lab File ID:

% Moisture: 21 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 03/04/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 03/05/96

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
298-02-2	Phorate	13	U
3689-24-5	Sulfotepp	13	U
298-04-4	Disulfoton	13	U
60-51-5	Dimethoate	14	
298-00-0	Methyl-Parathion	13	U
56-38-2	Ethyl-Parathion	13	U
52-85-7	Famphur	13	P

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-006

Lab Name: COMPUCHEM ENV. CORP. Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0266C

Matrix: (soil/water) SOIL Lab Sample ID: 785762

Sample wt/vol: 50.2 (g/ml) G Lab File ID:

% Moisture: 21 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 03/06/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 03/08/96

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	130	U
93-72-1	2,4,5-TP (Silvex)	3.7	JPB
93-76-5	2,4,5-T	32	U

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-006

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

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 242C__

Matrix (soil/water): SOIL_ Lab Sample ID: 785689

Level (low/med): LOW__ Date Received: 02/24/96

% Solids: _79.4

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

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	110	U		CV

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:
Undecanted_Dry_Weights____Container:1.54g__Wet:6.54g__Dry:5.51g_____
Duplicate_(23-00-006D)_____

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-006

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____
Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 234C__
Matrix (soil/water): SOIL_ Lab Sample ID: 785673
Level (low/med): LOW__ Date Received: 02/24/96
% Solids: _79.4

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

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	4170	B	N	P
7440-38-2	Arsenic	4510		*	P
7440-39-3	Barium	66200			P
7440-41-7	Beryllium	216	B		P
7440-43-9	Cadmium	24.7	U		P
7440-47-3	Chromium	11300			P
7440-48-4	Cobalt	2730		*	P
7440-50-8	Copper	16900			P
7439-92-1	Lead	776000		N	P
7440-02-0	Nickel	10100			P
7782-49-2	Selenium	321	U		P
7440-22-4	Silver	86.4	U		P
7440-28-0	Thallium	432	U		P
7440-62-2	Vanadium	10500			P
7440-66-6	Zinc	45100			P
7439-93-2	Lithium	3910	B		P
7440-31-5	Tin	1760	B		P

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM
Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:
Undecanted_Dry_Weights____Container:1.54g__Wet:6.54g__Dry:5.51g_____

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-006

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785740

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085740A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 21 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

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	330	U
110-86-1	Pyridine	700	U
109-06-8	2-Picoline	1500	U
10595-95-6	Nitrosomethylethylamine	300	U
66-27-3	Methyl Methanesulfonate	890	U
55-18-5	N-Nitrosodiethylamine	280	U
62-50-0	Ethyl Methanesulfonate	760	U
108-95-2	Phenol	720	U
62-53-3	Aniline	710	U
111-44-4	Bis(2-chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	800	U
541-73-1	1,3-Dichlorobenzene	650	U
106-46-7	1,4-Dichlorobenzene	660	U
100-51-6	Benzyl Alcohol	700	U
95-50-1	1,2-Dichlorobenzene	750	U
95-48-7	2-Methylphenol	820	U
39638-32-9	bis(2-Chloroisopropyl)ether	820	U
108-39-4	3-Methylphenol	1600	U
106-44-5	4-Methylphenol	1600	U
930-55-2	N-Nitrosopyrrolidine	670	U
621-64-7	N-Nitroso-di-N-propylamine	300	U
98-86-2	Acetophenone	840	U
59-89-2	N-Nitrosomorpholine	950	U
636-21-5	o-Toluidine hydrochloride	2500	U
67-72-1	Hexachloroethane	760	U
98-95-3	Nitrobenzene	860	U
100-75-4	N-Nitrosopiperidine	940	U
78-59-1	Isophorone	860	U
88-75-5	2-Nitrophenol	780	U
105-67-9	2,4-Dimethylphenol	770	U
126-68-1	o,o,o-Triethylphosphorothioa	6700	U
111-91-1	Bis(2-chloroethoxy)methane	850	U
120-83-2	2,4-Dichlorophenol	700	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-006

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785740

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085740A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 21 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 03/04/96

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	700	U
91-20-3	Naphthalene	840	U
106-47-8	4-Chloroaniline	870	U
87-65-0	2,6-Dichlorophenol	1500	U
1888-71-7	Hexachloropropene	720	U
87-68-3	Hexachlorobutadiene	710	U
924-16-3	N-Nitroso-di-n-butylamine	190	U
59-50-7	4-Chloro-3-methylphenol	240	U
94-59-7	Safrole	730	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	840	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-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1400	U
130-15-4	1,4-Napthoquinone	2000	U
131-11-3	Dimethylphthalate	1200	U
99-65-0	1,3-Dinitrobenzene	710	U
606-20-2	2,6-Dinitrotoluene	950	U
208-96-8	Acenaphthylene	850	U
99-09-2	3-Nitroaniline	870	U
83-32-9	Acenaphthene	64	J
51-28-5	2,4-Dinitrophenol	2200	U
100-02-7	4-Nitrophenol	870	U
608-93-5	Pentachlorobenzene	840	U
121-14-2	2,4-Dinitrotoluene	840	U
132-64-9	Dibenzofuran	870	U
91-59-8	2-Naphthylamine	1100	U
58-90-2	2,3,4,6-Tetrachlorophenol	1800	U
134-32-7	1-Naphthylamine	1800	U
84-66-2	Diethylphthalate	910	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-006

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785740

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085740A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 21 decanted: (Y/N) N Date Extracted:03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

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	760	U
99-55-8	5-Nitro-o-toluidine	1300	U
86-73-7	Fluorene	58	J
100-01-6	4-Nitroaniline	1400	U
534-52-1	4,6-Dinitro-2-methylphenol	2300	U
86-30-6	N-Nitrosodiphenylamine (1)	1800	U
122-39-4	Diphenylamine	1800	U
99-35-4	1,3,5-Trinitrobenzene	1200	U
2303-16-4	Diallate (trans isomer)	840	U
62-44-2	Phenacetin	770	U
2303-16-4	Diallate (cis isomer)	840	U
101-55-3	4-Bromophenyl-phenylether	950	U
118-74-1	Hexachlorobenzene	970	U
92-67-1	4-Aminobiphenyl	520	U
87-86-5	Pentachlorophenol	1800	U
23950-58-5	Pronamide	820	U
85-01-8	Phenanthrene	470	J
120-12-7	Anthracene	77	J
84-74-2	Di-n-butylphthalate	970	U
56-57-5	4-Nitroquinoline-1-oxide	6100	U
91-80-5	Methapyrilene	1600	U
465-73-6	Isodrin	1200	U
206-44-0	Fluoranthene	520	J
129-00-0	Pyrene	540	J
140-57-8	Aramite	840	U
60-11-7	p-Dimethylaminoazobenzene	850	U
510-15-6	Chlorobenzilate	900	U
85-68-7	Butylbenzylphthalate	860	U
119-93-7	3,3'-Dimethylbenzidine	570	U
117-81-7	bis(2-ethylhexyl)Phthalate	86	J
91-94-1	3,3'-Dichlorobenzidine	630	U
56-55-3	Benzo(a)Anthracene	240	J
218-01-9	Chrysene	280	J

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-006

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785740

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085740A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 21 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

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	610	U
57-97-6	7,12-Dimethylbenz(a)anthrace	520	U
205-99-2	Benzo(b)fluoranthene	420	XJ
207-08-9	Benzo(k)fluoranthene	440	XJ
193-39-5	Indeno(1,2,3-c,d)pyrene	110	J
53-70-3	Dibenzo(a,h)anthracene	230	U
191-24-2	Benzo(g,h,i)perylene	110	J
122-09-08	a,a-Dimethylphenethylamine	840	U
106-50-3	p-Phenylenediamine	840	U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
23-00-006

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785740

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085740A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 21 decanted: (Y/N) N Date Extracted:03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

Number TICs found: 16

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL	3.83	300	JA
2.		UNKNOWN (BC)	4.01	1200	JB
3.		ALDOL (BC)	4.23	13000	JAB
4.		UNKNOWN (BC)	4.88	770	JB
5.		ADVISORY SURROGATE COMPOUND	5.68	1700	JB
6.		ADVISORY SURROGATE COMPOUND	6.21	1200	JB
7.		UNKNOWN CARBOXYLIC ACID	15.62	200	J
8.		UNKNOWN ACID ESTER	16.86	260	J
9.		UNKNOWN CARBOXYLIC ACID	17.05	560	J
10.		UNKNOWN	17.48	350	J
11.		UNKNOWN	18.80	230	J
12.		BENZOFLUORENE	19.82	190	J
13.		UNKNOWN HYDROCARBON	24.86	220	J
14.		BENZOPYRENE	25.02	300	J
15.		UNKNOWN HYDROCARBON	26.39	260	J
16.		UNKNOWN	29.77	210	J
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Compuchem Environmental Corp.

TLI Project: 36343B
Client Sample: 23-00-006=785723
Client Project: Crane Navy Project

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E960633
Matrix: SOIL

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0515	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	0.0515
Total PeCDD	ND	0.54
Total HxCDD	ND	0.356
Total TCDF	ND	0.0643
Total PeCDF	ND	0.566
Total HxCDF	ND	0.489

8280_PSR v2.07, LAR5 6 04 00

Triangle Laboratories, Inc.
801 Capitola Drive • Durham, North Carolina 27713
Phone (919) 544-5729 • Fax: (919) 544-5491

Printed: 19:15 03/07/96

Compuchem Environmental Corp.

TLI Project: 36343B
Client Sample: 23-00-006=785723

Method 8280 PCDD/PCDF Analysi
Analysis File: E960

Client Project:	Crane Navy Project				
Sample Matrix:	SOIL	Date Received:	02/27/96	Spike File:	SP828050
TLI ID:	114-248-3	Date Extracted:	02/29/96	ICal:	E852096
		Date Analyzed:	03/05/96	ConCal:	E960624
Sample Size:	10.070 g	Dilution Factor:	n/a	% Moisture:	22.8
Dry Weight:	7.774 g	Blank File:	E960630	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JF	% Solids:	77.2

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0515				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.334	—
Total PeCDD	ND	0	0.54		—
Total HxCDD	ND	0	0.356		—
Total TCDF	ND	0	0.0643		—
Total PeCDF	ND	0	0.566		—
Total HxCDF	ND	0	0.489		—

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.15	49.0	40%-120%	0.77	21 30	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.39	52.7	40%-120%	0.78	22:15	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	5.26	81.8	40%-120%	1.24	29:56	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	7.6	59.1	40%-120%	1.02	31:52	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	2.02	63.0	40%-120%	22:16	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.78	22:04	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.18	30:13	—

Data Reviewer: Ku 03/07/96

8280_PSR v2.07. LARS 6 04 00

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Printed: 19:15 03/07/96

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-006

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785699

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085699B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 21 Date Analyzed: 02/27/96

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	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	18	B
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	13	U
75-35-4	1,1-Dichloroethene	13	U
75-34-3	1,1-Dichloroethane	13	U
67-66-3	Chloroform	13	U
107-06-2	1,2-Dichloroethane	13	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	13	U
56-23-5	Carbon Tetrachloride	13	U
75-27-4	Bromodichloromethane	13	U
78-87-5	1,2-Dichloropropane	13	U
10061-01-5	cis-1,3-Dichloropropene	13	U
79-01-6	Trichloroethene	13	U
124-48-1	Dibromochloromethane	13	U
79-00-5	1,1,2-Trichloroethane	13	U
71-43-2	Benzene	13	U
10061-02-6	trans-1,3-Dichloropropene	13	U
75-25-2	Bromoform	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	13	U
79-34-5	1,1,2,2-Tetrachloroethane	13	U
108-88-3	Toluene	13	U
108-90-7	Chlorobenzene	13	U
100-41-4	Ethylbenzene	13	U
100-42-5	Styrene	13	U
1330-20-7	Xylene (Total)	13	U
75-05-8	acetonitrile	250	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-006

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785699

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085699B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 21 Date Analyzed: 02/27/96

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	290	U
107-05-1	3-chloropropene	19	U
106-93-4	1,2-dibromoethane	19	U
74-95-3	dibromomethane	25	U
110-57-6	trans-1,4-dichloro-2-butene	19	U
75-71-8	dichlorodifluoromethane	25	U
123-91-1	1,4-dioxane	65000	U
107-12-0	propionitrile(ethylcyanide)	750	U
97-63-2	ethyl methacrylate	32	U
74-88-4	iodomethane	13	U
78-83-1	isobutyl alcohol	16000	U
126-98-7	methacrylonitrile	25	U
80-62-6	methyl methacrylate	63	U
630-20-6	1,1,1,2-tetrachloroethane	25	U
96-18-4	1,2,3-trichloropropane	25	U
108-05-4	vinyl acetate	25	U
96-12-8	1,2-dibromo-3-chloropropane	63	U
75-69-4	trichlorofluoromethane	25	U
107-13-1	acrylonitrile	270	U
156-60-5	trans-1,2-Dichloroethene	13	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
23-00-006

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785699

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085699B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 21 Date Analyzed: 02/27/96

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	650	JB
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1D
ORGANOCHLORINE PESTICIDES AND PCBs ANALYSIS DATA SHEET

SAMPLE NO.
23-00-007

Lab Name: COMPUCHEM, RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0250C

Matrix: (soil/water) SOIL Lab Sample ID: 785744

Sample wt/vol: 30.60 (g/ml) G Lab File ID:

% Moisture: 13 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 03/01/96

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 03/05/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.5 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
58-89-9	gamma-BHC (Lindane)	1.1	U
76-44-8	Heptachlor	1.1	U
309-00-2	Aldrin	0.12	J
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	0.18	JP
33213-65-9	Endosulfan II	0.49	JBP
50-29-3	4,4'-DDT	0.75	JBP
72-43-5	Methoxychlor	1.1	JBP
319-84-6	alpha-BHC	1.1	U
319-85-7	beta-BHC	0.19	J
319-86-8	delta-BHC	1.1	U
1024-57-3	Heptachlor epoxide	0.16	JP
72-55-9	4,4'-DDE	0.18	JP
72-20-8	Endrin	0.23	JP
72-54-8	4,4'-DDD	0.25	JP
7421-93-4	Endrin aldehyde	0.60	JP
1031-07-8	Endosulfan sulfate	0.16	JP
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)	4.5	U

1D
ORGANOPHOSPHORUS PESTICIDES ANALYSIS DATA SHEET

SAMPLE NO.
23-00-007

Lab Name: COMPUCHEM,RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0258C

Matrix: (soil/water) SOIL Lab Sample ID: 785760

Sample wt/vol: 30.30 (g/ml) G Lab File ID:

% Moisture: 13 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 03/04/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 03/05/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.5 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
298-02-2	Phorate	11	U
3689-24-5	Sulfotepp	11	U
298-04-4	Disulfoton	11	U
60-51-5	Dimethoate	8.4	JP
298-00-0	Methyl-Parathion	11	U
56-38-2	Ethyl-Parathion	11	JP
52-85-7	Famphur	11	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-007

Lab Name: COMPUCHEM ENV. CORP. Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0266C

Matrix: (soil/water) SOIL Lab Sample ID: 785766

Sample wt/vol: 50.6 (g/ml) G Lab File ID:

% Moisture: 13 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 03/06/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 03/08/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.5 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
94-75-7	2,4-D	11	JP
93-72-1	2,4,5-TP (Silvex)	1.4	JBP
93-76-5	2,4,5-T	28	U

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-007

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

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 242C

Matrix (soil/water): SOIL Lab Sample ID: 785692

Level (low/med): LOW Date Received: 02/24/96

% Solids: 87.5

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

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	114	U		CV

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Undecanted_Dry_Weights Container:1.54g Wet:6.56g Dry:5.93g

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-007

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____
Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 234C__
Matrix (soil/water): SOIL_ Lab Sample ID: 785682
Level (low/med): LOW__ Date Received: 02/24/96
% Solids: _87.5

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

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony_	994	B	N	P
7440-38-2	Arsenic__	5960		*	P
7440-39-3	Barium___	40600			P
7440-41-7	Beryllium	278	B		P
7440-43-9	Cadmium__	191	B		P
7440-47-3	Chromium_	11900			P
7440-48-4	Cobalt___	2620		*	P
7440-50-8	Copper___	16700			P
7439-92-1	Lead____	109000		N	P
7440-02-0	Nickel___	5450			P
7782-49-2	Selenium_	345	B		P
7440-22-4	Silver___	158	B		P
7440-28-0	Thallium_	396	U		P
7440-62-2	Vanadium_	12400			P
7440-66-6	Zinc____	42200			P
7439-93-2	Lithium__	3510	B		P
7440-31-5	Tin_____	1560	B		P

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM
Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:
Undecanted_Dry_Weights____Container:1.54g__Wet:6.56g__Dry:5.93g_____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-007

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785739

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085739A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 13 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
62-75-9	N-Nitrosodimethylamine	300	U
110-86-1	Pyridine	630	U
109-06-8	2-Picoline	1400	U
10595-95-6	Nitrosomethylethylamine	280	U
66-27-3	Methyl Methanesulfonate	800	U
55-18-5	N-Nitrosodiethylamine	260	U
62-50-0	Ethyl Methanesulfonate	690	U
108-95-2	Phenol	660	U
62-53-3	Aniline	640	U
111-44-4	Bis(2-chloroethyl)ether	320	U
95-57-8	2-Chlorophenol	720	U
541-73-1	1,3-Dichlorobenzene	590	U
106-46-7	1,4-Dichlorobenzene	600	U
100-51-6	Benzyl Alcohol	630	U
95-50-1	1,2-Dichlorobenzene	680	U
95-48-7	2-Methylphenol	750	U
39638-32-9	bis(2-Chloroisopropyl)ether	750	U
108-39-4	3-Methylphenol	1500	U
106-44-5	4-Methylphenol	1500	U
930-55-2	N-Nitrosopyrrolidine	610	U
621-64-7	N-Nitroso-di-N-propylamine	280	U
98-86-2	Acetophenone	760	U
59-89-2	N-Nitrosomorpholine	860	U
636-21-5	o-Toluidine hydrochloride	2300	U
67-72-1	Hexachloroethane	690	U
98-95-3	Nitrobenzene	780	U
100-75-4	N-Nitrosopiperidine	850	U
78-59-1	Isophorone	780	U
88-75-5	2-Nitrophenol	710	U
105-67-9	2,4-Dimethylphenol	700	U
126-68-1	o,o,o-Triethylphosphorothioa	6100	U
111-91-1	Bis(2-chloroethoxy)methane	770	U
120-83-2	2,4-Dichlorophenol	630	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-007

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785739

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085739A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 13 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
120-82-1	1,2,4-Trichlorobenzene	630	U
91-20-3	Naphthalene	760	U
106-47-8	4-Chloroaniline	790	U
87-65-0	2,6-Dichlorophenol	1400	U
1888-71-7	Hexachloropropene	660	U
87-68-3	Hexachlorobutadiene	640	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	970	U
77-47-4	Hexachlorocyclopentadiene	760	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	1800	U
131-11-3	Dimethylphthalate	1100	U
99-65-0	1,3-Dinitrobenzene	640	U
606-20-2	2,6-Dinitrotoluene	860	U
208-96-8	Acenaphthylene	770	U
99-09-2	3-Nitroaniline	790	U
83-32-9	Acenaphthene	760	U
51-28-5	2,4-Dinitrophenol	2000	U
100-02-7	4-Nitrophenol	790	U
608-93-5	Pentachlorobenzene	760	U
121-14-2	2,4-Dinitrotoluene	760	U
132-64-9	Dibenzofuran	790	U
91-59-8	2-Naphthylamine	990	U
58-90-2	2,3,4,6-Tetrachlorophenol	1600	U
134-32-7	1-Naphthylamine	1600	U
84-66-2	Diethylphthalate	830	U

1C

SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

23-00-007

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785739

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085739A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 13 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 03/04/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
7005-72-3	4-Chlorophenyl-phenylether	690	U
99-55-8	5-Nitro-o-toluidine	1100	U
86-73-7	Fluorene	790	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	1000	U
2303-16-4	Diallate (trans isomer)	760	U
62-44-2	Phenacetin	700	U
2303-16-4	Diallate (cis isomer)	760	U
101-55-3	4-Bromophenyl-phenylether	860	U
118-74-1	Hexachlorobenzene	880	U
92-67-1	4-Aminobiphenyl	470	U
87-86-5	Pentachlorophenol	1600	U
23950-58-5	Pronamide	750	U
85-01-8	Phenanthrene	710	U
120-12-7	Anthracene	850	U
84-74-2	Di-n-butylphthalate	880	U
56-57-5	4-Nitroquinoline-1-oxide	5500	U
91-80-5	Methapyrilene	1500	U
465-73-6	Isodrin	1100	U
206-44-0	Fluoranthene	1100	U
129-00-0	Pyrene	840	U
140-57-8	Aramite	760	U
60-11-7	p-Dimethylaminoazobenzene	770	U
510-15-6	Chlorobenzilate	820	U
85-68-7	Butylbenzylphthalate	780	U
119-93-7	3,3'-Dimethylbenzidine	520	U
117-81-7	bis(2-ethylhexyl)Phthalate	67	J
91-94-1	3,3'-Dichlorobenzidine	570	U
56-55-3	Benzo(a)Anthracene	760	U
218-01-9	Chrysene	620	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-007

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785739

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085739A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 13 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
117-84-0	Di-n-octylphthalate	550	U
57-97-6	7,12-Dimethylbenz(a)anthrace	470	U
205-99-2	Benzo(b)fluoranthene	880	U
207-08-9	Benzo(k)fluoranthene	710	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	710	U
122-09-08	a,a-Dimethylphenethylamine	760	U
106-50-3	p-Phenylenediamine	760	U

1F

SAMPLE NO.

23-00-007

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785739

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085739A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 13 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

Number TICs found: 8

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL	3.83	280	JA
2.	UNKNOWN (BC)	4.01	1100	JB
3.	ALDOL (BC)	4.23	13000	JAB
4.	UNKNOWN (BC)	4.88	710	JB
5.	ADVISORY SURROGATE COMPOUND	5.68	1600	JB
6.	ADVISORY SURROGATE COMPOUND	6.21	1200	JB
7.	UNKNOWN CARBOXYLIC ACID	17.05	350	J
8.	UNKNOWN	28.33	290	J
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Compuchem Environmental Corp.

TLI Project: 36343B
Client Sample: 23-00-007=785724
Client Project: Crane Navy Project

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E960636
Matrix: SOIL

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0464	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	0.0464
Total PeCDD	ND	0.488
Total HxCDD	ND	0.322
Total TCDF	ND	0.058
Total PeCDF	ND	0.511
Total HxCDF	ND	0.441

8280_PSR v2.07. LARS 6 04 00

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Phone. (919) 544-5729 • Fax: (919) 544-5491

Printed: 19:17 03/07/96

Compuchem Environmental Corp.

TLI Project: 36343B
Client Sample: 23-00-007=785724

Method 8280 PCDD/PCDF Analysis (L)
Analysis File: E9606.

Client Project:	Crane Navy Project				
Sample Matrix:	SOIL	Date Received:	02/27/96	Spike File:	SP828050
TLI ID:	114-248-6	Date Extracted:	02/29/96	ICal:	E852096
		Date Analyzed:	03/05/96	ConCal:	E960624
Sample Size:	10.110 g	Dilution Factor:	n/a	% Moisture:	14.8
Dry Weight:	8.614 g	Blank File:	E960630	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JF	% Solids:	85.2

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0464				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.282	—
Total PeCDD	ND	0	0.488		—
Total HxCDD	ND	0	0.322		—
Total TCDF	ND	0	0.058		—
Total PeCDF	ND	0	0.511		—
Total HxCDF	ND	0	0.441		—

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.02	52.0	40%-120%	0.80	21:31	—
$^{13}C_{12}$-2,3,7,8-TCDD	2.98	51.3	40%-120%	0.77	22:16	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.86	83.8	40%-120%	1.30	29:55	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	14.8	127	40%-120%	1.04	31:51	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.68	57.8	40%-120%	22:17	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	22:04	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.28	30:11	—

Data Reviewer: KC 03/07/96

8280_PSR v2.07, LARS 6 04 00

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-007

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785704

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085704B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 13 Date Analyzed: 02/27/96

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	27	B
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	230	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-007

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785704

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085704B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 13 Date Analyzed: 02/27/96

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	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)	680	U
97-63-2	ethyl methacrylate	29	U
74-88-4	iodomethane	11	U
78-83-1	isobutyl alcohol	15000	U
126-98-7	methacrylonitrile	23	U
80-62-6	methyl methacrylate	57	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	57	U
75-69-4	trichlorofluoromethane	23	U
107-13-1	acrylonitrile	240	U
156-60-5	trans-1,2-Dichloroethene	11	U

FORM I VOA

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
23-00-007

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785704

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085704B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 13 Date Analyzed: 02/27/96

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	760	JB
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23/00 008 1

1D
ORGANOCHLORINE PESTICIDES AND PCBs ANALYSIS DATA SHEET

SAMPLE NO.
23-00-008

Lab Name: COMPUCHEM, RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0250C

Matrix: (soil/water) SOIL Lab Sample ID: 785745

Sample wt/vol: 30.30 (g/ml) G Lab File ID:

% Moisture: 14 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 03/01/96

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 03/05/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 6.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
58-89-9	gamma-BHC (Lindane)	0.098	JP
76-44-8	Heptachlor	0.059	JBP
309-00-2	Aldrin	0.20	JP
959-98-8	Endosulfan I	0.50	JP
60-57-1	Dieldrin	0.48	JP
33213-65-9	Endosulfan II	0.25	JBP
50-29-3	4,4'-DDT	0.37	JBP
72-43-5	Methoxychlor	0.46	JBP
319-84-6	alpha-BHC	1.2	U
319-85-7	beta-BHC	0.20	JP
319-86-8	delta-BHC	1.2	U
1024-57-3	Heptachlor epoxide	1.0	JP
72-55-9	4,4'-DDE	3.4	JP
72-20-8	Endrin	0.61	JP
72-54-8	4,4'-DDD	0.24	JP
7421-93-4	Endrin aldehyde	0.19	JP
1031-07-8	Endosulfan sulfate	0.075	JP
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

1D
ORGANOPHOSPHORUS PESTICIDES ANALYSIS DATA SHEET

SAMPLE NO.

23-00-008

Lab Name: COMPUCHEM, RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0258C

Matrix: (soil/water) SOIL Lab Sample ID: 785759

Sample wt/vol: 30.20 (g/ml) G Lab File ID:

% Moisture: 14 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 03/04/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 03/04/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 6.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
298-02-2	Phorate	12	U
3689-24-5	Sulfotepp	12	U
298-04-4	Disulfoton	12	U
60-51-5	Dimethoate	7.2	JP
298-00-0	Methyl-Parathion	6.1	JP
56-38-2	Ethyl-Parathion	6.1	JP
52-85-7	Famphur	12	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-008

Lab Name: COMPUCHEM ENV. CORP. Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0266C

Matrix: (soil/water) SOIL Lab Sample ID: 785767

Sample wt/vol: 50.2 (g/ml) G Lab File ID:

% Moisture: 14 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 03/06/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 03/08/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 6.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
94-75-7	2,4-D	22	J
93-72-1	2,4,5-TP (Silvex)	1.7	JBP
93-76-5	2,4,5-T	6.3	JBP

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-008

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

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 242C

Matrix (soil/water): SOIL_ Lab Sample ID: 785693

Level (low/med): LOW Date Received: 02/24/96

% Solids: 85.7

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

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	117	U		CV

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: _____ Artifacts: _____

Comments:

Undecanted_Dry_Weights Container:1.55g Wet:6.57g Dry:5.85g

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-008

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____
Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 234C__
Matrix (soil/water): SOIL_ Lab Sample ID: 785683
Level (low/med): LOW__ Date Received: 02/24/96
% Solids: _85.7

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

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony_	1360	B	N	P
7440-38-2	Arsenic__	5930		*	P
7440-39-3	Barium___	48900			P
7440-41-7	Beryllium	294	B		P
7440-43-9	Cadmium__	23.3	U		P
7440-47-3	Chromium_	11900			P
7440-48-4	Cobalt___	3540		*	P
7440-50-8	Copper___	11600			P
7439-92-1	Lead____	119000		N	P
7440-02-0	Nickel___	6860			P
7782-49-2	Selenium_	303	U		P
7440-22-4	Silver___	81.7	U		P
7440-28-0	Thallium_	408	U		P
7440-62-2	Vanadium_	14500			P
7440-66-6	Zinc____	46400			P
7439-93-2	Lithium__	4570	B		P
7440-31-5	Tin_____	1830	B		P

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM
Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:
Undecanted_Dry_Weights____Container:1.55g__Wet:6.57g__Dry:5.85g_____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-008

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785738

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085738A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 14 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

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

SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

23-00-008

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785738

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085738A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 14 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 03/04/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

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

FORM I SV-2

SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

23-00-008

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785738

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085738A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 14 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

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	200	J
91-94-1	3,3'-Dichlorobenzidine	580	U
56-55-3	Benzo(a)Anthracene	770	U
218-01-9	Chrysene	630	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-008

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785738

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085738A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 14 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

23-00-008

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785738

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085738A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 14 decanted: (Y/N) N Date Extracted:03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

Number TICs found: 8

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL	3.83	290	JA
2.	UNKNOWN (BC)	4.00	1100	JB
3.	ALDOL (BC)	4.24	13000	JAB
4.	UNKNOWN (BC)	4.88	710	JB
5.	ADVISORY SURROGATE COMPOUND	5.67	1500	JB
6.	ADVISORY SURROGATE COMPOUND	6.21	1100	JB
7.	UNKNOWN CARBOXYLIC ACID	17.06	240	J
8.	SUBSTITUTED NAPHTHALENE	21.47	650	J
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
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30.				

Compuchem Environmental Corp.

TLI Project: 36343B
Client Sample: 23-00-008=785725
Client Project: Crane Navy Project

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E960634
Matrix: SOIL

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0466	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	0.0466
Total PeCDD	ND	0.489
Total HxCDD	ND	0.323
Total TCDF	ND	0.0582
Total PeCDF	ND	0.512
Total HxCDF	ND	0.443

8280_PSR v2.07. LARS 6 04 00

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Printed: 19:16 03/07/96

Compuchem Environmental Corp.

TLI Project: 36343B
Client Sample: 23-00-008=785725

Method 8280 PCDD/PCDF Analysis (h)
Analysis File: E960(

Client Project:	Crane Navy Project				
Sample Matrix:	SOIL	Date Received:	02/27/96	Spike File:	SP828050
TLI ID:	114-248-4	Date Extracted:	02/29/96	ICal:	E852096
		Date Analyzed:	03/05/96	ConCal:	E960624
Sample Size:	10.020 g	Dilution Factor:	n/a	% Moisture:	14.3
Dry Weight:	8.587 g	Blank File:	E960630	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JF	% Solids:	85.7

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0466				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.382	—
Total PeCDD	ND	0	0.489		—
Total HxCDD	ND	0	0.323		—
Total TCDF	ND	0	0.0582		—
Total PeCDF	ND	0	0.512		—
Total HxCDF	ND	0	0.443		—

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.51	60.3	40%-120%	0.78	21:28	—
$^{13}C_{12}$-2,3,7,8-TCDD	4.04	69.4	40%-120%	0.77	22:15	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	6.68	115	40%-120%	1.26	29:54	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	10.6	91.4	40%-120%	1.06	31:51	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	2.13	73.1	40%-120%	22:15	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	22:03	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.26	30:11	—

Data Reviewer: KU 03/07/96

8280_PSR v2.07, LARS 6.04 w

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-008

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785705

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085705B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 14 Date Analyzed: 02/27/96

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	13	B
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.

23-00-008

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785705

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085705B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 14 Date Analyzed: 02/27/96

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.
23-00-008

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785705

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085705B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 14 Date Analyzed: 02/27/96

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	630	JB
2.				
3.				
4.				
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1D
ORGANOCHLORINE PESTICIDES AND PCBs ANALYSIS DATA SHEET

SAMPLE NO.
23-00-009

Lab Name: COMPUCHEM,RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0250C

Matrix: (soil/water) SOIL Lab Sample ID: 785746

Sample wt/vol: 30.90 (g/ml) G Lab File ID:

% Moisture: 15 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 03/01/96

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 03/04/96

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
58-89-9	gamma-BHC (Lindane)	0.37	J
76-44-8	Heptachlor	0.16	JBP
309-00-2	Aldrin	0.10	JP
959-98-8	Endosulfan I	0.89	JP
60-57-1	Dieldrin	3.2	P
33213-65-9	Endosulfan II	0.84	BJP
50-29-3	4,4'-DDT	7.9	BP
72-43-5	Methoxychlor	3.8	BJP
319-84-6	alpha-BHC	0.048	JP
319-85-7	beta-BHC	1.5	
319-86-8	delta-BHC	0.053	J
1024-57-3	Heptachlor epoxide	2.3	
72-55-9	4,4'-DDE	0.18	JP
72-20-8	Endrin	1.3	JP
72-54-8	4,4'-DDD	1.5	JP
7421-93-4	Endrin aldehyde	2.5	P
1031-07-8	Endosulfan sulfate	1.4	JP
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

1D
ORGANOPHOSPHORUS PESTICIDES ANALYSIS DATA SHEET

SAMPLE NO.

23-00-009

Lab Name: COMPUCHEM,RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0258C

Matrix: (soil/water) SOIL Lab Sample ID: 785758

Sample wt/vol: 30.00 (g/ml) G Lab File ID:

% Moisture: 15 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 03/04/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 03/04/96

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
298-02-2	Phorate	12	U
3689-24-5	Sulfotepp	12	U
298-04-4	Disulfoton	17	
60-51-5	Dimethoate	12	U
298-00-0	Methyl-Parathion	12	U
56-38-2	Ethyl-Parathion	23	
52-85-7	Famphur	12	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-009

Lab Name: COMPUCHEM ENV. CORP. Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0266C

Matrix: (soil/water) SOIL Lab Sample ID: 785768

Sample wt/vol: 50.1 (g/ml) G Lab File ID:

% Moisture: 15 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 03/06/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 03/08/96

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	120	U
93-72-1	2,4,5-TP (Silvex)	29	U
93-76-5	2,4,5-T	29	U

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-009

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

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 242C

Matrix (soil/water): SOIL Lab Sample ID: 785694

Level (low/med): LOW Date Received: 02/24/96

% Solids: 85.3

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

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	117	U		CV

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:
Undecanted_Dry_Weights Container:1.55g Wet:6.58g Dry:5.84g

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-009

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____
Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 234C__
Matrix (soil/water): SOIL_ Lab Sample ID: 785684
Level (low/med): LOW__ Date Received: 02/24/96
% Solids: _85.3

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

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony_	1810	B	N	P
7440-38-2	Arsenic__	6270		*	P
7440-39-3	Barium___	43600			P
7440-41-7	Beryllium	321	B		P
7440-43-9	Cadmium__	23.4	U		P
7440-47-3	Chromium_	14400			P
7440-48-4	Cobalt___	4540		*	P
7440-50-8	Copper___	17700			P
7439-92-1	Lead____	161000		N	P
7440-02-0	Nickel___	13300			P
7782-49-2	Selenium_	305	U		P
7440-22-4	Silver___	82.1	U		P
7440-28-0	Thallium_	410	U		P
7440-62-2	Vanadium_	15100			P
7440-66-6	Zinc____	92400			P
7439-93-2	Lithium__	5860	B		P
7440-31-5	Tin_____	3540	B		P

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM
Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:
Undecanted_Dry_Weights____Container:1.55g__Wet:6.58g__Dry:5.84g_____

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-009

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785737

Sample wt/vol: 30.2 (g/mL) G Lab File ID: GH085737A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 15 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

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	820	U
55-18-5	N-Nitrosodiethylamine	260	U
62-50-0	Ethyl Methanesulfonate	700	U
108-95-2	Phenol	670	U
62-53-3	Aniline	650	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	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	880	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

FORM I SV-1

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-009

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785737

Sample wt/vol: 30.2 (g/mL) G Lab File ID: GH085737A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 15 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

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	810	U
87-65-0	2,6-Dichlorophenol	1400	U
1888-71-7	Hexachloropropene	670	U
87-68-3	Hexachlorobutadiene	650	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	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	880	U
208-96-8	Acenaphthylene	780	U
99-09-2	3-Nitroaniline	810	U
83-32-9	Acenaphthene	770	U
51-28-5	2,4-Dinitrophenol	2000	U
100-02-7	4-Nitrophenol	810	U
608-93-5	Pentachlorobenzene	770	U
121-14-2	2,4-Dinitrotoluene	770	U
132-64-9	Dibenzofuran	810	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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-009

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785737

Sample wt/vol: 30.2 (g/mL) G Lab File ID: GH085737A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 15 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

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	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)	770	U
62-44-2	Phenacetin	710	U
2303-16-4	Diallate (cis isomer)	770	U
101-55-3	4-Bromophenyl-phenylether	880	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	45	J
129-00-0	Pyrene	53	J
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	530	U
117-81-7	bis(2-ethylhexyl)Phthalate	96	J
91-94-1	3,3'-Dichlorobenzidine	580	U
56-55-3	Benzo(a)Anthracene	34	J
218-01-9	Chrysene	46	J

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-009

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785737

Sample wt/vol: 30.2 (g/mL) G Lab File ID: GH085737A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 15 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

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
117-84-0	Di-n-octylphthalate	560	U
57-97-6	7,12-Dimethylbenz(a)anthrace	480	U
205-99-2	Benzo(b)fluoranthene	87	XJ
207-08-9	Benzo(k)fluoranthene	92	XJ
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	720	U
122-09-08	a,a-Dimethylphenethylamine	770	U
106-50-3	p-Phenylenediamine	770	U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
23-00-009

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785737

Sample wt/vol: 30.2 (g/mL) G Lab File ID: GH085737A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 15 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.3

Number TICs found: 13

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	4.23	11000	JAB
2.	ADVISORY SURROGATE COMPOUND	5.68	1500	JB
3.	ADVISORY SURROGATE COMPOUND	6.22	1100	JB
4.	UNKNOWN	10.41	4100	J
5.	PCB	15.44	7800	J
6.	PCB	15.83	5800	J
7.	PCB	16.46	11000	J
8.	PCB	16.62	4700	J
9.	PCB	16.78	3200	J
10.	PCB	17.12	3100	J
11.	PCB	17.52	4100	J
12.	PCB	18.33	3300	J
13.	PCB	18.70	3400	J
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Compuchem Environmental Corp.

TLI Project: 36343B
Client Sample: 23-00-009=785726
Client Project: Crane Navy Project

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E960635
Matrix: SOIL

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0472	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	0.0472
Total PeCDD	ND	0.496
Total HxCDD	ND	0.327
Total TCDF	ND	0.059
Total PeCDF	ND	0.519
Total HxCDF	ND	0.449

8280_PSR v.2.07. LARS 6 04 00

Triangle Laboratories, Inc.
801 Capitola Drive • Durham, North Carolina 27713
Phone (919) 544-5729 • Fax: (919) 544-5491

Printed: 19:17 03/07/96

176

Compuchem Environmental Corp.

'LI Project: 36343B
''ent Sample: 23-00-009=785726

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E960635

Client Project:	Crane Navy Project				
Sample Matrix:	SOIL	Date Received:	02/27/96	Spike File:	SP828050
TLI ID:	114-248-5	Date Extracted:	02/29/96	ICal:	E852096
		Date Analyzed:	03/05/96	ConCal:	E960624
Sample Size:	10.220 g	Dilution Factor:	n/a	% Moisture:	17.1
Dry Weight:	8.472 g	Blank File:	E960630	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JF	% Solids:	82.9

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0472				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.327	—
Total PeCDD	ND	0	0.496		—
Total HxCDD	ND	0	0.327		—
Total TCDF	ND	0	0.059		—
Total PeCDF	ND	0	0.519		—
Total HxCDF	ND	0	0.449		—

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
13C-2,3,7,8-TCDF	3.98	67.5	40%-120%	0.79	21:31	—
13C-2,3,7,8-TCDD	3.51	59.5	40%-120%	0.77	22:17	—
13C-1,2,3,6,7,8-HxCDD	6.3	107	40%-120%	1.29	29:55	—
13C-1,2,3,4,6,7,8-HpCDF	9.95	84.3	40%-120%	1.06	31:52	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
37Cl-2,3,7,8-TCDD	2.12	71.7	40%-120%	22:18	—

Recovery Standards	Ratio	RT	Flags
1,2,3,4-TCDD	0.79	22:05	—
1,2,3,7,8,9-HxCDD	1.26	30:12	—

Data Reviewer Ku 03/07/96

8280_PSR v2.07. LARS 6.04

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Printed: 19:17 03/07/96

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-009

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785706

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085706B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 15 Date Analyzed: 02/27/96

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	11	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	240	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-009

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785706

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085706B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 15 Date Analyzed: 02/27/96

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.
23-00-009

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785706

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085706B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 15 Date Analyzed: 02/27/96

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)	0.60	680	JB
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23100 D10

1D
ORGANOCHLORINE PESTICIDES AND PCBs ANALYSIS DATA SHEET

SAMPLE NO.
23-00-010

Lab Name: COMPUCHEM,RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0250C

Matrix: (soil/water) SOIL Lab Sample ID: 785747

Sample wt/vol: 30.90 (g/ml) G Lab File ID:

% Moisture: 19 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 03/01/96

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 03/04/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
58-89-9	gamma-BHC (Lindane)	0.15	JP
76-44-8	Heptachlor	0.047	JBP
309-00-2	Aldrin	0.053	JP
959-98-8	Endosulfan I	0.21	J
60-57-1	Dieldrin	1.8	U
33213-65-9	Endosulfan II	4.2	U
50-29-3	4,4'-DDT	0.12	JBP
72-43-5	Methoxychlor	0.49	JBP
319-84-6	alpha-BHC	1.2	U
319-85-7	beta-BHC	0.27	JP
319-86-8	delta-BHC	0.059	JP
1024-57-3	Heptachlor epoxide	0.057	J
72-55-9	4,4'-DDE	0.090	JP
72-20-8	Endrin	0.55	JP
72-54-8	4,4'-DDD	0.16	JP
7421-93-4	Endrin aldehyde	0.35	JP
1031-07-8	Endosulfan sulfate	0.10	JP
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)	4.8	U

1D
ORGANOPHOSPHORUS PESTICIDES ANALYSIS DATA SHEET

SAMPLE NO.

23-00-010

Lab Name: COMPUCHEM, RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0258C

Matrix: (soil/water) SOIL Lab Sample ID: 785757

Sample wt/vol: 30.10 (g/ml) G Lab File ID:

% Moisture: 19 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 03/04/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 03/04/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
298-02-2	Phorate	12	U
3689-24-5	Sulfotepp	12	U
298-04-4	Disulfoton	12	U
60-51-5	Dimethoate	18	P
298-00-0	Methyl-Parathion	12	U
56-38-2	Ethyl-Parathion	12	U
52-85-7	Famphur	30	P

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-010

Lab Name: COMPUCHEM ENV. CORP. Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0266C

Matrix: (soil/water) SOIL Lab Sample ID: 785769

Sample wt/vol: 50.0 (g/ml) G Lab File ID:

% Moisture: 19 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 03/06/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 03/08/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.0 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)	2.3	JBP
93-76-5	2,4,5-T	31	U

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-010

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

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 242C

Matrix (soil/water): SOIL_ Lab Sample ID: 785695

Level (low/med): LOW Date Received: 02/24/96

% Solids: 80.8

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

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	124	U		CV

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: _____ Artifacts: _____

Comments:

Undecanted_Dry_Weights Container:1.55g Wet:6.55g Dry:5.59g

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-010

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____
Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 234C__
Matrix (soil/water): SOIL_ Lab Sample ID: 785685
Level (low/med): LOW__ Date Received: 02/24/96
% Solids: _80.8

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

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony_	444	B	N	P
7440-38-2	Arsenic__	6860		*	P
7440-39-3	Barium___	70700			P
7440-41-7	Beryllium	371	B		P
7440-43-9	Cadmium__	24.8	U		P
7440-47-3	Chromium_	12500			P
7440-48-4	Cobalt___	6310		*	P
7440-50-8	Copper___	12100			P
7439-92-1	Lead____	16800		N	P
7440-02-0	Nickel___	9600			P
7782-49-2	Selenium_	896			P
7440-22-4	Silver___	86.6	U		P
7440-28-0	Thallium_	433	U		P
7440-62-2	Vanadium_	21100			P
7440-66-6	Zinc____	28600			P
7439-93-2	Lithium__	6910	B		P
7440-31-5	Tin_____	1210	B		P

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM
Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:
Undecanted_Dry_Weights____Container:1.55g__Wet:6.55g__Dry:5.59g_____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-010

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785736

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085736A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 19 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

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
62-75-9	N-Nitrosodimethylamine	320	U
110-86-1	Pyridine	680	U
109-06-8	2-Picoline	1500	U
10595-95-6	Nitrosomethylethylamine	300	U
66-27-3	Methyl Methanesulfonate	860	U
55-18-5	N-Nitrosodiethylamine	280	U
62-50-0	Ethyl Methanesulfonate	740	U
108-95-2	Phenol	700	U
62-53-3	Aniline	690	U
111-44-4	Bis(2-chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	780	U
541-73-1	1,3-Dichlorobenzene	630	U
106-46-7	1,4-Dichlorobenzene	640	U
100-51-6	Benzyl Alcohol	680	U
95-50-1	1,2-Dichlorobenzene	730	U
95-48-7	2-Methylphenol	800	U
39638-32-9	bis(2-Chloroisopropyl)ether	800	U
108-39-4	3-Methylphenol	1600	U
106-44-5	4-Methylphenol	1600	U
930-55-2	N-Nitrosopyrrolidine	650	U
621-64-7	N-Nitroso-di-N-propylamine	300	U
98-86-2	Acetophenone	810	U
59-89-2	N-Nitrosomorpholine	930	U
636-21-5	o-Toluidine hydrochloride	2500	U
67-72-1	Hexachloroethane	740	U
98-95-3	Nitrobenzene	840	U
100-75-4	N-Nitrosopiperidine	910	U
78-59-1	Isophorone	840	U
88-75-5	2-Nitrophenol	770	U
105-67-9	2,4-Dimethylphenol	750	U
126-68-1	o,o,o-Triethylphosphorothioa	6500	U
111-91-1	Bis(2-chloroethoxy)methane	830	U
120-83-2	2,4-Dichlorophenol	680	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-010

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785736

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085736A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 19 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

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
120-82-1	1,2,4-Trichlorobenzene	680	U
91-20-3	Naphthalene	810	U
106-47-8	4-Chloroaniline	850	U
87-65-0	2,6-Dichlorophenol	1500	U
1888-71-7	Hexachloropropene	700	U
87-68-3	Hexachlorobutadiene	690	U
924-16-3	N-Nitroso-di-n-butylamine	190	U
59-50-7	4-Chloro-3-methylphenol	230	U
94-59-7	Safrole	720	U
91-57-6	2-Methylnaphthalene	1000	U
77-47-4	Hexachlorocyclopentadiene	810	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-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1400	U
130-15-4	1,4-Napthoquinone	2000	U
131-11-3	Dimethylphthalate	1200	U
99-65-0	1,3-Dinitrobenzene	690	U
606-20-2	2,6-Dinitrotoluene	930	U
208-96-8	Acenaphthylene	830	U
99-09-2	3-Nitroaniline	850	U
83-32-9	Acenaphthene	810	U
51-28-5	2,4-Dinitrophenol	2100	U
100-02-7	4-Nitrophenol	850	U
608-93-5	Pentachlorobenzene	810	U
121-14-2	2,4-Dinitrotoluene	810	U
132-64-9	Dibenzofuran	850	U
91-59-8	2-Naphthylamine	1100	U
58-90-2	2,3,4,6-Tetrachlorophenol	1700	U
134-32-7	1-Naphthylamine	1700	U
84-66-2	Diethylphthalate	890	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-010

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785736

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085736A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 19 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

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
7005-72-3	4-Chlorophenyl-phenylether	740	U
99-55-8	5-Nitro-o-toluidine	1200	U
86-73-7	Fluorene	850	U
100-01-6	4-Nitroaniline	1400	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)	810	U
62-44-2	Phenacetin	750	U
2303-16-4	Diallate (cis isomer)	810	U
101-55-3	4-Bromophenyl-phenylether	930	U
118-74-1	Hexachlorobenzene	950	U
92-67-1	4-Aminobiphenyl	510	U
87-86-5	Pentachlorophenol	1700	U
23950-58-5	Pronamide	800	U
85-01-8	Phenanthrene	770	U
120-12-7	Anthracene	910	U
84-74-2	Di-n-butylphthalate	950	U
56-57-5	4-Nitroquinoline-1-oxide	5900	U
91-80-5	Methapyrilene	1600	U
465-73-6	Isodrin	1100	U
206-44-0	Fluoranthene	1100	U
129-00-0	Pyrene	900	U
140-57-8	Aramite	810	U
60-11-7	p-Dimethylaminoazobenzene	830	U
510-15-6	Chlorobenzilate	880	U
85-68-7	Butylbenzylphthalate	840	U
119-93-7	3,3'-Dimethylbenzidine	560	U
117-81-7	bis(2-ethylhexyl)Phthalate	46	J
91-94-1	3,3'-Dichlorobenzidine	620	U
56-55-3	Benzo(a)Anthracene	810	U
218-01-9	Chrysene	670	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-010

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785736

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085736A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 19 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

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	590	U
57-97-6	7,12-Dimethylbenz(a)anthrace	510	U
205-99-2	Benzo(b)fluoranthene	950	U
207-08-9	Benzo(k)fluoranthene	770	U
193-39-5	Indeno(1,2,3-c,d)pyrene	570	U
53-70-3	Dibenzo(a,h)anthracene	220	U
191-24-2	Benzo(g,h,i)perylene	770	U
122-09-08	a,a-Dimethylphenethylamine	810	U
106-50-3	p-Phenylenediamine	810	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

23-00-010

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785736

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085736A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 19 decanted: (Y/N) N Date Extracted:03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

Number TICs found: 13

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL	3.84	250	JA
2.	UNKNOWN (BC)	4.01	970	JB
3.	ALDOL (BC)	4.24	11000	JAB
4.	UNKNOWN (BC)	4.88	640	JB
5.	ADVISORY SURROGATE COMPOUND	5.68	1500	JB
6.	ADVISORY SURROGATE COMPOUND	6.21	1100	JB
7.	UNKNOWN CARBOXYLIC ACID	17.05	280	J
8.	UNKNOWN AMIDE	24.06	200	J
9.	UNKNOWN HYDROCARBON	24.87	230	J
10.	UNKNOWN HYDROCARBON	26.39	250	J
11.	UNKNOWN	28.33	490	J
12.	UNKNOWN	29.03	280	J
13.	UNKNOWN	29.77	360	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-010

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785707

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085707B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 19 Date Analyzed: 02/27/96

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	12	B
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	250	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-010

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785707

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085707B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 19 Date Analyzed: 02/27/96

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	19	U
106-93-4	1,2-dibromoethane	19	U
74-95-3	dibromomethane	25	U
110-57-6	trans-1,4-dichloro-2-butene	19	U
75-71-8	dichlorodifluoromethane	25	U
123-91-1	1,4-dioxane	63000	U
107-12-0	propionitrile(ethylcyanide)	730	U
97-63-2	ethyl methacrylate	31	U
74-88-4	iodomethane	12	U
78-83-1	isobutyl alcohol	16000	U
126-98-7	methacrylonitrile	25	U
80-62-6	methyl methacrylate	62	U
630-20-6	1,1,1,2-tetrachloroethane	25	U
96-18-4	1,2,3-trichloropropane	25	U
108-05-4	vinyl acetate	25	U
96-12-8	1,2-dibromo-3-chloropropane	62	U
75-69-4	trichlorofluoromethane	25	U
107-13-1	acrylonitrile	260	U
156-60-5	trans-1,2-Dichloroethene	12	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
23-00-010

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785707

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085707B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 19 Date Analyzed: 02/27/96

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)	0.56	790	JB
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Compuchem Environmental Corp.

TLI Project: 36343B
Client Sample: 23-00-010=785727
Client Project: Crane Navy Project

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E96063
Matrix: SOL

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0504	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	0.0504
Total PeCDD	ND	0.53
Total HxCDD	ND	0.349
Total TCDF	ND	0.0631
Total PeCDF	ND	0.555
Total HxCDF	ND	0.479

8280_PSR v2.07 LARS 6.04

Triangle Laboratories, Inc.
301 Capitola Drive • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

Printed: 19:15 03/07/96

Compuchem Environmental Corp.

TLI Project: 36343B
Client Sample: 23-00-010=785727

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E960631

Client Project:	Crane Navy Project				
Sample Matrix:	SOIL	Date Received:	02/27/96	Spike File:	SP828050
TLI ID:	114-248-1	Date Extracted:	02/29/96	ICal:	E852096
		Date Analyzed:	03/05/96	ConCal:	E960624
Sample Size:	10.000 g	Dilution Factor:	n/a	% Moisture:	20.7
Dry Weight:	7.930 g	Blank File:	E960630	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JF	% Solids:	79.3

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0504				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.371	—
Total PeCDD	ND	0	0.53		—
Total HxCDD	ND	0	0.349		—
Total TCDF	ND	0	0.0631		—
Total PeCDF	ND	0	0.555		—
Total HxCDF	ND	0	0.479		—

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.38	37.8	40%-120%	0.79	21:28	V
$^{13}C_{12}$-2,3,7,8-TCDD	2.71	43.0	40%-120%	0.80	22:14	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	5.53	87.7	40%-120%	1.25	29:54	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	6.74	53.5	40%-120%	1.03	31:50	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.73	55.0	40%-120%	22:15	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	22:02	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.23	30:11	—

Data Reviewer: KV 03/07/96

8280_PSR v2.07. LARS 6.04.00

Triangle Laboratories, Inc.
801 Capitola Drive • Durham, North Carolina 27713
Phone. (919) 544-5729 • Fax: (919) 544-5491

Printed: 19:15 03/07/96

23/00 DH

1D
ORGANOCHLORINE PESTICIDES AND PCBs ANALYSIS DATA SHEET

SAMPLE NO.
23-00-011

Lab Name: COMPUCHEM,RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0250C

Matrix: (soil/water) SOIL Lab Sample ID: 785748

Sample wt/vol: 30.20 (g/ml) G Lab File ID:

% Moisture: 21 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 03/01/96

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 03/04/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.8 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
58-89-9	gamma-BHC (Lindane)	1.3	U
76-44-8	Heptachlor	0.063	JBP
309-00-2	Aldrin	0.093	J
959-98-8	Endosulfan I	1.9	U
60-57-1	Dieldrin	1.9	U
33213-65-9	Endosulfan II	0.37	JBP
50-29-3	4,4'-DDT	0.11	JBP
72-43-5	Methoxychlor	0.52	JBP
319-84-6	alpha-BHC	1.3	U
319-85-7	beta-BHC	1.3	U
319-86-8	delta-BHC	0.12	JP
1024-57-3	Heptachlor epoxide	1.3	U
72-55-9	4,4'-DDE	1.2	JP
72-20-8	Endrin	3.1	U
72-54-8	4,4'-DDD	4.4	U
7421-93-4	Endrin aldehyde	0.17	JP
1031-07-8	Endosulfan sulfate	0.17	JP
11096-82-5	Aroclor-1260	25	U
12674-11-2	Aroclor-1016	25	U
11104-28-2	Aroclor-1221	25	U
11141-16-5	Aroclor-1232	25	U
53469-21-9	Aroclor-1242	25	U
12672-29-6	Aroclor-1248	25	U
11097-69-1	Aroclor-1254	25	U
8001-35-2	Toxaphene	25	U
57-74-9	Chlordane (Technical)	5.0	U

1D
ORGANOPHOSPHORUS PESTICIDES ANALYSIS DATA SHEET

SAMPLE NO.
23-00-011

Lab Name: COMPUCHEM,RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0258C

Matrix: (soil/water) SOIL Lab Sample ID: 785756

Sample wt/vol: 30.20 (g/ml) G Lab File ID:

% Moisture: 21 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 03/04/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 03/04/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.8 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
298-02-2	Phorate	13	U
3689-24-5	Sulfotepp	13	U
298-04-4	Disulfoton	13	U
60-51-5	Dimethoate	16	
298-00-0	Methyl-Parathion	21	P
56-38-2	Ethyl-Parathion	13	U
52-85-7	Famphur	9.0	JP

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-011

Lab Name: COMPUCHEM ENV. CORP. Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0266C

Matrix: (soil/water) SOIL Lab Sample ID: 785770

Sample wt/vol: 50.5 (g/ml) G Lab File ID:

% Moisture: 21 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 03/06/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 03/08/96

Injection Volume: 2.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: 7.8 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
94-75-7	2,4-D	130	U
93-72-1	2,4,5-TP (Silvex)	9.5	JBP
93-76-5	2,4,5-T	31	U

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-011

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

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 242C

Matrix (soil/water): SOIL Lab Sample ID: 785696

Level (low/med): LOW Date Received: 02/24/96

% Solids: 79.4

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

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	120	U		CV

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:
Undecanted_Dry_Weights Container:1.55g Wet:6.54g Dry:5.51g

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-011

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____
Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 234C__
Matrix (soil/water): SOIL_ Lab Sample ID: 785686
Level (low/med): LOW__ Date Received: 02/24/96
% Solids: _79.4

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

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony_	539	B	N	P_
7440-38-2	Arsenic__	5920	_	*	P_
7440-39-3	Barium___	25600	_		P_
7440-41-7	Beryllium	591	B		P_
7440-43-9	Cadmium__	25.2	U		P_
7440-47-3	Chromium_	11200	_		P_
7440-48-4	Cobalt___	7690	_	*	P_
7440-50-8	Copper___	8160	_		P_
7439-92-1	Lead____	10500	_	N	P_
7440-02-0	Nickel___	86600	_		P_
7782-49-2	Selenium_	809	_		P_
7440-22-4	Silver___	88.2	U		P_
7440-28-0	Thallium_	441	U		P_
7440-62-2	Vanadium_	10100	_		P_
7440-66-6	Zinc____	91600	_		P_
7439-93-2	Lithium__	2310	B		P_
7440-31-5	Tin_____	1380	B		P_

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM
Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:
Undecanted_Dry_Weights____Container:1.55g__Wet:6.54g__Dry:5.51g_____

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-011

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785735

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085735A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 21 decanted: (Y/N) N Date Extracted:03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
62-75-9	N-Nitrosodimethylamine	330	U
110-86-1	Pyridine	700	U
109-06-8	2-Picoline	1500	U
10595-95-6	Nitrosomethylethylamine	300	U
66-27-3	Methyl Methanesulfonate	890	U
55-18-5	N-Nitrosodiethylamine	280	U
62-50-0	Ethyl Methanesulfonate	760	U
108-95-2	Phenol	720	U
62-53-3	Aniline	710	U
111-44-4	Bis(2-chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	800	U
541-73-1	1,3-Dichlorobenzene	650	U
106-46-7	1,4-Dichlorobenzene	660	U
100-51-6	Benzyl Alcohol	700	U
95-50-1	1,2-Dichlorobenzene	750	U
95-48-7	2-Methylphenol	820	U
39638-32-9	bis(2-Chloroisopropyl)ether	820	U
108-39-4	3-Methylphenol	1600	U
106-44-5	4-Methylphenol	1600	U
930-55-2	N-Nitrosopyrrolidine	670	U
621-64-7	N-Nitroso-di-N-propylamine	300	U
98-86-2	Acetophenone	840	U
59-89-2	N-Nitrosomorpholine	950	U
636-21-5	o-Toluidine hydrochloride	2500	U
67-72-1	Hexachloroethane	760	U
98-95-3	Nitrobenzene	860	U
100-75-4	N-Nitrosopiperidine	940	U
78-59-1	Isophorone	860	U
88-75-5	2-Nitrophenol	780	U
105-67-9	2,4-Dimethylphenol	770	U
126-68-1	o,o,o-Triethylphosphorothioa	6700	U
111-91-1	Bis(2-chloroethoxy)methane	850	U
120-83-2	2,4-Dichlorophenol	700	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-011

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785735

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085735A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 21 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
120-82-1	1,2,4-Trichlorobenzene	700	U
91-20-3	Naphthalene	840	U
106-47-8	4-Chloroaniline	870	U
87-65-0	2,6-Dichlorophenol	1500	U
1888-71-7	Hexachloropropene	720	U
87-68-3	Hexachlorobutadiene	710	U
924-16-3	N-Nitroso-di-n-butylamine	190	U
59-50-7	4-Chloro-3-methylphenol	240	U
94-59-7	Safrole	730	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	840	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-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	1400	U
130-15-4	1,4-Napthoquinone	2000	U
131-11-3	Dimethylphthalate	1200	U
99-65-0	1,3-Dinitrobenzene	710	U
606-20-2	2,6-Dinitrotoluene	950	U
208-96-8	Acenaphthylene	850	U
99-09-2	3-Nitroaniline	870	U
83-32-9	Acenaphthene	840	U
51-28-5	2,4-Dinitrophenol	2200	U
100-02-7	4-Nitrophenol	870	U
608-93-5	Pentachlorobenzene	840	U
121-14-2	2,4-Dinitrotoluene	840	U
132-64-9	Dibenzofuran	870	U
91-59-8	2-Naphthylamine	1100	U
58-90-2	2,3,4,6-Tetrachlorophenol	1800	U
134-32-7	1-Naphthylamine	1800	U
84-66-2	Diethylphthalate	910	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-011

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785735

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085735A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 21 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
7005-72-3	4-Chlorophenyl-phenylether	760	U
99-55-8	5-Nitro-o-toluidine	1300	U
86-73-7	Fluorene	870	U
100-01-6	4-Nitroaniline	1400	U
534-52-1	4,6-Dinitro-2-methylphenol	2300	U
86-30-6	N-Nitrosodiphenylamine (1)	1800	U
122-39-4	Diphenylamine	1800	U
99-35-4	1,3,5-Trinitrobenzene	1200	U
2303-16-4	Diallate (trans isomer)	840	U
62-44-2	Phenacetin	770	U
2303-16-4	Diallate (cis isomer)	840	U
101-55-3	4-Bromophenyl-phenylether	950	U
118-74-1	Hexachlorobenzene	970	U
92-67-1	4-Aminobiphenyl	520	U
87-86-5	Pentachlorophenol	1800	U
23950-58-5	Pronamide	820	U
85-01-8	Phenanthrene	780	U
120-12-7	Anthracene	940	U
84-74-2	Di-n-butylphthalate	970	U
56-57-5	4-Nitroquinoline-1-oxide	6100	U
91-80-5	Methapyrilene	1600	U
465-73-6	Isodrin	1200	U
206-44-0	Fluoranthene	1200	U
129-00-0	Pyrene	920	U
140-57-8	Aramite	840	U
60-11-7	p-Dimethylaminoazobenzene	850	U
510-15-6	Chlorobenzilate	900	U
85-68-7	Butylbenzylphthalate	860	U
119-93-7	3,3'-Dimethylbenzidine	570	U
117-81-7	bis(2-ethylhexyl)Phthalate	69	J
91-94-1	3,3'-Dichlorobenzidine	630	U
56-55-3	Benzo(a)Anthracene	840	U
218-01-9	Chrysene	680	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-011

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785735

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085735A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 21 decanted: (Y/N) N Date Extracted:03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
117-84-0	Di-n-octylphthalate	610	U
57-97-6	7,12-Dimethylbenz(a)anthrace	520	U
205-99-2	Benzo(b)fluoranthene	970	U
207-08-9	Benzo(k)fluoranthene	780	U
193-39-5	Indeno(1,2,3-c,d)pyrene	580	U
53-70-3	Dibenzo(a,h)anthracene	230	U
191-24-2	Benzo(g,h,i)perylene	780	U
122-09-08	a,a-Dimethylphenethylamine	840	U
106-50-3	p-Phenylenediamine	840	U

SAMPLE NO.

23-00-011

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785735

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085735A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 21 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 03/04/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL	3.83	230	JA
2.	UNKNOWN (BC)	4.01	880	JB
3.	ALDOL (BC)	4.23	11000	JAB
4.	UNKNOWN (BC)	4.88	570	JB
5.	ADVISORY SURROGATE COMPOUND	5.68	1500	JB
6.	ADVISORY SURROGATE COMPOUND	6.22	1100	JB
7.	UNKNOWN CARBOXYLIC ACID	17.05	270	J
8.	UNKNOWN AMIDE	24.05	430	J
9.	UNKNOWN	29.06	180	J
10.	UNKNOWN	29.76	670	J
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Compuchem Environmental Corp.

TLI Project: 36343B
Client Sample: 23-00-011=785728
Client Project: Crane Navy Project

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E960637
Matrix: SOIL

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0497	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	0.344
Total TCDF	ND	0.0622
Total PeCDF	ND	0.547
Total HxCDF	ND	0.473

8280_PSR v2.07 LARS 6.04.00

Triangle Laboratories, Inc.
801 Capitola Drive • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

Printed: 19:18 03/07/96

Compuchem Environmental Corp.

TLI Project: 36343B
Client Sample: 23-00-011=785728

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E960637

Client Project:	Crane Navy Project				
Sample Matrix:	SOIL	Date Received:	02/27/96	Spike File:	SP828050
TLI ID:	114-248-7	Date Extracted:	02/29/96	ICal:	E852096
		Date Analyzed:	03/05/96	ConCal:	E960624
Sample Size:	10.090 g	Dilution Factor:	n/a	% Moisture:	20.3
Dry Weight:	8.042 g	Blank File:	E960630	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JF	% Solids:	79.7

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0497				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.256	—
Total PeCDD	ND	0	0.522		—
Total HxCDD	ND	0	0.344		—
Total TCDF	ND	0	0.0622		—
Total PeCDF	ND	0	0.547		—
Total HxCDF	ND	0	0.473		—

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.36	38.0	40%-120%	0.79	21:30	V—
$^{13}C_{12}$-2,3,7,8-TCDD	2.97	47.8	40%-120%	0.79	22:15	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	5.99	96.4	40%-120%	1.25	29:55	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	11.3	90.7	40%-120%	1.05	31:51	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	1.83	58.9	40%-120%	22:16	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	22:04	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.25	30:12	—

Data Reviewer: KC 03/07/96

8280_PSR v2.07, LARS 6.04 D.

Triangle Laboratories, Inc.
601 Capitola Drive • Durham, North Carolina 27713

Printed: 19:18 03/07/96

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-011

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785708

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085708B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 21 Date Analyzed: 02/27/96

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	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	11	JB
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	13	U
75-35-4	1,1-Dichloroethene	13	U
75-34-3	1,1-Dichloroethane	13	U
67-66-3	Chloroform	13	U
107-06-2	1,2-Dichloroethane	13	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	13	U
56-23-5	Carbon Tetrachloride	13	U
75-27-4	Bromodichloromethane	13	U
78-87-5	1,2-Dichloropropane	13	U
10061-01-5	cis-1,3-Dichloropropene	13	U
79-01-6	Trichloroethene	13	U
124-48-1	Dibromochloromethane	13	U
79-00-5	1,1,2-Trichloroethane	13	U
71-43-2	Benzene	13	U
10061-02-6	trans-1,3-Dichloropropene	13	U
75-25-2	Bromoform	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	13	U
79-34-5	1,1,2,2-Tetrachloroethane	13	U
108-88-3	Toluene	13	U
108-90-7	Chlorobenzene	13	U
100-41-4	Ethylbenzene	13	U
100-42-5	Styrene	13	U
1330-20-7	Xylene (Total)	13	U
75-05-8	acetonitrile	250	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-011

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785708

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085708B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 21 Date Analyzed: 02/27/96

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	290	U
107-05-1	3-chloropropene	19	U
106-93-4	1,2-dibromoethane	19	U
74-95-3	dibromomethane	25	U
110-57-6	trans-1,4-dichloro-2-butene	19	U
75-71-8	dichlorodifluoromethane	25	U
123-91-1	1,4-dioxane	65000	U
107-12-0	propionitrile(ethylcyanide)	750	U
97-63-2	ethyl methacrylate	32	U
74-88-4	iodomethane	13	U
78-83-1	isobutyl alcohol	16000	U
126-98-7	methacrylonitrile	25	U
80-62-6	methyl methacrylate	63	U
630-20-6	1,1,1,2-tetrachloroethane	25	U
96-18-4	1,2,3-trichloropropane	25	U
108-05-4	vinyl acetate	25	U
96-12-8	1,2-dibromo-3-chloropropane	63	U
75-69-4	trichlorofluoromethane	25	U
107-13-1	acrylonitrile	270	U
156-60-5	trans-1,2-Dichloroethene	13	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
23-00-011

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785708

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085708B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 21 Date Analyzed: 02/27/96

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)	0.58	830	JB
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23/00 012

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-012

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

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 166C

Matrix (soil/water): WATER Lab Sample ID: 785661

Level (low/med): LOW Date Received: 02/24/96

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
	Cyanide	10.0	U	N	AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-012

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

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 175C__

Matrix (soil/water): WATER Lab Sample ID: 785654

Level (low/med): LOW__ Date Received: 02/24/96

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury__	0.20	U		CV

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-012

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____
Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 172C__
Matrix (soil/water): WATER Lab Sample ID: 785649
Level (low/med): LOW__ Date Received: 02/24/96
% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony_	1.8	U		P
7440-38-2	Arsenic__	3.0	U		P
7440-39-3	Barium___	45.3	B		P
7440-41-7	Beryllium	0.32	B		P
7440-43-9	Cadmium__	0.20	U		P
7440-47-3	Chromium_	1.9	B		P
7440-48-4	Cobalt___	0.64	U		P
7440-50-8	Copper___	3.1	B		P
7439-92-1	Lead____	2.4	B		P
7440-02-0	Nickel___	37.5	B		P
7782-49-2	Selenium_	2.6	U		P
7440-22-4	Silver___	0.70	U		P
7440-28-0	Thallium_	3.5	U		P
7440-62-2	Vanadium_	0.90	B		P
7440-66-6	Zinc_____	27.7			P
7440-31-5	Tin_____	4.2	U		P

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____
Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-012

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785628

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CR085628B57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 03/02/96

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/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	1	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	65	
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (Total)	10	U
75-05-8	acetonitrile	60	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-012

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785628

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CR085628B57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 03/02/96

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/L	Q
107-02-8	acrolein	90	U
107-05-1	3-chloropropene	15	U
106-93-4	1,2-dibromoethane	10	U
74-95-3	dibromomethane	10	U
110-57-6	trans-1,4-dichloro-2-butene	10	U
75-71-8	dichlorodifluoromethane	10	U
123-91-1	1,4-dioxane	3700	U
107-12-0	propionitrile(ethylcyanide)	220	U
97-63-2	ethyl methacrylate	10	U
74-88-4	iodomethane	5	U
78-83-1	isobutyl alcohol	2800	U
126-98-7	methacrylonitrile	20	U
80-62-6	methyl methacrylate	20	U
630-20-6	1,1,1,2-tetrachloroethane	10	U
96-18-4	1,2,3-trichloropropane	10	U
108-05-4	vinyl acetate	10	U
96-12-8	1,2-dibromo-3-chloropropane	10	U
75-69-4	trichlorofluoromethane	10	U
107-13-1	acrylonitrile	95	U
156-60-5	trans-1,2-Dichloroethene	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

23-00-012

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785628

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CR085628B57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 03/02/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-012

Lab Name: COMPUCHEM ENV. CORP. Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0163C

Matrix: (soil/water) WATER Lab Sample ID: 785667

Sample wt/vol: 1000 (g/ml) ML Lab File ID:

% Moisture: decanted: (Y/N) Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 02/27/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 02/28/96

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/L	Q
94-75-7	2,4-D	4.0	U
93-72-1	2,4,5-TP (Silvex)	0.0052	JP
93-76-5	2,4,5-T	1.0	U

//

1D
ORGANOCHLORINE PESTICIDES AND PCBs ANALYSIS DATA SHEET

SAMPLE NO.
23-00-012

Lab Name: COMPUCHEM,RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0157C

Matrix: (soil/water) WATER Lab Sample ID: 785639

Sample wt/vol: 1000 (g/ml) ML Lab File ID:

% Moisture: decanted: (Y/N) Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 03/05/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 02/27/96

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/L

CAS NO.	COMPOUND		Q
58-89-9	gamma-BHC (Lindane)	0.030	U
76-44-8	Heptachlor	0.0012	JP
309-00-2	Aldrin	0.030	U
959-98-8	Endosulfan I	0.00027	JP
60-57-1	Dieldrin	0.030	U
33213-65-9	Endosulfan II	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.30	U
319-84-6	alpha-BHC	0.030	U
319-85-7	beta-BHC	0.030	U
319-86-8	delta-BHC	0.030	U
1024-57-3	Heptachlor epoxide	0.0017	J
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.050	U
72-54-8	4,4'-DDD	0.10	U
7421-93-4	Endrin aldehyde	0.030	U
1031-07-8	Endosulfan sulfate	0.0062	JP
11096-82-5	Aroclor-1260	0.50	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	0.50	U
8001-35-2	Toxaphene	1.0	U
57-74-9	Chlordane (Technical)	0.12	U

1D
ORGANOPHOSPHORUS PESTICIDES ANALYSIS DATA SHEET

SAMPLE NO.

23-00-012

Lab Name: COMPUCHEM,RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0160C

Matrix: (soil/water) WATER Lab Sample ID: 785634

Sample wt/vol: 1000 (g/ml) ML Lab File ID:

% Moisture: decanted: (Y/N) Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 02/28/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 03/04/96

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/L	Q
298-02-2	Phorate	0.50	U
3689-24-5	Sulfotepp	0.47	J
298-04-4	Disulfoton	0.50	U
60-51-5	Dimethoate	0.32	J
298-00-0	Methyl-Parathion	0.26	J
56-38-2	Ethyl-Parathion	0.43	J
52-85-7	Famphur	0.36	JB

CEE 03/08/96

FORM I 8140

SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

23-00-012

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0154C

Matrix: (soil/water) WATER Lab Sample ID: 785672

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH085672B60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted:02/29/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/01/96

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/L	Q
62-75-9	N-Nitrosodimethylamine	5	U
110-86-1	Pyridine	20	U
109-06-8	2-Picoline	45	U
10595-95-6	Nitrosomethylethylamine	13	U
66-27-3	Methyl Methanesulfonate	20	U
55-18-5	N-Nitrosodiethylamine	3	U
62-50-0	Ethyl Methanesulfonate	20	U
108-95-2	Phenol	15	U
62-53-3	Aniline	15	U
111-44-4	Bis(2-chloroethyl)ether	4	U
95-57-8	2-Chlorophenol	15	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	20	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	20	U
39638-32-9	bis(2-Chloroisopropyl)ether	15	U
108-39-4	3-Methylphenol	35	U
106-44-5	4-Methylphenol	35	U
930-55-2	N-Nitrosopyrrolidine	15	U
621-64-7	N-Nitroso-di-N-propylamine	4	U
98-86-2	Acetophenone	20	U
59-89-2	N-Nitrosomorpholine	10	U
636-21-5	o-Toluidine hydrochloride	25	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
100-75-4	N-Nitrosopiperidine	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	35	U
126-68-1	o,o,o-Triethylphosphorothioa	110	U
111-91-1	Bis(2-chloroethoxy)methane	15	U
120-83-2	2,4-Dichlorophenol	15	U

SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

23-00-012

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0154C

Matrix: (soil/water) WATER Lab Sample ID: 785672

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH085672B60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 02/29/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/01/96

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/L	Q
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-65-0	2,6-Dichlorophenol	25	U
1888-71-7	Hexachloropropene	20	U
87-68-3	Hexachlorobutadiene	5	U
924-16-3	N-Nitroso-di-n-butylamine	3	U
59-50-7	4-Chloro-3-methylphenol	3	U
94-59-7	Safrole	5	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	25	U
95-94-3	1,2,4,5-Tetrachlorobenzene	15	U
88-06-2	2,4,6-Trichlorophenol	25	U
95-95-4	2,4,5-Trichlorophenol	25	U
120-58-1	Isosafrole	10	U
91-58-7	2-Chloronaphthalene	15	U
88-74-4	2-Nitroaniline	20	U
130-15-4	1,4-Napthoquinone	35	U
131-11-3	Dimethylphthalate	10	U
99-65-0	1,3-Dinitrobenzene	15	U
606-20-2	2,6-Dinitrotoluene	15	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	30	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	75	U
100-02-7	4-Nitrophenol	12	U
608-93-5	Pentachlorobenzene	10	U
121-14-2	2,4-Dinitrotoluene	10	U
132-64-9	Dibenzofuran	10	U
91-59-8	2-Naphthylamine	20	U
58-90-2	2,3,4,6-Tetrachlorophenol	35	U
134-32-7	1-Naphthylamine	35	U
84-66-2	Diethylphthalate	15	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-012

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0154C

Matrix: (soil/water) WATER Lab Sample ID: 785672

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH085672B60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 02/29/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/01/96

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/L	Q
7005-72-3	4-Chlorophenyl-phenylether	10	U
99-55-8	5-Nitro-o-toluidine	30	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	35	U
534-52-1	4,6-Dinitro-2-methylphenol	45	U
86-30-6	N-Nitrosodiphenylamine (1)	30	U
122-39-4	Diphenylamine	30	U
99-35-4	1,3,5-Trinitrobenzene	45	U
2303-16-4	Diallate (trans isomer)	20	U
62-44-2	Phenacetin	20	U
2303-16-4	Diallate (cis isomer)	20	U
101-55-3	4-Bromophenyl-phenylether	15	U
118-74-1	Hexachlorobenzene	15	U
92-67-1	4-Aminobiphenyl	10	U
87-86-5	Pentachlorophenol	55	U
23950-58-5	Pronamide	15	U
85-01-8	Phenanthrene	15	U
120-12-7	Anthracene	15	U
84-74-2	Di-n-butylphthalate	15	U
56-57-5	4-Nitroquinoline-1-oxide	75	U
91-80-5	Methapyrilene	30	U
465-73-6	Isodrin	15	U
206-44-0	Fluoranthene	20	U
129-00-0	Pyrene	10	U
140-57-8	Aramite	20	U
60-11-7	p-Dimethylaminoazobenzene	10	U
510-15-6	Chlorobenzilate	10	U
85-68-7	Butylbenzylphthalate	10	U
119-93-7	3,3'-Dimethylbenzidine	10	U
117-81-7	bis(2-ethylhexyl)Phthalate	1	J
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	15	U

SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

23-00-012

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0154C

Matrix: (soil/water) WATER Lab Sample ID: 785672

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH085672B60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 02/29/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/01/96

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/L	Q
117-84-0	Di-n-octylphthalate	20	U
57-97-6	7,12-Dimethylbenz(a)anthrace	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	20	U
193-39-5	Indeno(1,2,3-c,d)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	10	U
122-09-08	a,a-Dimethylphenethylamine	25	U
106-50-3	p-Phenylenediamine	80	U

SAMPLE NO.

23-00-012

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0154C

Matrix: (soil/water) WATER Lab Sample ID: 785672

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH085672B60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 02/29/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/01/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:_____

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN AMIDE	20.83	10	J
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Compuchem Environmental Corp.

TLI Project: 36343A
Client Sample: 23-00-012=785642 (MSD)

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E960575

Client Project:	Crane Navy Project				
Sample Matrix:	WATER	Date Received:	02/27/96	Spike File:	SP828050
TLI ID:	114-248-11CM	Date Extracted:	02/27/96	ICal:	E852096
		Date Analyzed:	03/01/96	ConCal:	E960564
Sample Size:	1.000 L	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	E960570	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JF	% Solids:	n/a

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	9.37			0.75	22:15	—
1,2,3,7,8-PeCDD	32.9			1.67	26:38	—
1,2,3,4,7,8-HxCDD	22.3			1.29	29:48	—
1,2,3,6,7,8-HxCDD	20.6			1.26	29:53	—
1,2,3,7,8,9-HxCDD	21.5			1.30	30:10	—
2,3,7,8-TCDF	8.68			0.74	21:29	—
1,2,3,7,8-PeCDF	37.1			1.65	25:33	—
2,3,4,7,8-PeCDF	31.2			1.61	26:17	—
1,2,3,4,7,8-HxCDF	25.4			1.27	29:05	—
7,8-HxCDF	23.9			1.24	29:11	—
7,8-HxCDF	26.2			1.22	29:41	—
1,2,3,7,8,9-HxCDF	26.6			1.27	30:23	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	9.37	1		14.4	—
Total PeCDD	32.9	1			—
Total HxCDD	64.4	3			—
Total TCDF	8.68	1			—
Total PeCDF	68.3	2			—
Total HxCDF	102	4			—

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	25.1	50.3	40%-120%	0.80	21:28	—
$^{13}C_{12}$-2,3,7,8-TCDD	26.5	53.0	40%-120%	0.78	22:14	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	42.5	85.0	40%-120%	1.31	29:53	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	68.6	68.6	40%-120%	1.05	31:49	—

8280_PSR v2.07. LARS 6.04.00

Triangle Laboratories, Inc.
801 Capitola Drive • Durham, North Carolina 27713

Compuchem Environmental Corp.

TLI Project: 36343A
.ient Sample: 23-00-012=785642 (MSD)

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E96057.

Clean-Up Standard	Conc. (ppt)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	16.6	66.6	40%-120%	22:15	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	22:02	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.28	30:09	—

Data Reviewer KU 03/05/96

8280_PSR v2.07, LARS 6 04 00

riangle Laboratories, Inc.
01 Capitola Drive • Durham, North Carolina 27713
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Printed: 22:36 03/05/96

Compuchem Environmental Corp.

TLI Project: 36343A
Client Sample: 23-00-012=785642 (MS)

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E960574

Client Project:	Crane Navy Project				
Sample Matrix:	WATER	Date Received:	02/27/96	Spike File:	SP828050
TLI ID:	114-248-11BM	Date Extracted:	02/27/96	ICal:	E852096
		Date Analyzed:	03/01/96	ConCal:	E960564
Sample Size:	1.065 L	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	E960570	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JF	% Solids:	n/a

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	8.81			0.76	22:15	—
1,2,3,7,8-PeCDD	33.1			1.62	26:38	—
1,2,3,4,7,8-HxCDD	21.5			1.28	29:48	—
1,2,3,6,7,8-HxCDD	18.5			1.24	29:53	—
1,2,3,7,8,9-HxCDD	18.7			1.20	30:10	—
2,3,7,8-TCDF	7.86			0.76	21:29	—
1,2,3,7,8-PeCDF	39.4			1.60	25:33	—
2,3,4,7,8-PeCDF	34.4			1.60	26:17	—
1,2,3,4,7,8-HxCDF	20.6			1.28	29:05	—
1,2,3,6,7,8-HxCDF	19.4			1.27	29:11	—
1,2,3,7,8,9-HxCDF	22			1.23	29:40	—
1,2,3,4,7,8,9-HxCDF	20.8			1.28	30:23	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	8.81	1		12.8	—
Total PeCDD	33.1	1			—
Total HxCDD	58.7	3			—
Total TCDF	7.86	1			—
Total PeCDF	73.8	2			—
Total HxCDF	82.7	4			—

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	34.6	73.6	40%-120%	0.79	21:28	—
$^{13}C_{12}$-2,3,7,8-TCDD	37.6	80.1	40%-120%	0.79	22:14	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	60.7	129	40%-120%	1.29	29:53	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	108	115	40%-120%	1.08	31:49	—

8280_PSR v2.07, LARS 6 04 00

Compuchem Environmental Corp.

TLI Project: 36343A
.ient Sample: 23-00-012=785642 (MS)

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E96057

Clean-Up Standard	Conc. (ppt)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	22.4	95.3	40%-120%	22:15	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	22:02	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.29	30:09	—

Data Reviewer: KC 03/05/96

8280_PSR v2.07. LARS 6 04 00

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Compuchem Environmental Corp.

TLI Project: 36343A
Client Sample: 23-00-012=785642
Client Project: Crane Navy Project

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E960573
Matrix: WATER

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppt)	DL (ppt)	Blank (ppt)
2,3,7,8-TCDD	ND	0.308	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	0.308
Total PeCDD	ND	6.15
Total HxCDD	ND	2.37
Total TCDF	ND	0.346
Total PeCDF	ND	6.54
Total HxCDF	ND	5.17

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Compuchem Environmental Corp.

TLI Project: 36343A
Client Sample: 23-00-012=785642

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E960572

Client Project:	Crane Navy Project				
Sample Matrix:	WATER	Date Received:	02/27/96	Spike File:	SP828050
TLI ID:	114-248-11A	Date Extracted:	02/27/96	ICal:	E852096
		Date Analyzed:	03/01/96	ConCal:	E960564
Sample Size:	1.040 L	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	E960570	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JF	% Solids:	n/a

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.308				—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD		0		4.55	—
Total PeCDD	ND	0	6.15		—
Total HxCDD	ND	0	2.37		—
Total TCDF	ND	0	0.346		—
Total PeCDF	ND	0	6.54		—
Total HxCDF	ND	0	5.17		—

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	36.7	76.3	40%-120%	0.79	21:32	—
$^{13}C_{12}$-2,3,7,8-TCDD	39.6	82.3	40%-120%	0.78	22:17	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	60.3	125	40%-120%	1.30	29:55	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	105	110	40%-120%	1.08	31:51	—

Clean-Up Standard	Conc. (ppt)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	21.2	88.0	40%-120%	22:18	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	22:06	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.27	30:12	—

Data Reviewer: KL 03/05/96

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23 /00 RB12

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

Report Number: 9511143
Report To: MK Corp
Project: Crane NSWC IN
Date: December 01, 1995
Sample ID: NSWC 23/00 RB12, dated 11/16/95

Parameter	Method	Result	Date Analyzed
Corrosivity (as pH)	SW846 9040	7.0	11/28/95
Flashpoint, °F	SW846 1010	>203	11/29/95
Reactive Cyanide, mg/L	(1)	<0.02	12/01/95
Reactive Sulfide, mg/L	(2)	<1	11/30/95

(1) SW846 Chapter 7.3.3
(2) SW846 Chapter 7.3.4

AENI
ORGANIC ANALYSIS DATA SHEET
HERBICIDES METHOD 8150

Sample Number
NSWC 23/00 RB12

Case No.: 95'1143
Client Name: MK CORP
Project Name: CRANE NSWC
Account #: MKC70

AENI # 9511143-003

Concentration: Low
Date Sampled: 11/16/95
Date Received: 11/17/95
Date Extract Prepared: 11/24/95
Date Analyzed: 11/30/95
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

AMERICAN ENVIRONMENTAL NETWORK, INC.

Organic Analysis Data Sheet

TCLP PESTICIDES

Case No.:——— 9511143

Project Name:——— CRANE NSWC

Client/Account #:—— MK CORP/MKC70

Sample Number
NSWC 23/00 RB12

AENI # 9511143-003

Concentration:——— Low

Date Sampled:——— 11/16/95

Date Received:——— 11/17/95

Date Ext Prepared:—— 11/20/95

Date Analyzed:——— 11/22/95

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)		0.10	U
75-44-8	Heptachlor		0.051	U
1024-57-3	Heptachlor epoxide		0.051	U
72-20-8	Endrin		0.10	U
72-43-5	Methoxychlor		0.51	U
5103-71-9	alpha-Chlordane		0.051	U
5103-74-2	gamma-Chlordane		0.051	U
8001-35-2	Toxaphene		5.1	U

Vi - Volume of extract injected (ul) - _____ 1

Vs - Volume of Water extracted (ml) - _____ 980

Ws - Weight of sample extracted (g) - _____ N/A

Vt - Volume of total extract (ul) - _____ 10,000

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC 23/00 RB12

Lab Name: AENI Contract: 9511143

Project No.: MKC70 Site: CRANE Location: NSWC Group:

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

Sample wt/vol: 960.0 (g/mL) ML Lab File ID: CK310.D

Level: (low/med) Date Received: 11/17/95

% Moisture: decanted: (Y/N): N Date Extracted: 11/21/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/26/95

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/L	Q
110-86-1	Pyridine	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-39-4	3-Methylphenol	10	U
67-72-1	Hexachloroethane	10	U
106-44-5	4-Methylphenol	10	U
98-95-3	Nitrobenzene	10	U
87-68-3	Hexachlorobutadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	52	U
121-14-2	2,4-Dinitrotoluene	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	52	U

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23/00 RB12

Lab Name: AENI Contract: 9511143

Lab Code: Case No.: MKC70 SAS No.: SDG No.: 951114

Matrix (soil/water): WATER Lab Sample ID: 951114303

Level (low/med): LOW Date Received: 11/17/95

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	20.0	U		P
7440-39-3	Barium	500	U		P
7440-43-9	Cadmium	40.0	U		P
7440-47-3	Chromium	100	U		P
7440-50-8	Copper				NR
7439-92-1	Lead	100	U		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel				NR
7782-49-2	Selenium	20.0	U		P
7440-22-4	Silver	50.0	U		P
7440-66-6	Zinc				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

CLIENT_ID: NSWC_23/00_RB12

TCLP

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

NSWC 23/00 RB12

Lab Name: AENI Contract: 9511143

Project No.: MKC70 Site: Location: Group:

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

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: FK390.D

Level: (low/med) Date Received: 11/17/95

% Moisture: not dec. 100 Date Analyzed: 11/22/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 10.0

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

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

CAS No.	Compound	Concentration	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	100	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

1D

ORGANOCHLORINE PESTICIDES AND PCBs ANALYSIS DATA SHEET

SAMPLE NO.

23-00-013

Lab Name: COMPUCHEM,RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0250C

Matrix: (soil/water) SOIL Lab Sample ID: 785749

Sample wt/vol: 30.50 (g/ml) G Lab File ID:

% Moisture: 4 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 03/01/96

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 03/04/96

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
58-89-9	gamma-BHC (Lindane)	1.0	U
76-44-8	Heptachlor	0.036	JBP
309-00-2	Aldrin	0.034	JP
959-98-8	Endosulfan I	1.5	U
60-57-1	Dieldrin	1.5	U
33213-65-9	Endosulfan II	3.6	U
50-29-3	4,4'-DDT	0.098	JBP
72-43-5	Methoxychlor	0.20	JBP
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	0.25	J
72-20-8	Endrin	2.6	U
72-54-8	4,4'-DDD	3.6	U
7421-93-4	Endrin aldehyde	1.0	U
1031-07-8	Endosulfan sulfate	0.19	JP
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)	4.1	U

1D
ORGANOPHOSPHORUS PESTICIDES ANALYSIS DATA SHEET

SAMPLE NO.

23-00-013

Lab Name: COMPUCHEM,RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0258C

Matrix: (soil/water) SOIL Lab Sample ID: 785755

Sample wt/vol: 30.30 (g/ml) G Lab File ID:

% Moisture: 4 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 03/04/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 03/04/96

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
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

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-013

Lab Name: COMPUCHEM ENV. CORP. Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0266C

Matrix: (soil/water) SOIL Lab Sample ID: 785771

Sample wt/vol: 50.1 (g/ml) G Lab File ID:

% Moisture: 4 decanted: (Y/N) N Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 03/06/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 03/08/96

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	100	U
93-72-1	2,4,5-TP (Silvex)	2.5	JBP
93-76-5	2,4,5-T	1.8	JBP

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1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-013

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

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 242C

Matrix (soil/water): SOIL Lab Sample ID: 785697

Level (low/med): LOW Date Received: 02/24/96

% Solids: 96.1

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

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	99.1	U		CV

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:
Undecanted_Dry_Weights Container:0.97g Wet:5.07g Dry:4.91g

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-013

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____
Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 234C__
Matrix (soil/water): SOIL_ Lab Sample ID: 785687
Level (low/med): LOW__ Date Received: 02/24/96
% Solids: _96.1

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

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony_	440	B	N	P
7440-38-2	Arsenic__	5140		*	P
7440-39-3	Barium___	25400			P
7440-41-7	Beryllium	2220			P
7440-43-9	Cadmium__	20.8	U		P
7440-47-3	Chromium_	10400			P
7440-48-4	Cobalt___	9260		*	P
7440-50-8	Copper___	8670			P
7439-92-1	Lead____	15300		N	P
7440-02-0	Nickel___	81100			P
7782-49-2	Selenium_	322	B		P
7440-22-4	Silver___	72.8	U		P
7440-28-0	Thallium_	364	U		P
7440-62-2	Vanadium_	11900			P
7440-66-6	Zinc____	80700			P
7439-93-2	Lithium__	4090	B		P
7440-31-5	Tin_____	946	B		P

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM
Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:
Undecanted_Dry_Weights____Container:0.97g__Wet:5.07g__Dry:4.91g_____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-013

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785734

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085734A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 4 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

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	270	U
110-86-1	Pyridine	570	U
109-06-8	2-Picoline	1200	U
10595-95-6	Nitrosomethylethylamine	250	U
66-27-3	Methyl Methanesulfonate	730	U
55-18-5	N-Nitrosodiethylamine	230	U
62-50-0	Ethyl Methanesulfonate	620	U
108-95-2	Phenol	590	U
62-53-3	Aniline	580	U
111-44-4	Bis(2-chloroethyl)ether	290	U
95-57-8	2-Chlorophenol	660	U
541-73-1	1,3-Dichlorobenzene	530	U
106-46-7	1,4-Dichlorobenzene	540	U
100-51-6	Benzyl Alcohol	570	U
95-50-1	1,2-Dichlorobenzene	610	U
95-48-7	2-Methylphenol	680	U
39638-32-9	bis(2-Chloroisopropyl)ether	680	U
108-39-4	3-Methylphenol	1400	U
106-44-5	4-Methylphenol	1400	U
930-55-2	N-Nitrosopyrrolidine	550	U
621-64-7	N-Nitroso-di-N-propylamine	250	U
98-86-2	Acetophenone	690	U
59-89-2	N-Nitrosomorpholine	780	U
636-21-5	o-Toluidine hydrochloride	2100	U
67-72-1	Hexachloroethane	620	U
98-95-3	Nitrobenzene	710	U
100-75-4	N-Nitrosopiperidine	770	U
78-59-1	Isophorone	710	U
88-75-5	2-Nitrophenol	650	U
105-67-9	2,4-Dimethylphenol	640	U
126-68-1	o,o,o-Triethylphosphorothioa	5500	U
111-91-1	Bis(2-chloroethoxy)methane	700	U
120-83-2	2,4-Dichlorophenol	570	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-013

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785734

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085734A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 4 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

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	570	U
91-20-3	Naphthalene	690	U
106-47-8	4-Chloroaniline	720	U
87-65-0	2,6-Dichlorophenol	1200	U
1888-71-7	Hexachloropropene	590	U
87-68-3	Hexachlorobutadiene	580	U
924-16-3	N-Nitroso-di-n-butylamine	160	U
59-50-7	4-Chloro-3-methylphenol	200	U
94-59-7	Safrole	600	U
91-57-6	2-Methylnaphthalene	880	U
77-47-4	Hexachlorocyclopentadiene	690	U
95-94-3	1,2,4,5-Tetrachlorobenzene	1400	U
88-06-2	2,4,6-Trichlorophenol	1400	U
95-95-4	2,4,5-Trichlorophenol	1400	U
120-58-1	Isosafrole	1400	U
91-58-7	2-Chloronaphthalene	1000	U
88-74-4	2-Nitroaniline	1100	U
130-15-4	1,4-Napthoquinone	1700	U
131-11-3	Dimethylphthalate	1000	U
99-65-0	1,3-Dinitrobenzene	580	U
606-20-2	2,6-Dinitrotoluene	780	U
208-96-8	Acenaphthylene	700	U
99-09-2	3-Nitroaniline	720	U
83-32-9	Acenaphthene	690	U
51-28-5	2,4-Dinitrophenol	1800	U
100-02-7	4-Nitrophenol	720	U
608-93-5	Pentachlorobenzene	690	U
121-14-2	2,4-Dinitrotoluene	690	U
132-64-9	Dibenzofuran	720	U
91-59-8	2-Naphthylamine	900	U
58-90-2	2,3,4,6-Tetrachlorophenol	1500	U
134-32-7	1-Naphthylamine	1500	U
84-66-2	Diethylphthalate	750	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-013

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785734

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085734A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 4 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

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	620	U
99-55-8	5-Nitro-o-toluidine	1000	U
86-73-7	Fluorene	720	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1900	U
86-30-6	N-Nitrosodiphenylamine (1)	1500	U
122-39-4	Diphenylamine	1500	U
99-35-4	1,3,5-Trinitrobenzene	950	U
2303-16-4	Diallate (trans isomer)	690	U
62-44-2	Phenacetin	640	U
2303-16-4	Diallate (cis isomer)	690	U
101-55-3	4-Bromophenyl-phenylether	780	U
118-74-1	Hexachlorobenzene	800	U
92-67-1	4-Aminobiphenyl	430	U
87-86-5	Pentachlorophenol	1500	U
23950-58-5	Pronamide	680	U
85-01-8	Phenanthrene	650	U
120-12-7	Anthracene	770	U
84-74-2	Di-n-butylphthalate	800	U
56-57-5	4-Nitroquinoline-1-oxide	5000	U
91-80-5	Methapyrilene	1400	U
465-73-6	Isodrin	960	U
206-44-0	Fluoranthene	960	U
129-00-0	Pyrene	760	U
140-57-8	Aramite	690	U
60-11-7	p-Dimethylaminoazobenzene	700	U
510-15-6	Chlorobenzilate	740	U
85-68-7	Butylbenzylphthalate	710	U
119-93-7	3,3'-Dimethylbenzidine	470	U
117-81-7	bis(2-ethylhexyl)Phthalate	44	J
91-94-1	3,3'-Dichlorobenzidine	520	U
56-55-3	Benzo(a)Anthracene	690	U
218-01-9	Chrysene	560	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-013

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785709

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085709B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 4 Date Analyzed: 02/27/96

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	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	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	22	
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (Total)	10	U
75-05-8	acetonitrile	210	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-013

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785709

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085709B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 4 Date Analyzed: 02/27/96

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	240	U
107-05-1	3-chloropropene	16	U
106-93-4	1,2-dibromoethane	16	U
74-95-3	dibromomethane	21	U
110-57-6	trans-1,4-dichloro-2-butene	16	U
75-71-8	dichlorodifluoromethane	21	U
123-91-1	1,4-dioxane	53000	U
107-12-0	propionitrile(ethylcyanide)	610	U
97-63-2	ethyl methacrylate	26	U
74-88-4	iodomethane	10	U
78-83-1	isobutyl alcohol	14000	U
126-98-7	methacrylonitrile	21	U
80-62-6	methyl methacrylate	52	U
630-20-6	1,1,1,2-tetrachloroethane	21	U
96-18-4	1,2,3-trichloropropane	21	U
108-05-4	vinyl acetate	21	U
96-12-8	1,2-dibromo-3-chloropropane	52	U
75-69-4	trichlorofluoromethane	21	U
107-13-1	acrylonitrile	220	U
156-60-5	trans-1,2-Dichloroethene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-013

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785734

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085734A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 4 decanted: (Y/N) N Date Extracted:03/01/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/04/96

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	500	U
57-97-6	7,12-Dimethylbenz(a)anthrace	430	U
205-99-2	Benzo(b)fluoranthene	800	U
207-08-9	Benzo(k)fluoranthene	650	U
193-39-5	Indeno(1,2,3-c,d)pyrene	480	U
53-70-3	Dibenzo(a,h)anthracene	190	U
191-24-2	Benzo(g,h,i)perylene	650	U
122-09-08	a,a-Dimethylphenethylamine	690	U
106-50-3	p-Phenylenediamine	690	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

23-00-013

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0186C

Matrix: (soil/water) SOIL Lab Sample ID: 785734

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH085734A60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: 4 decanted: (Y/N) N Date Extracted: 03/01/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 03/04/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL	3.83	230	JA
2.	UNKNOWN (BC)	4.01	880	JB
3.	ALDOL (BC)	4.23	11000	JAB
4.	UNKNOWN (BC)	4.88	560	JB
5.	ADVISORY SURROGATE COMPOUND	5.68	1400	JB
6.	ADVISORY SURROGATE COMPOUND	6.22	1100	JB
7.	UNKNOWN CARBOXYLIC ACID	17.05	150	J
8.	UNKNOWN AMIDE	24.05	240	J
9.	UNKNOWN	29.76	320	J
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-013

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785709

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085709B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 4 Date Analyzed: 02/27/96

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	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	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	22	
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (Total)	10	U
75-05-8	acetonitrile	210	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-013

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785709

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085709B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 4 Date Analyzed: 02/27/96

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	240	U
107-05-1	3-chloropropene	16	U
106-93-4	1,2-dibromoethane	16	U
74-95-3	dibromomethane	21	U
110-57-6	trans-1,4-dichloro-2-butene	16	U
75-71-8	dichlorodifluoromethane	21	U
123-91-1	1,4-dioxane	53000	U
107-12-0	propionitrile(ethylcyanide)	610	U
97-63-2	ethyl methacrylate	26	U
74-88-4	iodomethane	10	U
78-83-1	isobutyl alcohol	14000	U
126-98-7	methacrylonitrile	21	U
80-62-6	methyl methacrylate	52	U
630-20-6	1,1,1,2-tetrachloroethane	21	U
96-18-4	1,2,3-trichloropropane	21	U
108-05-4	vinyl acetate	21	U
96-12-8	1,2-dibromo-3-chloropropane	52	U
75-69-4	trichlorofluoromethane	21	U
107-13-1	acrylonitrile	220	U
156-60-5	trans-1,2-Dichloroethene	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
23-00-013

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0178C

Matrix: (soil/water) SOIL Lab Sample ID: 785709

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH085709B54.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. 4 Date Analyzed: 02/27/96

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)	0.58	900	JB
2.				
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Compuchem Environmental Corp.

TLI Project: 36343B
Client Sample: 23-00-013=785729
Client Project: Crane Navy Project

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E960632
Matrix: SOIL

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppb)	DL (ppb)	Blank (ppb)
2,3,7,8-TCDD	ND	0.0128	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	0.0128
Total PeCDD	ND	0.0418
Total HxCDD	ND	0.023
Total TCDF	ND	0.00709
Total PeCDF	ND	0.0143
Total HxCDF	ND	0 0149

8280.PSR v2.07 LAR5 6.04.00

iangle Laboratories, Inc.
)1 Capitola Drive • Durham, North Carolina 27713
ione: (919) 544-5729 • Fax: (919) 544-5491

Printed: 19:15 03/07/96

Compuchem Environmental Corp.

TLI Project: 36343B
Client Sample: 23-00-013=785729

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E960632

Client Project:	Crane Navy Project				
Sample Matrix:	SOIL	Date Received:	02/27/96	Spike File:	SP828050
TLI ID:	114-248-2	Date Extracted:	02/29/96	ICal:	E852096
		Date Analyzed:	03/05/96	ConCal:	E960624
Sample Size:	10.000 g	Dilution Factor:	n/a	% Moisture:	22.0
Dry Weight:	7.800 g	Blank File:	E960630	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JF	% Solids:	78.0

Analytes	Conc. (ppb)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.0128				—

Totals	Conc. (ppb)	Number	DL	EMPC	Flags
Total TCDD		0		0.422	—
Total PeCDD	ND	0	0.0418		—
Total HxCDD	ND	0	0.023		—
Total TCDF		0		0.0148	—
PeCDF	ND	0	0.0143		—
HxCDF	ND	0	0.0149		—

Internal Standards	Conc. (ppb)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	4	62.4	40%-120%	0.79	21:28	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.5	54.7	40%-120%	0.81	22:15	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	6.89	107	40%-120%	1.23	29:54	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	11.1	86.5	40%-120%	1.02	31:51	—

Clean-Up Standard	Conc. (ppb)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	2.05	64.0	40%-120%	22:15	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	22:02	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.23	30:11	—

Data Reviewer: TU 03/07/96

8280_PSR v2.07. LARS 6 04 00

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Printed: 19:15-03/07/96

23/00 TB 13 1

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00TB13

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785625

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN085625A57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 02/29/96

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/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	1	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (Total)	10	U
75-05-8	acetonitrile	60	U

FORM I VOA

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00TB13

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785625

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN085625A57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 02/29/96

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/L	Q
107-02-8	acrolein	90	U
107-05-1	3-chloropropene	15	U
106-93-4	1,2-dibromoethane	10	U
74-95-3	dibromomethane	10	U
110-57-6	trans-1,4-dichloro-2-butene	10	U
75-71-8	dichlorodifluoromethane	10	U
123-91-1	1,4-dioxane	3700	U
107-12-0	propionitrile(ethylcyanide)	220	U
97-63-2	ethyl methacrylate	10	U
74-88-4	iodomethane	5	U
78-83-1	isobutyl alcohol	2800	U
126-98-7	methacrylonitrile	20	U
80-62-6	methyl methacrylate	20	U
630-20-6	1,1,1,2-tetrachloroethane	10	U
96-18-4	1,2,3-trichloropropane	10	U
108-05-4	vinyl acetate	10	U
96-12-8	1,2-dibromo-3-chloropropane	10	U
75-69-4	trichlorofluoromethane	10	U
107-13-1	acrylonitrile	95	U
156-60-5	trans-1,2-Dichloroethene	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

23-00TB13

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785625

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN085625A57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 02/29/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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23/00 014

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-014

Lab Name: COMPUCHEM ENV. CORP. Contract:

Lab Code: COMPU Case No.: 31023 SAS No.: SDG No.: 0163C

Matrix: (soil/water) WATER Lab Sample ID: 785666

Sample wt/vol: 1000 (g/ml) ML Lab File ID:

% Moisture: decanted: (Y/N) Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 02/27/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 02/28/96

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/L	Q
94-75-7	2,4-D	4.0	U
93-72-1	2,4,5-TP (Silvex)	0.061	JP
93-76-5	2,4,5-T	1.0	U

FORM I HERB

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-014

Lab Name: COMPUCHEM_ENV._CORP._____ Contract: SW-846____
Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 172C__
Matrix (soil/water): WATER Lab Sample ID: 785648
Level (low/med): LOW__ Date Received: 02/24/96
% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony_	1.8	U		P
7440-38-2	Arsenic__	3.0	U		P
7440-39-3	Barium___	87.1	B		P
7440-41-7	Beryllium	4.3	B		P
7440-43-9	Cadmium__	0.36	B		P
7440-47-3	Chromium_	6.3	B		P
7440-48-4	Cobalt___	3.4			P
7440-50-8	Copper___	13.9	B		P
7439-92-1	Lead____	10.1			P
7440-02-0	Nickel___	316			P
7782-49-2	Selenium_	2.6	U		P
7440-22-4	Silver___	0.70	U		P
7440-28-0	Thallium_	3.5	U		P
7440-62-2	Vanadium_	5.9	B		P
7440-66-6	Zinc____	272			P
7440-31-5	Tin_____	4.2	U		P

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____
Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-014

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

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 175C__

Matrix (soil/water): WATER Lab Sample ID: 785653

Level (low/med): LOW__ Date Received: 02/24/96

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury__	0.20	U		CV

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

1D

ORGANOCHLORINE PESTICIDES AND PCBs ANALYSIS DATA SHEET

SAMPLE NO.

23-00-014

Lab Name: COMPUCHEM,RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0157C

Matrix: (soil/water) WATER Lab Sample ID: 785638

Sample wt/vol: 1000 (g/ml) ML Lab File ID:

% Moisture: decanted: (Y/N) Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 03/05/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 02/27/96

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/L	Q
58-89-9	gamma-BHC (Lindane)	0.030	U
76-44-8	Heptachlor	0.030	U
309-00-2	Aldrin	0.030	U
959-98-8	Endosulfan I	0.0011	JP
60-57-1	Dieldrin	0.0018	JP
33213-65-9	Endosulfan II	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.0097	JP
319-84-6	alpha-BHC	0.030	U
319-85-7	beta-BHC	0.030	U
319-86-8	delta-BHC	0.0014	J
1024-57-3	Heptachlor epoxide	0.0019	JP
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.050	U
72-54-8	4,4'-DDD	0.00084	BJP
7421-93-4	Endrin aldehyde	0.030	U
1031-07-8	Endosulfan sulfate	0.050	U
11096-82-5	Aroclor-1260	0.50	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	0.50	U
8001-35-2	Toxaphene	1.0	U
57-74-9	Chlordane (Technical)	0.12	U

1D
ORGANOPHOSPHORUS PESTICIDES ANALYSIS DATA SHEET

SAMPLE NO.

23-00-014

Lab Name: COMPUCHEM, RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0160C

Matrix: (soil/water) WATER Lab Sample ID: 785633

Sample wt/vol: 1000 (g/ml) ML Lab File ID:

% Moisture: decanted: (Y/N) Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 02/28/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 03/04/96

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/L	Q
298-02-2	Phorate	0.50	U
3689-24-5	Sulfotepp	0.50	U
298-04-4	Disulfoton	0.50	U
60-51-5	Dimethoate	0.77	P
298-00-0	Methyl-Parathion	0.50	U
56-38-2	Ethyl-Parathion	0.28	JP
52-85-7	Famphur	1.0	PB

SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

23-00-014

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0154C

Matrix: (soil/water) WATER Lab Sample ID: 785671

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH085671B60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 02/29/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/02/96

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/L	Q
62-75-9	N-Nitrosodimethylamine	5	U
110-86-1	Pyridine	20	U
109-06-8	2-Picoline	45	U
10595-95-6	Nitrosomethylethylamine	13	U
66-27-3	Methyl Methanesulfonate	20	U
55-18-5	N-Nitrosodiethylamine	3	U
62-50-0	Ethyl Methanesulfonate	20	U
108-95-2	Phenol	15	U
62-53-3	Aniline	15	U
111-44-4	Bis(2-chloroethyl)ether	4	U
95-57-8	2-Chlorophenol	15	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	20	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	20	U
39638-32-9	bis(2-Chloroisopropyl)ether	15	U
108-39-4	3-Methylphenol	35	U
106-44-5	4-Methylphenol	35	U
930-55-2	N-Nitrosopyrrolidine	15	U
621-64-7	N-Nitroso-di-N-propylamine	4	U
98-86-2	Acetophenone	20	U
59-89-2	N-Nitrosomorpholine	10	U
636-21-5	o-Toluidine hydrochloride	25	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
100-75-4	N-Nitrosopiperidine	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	35	U
126-68-1	o,o,o-Triethylphosphorothioa	110	U
111-91-1	Bis(2-chloroethoxy)methane	15	U
120-83-2	2,4-Dichlorophenol	15	U

1C

SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

23-00-014

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0154C

Matrix: (soil/water) WATER Lab Sample ID: 785671

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH085671B60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 02/29/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/02/96

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/L	Q
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-65-0	2,6-Dichlorophenol	25	U
1888-71-7	Hexachloropropene	20	U
87-68-3	Hexachlorobutadiene	5	U
924-16-3	N-Nitroso-di-n-butylamine	3	U
59-50-7	4-Chloro-3-methylphenol	3	U
94-59-7	Safrole	5	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	25	U
95-94-3	1,2,4,5-Tetrachlorobenzene	15	U
88-06-2	2,4,6-Trichlorophenol	25	U
95-95-4	2,4,5-Trichlorophenol	25	U
120-58-1	Isosafrole	10	U
91-58-7	2-Chloronaphthalene	15	U
88-74-4	2-Nitroaniline	20	U
130-15-4	1,4-Napthoquinone	35	U
131-11-3	Dimethylphthalate	10	U
99-65-0	1,3-Dinitrobenzene	15	U
606-20-2	2,6-Dinitrotoluene	15	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	30	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	75	U
100-02-7	4-Nitrophenol	12	U
608-93-5	Pentachlorobenzene	10	U
121-14-2	2,4-Dinitrotoluene	10	U
132-64-9	Dibenzofuran	10	U
91-59-8	2-Naphthylamine	20	U
58-90-2	2,3,4,6-Tetrachlorophenol	35	U
134-32-7	1-Naphthylamine	35	U
84-66-2	Diethylphthalate	15	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00-014

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0154C

Matrix: (soil/water) WATER Lab Sample ID: 785671

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH085671B60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 02/29/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/02/96

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/L	Q
7005-72-3	4-Chlorophenyl-phenylether	10	U
99-55-8	5-Nitro-o-toluidine	30	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	35	U
534-52-1	4,6-Dinitro-2-methylphenol	45	U
86-30-6	N-Nitrosodiphenylamine (1)	30	U
122-39-4	Diphenylamine	30	U
99-35-4	1,3,5-Trinitrobenzene	45	U
2303-16-4	Diallate (trans isomer)	20	U
62-44-2	Phenacetin	20	U
2303-16-4	Diallate (cis isomer)	20	U
101-55-3	4-Bromophenyl-phenylether	15	U
118-74-1	Hexachlorobenzene	15	U
92-67-1	4-Aminobiphenyl	10	U
87-86-5	Pentachlorophenol	55	U
23950-58-5	Pronamide	15	U
85-01-8	Phenanthrene	15	U
120-12-7	Anthracene	15	U
84-74-2	Di-n-butylphthalate	15	U
56-57-5	4-Nitroquinoline-1-oxide	75	U
91-80-5	Methapyrilene	30	U
465-73-6	Isodrin	15	U
206-44-0	Fluoranthene	20	U
129-00-0	Pyrene	10	U
140-57-8	Aramite	20	U
60-11-7	p-Dimethylaminoazobenzene	10	U
510-15-6	Chlorobenzilate	10	U
85-68-7	Butylbenzylphthalate	10	U
119-93-7	3,3'-Dimethylbenzidine	10	U
117-81-7	bis(2-ethylhexyl)Phthalate	25	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	15	U

SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

23-00-014

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0154C

Matrix: (soil/water) WATER Lab Sample ID: 785671

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH085671B60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 02/29/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/02/96

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/L	Q
117-84-0	Di-n-octylphthalate	20	U
57-97-6	7,12-Dimethylbenz(a)anthrace	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	20	U
193-39-5	Indeno(1,2,3-c,d)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	10	U
122-09-08	a,a-Dimethylphenethylamine	25	U
106-50-3	p-Phenylenediamine	80	U

SAMPLE NO.

23-00-014

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0154C

Matrix: (soil/water) WATER Lab Sample ID: 785671

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH085671B60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted:02/29/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/02/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:_____

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.42	4	J
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Compuchem Environmental Corp.

TLI Project: 36343A
Client Sample: 23-00-014=785641
Client Project: Crane Navy Project

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E960571
Matrix: WATER

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppt)	DL (ppt)	Blank (ppt)
2,3,7,8-TCDD	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. (ppt)	DL (ppt)
Total TCDD	ND	0.299
Total PeCDD	ND	5.98
Total HxCDD	ND	2.31
Total TCDF	ND	0.336
Total PeCDF	ND	6.36
Total HxCDF	ND	5.02

8280_PSR v2.07, LARS 6.04.00

Triangle Laboratories, Inc.
301 Capitola Drive • Durham, North Carolina 27713

Compuchem Environmental Corp.

TLI Project: 36343A
Client Sample: 23-00-014=785641

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E96057

Client Project:	Crane Navy Project				
Sample Matrix:	WATER	Date Received:	02/27/96	Spike File:	SP828050
TLI ID:	114-248-9A	Date Extracted:	02/27/96	ICal:	E852096
		Date Analyzed:	03/01/96	ConCal:	E960564
Sample Size:	1.070 L	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	E960570	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JF	% Solids:	n/a

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.299				—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD		0		4.15	—
Total PeCDD	ND	0	5.98		—
Total HxCDD	ND	0	2.31		—
Total TCDF	ND	0	0.336		—
Total PeCDF	ND	0	6.36		—
Total HxCDF	ND	0	5.02		—

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	34.2	73.2	40%-120%	0.78	21:26	—
$^{13}C_{12}$-2,3,7,8-TCDD	40.8	87.4	40%-120%	0.78	22:13	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	56.9	122	40%-120%	1.27	29:52	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	113	121	40%-120%	1.07	31:49	—

Clean-Up Standard	Conc. (ppt)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	21.3	91.0	40%-120%	22:14	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	22:00	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.26	30:09	—

Data Reviewer: _____ 03/05/96

8280_PSR v2.07, LARS 6.04.00

Triangle Laboratories, Inc.
801 Capitola Drive • Durham, North Carolina 27713
Phone (919) 544-5729 • Fax: (919) 544-5491

Printed: 22:25 03/05/96

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00-014

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

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 166C__

Matrix (soil/water): WATER Lab Sample ID: 785660

Level (low/med): LOW__ Date Received: 02/24/96

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
	Cyanide	10.0	U	N	AS

Color Before: COLORLESS Clarity Before: CLOUDY Texture: _____

Colpr After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-014

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785627

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN085627A57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 02/29/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 3.1

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	31	U
74-83-9	Bromomethane	31	U
75-01-4	Vinyl Chloride	31	U
75-00-3	Chloroethane	31	U
75-09-2	Methylene Chloride	8	J
67-64-1	Acetone	31	U
75-15-0	Carbon Disulfide	31	U
75-35-4	1,1-Dichloroethene	5	J
75-34-3	1,1-Dichloroethane	31	U
67-66-3	Chloroform	31	U
107-06-2	1,2-Dichloroethane	31	U
78-93-3	2-Butanone	31	U
71-55-6	1,1,1-Trichloroethane	8	J
56-23-5	Carbon Tetrachloride	31	U
75-27-4	Bromodichloromethane	31	U
78-87-5	1,2-Dichloropropane	31	U
10061-01-5	cis-1,3-Dichloropropene	31	U
79-01-6	Trichloroethene	460	
124-48-1	Dibromochloromethane	31	U
79-00-5	1,1,2-Trichloroethane	31	U
71-43-2	Benzene	31	U
10061-02-6	trans-1,3-Dichloropropene	31	U
75-25-2	Bromoform	31	U
108-10-1	4-Methyl-2-Pentanone	31	U
591-78-6	2-Hexanone	31	U
127-18-4	Tetrachloroethene	4	J
79-34-5	1,1,2,2-Tetrachloroethane	31	U
108-88-3	Toluene	31	U
108-90-7	Chlorobenzene	31	U
100-41-4	Ethylbenzene	31	U
100-42-5	Styrene	31	U
1330-20-7	Xylene (Total)	31	U
75-05-8	acetonitrile	190	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00-014

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785627

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN085627A57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 02/29/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 3.1

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
107-02-8	acrolein	280	U
107-05-1	3-chloropropene	47	U
106-93-4	1,2-dibromoethane	31	U
74-95-3	dibromomethane	31	U
110-57-6	trans-1,4-dichloro-2-butene	31	U
75-71-8	dichlorodifluoromethane	31	U
123-91-1	1,4-dioxane	12000	U
107-12-0	propionitrile(ethylcyanide)	690	U
97-63-2	ethyl methacrylate	31	U
74-88-4	iodomethane	16	U
78-83-1	isobutyl alcohol	8800	U
126-98-7	methacrylonitrile	62	U
80-62-6	methyl methacrylate	62	U
630-20-6	1,1,1,2-tetrachloroethane	31	U
96-18-4	1,2,3-trichloropropane	31	U
108-05-4	vinyl acetate	31	U
96-12-8	1,2-dibromo-3-chloropropane	31	U
75-69-4	trichlorofluoromethane	31	U
107-13-1	acrylonitrile	300	U
156-60-5	trans-1,2-Dichloroethene	31	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

23-00-014

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785627

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN085627A57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 02/29/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 3.1

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

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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23/00 OTB 14

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

23-00TB14

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785618

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN085618C57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 02/29/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00TB14

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785618

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN085618CS7.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 02/29/96

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/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	1	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (Total)	10	U
75-05-8	acetonitrile	3	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00TB14

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785618

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN085618C57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 02/29/96

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/L	Q
107-02-8	acrolein	90	U
107-05-1	3-chloropropene	15	U
106-93-4	1,2-dibromoethane	10	U
74-95-3	dibromomethane	10	U
110-57-6	trans-1,4-dichloro-2-butene	10	U
75-71-8	dichlorodifluoromethane	10	U
123-91-1	1,4-dioxane	3700	U
107-12-0	propionitrile(ethylcyanide)	220	U
97-63-2	ethyl methacrylate	10	U
74-88-4	iodomethane	5	U
78-83-1	isobutyl alcohol	2800	U
126-98-7	methacrylonitrile	20	U
80-62-6	methyl methacrylate	20	U
630-20-6	1,1,1,2-tetrachloroethane	10	U
96-18-4	1,2,3-trichloropropane	10	U
108-05-4	vinyl acetate	10	U
96-12-8	1,2-dibromo-3-chloropropane	10	U
75-69-4	trichlorofluoromethane	10	U
107-13-1	acrylonitrile	95	U
156-60-5	trans-1,2-Dichloroethene	10	U

23/00 00RB14

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00RB14

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785626

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN085626A57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 02/29/96

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/L	Q
107-02-8	acrolein	90	U
107-05-1	3-chloropropene	15	U
106-93-4	1,2-dibromoethane	10	U
74-95-3	dibromomethane	10	U
110-57-6	trans-1,4-dichloro-2-butene	10	U
75-71-8	dichlorodifluoromethane	10	U
123-91-1	1,4-dioxane	3700	U
107-12-0	propionitrile(ethylcyanide)	220	U
97-63-2	ethyl methacrylate	10	U
74-88-4	iodomethane	5	U
78-83-1	isobutyl alcohol	2800	U
126-98-7	methacrylonitrile	20	U
80-62-6	methyl methacrylate	20	U
630-20-6	1,1,1,2-tetrachloroethane	10	U
96-18-4	1,2,3-trichloropropane	10	U
108-05-4	vinyl acetate	10	U
96-12-8	1,2-dibromo-3-chloropropane	10	U
75-69-4	trichlorofluoromethane	10	U
107-13-1	acrylonitrile	95	U
156-60-5	trans-1,2-Dichloroethene	10	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00RB14

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785626

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN085626A57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 02/29/96

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/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	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (Total)	10	U
75-05-8	acetonitrile	60	U

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00RB14

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

Lab Code: COMPU_ Case No.: 31923_ SAS No.: _____ SDG No.: 175C__

Matrix (soil/water): WATER Lab Sample ID: 785650

Level (low/med): LOW__ Date Received: 02/24/96

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury__	0.20	U		CV

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00RB14

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

Lab Code: COMPU_ Case No.: 31923 SAS No.: _____ SDG No.: 172C__

Matrix (soil/water): WATER Lab Sample ID: 785643

Level (low/med): LOW__ Date Received: 02/24/96

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony_	1.8	U		P_
7440-38-2	Arsenic__	3.0	U		P_
7440-39-3	Barium__	23.4	B		P_
7440-41-7	Beryllium	0.30	U		P_
7440-43-9	Cadmium__	0.20	U		P_
7440-47-3	Chromium_	0.70	U		P_
7440-48-4	Cobalt___	0.50	U		P_
7440-50-8	Copper___	6.8	B		P_
7439-92-1	Lead____	1.8	B		P_
7440-02-0	Nickel___	1.9	B		P_
7782-49-2	Selenium_	2.6	U		P_
7440-22-4	Silver___	0.70	U		P_
7440-28-0	Thallium_	3.5	U		P_
7440-62-2	Vanadium_	0.60	U		P_
7440-66-6	Zinc____	17.0	B		P_
7440-31-5	Tin_____	4.2	U		P_

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

23-00RB14

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

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 166C

Matrix (soil/water): WATER Lab Sample ID: 785655

Level (low/med): LOW Date Received: 02/24/96

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
	Cyanide	10.0	U	N	AS

Color Before: COLORLESS Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Compuchem Environmental Corp.

TLI Project: 36343A
Client Sample: 23-00-RB14=785640

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E960572

Client Project:	Crane Navy Project				
Sample Matrix:	WATER	Date Received:	02/27/96	Spike File:	SP828050
TLI ID:	114-248-10A	Date Extracted:	02/27/96	ICal:	E852096
		Date Analyzed:	03/01/96	ConCal:	E960564
Sample Size:	1.070 L	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	E960570	% Lipid:	n/a
GC Column:	DB-5	Analyst:	JF	% Solids:	n/a

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.299				—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD		0		4.19	—
Total PeCDD	ND	0	5.98		—
Total HxCDD	ND	0	2.31		—
Total TCDF	ND	0	0.336		—
Total PeCDF	ND	0	6.36		—
Total HxCDF	ND	0	5.02		—

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	24.9	53.2	40%-120%	0.78	21:25	—
$^{13}C_{12}$-2,3,7,8-TCDD	28.7	61.4	40%-120%	0.78	22:12	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	45.8	97.9	40%-120%	1.26	29:52	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	87	93.1	40%-120%	1.06	31.48	—

Clean-Up Standard	Conc. (ppt)	% Recovery	QC Limits	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	15.7	67.3	40%-120%	22:13	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	22:00	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.26	30:09	—

Data Reviewer: KU 03/05/96

8280_PSR v2.07, LARS 6.04

Compuchem Environmental Corp.

TLI Project: 36343A
Client Sample: 23-00-RB14=785640
Client Project: Crane Navy Project

Method 8280 PCDD/PCDF Analysis (b)
Analysis File: E960572
Matrix: WATER

PCDD/PCDF SUMMARY REPORT

Specific Analytes	Conc. (ppt)	DL (ppt)	Blank (ppt)
2,3,7,8-TCDD	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. (ppt)	DL (ppt)
Total TCDD	ND	0.299
Total PeCDD	ND	5.98
Total HxCDD	ND	2.31
Total TCDF	ND	0.336
Total PeCDF	ND	6.36
Total HxCDF	ND	5.02

8280_PSR v2.07. LARS 6.04.00

Triangle Laboratories, Inc.
801 Capitola Drive • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

Printed: 22:26 03/05/96

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

23-00RB14

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0154C

Matrix: (soil/water) WATER Lab Sample ID: 785668

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH085668B60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 02/29/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/01/96

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:_____

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CYCLOHEXENONE	5.12	4	J
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

23-00RB14

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0154C

Matrix: (soil/water) WATER Lab Sample ID: 785668

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH085668B60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 02/29/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/01/96

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/L	Q
117-84-0	Di-n-octylphthalate	20	U
57-97-6	7,12-Dimethylbenz(a)anthrace	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	20	U
193-39-5	Indeno(1,2,3-c,d)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	10	U
122-09-08	a,a-Dimethylphenethylamine	25	U
106-50-3	p-Phenylenediamine	80	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
23-00RB14

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0154C

Matrix: (soil/water) WATER Lab Sample ID: 785668

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH085668B60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 02/29/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/01/96

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/L	Q
7005-72-3	4-Chlorophenyl-phenylether	10	U
99-55-8	5-Nitro-o-toluidine	30	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	35	U
534-52-1	4,6-Dinitro-2-methylphenol	45	U
86-30-6	N-Nitrosodiphenylamine (1)	30	U
122-39-4	Diphenylamine	30	U
99-35-4	1,3,5-Trinitrobenzene	45	U
2303-16-4	Diallate (trans isomer)	20	U
62-44-2	Phenacetin	20	U
2303-16-4	Diallate (cis isomer)	20	U
101-55-3	4-Bromophenyl-phenylether	15	U
118-74-1	Hexachlorobenzene	15	U
92-67-1	4-Aminobiphenyl	10	U
87-86-5	Pentachlorophenol	55	U
23950-58-5	Pronamide	15	U
85-01-8	Phenanthrene	15	U
120-12-7	Anthracene	15	U
84-74-2	Di-n-butylphthalate	15	U
56-57-5	4-Nitroquinoline-1-oxide	75	U
91-80-5	Methapyrilene	30	U
465-73-6	Isodrin	15	U
206-44-0	Fluoranthene	20	U
129-00-0	Pyrene	10	U
140-57-8	Aramite	20	U
60-11-7	p-Dimethylaminoazobenzene	10	U
510-15-6	Chlorobenzilate	10	U
85-68-7	Butylbenzylphthalate	10	U
119-93-7	3,3'-Dimethylbenzidine	10	U
117-81-7	bis(2-ethylhexyl)Phthalate	25	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	15	U

SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

23-00RB14

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0154C

Matrix: (soil/water) WATER Lab Sample ID: 785668

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH085668B60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 02/29/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/01/96

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/L	Q
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-65-0	2,6-Dichlorophenol	25	U
1888-71-7	Hexachloropropene	20	U
87-68-3	Hexachlorobutadiene	5	U
924-16-3	N-Nitroso-di-n-butylamine	3	U
59-50-7	4-Chloro-3-methylphenol	3	U
94-59-7	Safrole	5	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	25	U
95-94-3	1,2,4,5-Tetrachlorobenzene	15	U
88-06-2	2,4,6-Trichlorophenol	25	U
95-95-4	2,4,5-Trichlorophenol	25	U
120-58-1	Isosafrole	10	U
91-58-7	2-Chloronaphthalene	15	U
88-74-4	2-Nitroaniline	20	U
130-15-4	1,4-Napthoquinone	35	U
131-11-3	Dimethylphthalate	10	U
99-65-0	1,3-Dinitrobenzene	15	U
606-20-2	2,6-Dinitrotoluene	15	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	30	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	75	U
100-02-7	4-Nitrophenol	12	U
608-93-5	Pentachlorobenzene	10	U
121-14-2	2,4-Dinitrotoluene	10	U
132-64-9	Dibenzofuran	10	U
91-59-8	2-Naphthylamine	20	U
58-90-2	2,3,4,6-Tetrachlorophenol	35	U
134-32-7	1-Naphthylamine	35	U
84-66-2	Diethylphthalate	15	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00RB14

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0154C

Matrix: (soil/water) WATER Lab Sample ID: 785668

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH085668B60.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 02/29/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/01/96

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/L	Q
62-75-9	N-Nitrosodimethylamine	5	U
110-86-1	Pyridine	20	U
109-06-8	2-Picoline	45	U
10595-95-6	Nitrosomethylethylamine	13	U
66-27-3	Methyl Methanesulfonate	20	U
55-18-5	N-Nitrosodiethylamine	3	U
62-50-0	Ethyl Methanesulfonate	20	U
108-95-2	Phenol	15	U
62-53-3	Aniline	15	U
111-44-4	Bis(2-chloroethyl)ether	4	U
95-57-8	2-Chlorophenol	15	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	20	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	20	U
39638-32-9	bis(2-Chloroisopropyl)ether	15	U
108-39-4	3-Methylphenol	35	U
106-44-5	4-Methylphenol	35	U
930-55-2	N-Nitrosopyrrolidine	15	U
621-64-7	N-Nitroso-di-N-propylamine	4	U
98-86-2	Acetophenone	20	U
59-89-2	N-Nitrosomorpholine	10	U
636-21-5	o-Toluidine hydrochloride	25	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
100-75-4	N-Nitrosopiperidine	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	35	U
126-68-1	o,o,o-Triethylphosphorothioa	110	U
111-91-1	Bis(2-chloroethoxy)methane	15	U
120-83-2	2,4-Dichlorophenol	15	U

1D
ORGANOPHOSPHORUS PESTICIDES ANALYSIS DATA SHEET

SAMPLE NO.

23-00RB14

Lab Name: COMPUCHEM,RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0160C

Matrix: (soil/water) WATER Lab Sample ID: 785629

Sample wt/vol: 1000 (g/ml) ML Lab File ID:

% Moisture: decanted: (Y/N) Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 02/28/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 03/04/96

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/L	Q
298-02-2	Phorate	0.50	U
3689-24-5	Sulfotepp	0.50	U
298-04-4	Disulfoton	0.50	U
60-51-5	Dimethoate	1.1	
298-00-0	Methyl-Parathion	0.50	U
56-38-2	Ethyl-Parathion	0.22	JP
52-85-7	Famphur	0.50	U

1D

ORGANOCHLORINE PESTICIDES AND PCBs ANALYSIS DATA SHEET

SAMPLE NO.

23-00RB14

Lab Name: COMPUCHEM,RTP Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0157C

Matrix: (soil/water) WATER Lab Sample ID: 785635

Sample wt/vol: 1000 (g/ml) ML Lab File ID:

% Moisture: decanted: (Y/N) Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 03/05/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 02/27/96

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/L

CAS NO.	COMPOUND		Q
58-89-9	gamma-BHC (Lindane)	0.030	U
76-44-8	Heptachlor	0.030	U
309-00-2	Aldrin	0.0019	JP
959-98-8	Endosulfan I	0.0033	JP
60-57-1	Dieldrin	0.030	U
33213-65-9	Endosulfan II	0.10	U
50-29-3	4,4'-DDT	0.0023	JP
72-43-5	Methoxychlor	0.021	JP
319-84-6	alpha-BHC	0.030	U
319-85-7	beta-BHC	0.030	U
319-86-8	delta-BHC	0.030	U
1024-57-3	Heptachlor epoxide	0.030	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.050	U
72-54-8	4,4'-DDD	0.10	U
7421-93-4	Endrin aldehyde	0.030	U
1031-07-8	Endosulfan sulfate	0.050	U
11096-82-5	Aroclor-1260	0.50	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	0.50	U
8001-35-2	Toxaphene	1.0	U
57-74-9	Chlordane (Technical)	0.12	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00RB14

Lab Name: COMPUCHEM ENV. CORP. Contract:

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0163C

Matrix: (soil/water) WATER Lab Sample ID: 785662

Sample wt/vol: 1000 (g/ml) ML Lab File ID:

% Moisture: decanted: (Y/N) Date Received: 02/24/96

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 02/27/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 02/28/96

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/L	Q
94-75-7	2,4-D	4.0	U
93-72-1	2,4,5-TP (Silvex)	1.0	U
93-76-5	2,4,5-T	1.0	U

23/00 015

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00TB15

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785623

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN085623A57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 02/29/96

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/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	1	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (Total)	10	U
75-05-8	acetonitrile	60	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00TB15

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785623

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN085623A57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 02/29/96

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/L	Q
107-02-8	acrolein	90	U
107-05-1	3-chloropropene	15	U
106-93-4	1,2-dibromoethane	10	U
74-95-3	dibromomethane	10	U
110-57-6	trans-1,4-dichloro-2-butene	10	U
75-71-8	dichlorodifluoromethane	10	U
123-91-1	1,4-dioxane	3700	U
107-12-0	propionitrile(ethylcyanide)	220	U
97-63-2	ethyl methacrylate	10	U
74-88-4	iodomethane	5	U
78-83-1	isobutyl alcohol	2800	U
126-98-7	methacrylonitrile	20	U
80-62-6	methyl methacrylate	20	U
630-20-6	1,1,1,2-tetrachloroethane	10	U
96-18-4	1,2,3-trichloropropane	10	U
108-05-4	vinyl acetate	10	U
96-12-8	1,2-dibromo-3-chloropropane	10	U
75-69-4	trichlorofluoromethane	10	U
107-13-1	acrylonitrile	95	U
156-60-5	trans-1,2-Dichloroethene	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

23-00TB15

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785623

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN085623A57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 02/29/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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23/00 '516

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00TB16

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785624

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN085624A57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 02/29/96

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/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	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (Total)	10	U
75-05-8	acetonitrile	60	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

23-00TB16

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785624

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN085624A57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 02/29/96

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/L	Q
107-02-8	acrolein	90	U
107-05-1	3-chloropropene	15	U
106-93-4	1,2-dibromoethane	10	U
74-95-3	dibromomethane	10	U
110-57-6	trans-1,4-dichloro-2-butene	10	U
75-71-8	dichlorodifluoromethane	10	U
123-91-1	1,4-dioxane	3700	U
107-12-0	propionitrile(ethylcyanide)	220	U
97-63-2	ethyl methacrylate	10	U
74-88-4	iodomethane	5	U
78-83-1	isobutyl alcohol	2800	U
126-98-7	methacrylonitrile	20	U
80-62-6	methyl methacrylate	20	U
630-20-6	1,1,1,2-tetrachloroethane	10	U
96-18-4	1,2,3-trichloropropane	10	U
108-05-4	vinyl acetate	10	U
96-12-8	1,2-dibromo-3-chloropropane	10	U
75-69-4	trichlorofluoromethane	10	U
107-13-1	acrylonitrile	95	U
156-60-5	trans-1,2-Dichloroethene	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
23-00TB16

Lab Name: COMPUCHEM ENV. CORP. Contract: 501019

Lab Code: COMPU Case No.: 31923 SAS No.: SDG No.: 0151C

Matrix: (soil/water) WATER Lab Sample ID: 785624

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN085624A57.D

Level: (low/med) LOW Date Received: 02/24/96

% Moisture: not dec. _____ Date Analyzed: 02/29/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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APPENDIX E

SUMMARY OF MANIFESTS

MANIFESTS

Explanation ..... 1 page
Landfill Receipt Weight Ticket ..... 1 page

There were no hazardous materials or excavated soils transported from SWMU 23/00. One roll-off box of debris was transported to a landfill offsite for disposal. No manifests were used during this project.

The receiving list/weight ticket only indicates 24 (cu) yds of material received at the landfill. Subsequent discussions between the Navy and Rumpke Landfill personnel identified the weight of material to be 4.59 tons.

V3-050.067

RECEIVED

FEB 26 1996

MK-CRANE

RUMPKE INDIANA, INC.

- ☐ 3977 N MICHIGAN RD SHELBYVILLE, IN 46176 (317) 398-6588
- ☐ 275 FT. WAYNE AVE RICHMOND IN 47374 (317) 966-5030
- ☐ 303 E COUNTY RD. 300N KOKOMO, IN 46901 (317) 456-1611
- ☐ 1950 WEST TELLMAN RD COLUMBUS IN 47202 (812) 372-1225
- ☐ 1921 PROGRESS WAY CLARKSVILLE, IN 47129 (812) 283-7634
- ☐ 1869 E COUNTY LINE RD BATESVILLE, IN 47006 (812) 934-2942
- ☑ 7740 FISH RD BLOOMINGTON IN 47408 (812) 333-3300
- ☐ CTY RD 500 W & U S HWY 48 WORTHINGTON, IN 47471 (812) 875-2545

ORDER NO.	TICKET NO.	DATE
	200K	11-28-94

CUSTOMER	TIME OUT	TIME IN	TRUCK NUMBER
TJC. 2TR-12 CRANE			23C
	MILEAGE OUT	MILEAGE IN	DRIVER
			O.J.

DESCRIPTION: REM 24 yd

Sum. [illegible] For TJC

143265

NOT RESPONSIBLE FOR ANY DAMAGE TO PROPERTY WHERE DELIVERY IS MADE INSIDE CURB. (SEE REVERSE SIDE FOR TERMS & CONDITIONS)

ACCEPTED BY:

WEIGHT TICKET
9ND-NWSCC 4010/2 (Rev. 6-79)

TRUCK/TRACTOR NO.	SCC ☐ ☐ ☐	PASSENGER ☐ ON ☐ OFF
TRAILER NO.	IDENTIFICATION	DEBRIS ☐ YES ☐ NO
RR CAR NO.		
EMPTY WT-STENCIL	10:23AM 28NOV95 GROSS 40200 LB	GROSS
LOAD LIMIT		TARE
		NET
☐ COUPLED		
☐ UNCOUPLED	Box #240 R Rumpke	
CONTRACT NO.	CONTRACTOR	
ITEM NO.		
PARTIAL DEL. NO.		
CONTRACTOR REP. *(if applicable)*	WEIGHMASTER	VERIFIED BY

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

James M. Hunnicutt
SIGNATURE

DIRECTOR, ENVIRONMENTAL PROTECTION DEPARTMENT
BY DIRECTION OF THE COMMANDER
TITLE

5/16/00
DATE