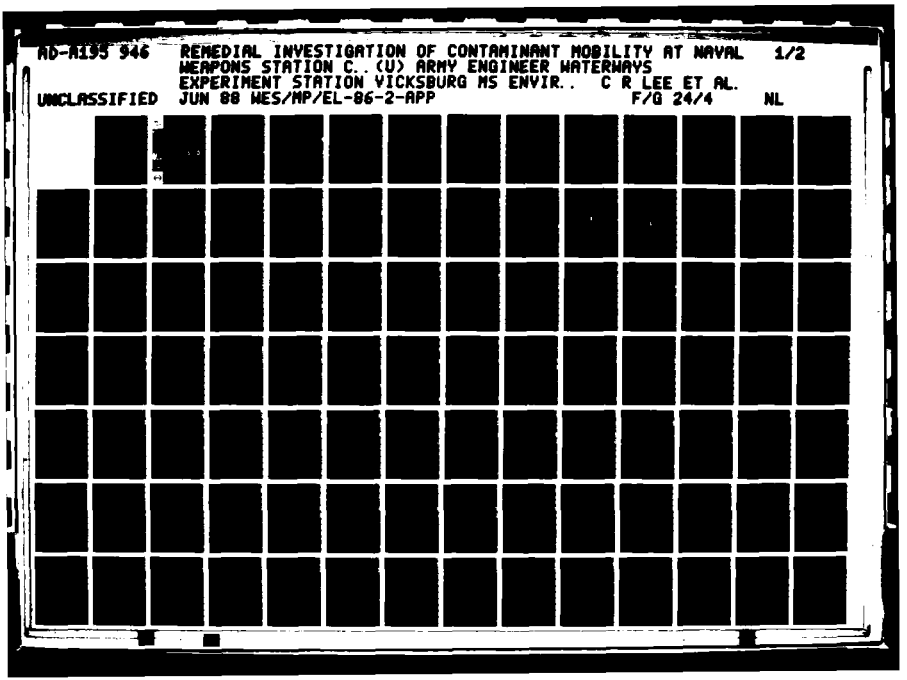
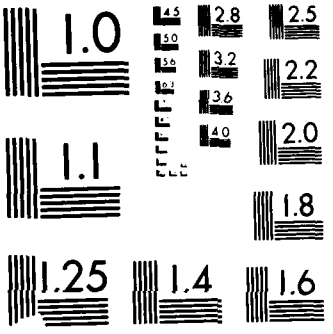

AD-A195 946 REMEDIAL INVESTIGATION OF CONTAMINANT MOBILITY AT NAVAL 1/2
WEAPONS STATION C.. (U) ARMY ENGINEER WATERWAYS
EXPERIMENT STATION VICKSBURG MS ENVIR.. C R LEE ET AL.
UNCLASSIFIED JUN 88 WES/MP/EL-86-2-APP F/G 24/4 NL



UTION TEST CHART

(2)

US Army Corps of Engineers

MISCELLANEOUS PAPER EL-86-2

REMEDIAL INVESTIGATION OF CONTAMINANT MOBILITY AT NAVAL WEAPONS STATION CONCORD, CALIFORNIA

SUBTITLE APPENDIX 2.5 — 1986/87 DATA

by

Charles R. Lee, L. Jean O'Neil, Dennis L. Brandon
Richard G. Rhett, John G. Skogerboe, A. Susan Portzer
Richard A. Price

Environmental Laboratory

DEPARTMENT OF THE ARMY
Waterways Experiment Station, Corps of Engineers
PO Box 631, Vicksburg, Mississippi 39180-0631

June 1988
Final Report

Prepared for DEPARTMENT OF THE NAVY
Naval Facilities Engineering Command, Western Division
San Bruno, California 94066

[illegible]

The findings in this report are not to be construed as an official Department of the Army position unless so designated by other authorized documents.

The contents of this report are not to be used for advertising, publication, or promotional purposes. Citation of trade names does not constitute an official endorsement or approval of the use of such commercial products.

Unclassified
SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

Form Approved OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION
Unclassified

1b. RESTRICTIVE MARKINGS

2a. SECURITY CLASSIFICATION AUTHORITY

2b. DECLASSIFICATION / DOWNGRADING SCHEDULE

3. DISTRIBUTION / AVAILABILITY OF REPORT
Approved for public release; distribution unlimited.

4. PERFORMING ORGANIZATION REPORT NUMBER(S)
Miscellaneous Paper EL-86-2

5. MONITORING ORGANIZATION REPORT NUMBER(S)

6a. NAME OF PERFORMING ORGANIZATION
USAEWES
Environmental Laboratory

6b. OFFICE SYMBOL (If applicable)
CEWES-ES-R

7a. NAME OF MONITORING ORGANIZATION

6c. ADDRESS (City, State, and ZIP Code)
PO Box 631
Vicksburg, MS 39180-0631

7b. ADDRESS (City, State, and ZIP Code)

8a. NAME OF FUNDING / SPONSORING ORGANIZATION
See reverse.

8b. OFFICE SYMBOL (If applicable)

9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER

8c. ADDRESS (City, State, and ZIP Code)
San Bruno, CA 94066

10. SOURCE OF FUNDING NUMBERS

PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.	WORK UNIT ACCESSION NO.

11. TITLE (Include Security Classification) Remedial Investigation of Contaminant Mobility at Naval Weapons Station, Concord, California; Subtitle Appendix 2.5 - 1986/87 Data

12. PERSONAL AUTHOR(S) Lee, Charles R.; O'Neil, L. Jean; Brandon, Dennis L.; Rhett, Richard G. Skogerboe, John G.; Portzer, A. Susan; Price, Richard A.

13a. TYPE OF REPORT	13b. TIME COVERED	14. DATE OF REPORT (Year, Month, Day)	15. PAGE COUNT
Final report	FROM _____ TO _____	June 1988	121

16. SUPPLEMENTARY NOTATION
Available from National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

17. COSATI CODES		
FIELD	GROUP	SUB-GROUP

18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
See reverse.

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

This report is an appendix to Miscellaneous Paper EL-86-2. It contains corrections and supplemental information to the original report, as well as data collected between June 1986 and August 1987 to supplement previously reported data and to further delineate the extent of contamination at Naval Weapons Station, Concord, California. It also assesses the impact of the 1986 flood on the redistribution of contamination. The derived data include soil analysis, a clam bioassay, and ground-water samples. Wetland boundaries were also delineated.

20. DISTRIBUTION / AVAILABILITY OF ABSTRACT
☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT ☐ DTIC USERS

21. ABSTRACT SECURITY CLASSIFICATION
Unclassified

22a. NAME OF RESPONSIBLE INDIVIDUAL

22b. TELEPHONE (Include Area Code)

22c. OFFICE SYMBOL

DD Form 1473, JUN 86 Previous editions are obsolete.

SECURITY CLASSIFICATION OF THIS PAGE
Unclassified

8a. NAME OF FUDNING/SPONSORING ORGANIZATION (Continued).

DEPARTMENT OF THE NAVY
Naval Facilities Engineering Command
Western Division

18. SUBJECT TERMS (Continued).

Animal bioassay	Copper	Remedial investigation
Arsenic	Ground water	Upland contamination
Cadmium	Lead	Wetland delineation
Contaminant mobility	Metal contamination	Zinc

PREFACE

This report is an appendix to Miscellaneous Paper EL-86-2. It contains corrections and supplemental information to the original report, as well as data collected between June 1986 and August 1987.

This study was conducted by Dr. C. R. Lee, Soil Scientist, under the general supervision of Lloyd Saunders, Chief, Contaminant Mobility and Regulatory Criteria Group; Mr. D. L. Robey, Chief, Ecosystem Research and Simulation Division; Dr. C. Kirby, Chief, Environmental Resources Division; and Dr. J. Harrison, Chief, Environmental Laboratory.

Technical contributions in the conduct of field sampling, laboratory testing, and report preparation were received from the following scientists: Mr. D. L. Brandon, Statistician, for experimental design, chain of custody labeling and data analysis; Dr. J. Simmers, Research Biologist, Mr. R. G. Rhett, Biologist, and Ms. A. S. Portzer, Biologist, for the clam bioassay and condition index; Mr. J. G. Skogerboe, Hydrologist, and Mr. R. A. Price, Agronomist, for soil sample collection, surveying sample-site locations and map preparation; Ms. L. J. O'Neil, Ecologist, Mr. C. J. Newling, Wildlife Biologist, and Mr. R. Theriot, Biologist, for the wetland delineation; Mr. G. Warren, Chemist, and Mr. D. Brown, Chemist, for metal analysis of soil and animal samples. Soil samples were also analyzed by Princeton Testing Laboratory, Inc., Princeton, New Jersey. Ground-water samples were analyzed by Sequoia Analytical Laboratory, Redwood City, California. Additional assistance in manuscript preparation was received from Ms. S. Calvin, Ms. M. J. Spivey, Ms. J. Moore, and Mr. P. Laible.

Col Dwayne G. Lee, CE, was the Commander and Director of WES. Dr. Robert W. Whalin was Technical Director.

This report should be cited as follows:

Lee, C. R., et al. 1988. "Remedial Investigation of Contaminant Mobility at Naval Weapons Station, Concord, California; Subtitle Appendix 2.5 - 1986/87 Data," Miscellaneous Paper EL-86-2, US Army Engineer Waterways Experiment Station, Vicksburg, Miss.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF TABLES (Continued)

LIST OF FIGURES

SUBTITLE APPENDIX 2.5 - 1986/87 DATA

2.5.1 Introduction

Additional investigation was conducted after publication of the Remedial Investigation (R.I.) by Lee et al. (1986), to further define the extent of contamination at Naval Weapons Station (NWS), Concord, California. The discovery of possible burial of debris at the Kiln Site required an expanded remedial investigation for that site. This report is a detailed description of these and other data collection efforts. The purposes of the report to:

a. Provide corrections, supplemental information and clarification of the initial R.I. report.
b. Report and evaluate additional data collected after the publication of the R.I.
c. Assess possible effects of the 1986 flood on redistribution of contamination.
d. Further delineate the extent of contamination in specific locations at NWS Concord.

Data are presented in Tables 2.5-A1-A32, B1-B7, C1-C10, and D1-D16. These data were derived using a nitric acid soil digestion procedure, the wet extraction procedure of the California Department of Health Sciences, the extraction procedure of the Resource Conservation and Recovery Act (RCRA), and a nitric acid tissue digestion procedure, respectively. The analytical work was performed by the Analytical Laboratory Group, Environmental Laboratory, US Army Engineer Waterways Experiment Station (WES) and Princeton Testing Laboratory, Inc., Princeton, New Jersey. Ground-water data and wetland delineation techniques were used to further evaluate the sites. Tables 2.5-D14 and D16 list ground-water data. This analytical work was performed by Sequoia Analytical Laboratory, Redwood City, California. Table 2.5-E1 lists the survey measurements of new locations.

The documents listed below are primary sources of information. Other reference documents cited in the text are listed in Section 2.5.9.

a. Harvey and Stanley Associates, Inc. 1986. "Background Information for Section 7 Consultation at Concord Naval Weapons Station," Alviso, Calif.

b. Lee, C. R., et al. 1986. "Remedial Investigation of Contaminant Mobility at Naval Weapons Station, Concord, California," Miscellaneous Paper EL-86-2, US Army Engineer Waterways Experiment Station, Vicksburg, Miss.

c. Lee, C. R., Cullinane, M. John Jr., and O'Neil, L. Jean. 1988. "Feasibility Study of Contamination Remediation at Naval Weapons Station, Concord, California; Volume III: Figures," Miscellaneous Paper EL-86-3, US Army Engineer Waterways Experiment Station, Vicksburg, Miss.

d. Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Miss.

e. Newling, C. J. 1987. "Wetland Delineation at Naval Weapons Station Concord, California," Environmental Laboratory, US Army Engineer Waterways Experiment Station, Vicksburg, Miss.

2.5.2 Errata to Miscellaneous Paper EL-86-2

The following corrections are presented for the report entitled "Remedial Investigation of Contaminant Mobility at Naval Weapons Station, Concord, California" (Lee et al. 1986).

*page xviii; The title of Table 2-B12: Contract NBS River Sediment Analysis

*page 142; The word "soil" in the last sentence should be replaced by the word "solid."

*page 149; The horizontal axis should be:
0 1000 2000 3000 4000 5000 6000 7000 8000

*page 186; After the third reference on this page, insert the following:
Holnigren, G. G., Meyer, M. W., Daniels, R. B., Chaney, R. L., and Kubota, J. 1987. "Cadmium, Lead, Zinc, Copper, and Nickel in Agricultural Soils of the United States," Journal of Environmental Quality (in press).

*page 197; Replace observation 16 with the following line:
16 BKPCW1337 0.00 0.11 C 2.91 E 0.42 B 0.43 BC 0.00 39.09 E

*page 210; The IDs for observations 90, 91, and 92 should be changed from K2SCW12H1, K2SCW12J1, K2SCW12K1 to ESSCW12H1, ESSCW12J1, and ESSCW12K1 respectively. The correct ID for observation 95 is K2SCW6P2.

*page 211; The title should be: Contract NBS River Sediment Analysis

*page 484 (Figure 5-3); Contractor sample IDs 29E1 and 29E2 should be 28E1 and 28E2. These corrections appear in Figure 43 (Lee et al. 1988).

*page 488 (Appendix 5-A); The correct IDs for sample numbers 154 and 155 are 28E2 and 28E1, respectively.

*pages 123 and 193 (Figure 2-60 and Table 2-A2); revised versions are presented as Figure 2.5-1 and Table 2.5-1, respectively.

Table 2.5-2 complements information presented in Lee et al. (1986).

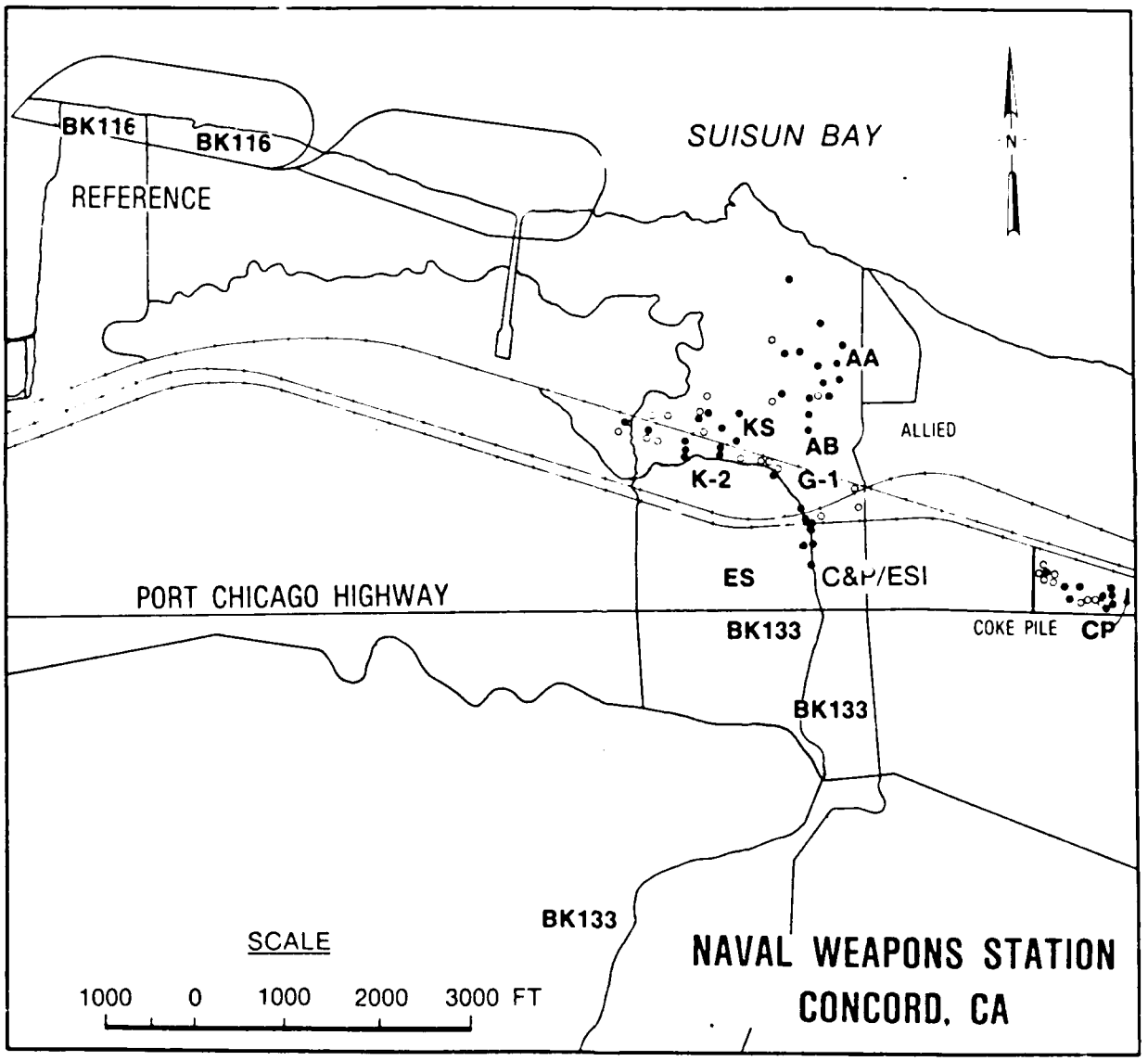


Figure 2.5-1. Distribution of soil cadmium concentrations in excess of 2.7 mg/kg. Solid circles were WES collected samples, open circles were Brown and Caldwell collected samples. (Replaces Figure 2-60, p 123, Lee et al. 1986)

Table 2.5-1*
Clam Tissue Analysis

ID	MAS	MCD	MCU	MPB	MNI	MSE	MZN
AACLW1241	2.01 AB	0.71 CD	66.32 ABCDEFGH	0.29 C	1.07	0.99 HIJ	119.78 EFG
AACLW1242	1.72 ABCDEFGH	1.39 B	68.23 ABCDEFG	0.26 C	0.43	1.40 EF	152.58 DE
AACLW1243	1.80 ABCDEFG	2.02 A	63.46 BCDEFGHIJ	0.40 C	2.04	1.00 HIJ	139.31 EDGF
AACLW1244	1.91 ABCD	0.63 D	78.93 AB	0.37 C	0.96	1.07 GHIJ	141.28 DEF
AACLW1245	1.85 ABCDEF	0.59 D	56.63 DEFGHI	0.41 C	4.24	0.94 IJ	128.45 EDGF
AACLW1246	1.89 ABCDEF	1.23 BC	63.38 BCDEFGHIJ	0.28 C	0.46	1.03 HIJ	126.65 EDGF
AACLW16V2	1.90 ABCDE	0.96 BCD	51.97 IHJG	0.15 C	0.19	0.99 HIJ	109.01 GF
AACLW16V3	1.30 DEFGH	0.86 CD	47.67 J	0.06 C	0.15	0.98 HIJ	107.07 GF
AACLW16V4	1.43 BCDEFGH	0.89 BCD	51.55 IHJ	0.40 C	0.34	1.11 GHI	123.45 EGF
AACLW16Z4	1.94 ABC	0.90 BCD	75.41 ABC	0.47 C	1.09	1.05 GHIJ	117.48 GF
BKCLW1161	1.88 ABCDEF	0.87 CD	80.09 A	0.27 C	1.38	1.05 GHIJ	128.87 EDGF
BKCLW1162	1.96 ABC	0.72 CD	64.28 ABCDEFGHI	0.28 C	0.52	1.00 HIJ	129.39 EDGF
BKCLW1331	2.26 A	0.84 CD	71.38 ABCDE	0.58 C	1.40	2.03 A	120.43 EGF
BKCLW1332	1.71 ABCDEFGH	0.63 D	48.02 IJ	1.01 C	1.09	1.95 AB	125.47 EDGF
BKCLW1333	2.12 A	0.72 CD	54.39 IHJGF	0.43 C	0.81	1.86 ABC	110.32 GF
BKCLW1334	2.03 AB	0.75 CD	59.96 CDEFGHIJ	0.79 C	1.45	1.45 EF	106.11 G
ESCLW13H1	1.94 ABC	1.11 BCD	60.14 CDEFGHIJ	0.81 C	0.53	1.94 AB	125.15 EDGF
ESCLW13J1	1.38 CDEFGH	1.12 BCD	54.01 IHJGF	0.77 C	0.74	1.74 BCD	133.28 EDGF
ESCLW13K1	1.15 H	0.92 BCD	61.75 CDEFGHIJ	1.31 C	1.83	1.41 EF	157.42 D
ESCLW13L1	1.44 BCDEFGH	0.96 BCD	72.53 ABCD	3.21 B	3.38	1.73 BCD	235.78 AB
ESCLW14F1	1.99 ABC	0.76 CD	55.01 EIHJGF	0.76 C	1.29	1.82 ABC	132.87 EDGF
G1CLW12N2	1.27 FGH	1.05 BCD	65.54 ABCDEFGH	5.31 A	0.26	1.33 EFG	208.16 BC
G1CLW13L4	1.17 H	1.40 B	69.22 ABCDEF	3.50 B	0.15	1.60 CDE	255.76 A
G1CLW13M1	1.22 GH	1.22 BC	66.39 ABCDEFGH	6.12 A	0.26	1.47 DEF	199.64 C
K2CLW4R1R	1.20 GH	0.63 D	51.04 IHJ	0.11 C	0.37	0.81 J	138.69 EDGF
K2CLW8P3R	1.28 FGH	0.92 BCD	75.30 ABC	5.82 A	0.06	1.28 FGH	212.24 BC

Replaces Table 2-A2, page 193, Lee et al. 1986.

Table 2.5-2 Regression Parameters

Figure No.	Page No.	Slope	Intercept
2-72	136	0.612	0.649
2-73	137	0.338	2.924
2-74	139	0.556	19.245
2-80	146	0.455	0.958
2-81	147	0.255	1.494
2-82	148	0.306	1.520
2-83	149	0.020	4.674
2-84	150	0.697	4.554
2-85	151	0.004	143.115
2-86	153	2.524	0.577
2-87	154	98.653	9.041
2-88	155	0.927	4.568
2-89	156	4.326	4.855

2.5.3 Field and Laboratory Methods for Safe Handling of Contaminated Materials from the Naval Weapons Station, Concord

Because of the presence of hazardous substances in the sample areas at the Naval Weapons Station Concord, WES employees took the necessary precautions to ensure safe handling of the sampled materials. The concern was mainly to prevent any unnecessary exposure to personnel during the handling of the materials and to secure the materials and the equipment used to collect the materials in such a manner as to prevent any contamination outside the sample area.

2.5.3.1 Field Sampling and Surveying

Precautions were taken in the field to prevent exposure to dusts that could be inhaled or adsorbed to the skin while WES personnel were engaged in sampling of soil materials and surveying the location of the sampled sites. Protective paper suits, boots, facial dust masks, and gloves were worn to deter contact with contaminated materials. All materials used to clean collecting equipment and discarded protective apparel were placed in an ice cooler and returned to the WES with the collected samples. These materials were placed in a sealed drum that will be shipped to an EPA-approved hazardous waste storage area. The soil samples were placed in plastic ziplock containers and sealed in ice coolers to prevent leakage and unauthorized entry during transportation.

2.5.3.2 Laboratory Handling of Samples

During the preparation of the samples for laboratory analysis, precautions were taken, as in the field, to prevent exposure to personnel. Dust masks, gloves, and laboratory aprons were worn as the situation required. Contaminated lab apparel, filters, and spent soil materials were placed in a sealed drum for proper disposal. Raw and processed samples were secured under chain-of-custody procedures and stored in locked areas to prevent access by unauthorized persons.

2.5.4 Clam Biomonitoring

2.5.4.1 Description

The WES Ecosystem Research and Simulation Division completed a clam biomonitoring study at the NWS during the summer of 1984 (Lee et al. 1986). As a result of spring flooding in 1986, the WES initiated a second clam biomonitoring study to document possible changes in contaminant bioavailability in those areas of the NWS affected by the flood. The WES believed that substantial amounts of toxic metal-contaminated surface materials might have moved into the NWS drainage system and thereby threatened the NWS and Suisun Bay aquatic ecosystem.

The 33 sites chosen for the 1986 biomonitoring study are shown in Figure 2.5-2. Of these sites, 15 had not been monitored in 1984. These 15 were located within Parcels 571 and 572 and the property adjacent to the west of these parcels. The experimental design for the 1984 and 1986 biomonitoring studies was the same, except for the increase in the number of animals used in each cage to allow for split samples. Approximately 3,000 Corbicula fluminae were collected from the Sacramento River delta (upstream of the NWS site) and air-freighted to the WES. In addition to field testing, these clams were exposed to background chemical analysis (three replicates of 30 clams each) and Condition Indexing (Lawrence and Scott 1982). Condition Index, a good indicator of the health of the animal, was measured for 20 animals collected from the WES holding tanks the day the clams were transported to the field and on the day they were removed from the field.

The Corbicula were held at the WES in fiberglass tubs in aged tap water with a 3-cm layer of coarse sand. Water quality readings were made daily, and the temperature was maintained at 15^{o} C $\pm$ 2^{o} C. The clams were fed freshwater algae Ankistrodesmus falcatus and a commercial yeast mixture. The clams were slowly acclimated to a salinity level near that in the field at the NWS (2-3 ppt).

Three replicates of 25 clams each were placed at each NWS biomonitoring site for 28 days. Water quality measurements were made for each site for Days 0 and 28 (Table 2.5-D9). At the end of the 28-day test period, the clams were collected and placed in sealable plastic bags. They were kept cool in insulated containers during field collection and subsequent transport to the WES. At the WES they were allowed to purge their gut contents overnight in fresh aged tap water at 15^{o} C. The clams were then prepared for metal analysis and Condition Indexing.

Tissues for metal analysis were prepared, digested and analyzed as before (Lee et al. 1986). Eleven sites were selected for Condition Index determinations (Figure 2.5-3). These samples were composed of approximately equal subsamples from each replicate at each site. Those metals (As, Cd, Pb, and Zn) demonstrating the greatest tissue uptake in the 1984 clam biomonitoring study were selected for analysis.

2.5.4.2 Results and Discussion

The Condition Index values for all NWS biominitoring sites (shown in Figure 2.5-4 and listed in Table 2.5-D10) were equal to or greater than the Days 0 and 28 backgound laboratory values. These data for the ratio of tissue weight to shell cavity size indicate that the clams used in the NWS biomonitoring study were actively feeding during their test period.

The water quality data from the field listed in Table 2.5-D9 showed adequate conditions for clam growth. Survival was near 100 percent for all sites except K28P3 (all three replicates lost in grass fire) and AA10S3 and AA7R1 (where one replicate sample was lost due to clam desiccation).

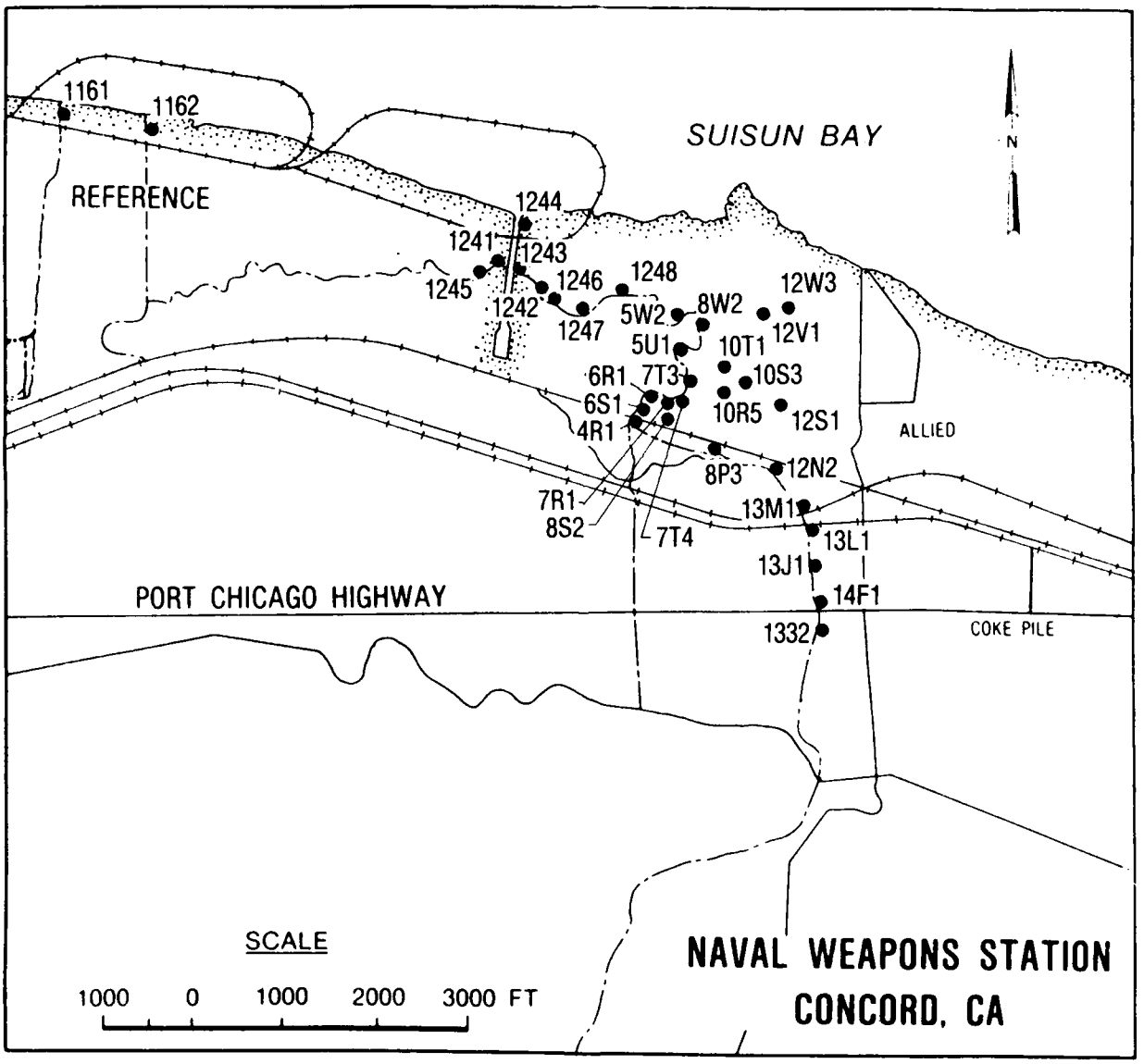


Figure 2.5-2 Clam biomonitoring locations, Naval Weapons Station, Concord, 21 May-19 June 1986

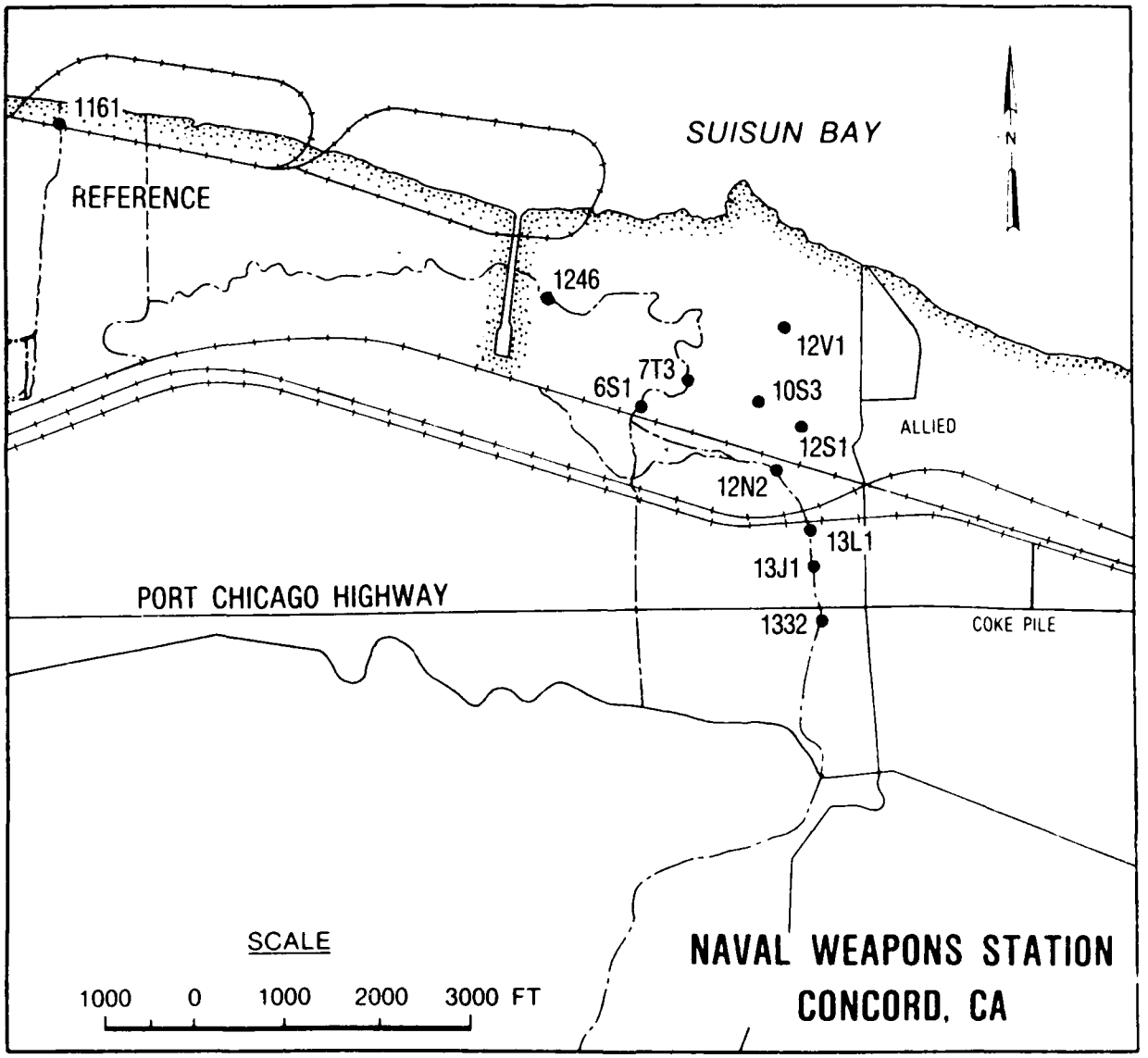


Figure 2.5-3. Condition index locations for clam biomonitoring study, Naval Weapons Station, Concord, 21 May-19 June 1986

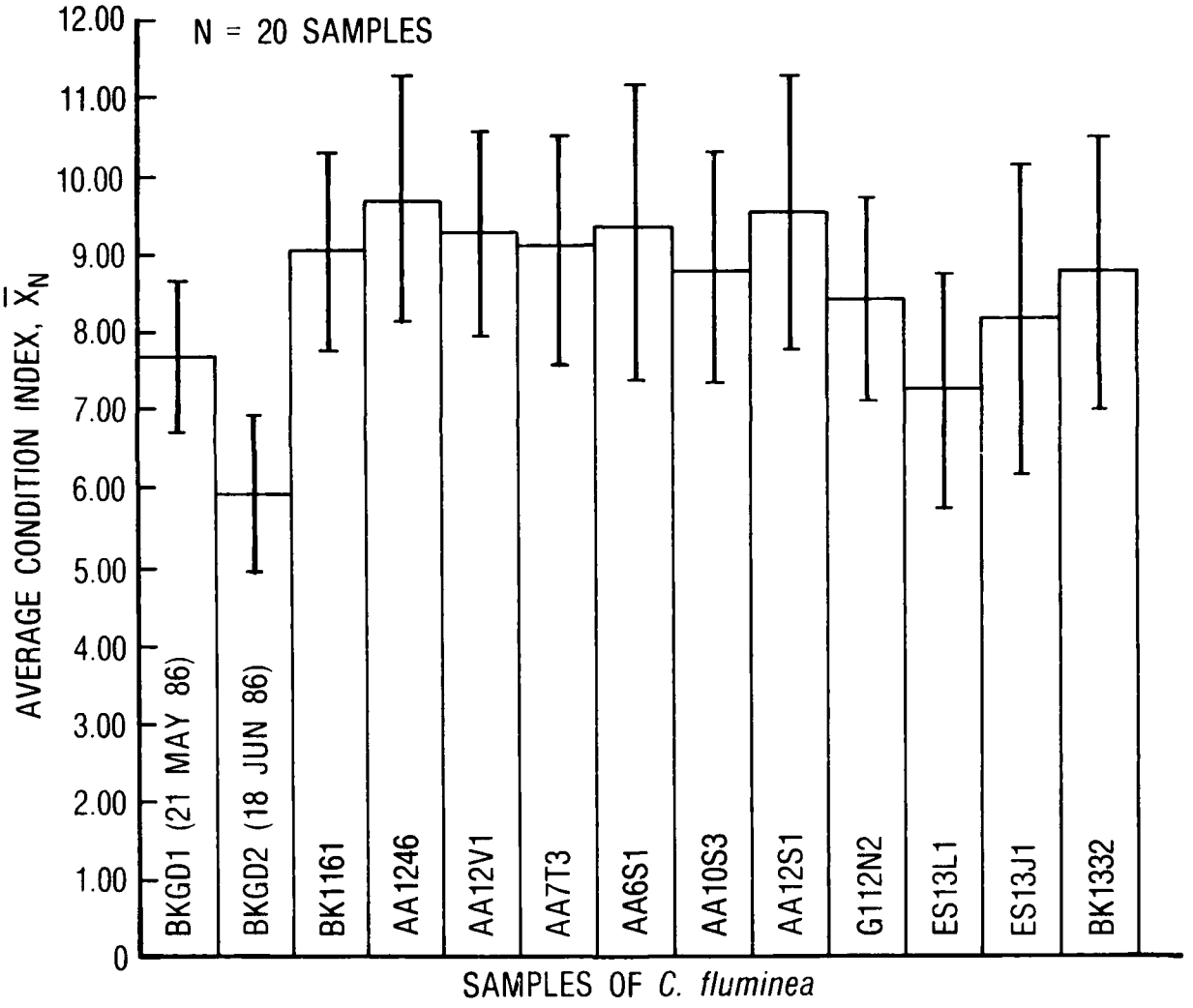


Figure 2.5-4. Average condition index values for clam biomonitoring study, Naval Weapons Station, Concord, 21 May-19 June 1986

Table 2.5-D11 represents the range of metal concentrations from the clam biomonitoring sites in 1984 and 1986 compared with literature collected field data. From these data, it is apparent that the overall metal uptake by the clams increased only slightly from 1984 to 1986. However, a large number of 1986 AA sites showed As and Zn tissue concentrations statistically above 1986 remote reference area field values as well as Cd values above those of the remote reference area in the G1 area and the AA area bordering the KS site (Table 2.5-D8).

Although the number of biomonitoring sites with tissue metal concentrations statistically above the remote reference area increased from 1984 to 1986, the metal tissue concentrations from most sites tested both years remained nearly unchanged. Thus, the increase in the number of sites containing above remote reference area tissue levels of As and Zn, and to a lesser extent Cd, was probably due to such sites not being sampled in 1984 rather than to changes in contaminant bioavailability caused by the 1986 spring flooding. The most significant clam bioaccumulation observed in 1986 was in the As tissue contents which were elevated above remote reference area in ditches that drain the AA area of Parcel 572. These data indicate some movement of As from the highly contaminated AA area, near the dike surrounding the Allied Waste Lagoon, into drainage ditches and the creek that drains the wetland.

The maximum Cd, Zn, Pb, and As tissue concentrations from this biomonitoring study did not exceed the Food and Drug Administration criteria for human consumption or the range of field-collected Corbicula from noncontaminated areas (Lee et al. 1985). In addition, the Condition Index data suggest that, during the period of 21 May - 19 June 1986, the uptake of metals by C. fluminae caused no significant physiological stress to the clams, except possibly in the ESI area. Therefore, the surface waters draining the study areas of the NWS Concord during the spring flooding of 1986 had some impact on NWS wetlands, but probably caused only a minimal increase in environmental impact on the aquatic ecosystem of Suisun Bay.

2.5.5 Kiln Site Sampling

The Kiln site was subjected to an intense sampling effort. Both surface and subsurface samples were collected. These data are presented in Tables 2.5-A6, A11, A16, A26 and A31. Sample locations are shown in Figure 8.* The analysis of variance procedure was used to analyze the data. Statistical differences were determined using the Newman-Keuls method (Winer 1971). Soil contaminated with As and Pb is confined mainly to a depth of 0 to 1 ft (Table 2.5-A32). Elevated soil Zn and Cd was observed to a depth of 3 ft in a limited number of locations. Further discussion of these results can be found in Cullinane et al. 1988.

2.5.6 Report of Geotechnical Fieldwork at the Kiln Site, Naval Weapons Station, Concord

A field party from the Geotechnical Laboratory, WES, installed three water sampling wells at the NWS, Concord, California for the Naval

---

*Located in Lee, Cullinane, and O'Neil 1988.

Facilities Engineering Command, Western Division.

2.5.6.1 Location of Wells

The wells are located around the north side of the bare ground and rubble pile in Parcel 572 known as the Kiln Site. Well separation is less than 200 ft, and the distance to the rubble pile is about 100 ft. All wells are on Navy property but within 100 ft of the railroad property line. The positions of wells are shown in Figure 2.5-5.

The locations for wells were chosen primarily to obtain the maximum sector of possible ground-water flow paths from the known source of contamination in and around the rubble pile. Private property was excluded at this preliminary stage of sampling. It was axiomatic that any discovery of contamination in the ground-water would be viewed as preliminary and would almost certainly lead to a comprehensive and sophisticated study of ground-water contamination.

By installing wells near the rubble pile, the chance of intercepting ground-water contamination from the pile was improved, as was the accessibility for the heavy drilling truck, a question of great concern before entering the site. Early visits and drilling at a site 1,600 ft to the south suggested that equipment might seriously mire down in the damp gumbo adjacent to the wetlands. A skid rig was brought to the site as a contingency but was not needed, since mobility improved with the onset of dry weather.

The site was entered from the east via the west gate from the Allied Corporation Bay Point Works. A staging area was established inside Navy property. Well 1 was located at the west to minimize disturbance of the site. The drill rig backed directly to that location and subsequently drilled wells 2 and 3 as it returned eastward to the staging area. The path followed was mostly on grass north of the bare area. Plywood sheets were used under the truck upon approaching the location for well 1 to improve mobility and to protect grass from possible rutting.

2.5.6.2 Drilling

The procedure followed on all wells was the same except for depth. Wells 2 and 3 were shallower by 5 ft than well 1, since it had been found in drilling well 1 that the shallowest aquifer was fully penetrated at a depth of 15 ft. Detailed descriptions of wells 1, 2 and 3 are given in Figures 2.5-6, 2.5-7, and 2.5-8, respectively. "Aquifer" is used in a loose sense to distinguish a stratum that can transmit appreciable water as opposed to one, such as a clay-rich layer, that cannot. The scope of work for this study had generalized the possible conditions without the benefit of subsurface information. It was thought at that preliminary stage that the surface layer at the Kiln Site might be saturated, granular debris, so that the upper aquifer would be shallow and unconfined. Since the three sampling wells actually started in clay-rich soil at the surface, the anticipated conditions are irrelevant. It was still possible to follow the original intention of penetrating and sampling only the upper aquifer and bottoming in a low-permeability clay-rich layer. It was considered important that the wells not enter an aquifer below the shallowest. This

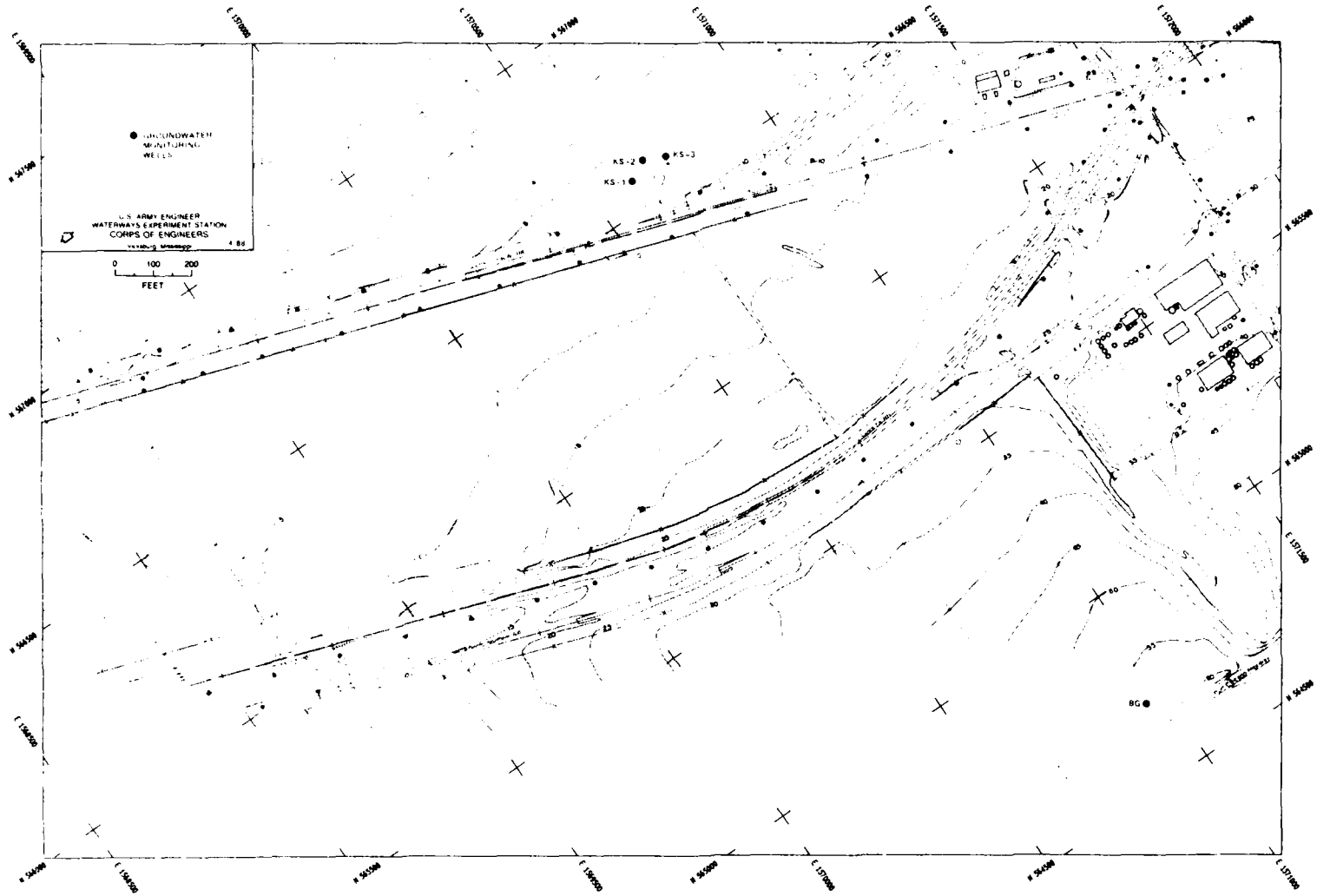


Figure 2.5-5. Location of ground-water wells, NWS Concord

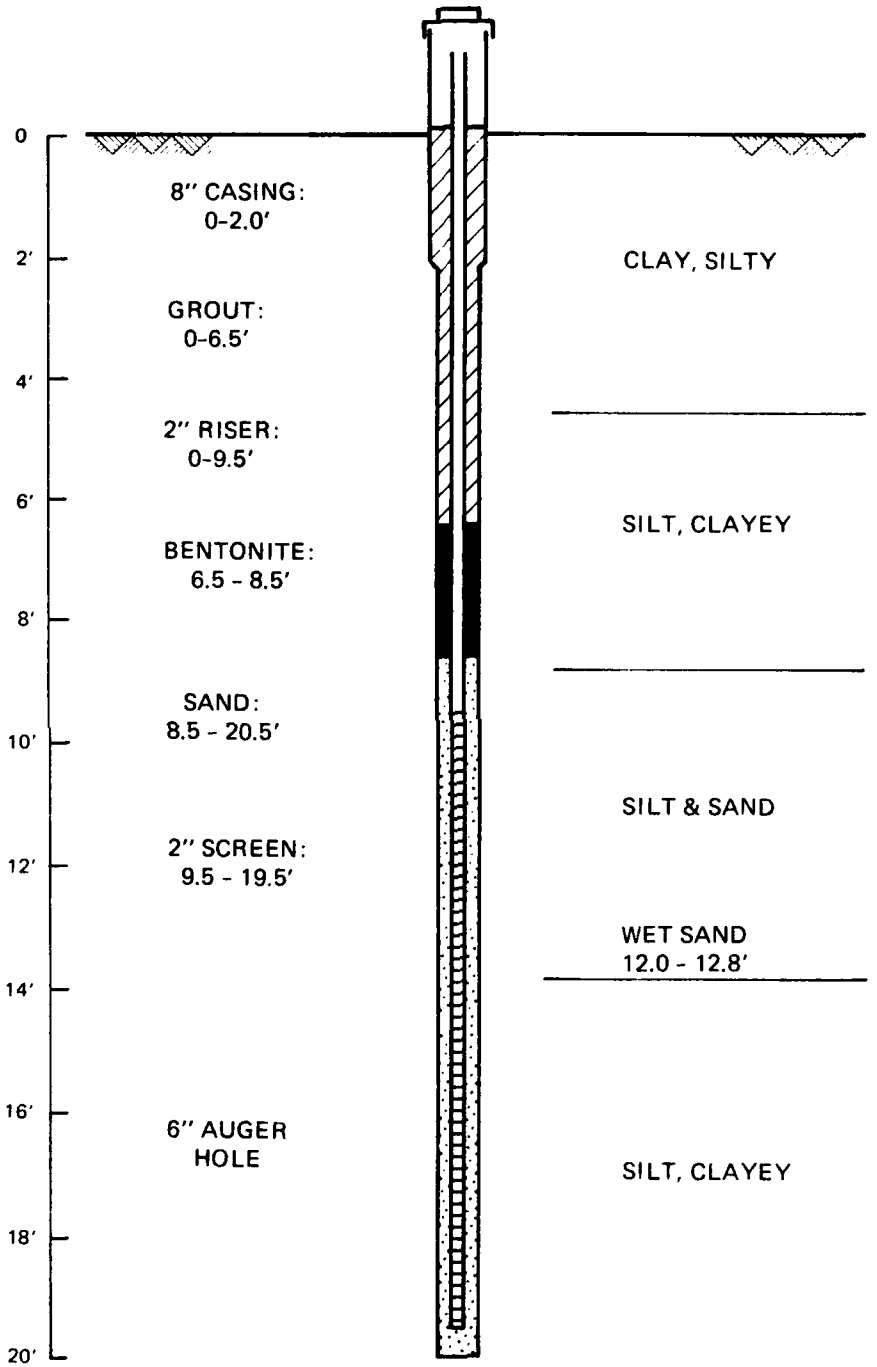


Figure 2.5-6. Description of ground-water well 1

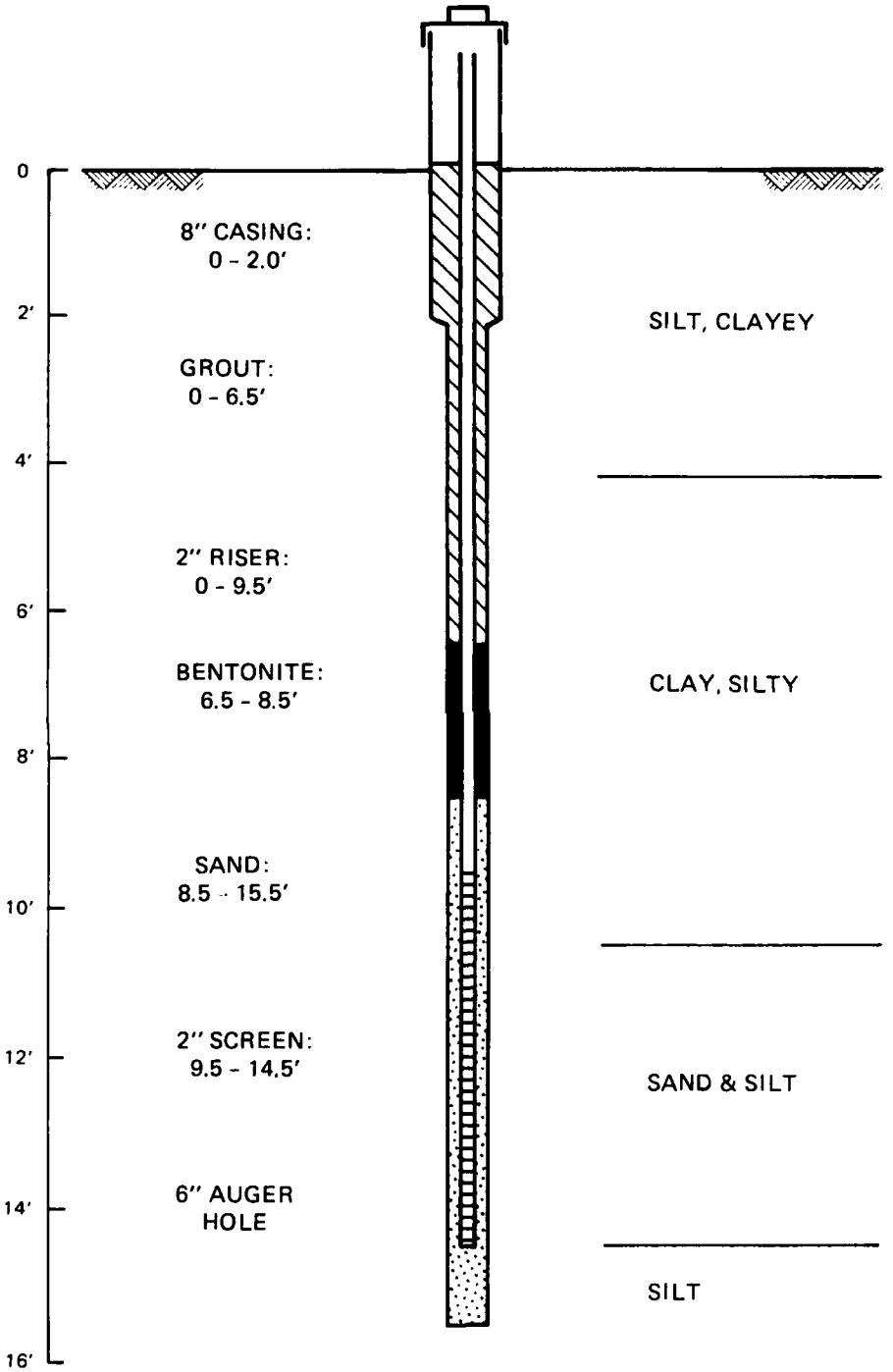


Figure 2.5-7. Description of ground-water well 2

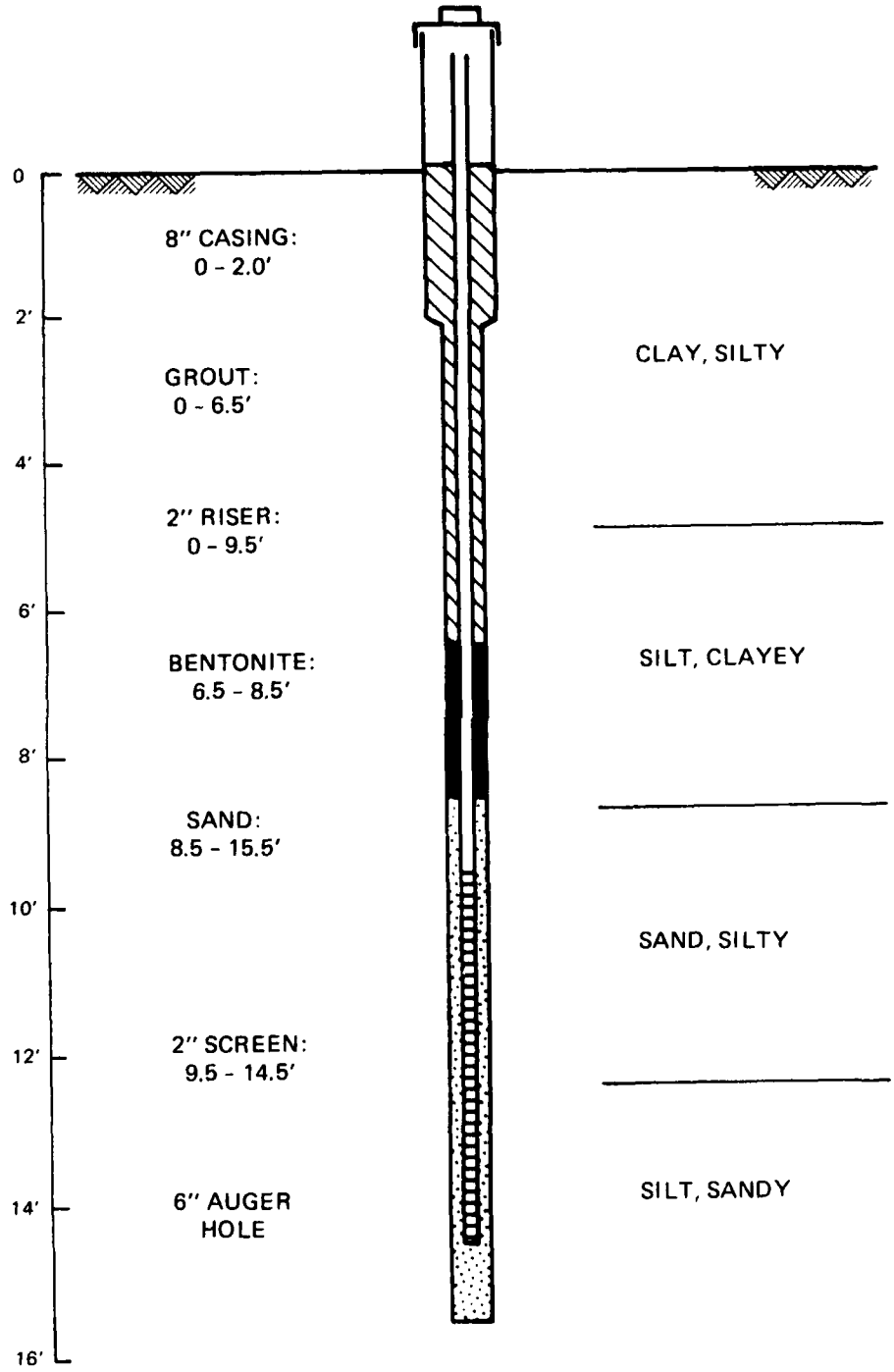


Figure 2.5-8. Description of ground-water well 3

constraint was satisfied, since even well 1 bottomed in hard, relatively dry, clayey silt.

The steps in drilling the wells followed reasonably closely to those envisioned before the work began and were as follows:

a. Augered with 10-in. bit to ft depth.

b. Set 8-in-diameter steel casing and grouted in place, flush with ground. This grouted casing isolates near-surface contamination.

c. Advanced below 2-ft depth using 6-in. hollow-stem auger.

d. Sampled soil continuously through auger stem.

2.5.6.3 Well Construction

The steps in construction of the sampling well were as follows:

a. Upon reaching final depth, added sand to 1 ft above bottom. Sand is 16 x 40 washed sand, available in bags.

b. Placed 2-in. PVC screen and riser in hole through the stem and seated on sand bottom. Screen opening is 0.020 in.

c. Raised auger around screen and riser while at the same time adding sand to fill space developed below. Tamped sand frequently with riser. Sections of auger were removed intermittently.

d. Raised sand level as in step c to 1 ft above screen.

e. Added bentonite pellets to level 2 ft above sand pack.

f. Grouted above bentonite plug to surface.

g. Added extension of 8-in. protective steel casing to 2 ft above ground surface and grouted around outside of joint and flanges.

The wells were developed by removing water with a gasoline-driven pump. Total volumes removed were 25, 15, and 15 gal from well 1, 2, and 3, respectively, to accomplish clarification of water from yellowish brown and translucent to a slightly cloudy but otherwise transparent condition. Flow of pump or ground-water rate ranged roughly between 0.2 and 0.4 gal/min during pumping.

2.5.6.4 Health and Safety Plan

Operations at the Kiln Site were conducted according to a health and safety plan prepared especially for this investigation by technical, supervisory, and administrative personnel of the WES. The primary concerns were for health and safety of the field party. Other concerns were with safeguarding against disturbance of the site and its fauna and flora. Special attention was directed to the handling and disposal of materials

brought from depth to the surface, and all water and cuttings taken from the holes were handled and retained as hazardous material pending clearance through chemical analysis.

Soil and water collected during well installation and development were chemically analyzed to determine their hazardous nature. Results of these tests (Table 2.5-D13) indicated that the soil was not hazardous and could be disposed of in an ordinary landfill. The collected ground-water samples contained metals above drinking water quality standards and were disposed of into a sanitary sewer to protect water bodies associated with the Kiln Site on NWS Concord.

2.5.6.5 Summary Observations

Salient observations deserving emphasis are as follows:

a. All three holes appear to penetrate only natural strata from the grassy surface down. No fill or slope-wash from the rubble pile was encountered.

b. The aquifer is at about the same position in all holes and sandwiched between relatively dry, clayey silt beds of low permeability.

c. The aquifer is confined under a piezometric head, and water rose a few feet in all holes after first being encountered.

d. The upper low-permeabililty layer is more than 8 ft thick. This layer presents a barrier against leakage from surficial contamination in the aquifer unless the layer has been deeply excavated.

2.5.7 Ground-water Sampling at the Kiln Site, Naval Weapons Station, Concord

Ground-water sampling of the monitoring wells and drums of water at the Kiln site and background well was performed on 12 May 1987. Sampling was conducted by R. Shafer (WES), P. Lacey (EMCON), and C. Schwab (Navy). A background well located about 400 feet north of Port Chicago Highway was sampled first (Lutton, Bennett,and McAneny 1987). This well was installed as a part of another study, but is located appropriately for use in this study. The 5-ft-long 2-in. PVC screen is positioned in a sand aquifer, and 10 ft below the piezometric surface located at 39 ft. Prior to sampling, 10 gal of water was bailed from the well. The well water cleared up after approximately 5 gal had been removed. Five additional gallons of water was removed before sampling was conducted. Mr. Lacey concurred that a sample representative of the ground water could be obtained at this point. Prior to sampling, a distilled water field blank was obtained by placing distilled water (supplied by EMCON) in the Teflon bailer and glass sample make-up jar. The field blank was then analyzed for pH, conductivity, and temperature using EMCON's instrument. The sample was split (two subsamples for Navy, one subsample for EMCON) and preserved with nitric acid to a pH below 2.0.

The background well was then sampled using the teflon bailer and nylon rope. Approximately 0.75 gal of water was placed into the glass gallon make-up jar from the well. Measurements were taken for pH, conductivity, and temperature by Mr. Lacey. Unfiltered subsample splits were then made. The remaining sample was filtered using a 0.45-micron filter supplied by EMCON. Filtered subsample splits were made, and all subsamples were preserved with nitric acid to a pH below 2.0. The results of the field measurements are presented in Table 2.5-D12.

Monitoring well KS-1 was sampled next. Similar procedures were followed for all three wells at the Kiln site. The wells were bailed, allowed to recover, and bailed again until what was considered a representative sample could be obtained. The bailing water was placed in a drum onsite. Approximately 10, 8, and 8 gal of water were removed from KS-1, KS-2, and KS-3, respectively. The sample was then removed from the well with the Teflon bailer and placed in the glass sample make-up jar. Measurements were taken for pH, conductivity and temperature (Table 2.5-D12). Unfiltered subsamples were made and the remaining sample was filtered through a 0.45 micron filter. Filtered subsamples were then made, and all samples were preserved with nitric acid to a pH below 2.0. Duplicate split subsamples were made for the Navy for all wells except KS-3.

After sampling each well, the Teflon bailer, glass sample make-up jar, and filtering apparatus were rinsed with distilled water. Before obtaining each sample, the make-up jar and filtering apparatus were sample-rinsed with water from the monitoring well being sampled. Water levels were measured prior to bailing each well. These measurements are presented in Table 2.5-D12.

Samples were taken from two drums located onsite. These drums contained water from developing the wells at the Kiln site on 2 April 1987 (see Section 2.5.6.3) and the bailing water that was removed from wells KS-1, KS-2, and KS-3 prior to sampling on 12 May 1987. Mr. Lacey indicated that EMCON would not require a split of these samples. The samples from the two drums were not filtered. These samples were preserved with nitric acid.

The subsamples for the Navy were placed in a locked cooler. A chain-of-custody was initiated upon completion of the sampling effort. The samples were transported to WES and turned over to Mr. R. Price along with the chain-of-custody forms on 14 May 1987.

2.5.8 Wetland Delineation at Naval Weapons Station, Concord

As part of an ongoing cooperative agreement between the US Naval Facilities Engineering Command, Western Division, and the WES, the Environmental Laboratory (EL) was asked to conduct a wetland delineation on Parcels 571, 572, 573, 574, 575, 576, 579D, and 581 on the NWS Concord. During the week of 3-7 November 1986, Messrs. C. J. Newling and R. Theriot traveled to the site to conduct a wetland delineation and collect the necessary field data. Various portions of this field work were observed by Drs. J. S. Wakeley and C. R. Lee and Ms. L. J. O'Neil, all of EL, who were simultaneously conducting field-work at NWS Concord, as well as

Dr. M. Josselyn of San Francisco State University and Mr. J. M. Robertson of the US Navy Office of the General Counsel.

2.5.8.1 Site Description and Methods

Wetland delineations were conducted on four NWS Concord areas generally located south of Suisun Bay as outlined in Figure 2.* Detailed site descriptions are given in Lee et al. (1986). (Figures 29, 42, and 53* were developed from figures appearing in Lee et al. 1986). The first area (KS/AB/AA) included tidally influenced estuarine emergent marsh on Parcel 572. The second area (K-2/G-1/576) included palustrine robust emergent marsh and segments of a channelized stream on Parcels 573, 574, 575 and 576. The third area (ES) included a channelized stream on Parcel 579D. The fourth area (CP) included palustrine robust emergent marsh on Parcel 581. Physical access was obtained to the first three areas and data were collected directly onsite. Delineation for the fourth area was based on data collected by visual observation from Port Chicago Highway and review of aerial photographs and vegetation mapping performed by Harvey and Stanley Associates, Inc. (Figure 53* was based on a figure from the Harvey and Stanley Associates, Inc., report "Background Information for Section 7 Consultation at Concord Naval Weapons Station" dated 25 November 1986.) Methods and procedures for delineation were as described in Environmental Laboratory (1987). On the KS/AB/AA and K-2/G-1/576 areas, "comprehensive" techniques were employed. In addition, wetland and nonwetland boundary stakes were placed and later surveyed by an EL team led by Mr. J. G. Skogerboe. "Routine" techniques were used on the ES and CP areas. In mapping wetlands, delineations stopped at parcel boundaries even though wetlands extended beyond those boundaries in some cases.

2.5.8.2 Results

Data collected for the KS/AB/AA area are provided in Appendix A.** When correlated with the surveyed boundary stake positions, the data supported delineating the wetland boundary along the 4.0 foot contour line and tying into lower elevation property boundaries as indicated in Figure 29.

Wetlands on the K-2/G-1/576 area were largely separated from tidal influence and occurred on a landscape with falling topography from a segment of channelized stream on the highest (east) side of the site to a broad fan of robust emergent marsh on the lowest (west) side of the site. The wetlands on the west side of the site were immediately adjacent to a tidally influenced segment of stream just off the K-2 parcel. Historically, the wetlands on this site appear to have been connected more directly to the intertidal wetlands to the north prior to construction of the railroad right-of-way that separates them. More recently, construction of the railroad right-of-way as well as stream channelization may also have had some effect on wetland plant succession by increasing freshwater influence on the site. Data collected from this area are provided in Appendix B. Plots falling at wetland boundaries were staked, and then

*Located in Lee, Cullinane, and O'Neil 1988.

**Appendixes A, B, and C are not part of this document.

surveyed for mapping purposes. The wetland boundary is indicated in Figure 42.

The wetlands on the ES area followed a channelized stream course immediately adjacent to the property boundary with the Chemical and Pigment plant (C and P/ESI area, Figure 42). The streambank slopes in most segments were very steep, with standing water or saturation to the surface in the streambed and a dense cover of vegetation dominated by Typha latifolia. Outside the distinct streambanks, wetland indicators quickly disappeared. Thus, the rather distinct boundaries of the channelized stream could be mapped as wetland for the entire course along this parcel. The mean wetland width was 11 ft. Data collected from the ES area are provided in Appendix C. The wetland boundary is indicated in Figure 42.

The wetlands on the CP area were observed from Port Chicago Highway. Based on experience gained from similar wetlands on the NWS Concord property, the plant communities observed, and the steepness of slope observed, two criteria were used to delineate the wetland boundary: the 6.0-ft contour elevation and the presence of a plant community dominated by either Typha sp. or Scirpus sp. The wetland boundary for the CP area is indicated in Figure 53.

2.5.9 References

Cullinane, M. J., Jr., et al. 1988. "Feasibility Study of Contamination Remediation at Naval Weapons Station, Concord, California; Volume I: Remedial Action Alternatives," Miscellaneous Paper EL-86-3, US Army Engineer Waterways Experiment Station, Vicksburg, Miss.

Lawrence, D. R., and Scott, G. I. 1982. The Determination and Use of Condition Index of Oysters. Estuaries, Vol. 5, No. 1, pp 23-27.

Lee, C. R., et al. 1985. "Decisionmaking Framework for Management of Dredged Material: Application to Commencement Bay, Washington," US Army Engineer District, Seattle, Seattle, Wash.

Luoma, S. N., Cascos, P. V., and Dagovicz. R. M. 1984. "Trace Metals in Suisun Bay, California: A Preliminary Report," US Geological Survey, Water-Resources Investigations Report No. 84-4170, Sacramento, Calif.

Lutton, R. J., Bennett, R. D., and McAneny, C. C. 1987. "Suitability of Sites for Hazardous Waste Disposal, Concord Naval Weapons Station, Concord, California," Miscellaneous Paper GL-87-28, US Army Engineer Waterways Experiment Station, Vicksburg, Miss.

Rodgers, J. H., Jr., Cherry, D. S., Garney, K. L., Dickson, K. L., and Cairns, J. Jr. 1980. "Comparison of Heavy Metal Interactions in Acute and Artificial Stream Bioassay Techniques for the Asiatic (Corbicula fluminae)," Aquatic Toxicology: Proceedings of the Third Annual Symposium on Aquatic Toxicology, New Orleans, La.

Winer, B. J. 1971. Statistical Principles in Experimental Design, 2d ed., McGraw-Hill, New York.

2.5.10 Sample Identification and Variable Description

2.5.10.1 Tables A1-A32 Sample ID and Variable Description

Tables 2.5-A1-A31 present the soil analysis data. The samples appearing in Tables A1, A6, A11, A16, and A21 were collected in June and July 1986. Samples listed in Table A26 were collected in December 1986. The samples listed in Table A31 were collected in March 1987. Sample types SC are 0" - 6" surface samples. Sample types ST are 0" - 6" stream samples. Samples AASTW124B1D and AASTW124B2D go to a depth of 4 ft. See the variable description section below for further discussion of sample types.

Variable Description	Unit
AS,CD,CU,PB,ZN,SE	mg/kg or parts per million(ppm) dry weight basis
WWT_AS,WWT_CD, WWT_CU,WWT_PB,WWT_ZN,WWT_SE	mg/kg or parts per million(ppm) wet weight basis
MPSOLID, SOLID	Percent solids
DI_WT,ACT_WT	Grams
DEPTH	Feet

Example Key

ID No.: AA SCW5T2R1

Nitric acid digestion procedure used for total metal analysis
AA - Sample site area
- AA: Allied A
- AB: Allied B
- BK: Remote reference site
- CP: Coke pile site
- ES: ESI
- G1: G-1 Getty
- K2: K-2
- KS: Kiln site

SC - Sample type
- SC: Soil core
- ST: Soil core from a stream
- GT: Surface sample gritty material
- RB: Surface sample red brick
- YB: Surface sample yellow brick

W5T2R1 - Specific WES sample site location
5T2 Label for site
R1, R2, R3 Triplicate samples

Sample IDs in Tables A1 and A6 include D1-D4.
D1-D4 refer to the depth of core:
D1 0′ - 1′
D2 1′ - 2′
D3 2′ - 3′
D4 3′ - 4′

Sample IDs in Table A26 include D1-D4.
D1-D4 refer to the depth of core:
D1 0" - 6"
D2 6" - 12"
D3 12" - 24"
D4 24" - 36"

Sample IDs in Table A31 include D1-D6.
D1-D6 refer to the depth of core:
D1 0′ - 1′
D2 1′ - 2′
D3 2′ - 3′
D4 3′ - 4′
D5 4′ - 5′
D6 5′ - 6′

-1,S1 Split sample
A Sample taken June 24, 1986
B Sample taken June 25, 1986
C Resample previous contractor site

Table 2.5-A1 Soil Analysis (June and July 1986)

OBS	ID	AS	CD	CU	PB	ZN	MPSOLID	DI_WT	ACT_WT	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
1	AASCW5R1	8.90	0.32	57.10	9.0	89.7	29.80	3.39	1.01	2.65	0.10	11.06	2.7	26.7
2	AASCW5R2	44.10	0.49	68.38	74.9	155.5	38.03	2.69	1.02	16.77	0.19	26.00	28.5	59.1
3	AASCW5T1	41.22	16.42	159.74	59.6	2721.4	22.64	4.38	0.99	9.33	3.72	36.16	13.5	616.1
4	AASCW5T2R1	41.01	0.37	157.13	233.9	499.3	22.64	4.47	1.01	9.28	0.08	35.57	52.9	113.0
5	AASCW5T2R2	38.98	0.40	158.48	202.2	444.9	22.64	4.46	1.01	8.82	0.09	35.87	45.8	100.7
6	AASCW5T2R3	89.79	0.88	253.71	379.7	671.8	22.64	4.44	1.01	20.33	0.20	57.43	86.0	152.1
7	AASCW5W1R1	72.73	0.82	127.97	166.6	232.7	22.19	4.51	1.00	16.14	0.18	28.39	37.0	51.6
8	AASCW5W1R2	59.71	0.70	87.44	104.1	188.1	22.19	4.51	1.00	13.25	0.16	19.40	23.1	41.7
9	AASCW5W1R3	13.92	0.95	62.86	19.1	190.3	22.19	4.52	1.00	3.09	0.21	13.95	4.2	42.2
10	AASCW7T2	35.12	2.80	182.41	105.9	2042.6	39.46	2.61	1.03	13.86	1.11	71.98	41.8	806.0
11	AASTW1241	29.18	0.44	86.51	52.9	159.5	46.35	2.21	1.02	13.53	0.20	40.10	24.5	74.0
12	AASTW1242	16.92	0.32	36.96	9.2	115.4	23.38	4.24	0.99	3.96	0.08	8.64	2.2	27.0
13	AASTW1243	13.45	0.47	39.39	16.0	153.5	35.96	2.88	1.04	4.84	0.17	14.16	5.8	55.2
14	AASTW1244	16.86	3.41	57.89	29.3	876.1	48.01	2.07	0.99	8.10	1.64	27.79	14.1	420.6
15	AASTW1245	12.10	0.27	60.73	23.1	116.9	49.91	2.09	1.05	6.04	0.13	30.31	11.5	58.3
16	AASTW1246	16.26	0.01	62.51	24.5	144.6	50.32	1.96	0.98	8.18	0.01	31.46	12.3	72.7
17	AASTW1247	14.40	3.98	63.28	29.0	583.2	30.49	3.29	1.00	4.39	1.21	19.30	8.9	177.8
18	AASTW1248R1	8.48	0.01	44.97	13.5	134.8	45.79	2.28	1.04	3.88	0.01	20.59	6.2	61.7
19	AASTW1248R2	8.41	0.23	38.40	14.6	117.9	45.79	2.12	0.97	3.85	0.10	17.58	6.7	54.0
20	AASTW1248R3	12.63	0.23	42.24	14.1	132.5	45.79	2.19	1.00	5.78	0.11	19.34	6.5	60.7
21	AASTW124B1D1R1	10.86	3.78	96.16	39.0	618.0	40.65	2.47	1.00	4.41	1.54	39.08	15.9	251.2
22	AASTW124B1D1R2	9.94	3.14	84.14	38.5	649.7	40.65	2.50	1.02	4.04	1.28	34.20	15.7	264.1
23	AASTW124B1D1R3	10.36	2.74	94.09	34.2	650.8	40.65	2.46	1.00	4.21	1.11	38.24	13.9	264.5
24	AASTW124B1D2	17.15	3.77	109.36	51.3	507.3	37.93	2.65	1.01	6.50	1.43	41.48	19.5	192.4
25	AASTW124B1D3	22.93	1.02	94.29	61.2	243.9	37.76	2.67	1.01	8.66	0.39	35.61	23.1	92.1
26	AASTW124B1D4R1	28.80	0.22	94.65	56.7	218.1	42.00	2.38	1.00	12.10	0.09	39.76	23.8	91.6
27	AASTW124B1D4R2	25.99	1.21	87.14	49.2	235.6	42.00	2.38	1.00	10.92	0.51	36.60	20.7	99.0
28	AASTW124B1D4R3	24.30	1.25	92.69	54.2	234.2	42.00	2.38	1.00	10.21	0.52	38.93	22.8	98.4
29	AASTW124B2D2	10.77	5.62	111.15	48.5	1037.6	37.82	2.68	1.01	4.07	2.13	42.04	18.4	392.5
30	AASTW124B2D3	21.64	1.43	111.41	66.0	282.9	38.63	2.61	1.01	8.36	0.55	43.04	25.5	109.3
31	AASTW124B2D4	29.27	2.85	116.00	0.0	254.9	39.67	2.55	1.01	11.61	1.13	46.02	0.0	101.1
32	AASTW5U1	14.04	0.33	61.40	26.8	107.4	42.03	2.36	0.99	5.90	0.14	25.80	11.3	45.1
33	AASTW5W2R1	18.50	2.28	63.68	26.9	271.1	41.08	2.41	0.99	7.60	0.94	26.16	11.1	111.4
34	AASTW5W2R2	13.12	3.97	226.12	525.9	1983.1	41.08	2.45	1.01	5.39	1.63	92.90	216.1	814.7
35	AASTW5W2R3	33.46	2.69	312.32	85.9	2330.2	41.08	2.45	1.01	13.75	1.11	128.31	35.3	957.3
36	AASTW6R1R1	20.49	5.08	112.57	31.2	1170.3	39.28	2.58	1.01	8.05	1.99	44.22	12.3	459.7
37	AASTW6R1R2	24.54	4.99	121.43	46.6	1089.6	39.28	2.55	1.00	9.64	1.96	47.70	18.3	428.0
38	AASTW6R1R3	19.26	0.62	105.45	28.8	955.7	39.28	2.57	1.01	7.57	0.24	41.42	11.3	375.4
39	AASTW7T3	5.89	0.47	35.73	11.3	110.2	45.71	2.25	1.03	2.69	0.21	16.33	5.2	50.4
40	AASTW8W2	14.74	0.33	78.73	25.4	620.5	44.25	2.37	1.05	6.52	0.15	34.84	11.2	274.6
41	BKSTW1161R1	15.62	1.22	87.36	62.6	174.0	42.34	2.42	1.02	6.61	0.52	36.98	26.5	73.6
42	BKSTW1161R2	14.30	1.24	83.62	53.6	181.8	42.34	2.39	1.01	6.05	0.53	35.40	22.7	77.0
43	BKSTW1161R3	15.54	1.18	83.46	51.9	202.8	42.34	2.35	0.99	6.58	0.50	35.33	22.0	85.9
44	BKSTW1162	21.58	0.89	81.34	54.2	163.4	47.35	2.21	1.04	10.22	0.42	38.51	25.7	77.4

Table 2.5-A2 Blank Analysis

OBS	ID	AS	CD	CU	PB	ZN
1	BLANK-R1	0.005	0.001	0.030	0.225	0.263
2	BLANK-R2	0.005	0.001	0.030	0.207	0.693
3	BLANK-R3	0.005	0.002	0.030	0.220	0.531

Table 2.5-A3 Blank Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
AS	3	0.0050	0.0000	0.0050	0.0050	0.0000	0.0150	0.0000	0.000
CD	3	0.0012	0.0006	0.0006	0.0017	0.0003	0.0036	0.0000	46.398
CU	3	0.0300	0.0000	0.0300	0.0300	0.0000	0.0900	0.0000	0.000
PB	3	0.2173	0.0093	0.2070	0.2250	0.0054	0.6520	0.0001	4.275
ZN	3	0.4957	0.2172	0.2630	0.6930	0.1254	1.4870	0.0472	3.813

Table 2.5-A4 NBS River Sediment Analysis

OBS	ID	AS	CD	CU	PB	ZN	DI_WT	ACT_WT
1	STDRS-R1	38.81	11.73	121.88	978.2	1598.6	1.001	1.001
2	STDRS-R2	38.25	10.84	116.00	1004.1	1405.2	1.000	1.000
3	STDRS-R3	38.35	11.74	124.00	1024.1	1415.2	1.000	1.000

Table 2.5-A5 NBS River Sediment Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
AS	3	38.470	0.299	38.250	38.811	0.173	115.411	0.090	0.778
CD	3	11.436	0.516	10.840	11.740	0.298	34.308	0.267	4.514
CU	3	120.626	4.144	116.000	124.000	2.393	361.878	17.176	3.436
PB	3	1002.142	23.054	978.157	1024.135	13.310	3006.427	531.476	2.300
ZN	3	1473.015	108.888	1403.215	1598.616	62.867	4419.046	1856.694	7.392
DI_WT	3	1.000	0.001	1.000	1.001	0.000	3.001	0.000	0.058
ACT_WT	3	1.000	0.001	1.000	1.001	0.000	3.001	0.000	0.058

*Standards

NBS River Sediment Analysis Values

AS	66.0	
CD	8.7	11.7
CU	90.0	128.0
PB	686.0	742.0
ZN	1550.0	1890.0

Table 2.5-A6 Soil Analysis (June and July 1986)

OBS	ID	AS	CD	CU	PB	ZN	MPSOLID	DI_WT	ACT_WT	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
1	AASCW16U3	541.40	3.89	1248.84	203.9	823.3	25.11	3.93	0.99	135.96	0.98	313.63	51.2	206.8
2	AASCW16X1	149.11	4.76	165.07	73.1	563.2	45.95	2.21	1.02	68.51	2.19	75.85	33.6	258.8
3	AASCW4S2	11.22	11.21	202.14	475.2	5448.2	37.22	2.78	1.03	4.18	4.17	75.23	176.9	2027.8
4	AASCW6S1	9.17	5.34	120.18	486.9	2190.9	40.64	2.51	1.02	3.73	2.17	48.84	197.9	890.4
5	AASCW6S2	14.95	30.23	117.88	291.8	5606.4	39.11	2.59	1.01	5.84	11.82	46.10	114.1	2192.6
6	AASCW7S2	16.73	10.86	341.12	252.8	2933.6	30.52	3.27	1.00	5.11	3.31	104.10	77.1	895.2
7	AASTW124B2D1	9.56	3.77	89.09	17.7	400.4	38.08	2.64	1.00	3.64	1.44	33.93	6.7	152.5
8	ABSCW14R1	19.39	2.45	328.55	136.5	656.3	91.73	1.09	1.00	17.79	2.25	301.38	125.2	602.0
9	BKSCW1332R1	1.95	0.40	17.16	21.3	80.6	67.05	1.53	1.03	1.31	0.27	11.50	14.3	54.1
10	BKSCW1332R2	1.87	0.22	14.26	11.1	64.1	67.05	1.55	1.04	1.26	0.14	9.56	7.5	43.0
11	BKSCW1332R3	1.79	0.27	14.34	11.0	66.2	67.05	1.50	1.01	1.20	0.18	9.61	7.4	44.4
12	CPSCW26F1	77.70	19.15	178.53	79.3	234.1	89.33	1.11	0.99	69.41	17.11	159.48	70.8	209.1
13	CPSCW26F2	68.10	19.15	195.08	52.7	261.2	92.28	1.09	1.00	62.85	17.67	180.02	48.7	241.0
14	CPSCW26F3	23.09	4.39	32.63	53.3	152.1	94.13	1.06	1.00	21.73	4.13	30.71	50.2	143.2
15	CPSCW26G3	91.13	5.80	94.36	15.6	177.0	94.09	1.07	1.01	85.75	5.46	88.79	14.7	166.6
16	CPSCW26G4	89.62	14.02	71.89	22.5	266.3	93.42	1.07	1.00	83.72	13.10	67.16	21.0	248.8
17	CPSCW26G5	63.05	9.88	140.17	382.4	201.3	94.63	1.13	1.07	59.67	9.35	132.65	361.9	190.5
18	CPSCW27E1	8.64	7.23	13.55	108.2	60.4	81.19	1.27	1.03	7.02	5.87	11.00	87.8	49.1
19	CPSCW27E2	56.29	16.60	94.73	23.8	239.8	92.57	1.09	1.01	52.11	15.37	87.70	22.0	222.0
20	CPSCW27F1	61.28	10.61	130.51	77.3	246.3	93.12	1.08	1.01	57.07	9.88	121.53	72.0	229.4
21	CPSCW28F1	62.94	9.89	114.93	7760.0	99.2	92.71	1.08	1.01	58.35	9.17	106.55	7194.5	92.0
22	CPSCW29E10	3.04	1.64	35.01	203.4	354.6	95.65	1.10	1.05	2.91	1.57	33.48	194.6	339.1
23	CPSCW29E11R2	3.09	1.16	54.32	796.2	755.7	96.20	1.04	1.00	2.97	1.12	52.25	765.9	727.0
24	CPSCW29E11R3	2.59	1.06	52.72	804.6	729.4	96.20	1.04	1.01	2.49	1.02	50.72	774.0	701.6
25	CPSCW29E12	2.98	1.12	46.28	254.3	682.8	97.57	1.03	1.01	2.90	1.09	45.16	248.2	666.2
26	CPSCW29E6	9.81	2.47	45.10	1661.7	259.1	92.82	1.08	1.00	9.10	2.30	41.87	1542.4	240.5
27	CPSCW29E7	6.07	1.52	52.42	668.7	278.3	86.21	1.19	1.03	5.23	1.31	45.19	576.4	239.9
28	CPSCW29E9	1.95	0.34	23.75	94.2	92.5	92.78	1.08	1.00	1.81	0.31	22.04	87.4	85.9
29	CPSCW29F1	6.26	25.72	35.07	1065.2	62.8	80.30	1.31	1.06	5.02	20.65	28.16	855.3	50.4
30	ESSCW13H1	2.21	0.46	24.85	56.7	183.4	48.36	2.20	1.06	1.07	0.22	12.02	27.4	88.7
31	ESSCW13H2	2.01	0.40	16.08	13.5	84.1	91.85	1.11	1.02	1.85	0.37	14.77	12.4	77.2
32	ESSCW13H3	2.49	0.67	25.42	85.4	254.9	93.94	1.07	1.01	2.34	0.63	23.88	80.2	239.5
33	ESSCW13J1	2.77	2.76	36.16	123.7	637.2	37.29	2.71	1.01	1.03	1.03	13.48	46.1	237.6
34	ESSCW13K1	4.46	0.90	17.68	76.4	430.4	62.47	1.65	1.03	2.78	0.56	11.05	47.7	268.9
35	ESSCW13K2R1	4.94	5.39	60.04	604.3	4534.0	96.97	1.02	0.99	4.79	5.23	58.22	586.0	4396.5
36	ESSCW13K2R2	4.18	4.76	53.70	390.2	2539.1	96.97	1.04	1.01	4.05	4.62	52.07	378.4	2462.1
37	ESSCW13K2R3	4.78	4.67	54.89	394.6	2490.8	96.97	1.02	0.99	4.64	4.53	53.22	382.7	2415.3
38	ESSCW13K3	2.68	0.54	24.30	63.9	227.4	96.35	1.09	1.05	2.58	0.52	23.41	61.6	219.1
39	ESSCW13L6	13.20	1.82	998.04	6410.5	20539.0	98.29	1.08	1.06	12.97	1.79	981.00	6301.1	20188.3
40	ESSCW14F1	1.86	0.36	20.63	79.4	111.7	67.00	1.13	0.75	1.24	0.24	13.82	53.2	74.9
41	G1SCW10N4	7.85	1.23	66.76	125.0	256.0	97.28	1.05	1.02	7.64	1.20	64.95	121.6	249.0
42	G1SCW1001	4.03	0.66	29.35	65.5	162.9	97.29	1.10	1.07	3.92	0.64	28.56	63.7	158.5
43	G1SCW11M1-1	1.93	0.90	24.84	59.1	396.8	93.74	1.08	1.01	1.81	0.84	23.29	55.4	372.0
44	G1SCW11M2-1	1.74	0.16	15.23	7.9	141.6	94.66	1.06	1.00	1.65	0.16	14.42	7.4	134.0
45	G1SCW12M1-1	2.01	0.24	18.13	18.4	185.4	95.73	1.07	1.02	1.92	0.23	17.35	17.6	177.5
46	G1SCW12M2-1	2.03	0.20	15.98	7.1	350.5	94.19	1.07	1.01	1.92	0.19	15.05	6.7	330.1

Table 2.5-A6 (Concluded)

OBS	ID	AS	CD	CU	PB	ZN	MPSOLID	DI_WT	ACT_WT	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
47	G1SCW12M3-1	3.91	3.85	40.33	177.2	1326.0	95.21	1.06	1.01	3.73	3.67	38.40	168.7	1262.5
48	G1SCW12M4-1	2.48	3.12	27.49	86.2	609.6	92.05	1.07	0.99	2.28	2.87	25.30	79.4	561.1
49	G1SCW12N1-1	12.67	40.18	492.90	4027.5	30210.9	89.64	1.11	0.99	11.36	36.01	441.84	3610.3	27081.4
50	G1SCW12N4-1R1	2.49	0.74	47.10	254.1	345.6	94.28	1.06	1.00	2.35	0.70	44.41	239.5	325.9
51	G1SCW12N4-1R2	2.89	0.54	35.26	87.0	269.1	94.28	1.07	1.00	2.72	0.51	33.24	82.0	253.7
52	G1SCW12N4-1R3	2.25	0.55	31.66	84.7	265.4	94.28	1.06	1.00	2.12	0.52	29.85	79.9	250.2
53	G1SCW12N5-1	3.58	3.52	58.63	258.2	1576.2	96.49	1.09	1.05	3.45	3.39	56.58	249.2	1520.9
54	G1SCW13M3-1	2.45	2.94	53.50	306.9	1373.3	96.42	1.04	1.00	2.36	2.84	51.59	295.9	1324.2
55	G1SCW14M2-1	3.29	0.82	36.97	110.5	269.8	95.93	1.05	1.00	3.15	0.79	35.47	106.0	258.8
56	G1SCW14M3-1	2.96	0.47	25.59	48.7	132.3	94.69	1.07	1.01	2.80	0.45	24.23	46.1	125.3
57	G1SCW14N1-1	6.48	2.30	84.27	198.8	596.6	97.16	1.03	1.00	6.30	2.24	81.88	193.2	579.7
58	G1SCW14N2-1	1.90	0.24	20.29	62.3	124.6	95.38	1.07	1.03	1.81	0.23	19.35	59.4	118.8
59	K2SCW10P2	18.29	7.65	110.82	663.8	4164.2	94.89	1.05	0.99	17.35	7.26	105.16	629.9	3951.5
60	K2SCW3R3	3.06	2.96	29.02	88.0	639.9	63.99	1.63	1.04	1.96	1.89	18.57	56.3	409.4
61	K2SCW4P2	4.75	0.76	65.09	82.6	412.8	54.17	1.89	1.02	2.57	0.41	35.26	44.7	223.6
62	K2SCW4Q3	92.61	6.29	89.92	76.6	936.5	42.68	2.40	1.02	39.53	2.69	38.38	32.7	399.8
63	K2SCW5P1	5.48	0.70	80.09	81.4	277.4	65.12	1.58	1.03	3.57	0.46	52.15	53.0	180.6
64	K2SCW5P2	6.11	34.23	238.37	481.5	6284.7	47.24	2.17	1.02	2.88	16.17	112.60	227.4	2968.7
65	K2SCW6P2	11.51	44.82	920.04	2021.2	17467.5	52.01	1.93	1.00	5.98	23.31	478.50	1051.2	9084.6
66	K2SCW6Q1	5.07	16.60	108.19	292.8	5010.5	82.50	1.27	1.04	4.19	13.70	89.26	241.6	4133.7
67	K2SCW9P1	4.76	0.63	39.04	85.9	153.4	96.23	1.04	1.00	4.58	0.61	37.57	82.7	147.6
68	KSSCW10R3	8.94	1.78	108.02	441.7	589.7	89.26	1.15	1.02	7.98	1.59	96.42	394.3	526.4
69	KSSCW10R4	18.05	6.41	165.60	296.2	888.4	94.85	1.06	1.01	17.12	6.08	157.08	281.0	842.7
70	KSSCW12R1	9.78	1.18	118.52	112.3	312.4	89.31	1.11	0.99	8.74	1.05	105.86	100.3	279.0

Table 2.5-A7 Blank Analysis

OBS	ID	AS	CD	CU	PB	ZN
1	NWSBLANK.R10	0.005	0.0001	0.03	0.001	0.879
2	NWSBLANK.R4	0.005	0.0016	0.03	0.153	0.358
3	NWSBLANK.R5	0.005	0.0014	0.03	0.001	0.381
4	NWSBLANK.R6	0.005	0.0013	0.03	0.001	0.229
5	NWSBLANK.R7	0.005	0.0011	0.03	0.003	0.216
6	NWSBLANK.R8	0.005	0.0013	0.03	0.001	0.176
7	NWSBLANK.R9	0.005	0.0016	0.03	0.001	0.110

Table 2.5-A8 Blank Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
AS	7	0.0050	0.0000	0.0050	0.0050	0.0000	0.0350	0.0000	0.000
CD	7	0.0012	0.0005	0.0001	0.0016	0.0002	0.0084	0.0000	43.033
CU	7	0.0300	0.0000	0.0300	0.0300	0.0000	0.2100	0.0000	0.000
PB	7	0.0230	0.0573	0.0010	0.1530	0.0217	0.1610	0.0033	249.259
ZN	7	0.3356	0.2582	0.1100	0.8790	0.0976	2.3490	0.0666	76.932

Table 2.5-A9 NBS River Sediment Analysis

OBS	ID	AS	CD	CU	PB	ZN	DI_WT	ACT_WT
1	NWSSTDRS-RS4	37.79	11.51	116.65	686.8	1683.2	1.003	1.003
2	NWSSTDRS-RS5	35.79	11.82	118.79	704.6	1683.1	1.006	1.006
3	NWSSTDRS-RS6	37.13	11.67	118.79	823.9	1777.6	1.006	1.006
4	NWSSTDRS-RS7	35.74	11.85	122.13	826.4	1663.2	1.003	1.003
5	NWSSTDRS-RS8	33.75	11.82	122.76	853.7	1747.7	1.006	1.006

Table 2.5-A10 NBS River Sediment Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
AS	5	36.038	1.553	33.748	37.787	0.694	180.189	2.410	4.308
CD	5	11.734	0.146	11.505	11.854	0.065	58.668	0.021	1.245
CU	5	119.824	2.559	116.650	122.763	1.145	599.122	6.549	2.136
PB	5	779.083	77.265	686.790	853.728	34.554	3895.417	5969.896	9.917
ZN	5	1710.962	49.022	1663.230	1777.555	21.923	8554.810	2403.131	2.865
DI_WT	5	1.005	0.002	1.003	1.006	0.001	5.024	0.000	0.164
ACT_WT	5	1.005	0.002	1.003	1.006	0.001	5.024	0.000	0.164

*Standards

NBS River Sediment Analysis Values

AS	66.0	
CD	8.7	11.7
CU	90.0	128.0
PB	686.0	742.0
ZN	1550.0	1890.0

Table 2.5-A11 Soil Analysis (June and July 1986)

OBS	ID	AS	CD	CU	PB	ZN	MPSOLID	DI_WT	ACT_WT	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
1	AASCW10R2	42.48	8.68	174.77	76.8	1570.7	67.74	1.46	0.99	28.78	5.88	118.39	52.0	1064.0
2	AASCW10S2	448.76	3.02	1101.83	380.4	582.0	30.69	3.41	1.05	137.72	0.93	338.13	116.7	178.6
3	AASCW10T1R1	191.77	0.61	760.43	203.8	1147.3	18.99	5.25	1.00	36.42	0.12	144.42	38.7	217.9
4	AASCW10T1R2	411.26	0.52	560.21	189.5	621.8	18.99	5.20	0.99	78.11	0.10	106.40	36.0	118.1
5	AASCW10T1R3	1179.2	0.52	481.87	301.5	380.1	18.99	5.16	0.98	223.96	0.10	91.52	57.3	72.2
6	AASCW11R3	108.87	3.65	413.15	47.4	580.2	57.60	1.84	1.06	62.70	2.10	237.96	27.3	334.2
7	AASCW12V1	75.28	3.43	427.39	26.9	1837.2	31.50	3.15	0.99	23.72	1.08	134.64	8.5	578.7
8	AASCW12W2	34.52	5.09	163.13	55.9	1424.6	26.30	3.86	1.01	9.08	1.34	42.90	14.7	374.6
9	AASCW14W1	152.64	3.67	666.33	74.9	1354.9	20.13	5.02	1.01	30.73	0.74	134.17	15.1	272.8
10	AASCW14X2	120.98	1.59	433.87	102.1	1043.4	21.93	4.48	0.98	26.53	0.35	95.15	22.4	228.8
11	AASCW16U2	324.32	12.09	605.11	99.8	1513.5	46.12	2.20	1.01	149.57	5.58	279.06	46.0	698.0
12	AASCW16U4	547.79	0.65	859.61	197.9	266.9	38.07	2.68	1.02	208.55	0.25	327.26	75.3	101.6
13	AASCW16V2	845.98	1.16	576.95	192.4	528.7	37.70	2.43	0.92	318.96	0.44	217.53	72.5	199.3
14	AASCW16V3	536.19	2.34	225.04	112.2	375.2	25.10	5.46	1.37	134.59	0.59	56.49	28.2	94.2
15	AASCW16V4	211.88	2.89	502.90	179.0	1152.1	37.74	2.94	1.11	79.96	1.09	189.79	67.5	434.8
16	AASCW16W1	1955.3	5.82	355.11	123.5	1550.5	37.97	2.61	0.99	742.42	2.21	134.83	46.9	588.7
17	AASCW16W2R1	1149.4	1.62	413.27	144.0	1246.7	25.60	3.99	1.02	294.28	0.42	105.81	36.9	319.2
18	AASCW16W2R2	1966.3	1.14	1179.21	293.5	1095.4	25.60	3.46	0.88	503.40	0.29	301.90	75.1	280.4
19	AASCW16W2R3	1629.7	3.01	860.15	235.1	1043.2	25.60	3.97	1.02	417.23	0.77	220.22	60.2	267.1
20	AASCW16W4	791.29	3.50	695.66	241.0	740.9	29.70	3.04	0.90	235.04	1.04	206.63	71.6	220.1
21	AASCW16X2	366.21	2.41	571.61	177.6	463.2	59.37	1.72	1.02	217.42	1.43	339.37	105.4	275.0
22	AASCW16X3	1790.5	0.20	414.62	96.8	139.7	24.17	4.24	1.02	432.72	0.05	100.21	23.4	33.8
23	AASCW16X4	1243.3	0.30	945.63	245.0	791.0	20.10	5.12	1.03	249.85	0.06	190.04	49.2	159.0
24	AASCW16X5	165.37	0.92	123.21	32.4	71.7	36.60	2.71	0.99	60.52	0.34	45.09	11.8	26.2
25	AASCW16X6R1	3486.2	0.16	563.61	200.8	373.9	36.95	2.70	1.00	1288.3	0.06	208.27	74.2	138.2
26	AASCW16X6R2	437.46	0.30	566.63	147.1	337.3	36.95	2.81	1.04	161.65	0.11	209.39	54.3	124.6
27	AASCW16X6R3	429.96	0.25	628.01	206.2	423.7	36.95	2.84	1.05	158.88	0.09	232.07	76.2	156.6
28	AASCW16Y1	76.06	0.35	402.06	104.6	634.2	27.74	3.66	1.02	21.10	0.10	111.55	29.0	176.0
29	ABSCW14Q2	14.63	2.24	112.91	72.4	357.8	93.17	1.13	1.05	13.63	2.09	105.20	67.4	333.4
30	ABSCW15Q1	28.17	3.50	10517.2	808.8	2087.8	93.63	1.06	0.99	26.37	3.28	9846.95	757.3	1954.7
31	ABSCW15S1	364.53	10.96	626.44	112.3	1205.1	46.16	2.16	1.00	168.25	5.06	289.13	51.8	556.2
32	CPSCW29E2R2	23.56	21.83	39.94	58.4	320.8	92.20	1.09	1.01	21.72	20.13	36.82	53.8	295.8
33	CPSCW29E2R3	21.80	24.04	40.95	67.0	335.6	92.20	1.07	0.99	20.10	22.16	37.76	61.8	309.4
34	G1SCW12N2A	3.34	11.12	44.69	182.2	3711.7	57.71	1.90	1.09	1.93	6.42	25.79	105.1	2142.1
35	G1SCW12N2B	3.92	16.81	71.06	341.6	6221.4	52.63	1.96	1.03	2.06	8.85	37.40	179.8	3274.3
36	G1SCW13L5	4.00	7.71	57.40	82.2	2880.3	92.64	1.08	1.00	3.71	7.15	53.17	76.2	2668.4
37	K2SCW3O1	3.96	0.46	67.01	44.2	188.6	79.91	1.25	1.00	3.16	0.37	53.54	35.3	150.7
38	K2SCW3P2	8.02	1.03	130.81	60.6	481.3	49.06	2.01	0.99	3.93	0.50	64.18	29.7	236.2
39	K2SCW3Q1	7.92	6.39	139.88	45.4	1449.1	50.05	2.01	1.00	3.97	3.20	70.01	22.7	725.3
40	K2SCW5P3	2.97	52.81	118.16	25.0	5319.3	57.34	1.76	1.01	1.70	30.28	67.75	14.3	3050.1
41	KSSCW10R1	71.60	28.11	163.89	58.2	4439.1	56.21	1.80	1.01	40.25	15.80	92.13	32.7	2495.4
42	KSSCW12R2	80.66	3.93	203.85	28.6	612.1	65.37	1.56	1.02	52.72	2.57	133.25	18.7	400.1
43	KSSCW8R1	33.42	8.89	96.13	12.5	1090.1	47.27	2.14	1.01	15.80	4.20	45.44	5.9	515.3
44	KSSCW8R2	15.38	10.62	45.17	65.3	2744.9	40.89	2.59	1.06	6.29	4.34	18.47	26.7	1122.4
45	KSSCW9Q1	7.06	28.74	69.46	74.3	7429.5	68.02	1.48	1.01	4.80	19.55	47.24	50.5	5053.5

Table 2.5-A12 Blank Analysis

OBS	ID	AS	CD	CU	PB	ZN
1	NWSBLANK.R11A	0.005	0.002	0.03	0.006	0.777
2	NWSBLANK.R12A	0.005	0.002	0.03	0.009	0.858
3	NWSBLANK.R17	0.005	0.003	0.03	0.002	0.179
4	NWSBLANK.R18	0.005	0.004	0.04	0.006	0.250

Table 2.5-A13 Blank Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
AS	4	0.0050	0.0000	0.0050	0.0050	0.0000	0.0200	0.0000	0.000
CD	4	0.0028	0.0010	0.0020	0.0040	0.0005	0.0110	0.0000	34.816
CU	4	0.0325	0.0050	0.0300	0.0400	0.0025	0.1300	0.0000	15.385
PB	4	0.0058	0.0029	0.0020	0.0090	0.0014	0.0230	0.0000	49.953
ZN	4	0.5160	0.3509	0.1790	0.8580	0.1755	2.0640	0.1231	68.005

Table 2.5-A14 NBS Sediment Analysis

OBS	ID	AS	CD	CU	PB	ZN	DI_WT	ACT_WT
1	NWSSTDRS.RS10A	45.53	10.49	101.66	681.6	1668.9	0.9972	0.9972
2	NWSSTDRS.RS15	47.82	10.29	106.19	654.8	1626.7	0.9923	0.9923
3	NWSSTDRS.RS9	42.59	10.57	110.99	675.4	1756.0	0.9990	0.9990

Table 2.5-A15 NBS Sediment Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
AS	3	45.313	2.619	42.593	47.818	1.512	135.938	6.861	5.781
CD	3	10.450	0.145	10.289	10.571	0.084	31.349	0.021	1.386
CU	3	106.279	4.664	101.660	110.986	2.693	318.838	21.751	4.388
PB	3	670.585	14.062	654.752	681.619	8.119	2011.756	197.740	2.097
ZN	3	1683.852	65.904	1626.726	1755.956	38.050	5051.555	4343.380	3.914
DI_WT	3	0.996	0.003	0.992	0.999	0.002	2.989	0.000	0.348
ACT_WT	3	0.996	0.003	0.992	0.999	0.002	2.989	0.000	0.348

*Standards

NBS River Sediment Analysis Values

AS	66.0	
CD	8.7	11.7
CU	90.0	128.0
PB	686.0	742.0
ZN	1550.0	1890.0

Table 2.5-A16 Soil Analysis (June and July 1986)

OBS	ID	AS	CD	CU	PB	ZN	MPSOLID	DI_WT	ACT_WT	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
1	AASCW10S1	316.76	0.45	570.41	155.6	382.77	20.77	4.88	1.01	65.79	0.09	118.47	32.3	79.5
2	AASCW11R1R1	53.57	3.40	316.55	28.7	581.43	56.24	1.82	1.02	30.13	1.91	178.04	16.1	327.0
3	AASCW11R1R2	42.51	1.50	344.60	56.3	534.27	56.24	1.81	1.02	23.91	0.84	193.82	31.6	300.5
4	AASCW11R1R3	49.42	4.42	440.75	76.2	703.00	56.24	1.78	1.00	27.79	2.48	247.89	42.8	395.4
5	AASCW12R3	14.08	0.68	103.84	486.6	287.76	92.48	1.08	1.00	13.02	0.63	96.03	450.0	266.1
6	AASCW12S1	209.31	0.81	1375.89	117.4	424.72	40.24	2.53	1.02	84.22	0.33	553.64	47.2	170.9
7	AASCW12T1	508.17	0.81	265.83	133.9	725.53	18.52	5.58	1.03	94.11	0.15	49.23	24.8	134.4
8	AASCW16U1	28.25	0.74	229.30	17.4	245.59	33.21	3.09	1.02	9.38	0.24	76.15	5.8	81.6
9	AASCW16V1	844.89	7.51	361.71	76.6	742.94	39.17	2.64	1.04	330.97	2.94	141.70	30.0	291.0
10	AASCW16W3R1	464.44	0.46	619.42	121.9	1075.53	26.28	3.68	0.97	122.04	0.12	162.77	32.0	282.6
11	AASCW16W3R2	601.21	0.26	645.81	130.8	677.10	26.28	3.73	0.98	157.98	0.07	169.70	34.4	177.9
12	AASCW16W3R3	353.05	0.18	578.90	75.5	311.61	26.28	3.77	0.99	92.77	0.05	152.12	19.8	81.9
13	ABSCW14Q3	5.00	0.64	321.66	16.3	241.19	89.09	1.16	1.03	4.46	0.57	286.58	14.6	214.9
14	ABSCW14S1	82.85	12.08	383.69	41.6	1573.50	30.19	3.01	0.91	25.01	3.65	115.82	12.6	475.0
15	ABSCW14S1C	303.53	0.59	631.35	119.3	753.57	41.67	2.37	0.99	126.48	0.24	263.08	49.7	314.0
16	ABSCW15R1	61.15	0.83	444.15	29.0	370.67	61.00	1.60	0.98	37.30	0.51	270.91	17.7	226.1
17	CPSCW29E1	55.74	28.78	94.84	43.9	477.41	83.15	1.19	0.99	46.35	23.93	78.86	36.5	397.0
18	CPSCW29E11R1	6.38	1.44	43.28	1461.1	742.06	96.20	1.07	1.03	6.14	1.38	41.64	1405.6	713.9
19	CPSCW29E2R1	22.42	20.85	38.07	102.7	313.84	92.20	1.09	1.01	20.67	19.23	35.11	94.7	289.4
20	CPSCW29E3	28.51	4.29	47.31	242.8	99.87	93.19	1.08	1.01	26.57	4.00	44.09	226.3	93.1
21	CPSCW29F3R1	2.86	0.41	19.02	80.1	31.82	78.32	1.27	1.00	2.24	0.32	14.90	62.7	24.9
22	CPSCW29F3R2	2.79	0.38	18.10	94.7	25.14	78.32	1.31	1.02	2.18	0.30	14.18	74.2	19.7
23	CPSCW29F3R3	4.53	1.04	25.10	247.2	38.90	78.32	1.25	0.98	3.55	0.81	19.66	193.6	30.5
24	CPSCW30E1	5.08	0.53	30.88	60.0	192.59	63.99	1.58	1.01	3.25	0.34	19.76	38.4	123.2
25	CPSCW30F1	12.97	1.36	61.10	114.0	303.21	44.27	2.26	1.00	5.74	0.60	27.05	50.5	134.2
26	CPSCW30F2	10.34	1.02	49.23	41.1	166.30	56.14	1.79	1.01	5.81	0.58	27.64	23.1	93.4
27	CPSCW30F3	3.86	0.38	24.58	19.9	80.31	94.49	1.05	1.01	3.64	0.36	23.22	18.8	75.9
28	CPSCW30F4R1	9.79	4.89	85.48	262.2	675.06	34.35	2.93	1.01	3.36	1.68	29.36	90.1	231.9
29	CPSCW30F4R2	8.81	5.50	63.72	199.9	551.76	34.35	2.92	1.00	3.03	1.89	21.89	68.7	189.5
30	CPSCW30F4R3	8.02	6.05	72.75	226.0	547.35	34.35	2.92	1.00	2.76	2.08	24.99	77.6	188.0
31	ESSCW13J2	3.68	2.71	41.94	286.0	1554.41	90.99	1.11	1.01	3.35	2.46	38.16	260.2	1414.3
32	ESSCW13J3	3.44	0.39	26.74	80.9	313.76	95.43	1.07	1.02	3.28	0.37	25.52	77.2	299.4
33	G1SCW10M2	1.60	3.47	2.25	134.8	7.55	73.72	1.36	1.00	1.18	2.56	1.66	99.3	5.6
34	G1SCW10M3	0.20	3.95	1.49	14.7	0.00	74.51	1.35	1.01	0.15	2.94	1.11	11.0	0.0
35	G1SCW10N2	7.67	0.63	45.21	28.0	156.61	96.97	1.02	0.99	7.44	0.61	43.84	27.1	151.9
36	G1SCW10N3	8.15	0.66	35.20	74.8	114.19	97.10	1.03	1.00	7.91	0.64	34.17	72.6	110.9
37	G1SCW1101-1	4.87	15.91	129.87	70.6	7304.26	93.16	1.09	1.02	4.54	14.83	120.99	65.8	6804.9
38	G1SCW12L2	5.96	0.45	49.48	80.6	327.37	90.69	1.09	0.99	5.40	0.41	44.87	73.1	296.9
39	G1SCW12M5	3.73	1.86	69.20	124.8	1547.44	94.57	1.06	1.00	3.53	1.76	65.44	118.0	1463.5
40	G1SCW12M6	4.37	2.11	96.82	248.6	2129.30	94.47	1.07	1.01	4.13	1.99	91.46	234.8	2011.4
41	G1SCW12N6-1	2.34	0.14	18.61	137.1	131.05	94.10	1.07	1.00	2.20	0.13	17.51	129.0	123.3
42	G1SCW1201-1	4.64	12.06	128.30	26.6	6913.16	94.40	1.06	1.00	4.38	11.38	121.11	25.1	6526.1
43	G1SCW13M1-1	41.22	17.25	912.30	742.9	8208.40	63.27	1.57	1.00	26.08	10.91	577.19	470.0	5193.3
44	G1SCW13M4	5.86	0.45	46.60	81.5	325.88	95.77	1.04	1.00	5.61	0.43	44.63	78.0	312.1
45	G1SCW13M5R1	3.99	1.19	58.39	169.5	732.80	92.17	1.09	1.00	3.68	1.10	53.82	156.2	675.4
46	G1SCW13M5R2	3.64	1.21	61.12	315.0	756.83	92.17	1.07	0.99	3.35	1.11	56.33	290.3	697.6

Table 2.5-A16 (Concluded)

OBS	ID	AS	CD	CU	PB	ZN	MPSOLID	DI_WT	ACT_WT	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
47	G1SCW13M5R3	4.55	1.35	65.50	184.8	759.15	92.17	1.09	1.00	4.19	1.24	60.37	170.3	699.7
48	G1SCW14L2R1	4.95	11.69	110.61	1246.0	5079.23	88.49	1.13	1.00	4.38	10.34	97.87	1102.6	4494.4
49	G1SCW14L2R2	4.89	12.05	114.81	1103.0	5215.5	88.49	1.13	1.00	4.33	10.67	101.59	976.0	4615.0
50	G1SCW14L2R3	4.53	11.73	107.63	1121.0	4797.7	88.49	1.13	1.00	4.01	10.38	95.24	991.9	4245.3
51	G1SCW14L3	7.26	22.01	153.76	475.6	5633.7	87.96	1.13	1.00	6.39	19.36	135.24	418.3	4955.2
52	G1SCW14M4	9.07	1.94	139.80	489.1	683.3	94.35	1.07	1.01	8.56	1.83	131.90	461.5	644.7
53	G1SCW14N3-1	2.27	0.13	18.15	15.4	107.6	95.37	1.04	0.99	2.16	0.13	17.31	14.7	102.6
54	K2SCW3P1	5.10	0.34	58.72	57.0	173.8	71.33	1.36	0.97	3.64	0.24	41.88	40.6	124.0
55	K2SCW3P3	11.90	0.97	134.82	53.4	413.3	49.54	2.11	1.05	5.90	0.48	66.79	26.4	204.7
56	K2SCW3R1	7.03	2.79	43.51	108.8	737.8	57.99	1.72	1.00	4.08	1.62	25.23	63.1	427.9
57	K2SCW3R2	13.87	12.86	140.66	124.7	2015.7	34.86	2.92	1.02	4.84	4.48	49.04	43.5	702.7
58	K2SCW401	5.39	0.36	48.27	55.2	169.7	62.13	1.61	1.00	3.35	0.23	29.99	34.3	105.5
59	K2SCW4P1	4.43	0.30	48.89	30.1	159.9	58.98	1.46	0.86	2.61	0.18	28.83	17.7	94.3
60	K2SCW4Q1	10.34	27.60	168.89	157.4	2791.0	46.39	2.19	1.02	4.80	12.80	78.35	73.0	1294.7
61	K2SCW4Q2	24.38	7.58	114.51	755.3	2184.9	49.73	2.12	1.05	12.12	3.77	56.95	375.6	1086.6
62	K2SCW5Q2	4.80	0.25	33.39	26.7	80.5	95.36	1.04	0.99	4.58	0.24	31.84	25.4	76.8
63	K2SCW6P1	36.76	38.46	2070.61	297.1	53686.5	72.11	1.36	0.98	26.51	27.73	1493.02	214.3	38710.9
64	K2SCW6Q2	4.81	8.16	103.71	151.2	4986.2	87.24	1.16	1.01	4.20	7.12	90.48	131.9	4350.0
65	KSSCW11R2	11.52	0.45	154.75	161.5	425.9	88.48	1.14	1.01	10.19	0.40	136.92	142.9	376.8

Table 2.5-A17 Blank Analysis

OBS	ID	AS	CD	CU	PB	ZN
1	NWSBLANK.R11B	0.005	0.0007	0.03	0.000	0.320
2	NWSBLANK.R12B	0.005	0.0005	0.03	0.003	0.394
3	NWSBLANK.R13	0.005	0.0008	0.03	0.003	0.473
4	NWSBLANK.R14	0.005	0.0002	0.03	0.005	0.277
5	NWSBLANK.R15	0.005	0.0001	0.03	0.004	0.291
6	NWSBLANK.R16	0.005	0.0004	0.03	0.004	0.222

Table 2.5-A18 Blank Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
AS	6	0.0050	0.0000	0.0050	0.0050	0.0000	0.0300	0.0000	0.000
CD	6	0.0005	0.0003	0.0001	0.0008	0.0001	0.0027	0.0000	60.858
CU	6	0.0300	0.0000	0.0300	0.0300	0.0000	0.1800	0.0000	0.000
PB	6	0.0032	0.0017	0.0000	0.0050	0.0007	0.0190	0.0000	54.392
ZN	6	0.3295	0.0902	0.2220	0.4730	0.0368	1.9770	0.0081	27.360

Table 2.5-A19 NBS Sediment Analysis

OBS	ID	AS	CD	CU	PB	ZN	DI_WT	ACT_WT
1	NWSSTDRS.RS10B	36.97	10.18	100.11	505.3	1599.96	1.0089	1.0089
2	NWSSTDRS.RS11	38.29	11.24	118.63	1020.9	1651.02	0.9989	0.9989
3	NWSSTDRS.RS12	37.89	9.89	97.69	488.8	1506.69	1.0083	1.0083
4	NWSSTDRS.RS13	40.51	11.80	106.17	533.2	1609.34	0.9937	0.9937
5	NWSSTDRS.RS14	45.12	9.78	103.98	557.0	1556.42	1.0050	1.0050

Table 2.5-A20 NBS Sediment Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
AS	5	39.756	3.270	36.971	45.124	1.463	198.778	10.695	8.226
CD	5	10.578	0.894	9.776	11.799	0.400	52.890	0.798	8.447
CU	5	105.316	8.140	97.689	118.630	3.641	526.578	66.267	7.730
PB	5	621.039	225.070	488.753	1020.933	100.654	3105.193	50656.563	36.241
ZN	5	1584.686	55.051	1506.694	1651.016	24.620	7923.428	3030.630	3.474
DI_WT	5	1.003	0.007	0.994	1.009	0.003	5.015	0.000	0.650
ACT_WT	5	1.003	0.007	0.994	1.009	0.003	5.015	0.000	0.650

*Standards

NBS River Sediment Analysis Values

AS	66.0	
CD	8.7	11.7
CU	90.0	128.0
PB	686.0	742.0
ZN	1550.0	1890.0

Table 2.5-A21 Soil Analysis (June and July 1986)

OBS	ID	MPSOLID	DI_WT	ACT_WT	SE	WWT_SE
1	CPSCW26F1	89.33	1.113	0.99	0.00	0.00
2	CPSCW26F2	92.28	1.086	1.00	0.20	0.18
3	CPSCW26F3	94.13	1.063	1.00	0.00	0.00
4	CPSCW26G3	94.09	1.070	1.01	0.00	0.00
5	CPSCW26G4	93.42	1.072	1.00	0.00	0.00
6	CPSCW26G5	94.63	1.127	1.07	0.00	0.00
7	CPSCW27E1	81.19	1.268	1.03	11.85	9.62
8	CPSCW27E2	92.57	1.089	1.01	0.00	0.00
9	CPSCW27F1	93.12	1.082	1.01	1.98	1.85
10	CPSCW28F1	92.71	1.084	1.01	227.86	211.25
11	CPSCW29E1	83.15	1.192	0.99	1.72	1.43
12	CPSCW29E10	95.65	1.099	1.05	1.14	1.09
13	CPSCW29E11R1	96.20	1.067	1.03	16.07	15.46
14	CPSCW29E11R2	96.20	1.043	1.00	12.96	12.46
15	CPSCW29E11R3	96.20	1.045	1.01	16.41	15.79
16	CPSCW29E12	97.57	1.033	1.01	0.00	0.00
17	CPSCW29E2R1	92.20	1.091	1.01	4.37	4.03
18	CPSCW29E2R2	92.20	1.091	1.01	7.95	7.33
19	CPSCW29E2R3	92.20	1.072	0.99	8.50	7.84
20	CPSCW29E3	93.19	1.082	1.01	37.69	35.12
21	CPSCW29E6	92.82	1.082	1.00	58.75	54.53
22	CPSCW29E7	86.21	1.195	1.03	24.75	21.34
23	CPSCW29E9	92.78	1.080	1.00	3.79	3.52
24	CPSCW29F1	80.30	1.314	1.06	250.22	200.91
25	CPSCW29F3R1	78.32	1.272	1.00	5.42	4.25
26	CPSCW29F3R2	78.32	1.305	1.02	8.81	6.90
27	CPSCW29F3R3	78.32	1.254	0.98	12.63	9.89
28	CPSCW30E1	63.99	1.584	1.01	0.00	0.00
29	CPSCW30F1	44.27	2.255	1.00	0.40	0.18
30	CPSCW30F2	56.14	1.791	1.01	0.00	0.00
31	CPSCW30F3	94.49	1.054	1.01	0.00	0.00
32	CPSCW30F4R1	34.35	2.929	1.01	6.96	2.39
33	CPSCW30F4R2	34.35	2.924	1.00	7.96	2.74
34	CPSCW30F4R3	34.35	2.921	1.00	6.38	2.19

Table 2.5-A22 Blank Analysis

OBS	ID	SE
1	NWSBLANK.R11A	0.02
2	NWSBLANK.R14	0.02
3	NWSBLANK.R17	0.02
4	NWSBLANK.R4	0.02

Table 2.5-A23 Blank Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
SE	4	0.0200	0	0.0200	0.0200	0	0.080	0	0.0

Table 2.5-A24 NBS Sediment Analysis

OBS	ID	DI_WT	ACT_WT	SE
1	NWSSTDRS-RS4	1.003	1.003	0.000
2	NWSSTDRS.RS10A	0.997	0.997	0.000
3	NWSSTDRS.RS12	1.008	1.008	0.000
4	NWSSTDRS.RS15	0.992	0.992	0.605

Table 2.5-A25 NBS Sediment Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
DI WT	4	1.000	0.007	0.992	1.008	0.003	4.001	0.000	0.695
ACT WT	4	1.000	0.007	0.992	1.008	0.003	4.001	0.000	0.695
SE -	4	0.151	0.302	0.000	0.605	0.151	0.605	0.091	200.000

*Standards

NBS Sediment Analysis Value

Note: This value is not certified because it is not based on the results of either a reference method or two or more independent methods.

Se 1.5

Table 2.5-A26 Soil Analysis (December 1986)

OBS	ID	AS	CD	CU	PB	ZN	MPSOLID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
1	AASCW16U5	1029.7	3.9	858.5	25.9	878	27.3	281.2	1.1	234.4	7.1	240
2	AASCW16U6	234.7	2.9	208.0	11.9	357	35.6	83.5	1.0	74.0	4.2	127
3	AASCW16U7	1999.7	17.2	803.5	35.9	2238	32.2	644.2	5.6	258.8	11.6	721
4	AASCW16U8	1329.7	0.0	681.0	69.9	280	40.9	543.3	0.0	278.3	28.6	115
5	ABSCW15Q2	214.7	4.6	476.0	24.9	433	64.0	137.4	2.9	304.6	16.0	277
6	ABSCW15R2	324.7	0.4	558.5	54.9	97	42.3	137.5	0.2	236.4	23.3	41
7	ABSCW15S2	189.7	5.3	523.5	8.9	848	40.3	76.4	2.2	210.9	3.6	342
8	ABSCW15S3	184.7	3.6	395.5	19.9	1533	42.8	79.0	1.6	169.2	8.5	656
9	KSSCW10Q1D1	22.9	17.7	788.5	1009.9	1258	81.7	18.8	14.5	644.6	825.6	1028
10	KSSCW10Q1D2R1	18.7	26.5	231.7	429.9	7773	80.9	15.2	21.5	187.5	347.8	6288
11	KSSCW10Q1D2R2	20.7	23.1	185.5	379.9	5298	80.9	16.8	18.7	150.0	307.3	4286
12	KSSCW10Q1D2R3	20.2	24.9	224.5	479.9	8198	80.9	16.4	20.1	181.6	388.2	6631
13	KSSCW10Q1D3	15.3	22.2	146.0	459.9	5298	80.9	12.4	18.0	118.0	371.9	4284
14	KSSCW10Q1D4	9.7	11.0	65.5	366.9	3388	79.6	7.8	8.8	52.1	292.0	2696
15	KSSCW10Q2D1R1	23.5	33.8	313.5	1789.9	13623	86.7	20.4	29.3	271.7	1551.3	11807
16	KSSCW10Q2D1R2	27.7	39.7	382.0	2509.9	11198	86.7	24.0	34.4	331.1	2175.3	9705
17	KSSCW10Q2D1R3	22.7	34.9	335.5	2119.9	10748	86.7	19.7	30.2	290.8	1837.3	9315
18	KSSCW10Q2D2R1	14.2	23.0	113.5	1354.9	9698	90.3	12.9	20.8	102.4	1222.9	8753
19	KSSCW10Q2D2R2	13.5	19.0	155.0	1209.9	8298	90.3	12.2	17.2	139.9	1092.0	7489
20	KSSCW10Q2D2R3	12.9	19.3	162.0	1189.9	7998	90.3	11.7	17.4	146.2	1074.0	7219
21	KSSCW10Q2D3	12.9	16.8	141.0	1209.9	7198	87.0	11.3	14.7	122.6	1052.5	6261
22	KSSCW10Q2D4	9.6	10.1	94.0	759.9	4943	85.9	8.3	8.7	80.7	652.6	4245
23	KSSCW10Q3D1	113.7	2.1	212.0	264.9	683	84.8	96.4	1.8	179.7	224.6	579
24	KSSCW10Q3D2	489.7	5.2	274.5	779.9	903	83.8	410.3	4.4	230.0	653.4	757
25	KSSCW10Q3D3	53.7	8.6	57.0	33.4	1698	81.7	43.9	7.0	46.6	27.3	1387
26	KSSCW10Q3D4	8.1	1.3	26.7	20.9	313	79.2	6.4	1.0	21.2	16.6	248
27	KSSCW10R5D1	34.2	50.1	361.5	809.9	15998	77.2	26.4	38.7	278.9	624.9	12344
28	KSSCW10R5D2	24.9	32.4	177.0	35.2	9098	80.3	20.0	26.0	142.1	28.2	7302
29	KSSCW10R5D3R1	11.9	34.0	148.0	1864.9	13698	72.6	8.7	24.7	107.5	1354.4	9948
30	KSSCW10R5D3R2	13.5	17.4	32.5	199.9	7348	72.6	9.8	12.7	23.6	145.2	5336
31	KSSCW10R5D3R3	9.6	13.5	40.5	262.9	5898	72.6	7.0	9.8	29.4	190.9	4283
32	KSSCW10R5D4	9.1	19.0	95.0	1159.9	10448	63.0	5.8	12.0	59.9	731.0	6584
33	KSSCW10R6D1	14.8	31.7	81.5	64.4	5298	77.4	11.4	24.5	63.0	49.8	4098
34	KSSCW10R6D2	12.9	29.9	21.4	5.6	3943	70.9	9.1	21.2	15.2	4.0	2797
35	KSSCW10R6D3	6.4	41.7	27.5	2.9	5448	68.6	4.4	28.6	18.9	2.0	3738
36	KSSCW10R6D4R1	5.7	16.7	33.1	31.9	3608	65.3	3.7	10.9	21.6	20.8	2355
37	KSSCW10R6D4R2	5.7	13.3	27.4	11.9	3013	65.3	3.7	8.7	17.9	7.8	1967
38	KSSCW10R6D4R3	6.2	15.1	27.6	1.8	3368	65.3	4.1	9.9	18.0	1.2	2198
39	KSSCW10R7D1	53.5	12.2	415.7	749.9	3528	49.6	26.5	6.0	206.1	371.8	1749
40	KSSCW10R7D2	21.9	13.6	46.3	57.9	2533	69.4	15.2	9.5	32.2	40.2	1758
41	KSSCW10R7D3	15.3	3.3	27.1	4.7	2118	63.2	9.7	2.1	17.1	3.0	1338
42	KSSCW10R7D4	33.0	7.3	58.5	17.8	2163	52.0	17.2	3.8	30.4	9.3	1125
43	KSSCW11Q1D1	444.7	3.9	290.0	103.9	312	83.5	371.4	3.3	242.2	86.8	261
44	KSSCW11Q1D2	634.7	4.3	398.0	196.4	496	77.1	489.4	3.3	306.9	151.4	382
45	KSSCW11Q1D3	404.7	5.2	521.0	61.9	648	76.9	311.4	4.0	400.8	47.6	499
46	KSSCW11Q1D4	53.2	9.7	773.5	18.9	1108	77.0	41.0	7.5	595.7	14.6	853
47	KSSCW11Q2D1	819.7	4.5	294.0	56.9	308	83.0	680.1	3.7	243.9	47.2	256
48	KSSCW11Q2D2	589.7	6.7	593.5	155.9	678	75.8	446.8	5.1	449.6	118.1	514

Table 2.5-A26 (Continued)

OBS	ID	AS	CD	CU	PB	ZN	MPSOLID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
49	KSSCW11Q2D3	109.7	11.2	793.5	22.9	1188	75.9	83.3	8.5	602.3	17.4	902
50	KSSCW11Q2D4	17.7	14.4	430.0	2.2	1238	75.3	13.4	10.8	323.9	1.7	932
51	KSSCW11Q3D1R1	219.7	0.0	268.0	184.4	212	86.9	190.9	0.0	232.8	160.2	184
52	KSSCW11Q3D1R2	229.7	1.3	270.5	139.9	187	86.9	199.6	1.1	235.0	121.6	163
53	KSSCW11Q3D1R3	244.7	1.4	268.0	236.9	193	86.9	212.6	1.2	232.8	205.8	168
54	KSSCW11Q3D2	154.7	2.4	299.5	207.9	263	84.9	131.4	2.1	254.3	176.6	224
55	KSSCW11Q3D3	93.7	0.0	258.0	86.9	346	82.3	77.2	0.0	212.4	71.6	285
56	KSSCW11Q3D4	237.7	2.2	253.0	162.9	323	81.8	194.5	1.8	207.0	133.3	264
57	KSSCW11R4D1	195.7	2.3	264.0	13.0	361	84.7	165.9	2.0	223.7	11.0	306
58	KSSCW11R4D2	27.0	9.2	199.0	4.4	1893	79.5	21.5	7.3	158.4	3.5	1506
59	KSSCW11R4D3	26.9	17.2	307.5	0.0	4958	81.0	21.8	14.0	248.9	0.0	4014
60	KSSCW11R4D4	4.7	6.3	19.9	4.3	1678	78.2	3.7	5.0	15.6	3.4	1312
61	KSSCW11R5D1	10.1	1.0	26.1	0.0	100	93.6	9.5	0.9	24.5	0.0	94
62	KSSCW11R5D2	1.9	0.3	11.5	0.0	41	95.0	1.8	0.3	11.0	0.0	39
63	KSSCW11R5D3R1	2.2	0.0	12.1	0.5	25	88.4	2.0	0.0	10.7	0.5	22
64	KSSCW11R5D3R2	2.8	0.0	12.5	4.9	28	88.4	2.5	0.0	11.1	4.4	25
65	KSSCW11R5D3R3	2.6	0.0	12.4	5.9	28	88.4	2.3	0.0	11.0	5.2	25
66	KSSCW11R5D4	1.6	0.3	10.3	0.0	30	88.0	1.4	0.3	9.1	0.0	27
67	KSSCW11R6D1	18.7	26.2	406.5	43.5	1743	70.0	13.1	18.4	284.6	30.4	1220
68	KSSCW11R6D2	9.2	39.2	110.0	6.2	1508	71.0	6.5	27.8	78.0	4.4	1070
69	KSSCW11R6D3	14.7	37.1	33.7	4.5	3648	67.4	9.9	25.0	22.7	3.0	2460
70	KSSCW11R6D4	6.1	16.3	19.1	1.9	1473	69.7	4.3	11.4	13.3	1.3	1027
71	KSSCW11R7D1	12.7	2.1	35.7	7.8	613	73.6	9.4	1.6	26.3	5.7	451
72	KSSCW11R7D2	9.2	2.6	23.6	4.1	718	74.3	6.9	2.0	17.5	3.0	533
73	KSSCW11R7D3	7.7	4.5	27.6	4.6	1483	68.0	5.3	3.1	18.8	3.1	1008
74	KSSCW11R7D4	4.9	5.0	21.3	3.8	1428	70.8	3.5	3.6	15.1	2.7	1012
75	KSSCW11R8D1	26.9	2.3	163.5	6.2	127	91.4	24.6	2.1	149.4	5.7	116
76	KSSCW11R8D2	22.7	1.2	351.0	6.4	250	85.3	19.4	1.0	299.5	5.4	213
77	KSSCW11R8D3	7.5	0.3	52.0	3.0	179	90.9	6.9	0.3	47.3	2.7	163
78	KSSCW11R8D4	4.1	0.7	35.8	3.4	65	89.1	3.7	0.7	31.9	3.1	58
79	KSSCW11R9D1	569.7	0.2	282.5	19.0	241	86.7	493.9	0.2	244.9	16.5	209
80	KSSCW11R9D2R1	82.2	4.3	523.5	22.9	477	80.5	66.2	3.5	421.5	18.5	384
81	KSSCW11R9D2R2	143.7	3.5	383.0	39.9	480	80.5	115.7	2.9	308.3	32.1	386
82	KSSCW11R9D2R3	108.7	6.2	446.5	34.9	533	80.5	87.5	5.0	359.5	28.1	429
83	KSSCW11R9D3R1	57.7	5.2	461.5	19.9	573	80.2	46.3	4.2	370.1	16.0	460
84	KSSCW11R9D3R2	40.7	5.6	453.0	15.9	568	80.2	32.7	4.5	363.3	12.8	456
85	KSSCW11R9D3R3	50.7	4.8	471.5	17.2	583	80.2	40.7	3.9	378.1	13.8	468
86	KSSCW11R9D4	149.7	5.8	402.0	9.8	515	78.5	117.5	4.6	315.4	7.7	404
87	KSSCW12Q1D1	24.2	2.6	66.0	59.9	309	89.9	21.8	2.3	59.3	53.8	278
88	KSSCW12Q1D2	37.2	0.1	82.5	66.9	290	88.9	33.1	0.0	73.4	59.5	258
89	KSSCW12Q1D3	13.9	1.5	40.2	23.9	155	87.4	12.2	1.3	35.1	20.9	136
90	KSSCW12Q1D4	4.3	0.0	17.8	5.9	47	84.5	3.7	0.0	15.0	5.0	40
91	KSSCW12R4D1	5.3	0.0	15.5	6.1	46	91.4	4.9	0.0	14.2	5.5	42
92	KSSCW12R4D2R1	2.5	0.0	14.5	1.8	36	87.8	2.2	0.0	12.7	1.6	31
93	KSSCW12R4D2R2	2.3	0.0	14.1	1.8	32	87.8	2.1	0.0	12.4	1.6	28
94	KSSCW12R4D2R3	3.4	0.0	13.4	1.3	31	87.8	3.0	0.0	11.8	1.2	27
95	KSSCW12R4D3	3.3	0.3	17.2	5.3	54	85.9	2.9	0.3	14.8	4.6	47
96	KSSCW12R4D4	3.1	0.9	17.3	5.8	45	87.0	2.7	0.8	15.1	5.0	39

Table 2.5-A26 (Continued)

OBS	ID	AS	CD	CU	PB	ZN	MPSOLID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
97	KSSCW12R5D1	4.1	0.5	15.2	8.0	49	90.4	3.7	0.5	13.8	7.3	45
98	KSSCW12R5D2	1.5	0.3	9.1	0.0	22	91.1	1.4	0.3	8.3	0.0	20
99	KSSCW12R5D3	3.3	0.0	13.9	4.8	40	86.9	2.9	0.0	12.1	4.2	35
100	KSSCW12R5D4	1.4	0.1	7.1	2.3	22	92.3	1.3	0.1	6.5	2.1	20
101	KSSCW12R6D1	17.0	3.0	56.5	12.5	311	78.5	13.4	2.4	44.4	9.8	245
102	KSSCW12R6D2	7.0	0.9	30.6	2.7	117	70.0	4.9	0.6	21.4	1.9	82
103	KSSCW12R6D3	2.9	0.9	21.4	4.1	85	66.9	2.0	0.6	14.3	2.7	57
104	KSSCW12R6D4	6.9	1.0	22.2	6.1	398	71.0	4.9	0.7	15.8	4.3	283
105	KSSCW13Q1D1	7.2	4.0	36.3	8.0	1093	92.9	6.7	3.8	33.7	7.5	1015
106	KSSCW13Q1D2	6.8	[illegible].1	26.4	25.9	429	91.0	6.2	1.0	24.1	23.6	391
107	KSSCW13Q1D3	3.6	[illegible].1	25.9	9.1	252	89.5	3.3	1.0	23.2	8.1	225
108	KSSCW13Q1D4	2.7	[illegible].0	28.1	9.6	282	87.1	2.4	0.0	24.5	8.3	246
109	KSSCW13R1D1	69.7	[illegible].7	140.0	137.9	598	91.6	63.9	3.4	128.3	126.4	548
110	KSSCW13R1D2R1	22.2	[illegible].7	115.5	19.2	763	91.0	20.2	8.9	105.1	17.5	694
111	KSSCW13R1D2R2	19.2	[illegible].5	115.5	9.4	1303	91.0	17.5	7.8	105.1	8.6	1186
112	KSSCW13R1D2R3	26.7	1[illegible].7	116.0	9.4	1478	91.0	24.3	10.7	105.6	8.6	1345
113	KSSCW13R1D3	4.8	2[illegible].8	618.5	0.4	3838	95.0	4.6	26.5	587.8	0.4	3647
114	KSSCW13R1D4R1	5.0	10.3	56.5	1.2	1983	96.0	4.8	9.9	54.2	1.2	1904
115	KSSCW13R1D4R2	5.7	12.2	56.0	1.5	2208	96.0	5.5	11.7	53.8	1.5	2120
116	KSSCW13R1D4R3	6.0	14.3	59.5	1.0	528	96.0	5.8	13.7	57.1	1.0	507
117	KSSCW13R2D1	7.4	[illegible].2	33.5	59.9	250	91.7	6.8	1.1	30.8	55.0	230
118	KSSCW13R2D2	10.7	[illegible].9	27.1	42.9	176	86.9	9.3	0.7	23.6	37.3	153
119	KSSCW13R2D3	2.2	[illegible].8	12.4	4.8	59	90.8	2.0	0.7	11.3	4.4	54
120	KSSCW13R2D4	2.6	[illegible].2	12.8	3.6	43	90.2	2.4	0.2	11.6	3.3	39
121	KSSCW13R3D1	6.1	[illegible].9	24.1	21.9	63	92.8	5.7	0.8	22.4	20.4	58
122	KSSCW13R3D2	4.6	[illegible].0	27.3	26.9	86	90.7	4.2	0.0	24.8	24.4	78
123	KSSCW13R3D3	4.2	[illegible].4	29.4	37.9	74	86.9	3.7	0.3	25.6	33.0	65
124	KSSCW13R3D4	4.0	[illegible].3	23.0	32.9	58	86.6	3.5	0.3	20.0	28.5	51
125	KSSCW13R4D1	7.3	2.5	32.6	42.3	86	90.0	6.6	2.2	29.4	38.0	78
126	KSSCW13R4D2	7.4	0.0	26.1	14.2	82	89.2	6.6	0.0	23.3	12.7	74
127	KSSCW13R4D3	3.9	0.7	19.3	9.2	64	87.9	3.5	0.6	17.0	8.1	57
128	KSSCW13R4D4	3.1	0.1	17.7	8.8	53	86.2	2.7	0.1	15.2	7.6	46
129	KSSCW13R5D1	4.8	0.8	25.0	11.8	68	83.7	4.0	0.7	21.0	9.9	57
130	KSSCW13R5D2	4.4	0.0	20.3	10.8	158	85.2	3.8	0.0	17.3	9.2	135
131	KSSCW13R5D3	2.6	0.0	8.6	.6.4	30	85.9	2.3	0.0	7.4	5.5	26
132	KSSCW13R5D4	1.8	0.3	7.6	2.7	26	84.2	1.6	0.3	6.4	2.3	22
133	KSSCW8R3D1	18.7	22.6	81.0	71.9	6198	59.9	11.2	13.5	48.5	43.1	3710
134	KSSCW8R3D2	8.5	9.7	38.0	13.3	3823	54.4	4.6	5.3	20.7	7.2	2079
135	KSSCW8R3D3	15.7	18.1	42.7	31.0	2228	54.3	8.6	9.8	23.2	16.9	1210
136	KSSCW8R3D4	4.4	15.2	34.1	1.3	2648	50.6	2.2	7.7	17.2	0.7	1339
137	KSSCW8R4D1	7.7	4.1	87.0	64.9	2273	73.7	5.7	3.0	64.1	47.8	1675
138	KSSCW8R4D2	10.3	3.3	75.5	34.9	948	65.9	6.8	2.2	49.8	23.0	625
139	KSSCW8R4D3R1	9.6	0.2	30.0	4.9	103	67.8	6.5	0.2	20.4	3.3	70
140	KSSCW8R4D3R2	12.9	2.1	59.5	39.9	598	67.8	8.8	1.5	40.4	27.1	406
141	KSSCW8R4D3R3	13.9	0.9	37.3	20.9	132	67.8	9.5	0.6	25.3	14.2	90
142	KSSCW8R4D4	7.1	0.5	47.8	9.9	409	65.8	4.7	0.3	31.5	6.5	269
143	KSSCW9Q2D1	10.2	26.5	89.5	689.9	8698	75.9	7.8	20.1	67.9	523.4	6599
144	KSSCW9Q2D2	5.8	4.0	18.6	179.9	1278	75.4	4.4	3.1	14.0	135.7	964

Table 2.5-A26 (Concluded)

OBS	ID	AS	CD	CU	PB	ZN	MPSOLID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
145	KSSCW9Q2D3	4.2	8.0	27.9	43.4	1378	71.5	3.0	5.7	19.9	31.0	985
146	KSSCW9Q2D4R1	5.6	5.2	28.5	142.9	2450	69.7	3.9	3.6	19.9	99.6	1708
147	KSSCW9Q2D4R2	7.7	5.8	43.2	539.9	3098	69.7	5.4	4.0	30.1	376.3	2159
148	KSSCW9Q2D4R3	10.7	9.6	40.2	609.9	3643	69.7	7.5	6.7	28.0	425.0	2539
149	KSSCW9Q3D1	9.9	28.1	262.5	1059.9	11998	90.2	9.0	25.3	236.7	955.8	10820
150	KSSCW9Q3D2	6.1	13.6	74.0	125.9	6798	91.9	5.6	12.5	68.0	115.8	6250
151	KSSCW9Q3D3	6.9	14.0	80.0	97.9	11748	88.8	6.2	12.4	71.1	87.0	10435
152	KSSCW9Q3D4	6.9	14.8	112.7	429.9	12773	89.2	6.2	13.2	100.4	383.0	11378
153	KSSCW9R1D1	77.7	6.4	135.5	79.9	1473	58.9	45.8	3.8	79.8	47.1	867
154	KSSCW9R1D2	32.9	4.6	61.5	25.0	1368	55.1	18.1	2.5	33.9	13.8	753
155	KSSCW9R1D3	3.1	5.0	28.8	5.1	1090	57.0	1.8	2.8	16.4	2.9	621
156	KSSCW9R1D4	31.9	4.1	33.9	4.0	1528	55.1	17.6	2.3	18.7	2.2	842

Table 2.5-A27 Blank Analysis

OBS	ID	AS	CD	CU	PB	ZN
1	BLANKR1	0.005	0.003	0.03	0.002	0.060
2	BLANKR10	0.005	0.006	0.03	0.002	0.042
3	BLANKR11	0.005	0.005	0.03	0.002	0.045
4	BLANKR12	0.007	0.001	0.03	0.001	0.030
5	BLANKR13	0.005	0.002	0.03	0.002	0.030
6	BLANKR14	0.005	0.008	0.03	0.002	0.030
7	BLANKR15	0.005	0.008	0.03	0.002	0.043
8	BLANKR16	0.005	0.006	0.03	0.001	0.030
9	BLANKR17	0.005	0.012	0.03	0.001	0.030
10	BLANKR2	0.005	0.010	0.03	0.002	0.036
11	BLANKR3	0.005	0.011	0.03	0.001	0.084
12	BLANKR4	0.005	0.014	0.03	0.001	0.052
13	BLANKR5	0.005	0.006	0.03	0.001	0.043
14	BLANKR6	0.005	0.005	0.03	0.001	0.030
15	BLANKR7	0.005	0.015	0.03	0.001	0.030
16	BLANKR8	0.006	0.007	0.03	0.002	0.042
17	BLANKR9	0.005	0.003	0.03	0.002	0.030

Table 2.5-A28 Blank Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
AS	17	0.00511765	0.00037622	0.0050	0.0065	0.00009125	0.0870	0.00000014	7.351
CD	17	0.00707647	0.00410511	0.0014	0.0152	0.00099563	0.1203	0.00001685	58.011
CU	17	0.03017647	0.00072761	0.0300	0.0330	0.00017647	0.5130	0.00000053	2.411
PB	17	0.00152941	0.00051450	0.0010	0.0020	0.00012478	0.0260	0.00000026	33.640
ZN	17	0.04041176	0.01445709	0.0300	0.0840	0.00350636	0.6870	0.00020901	35.774

Table 2.5-A29 NBS River Sediment Analysis

OBS	ID	AS	CD	CU	PB	ZN
1	RIVERSEDIMENTR1	47.7	9.1	90.0	467.4	1483
2	RIVERSEDIMENTR10	46.2	9.4	89.5	859.9	1593
3	RIVERSEDIMENTR11	49.7	11.3	93.5	999.9	1673
4	RIVERSEDIMENTR12	47.2	12.2	99.0	934.9	1608
5	RIVERSEDIMENTR13	51.7	11.2	96.5	769.9	1643
6	RIVERSEDIMENTR14	60.7	10.8	100.0	872.4	1638
7	RIVERSEDIMENTR15	59.7	10.7	97.0	769.9	1568
8	RIVERSEDIMENTR16	60.7	11.2	99.0	719.9	1628
9	RIVERSEDIMENTR17	42.7	11.2	92.0	709.9	1558
10	RIVERSEDIMENTR2	47.7	11.4	93.0	514.9	1443
11	RIVERSEDIMENTR3	45.3	9.6	97.0	549.9	1603
12	RIVERSEDIMENTR4	45.1	11.9	101.0	614.9	1518
13	RIVERSEDIMENTR5	47.1	11.7	99.0	584.9	1538
14	RIVERSEDIMENTR6	47.1	9.3	92.0	559.9	1823
15	RIVERSEDIMENTR7	49.7	9.9	91.0	599.9	1678
16	RIVERSEDIMENTR8	41.7	10.6	100.0	1079.9	1623
17	RIVERSEDIMENTR9	50.2	11.7	96.5	869.9	1673

Table 2.5-A30 NBS River Sediment Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
AS	17	49.47	5.801	41.74	60.74	1.407	840.95	33.66	11.728
CD	17	10.79	0.976	9.15	12.20	0.237	183.48	0.95	9.039
CU	17	95.64	3.831	89.49	100.99	0.929	1625.85	14.68	4.006
PB	17	734.04	181.181	467.42	1079.92	43.943	12478.70	32826.52	24.683
ZN	17	1605.33	87.466	1442.98	1822.98	21.214	27290.65	7650.37	5.448

*Standards

NBS River Sediment Analysis Values

AS	66.0	
CD	8.7	11.7
CU	90.0	128.0
PB	686.0	742.0
ZN	1550.0	1890.0

Table 2.5-A31 Soil Analysis (March 1987)

OBS	DEPTH	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_SE	WWT_ZN	AS	CD	CU	PB	SE	ZN	SOLID
1	0	KSGTW1101S1	1380.00	7.10	370.00	390.00	1.10	720.00	1535.04	7.90	411.57	433.82	1.22	800.89	89.9
2	0	KSRBW11Q1S1	203.00	1.20	66.00	21.00	0.84	73.00	207.14	1.22	67.35	21.43	0.86	74.49	98.0
3	0-1	KSSCW11Q10D1S1	221.00	1.70	140.00	41.00	0.50	170.00	266.27	2.05	168.67	49.40	0.60	204.82	83.0
4	1-2	KSSCW11Q10D2S1	38.00	2.70	33.00	7.10	0.98	240.00	47.20	3.35	40.99	8.82	1.22	298.14	80.5
5	2-3	KSSCW11Q10D3S1	41.00	0.83	14.00	6.00	0.91	54.00	51.83	1.05	17.70	7.59	1.15	68.27	79.1
6	3-4	KSSCW11Q10D4S1	29.00	1.00	13.00	8.30	0.70	48.00	36.52	1.26	16.37	10.45	0.88	60.45	79.4
7	4-5	KSSCW11Q10D5S1	17.00	0.83	8.60	6.00	0.50	26.00	21.12	1.03	10.68	7.45	0.62	32.30	80.5
8	5-6	KSSCW11Q10D6S1	29.00	0.75	9.90	9.50	0.91	31.00	35.94	0.93	12.27	11.77	1.13	38.41	80.7
9	0-1	KSSCW11Q11D1S1	98.00	1.80	140.00	14.00	0.65	200.00	124.21	2.28	177.44	17.74	0.82	253.49	78.9
10	1-2	KSSCW11Q11D2S1	38.00	0.83	13.00	9.50	1.10	36.00	48.28	1.05	16.52	12.07	1.40	45.74	78.7
11	2-3	KSSCW11Q11D3S1	21.00	1.00	19.00	14.00	0.78	43.00	27.27	1.30	24.68	18.18	1.01	55.84	77.0
12	3-4	KSSCW11Q11D4S1	40.00	0.67	8.10	8.30	1.00	22.00	50.96	0.85	10.32	10.57	1.27	28.03	78.5
13	4-5	KSSCW11Q11D5S1	43.00	1.00	15.00	16.00	0.70	33.00	52.70	1.23	18.38	19.61	0.86	40.44	81.6
14	5-6	KSSCW11Q11D6S1	37.00	0.78	6.20	6.60	0.85	33.00	46.13	0.97	7.73	8.23	1.06	41.15	80.2
15	0-1	KSSCW11Q12D1S1	186.00	1.30	120.00	17.00	1.40	110.00	216.03	1.51	139.37	19.74	1.63	127.76	86.1
16	1-2	KSSCW11Q12D2S1	75.00	2.20	290.00	17.00	0.98	180.00	93.17	2.73	360.25	21.12	1.22	223.60	80.5
17	2-3	KSSCW11Q12D3S1	52.00	5.90	62.00	7.00	1.00	550.00	68.42	7.76	81.58	9.21	1.32	723.68	76.0
18	3-4	KSSCW11Q12D4S1	60.00	3.90	325.00	11.00	1.20	330.00	77.92	5.06	422.08	14.29	1.56	428.57	77.0
19	4-5	KSSCW11Q12D5S1	41.00	1.00	16.00	7.10	0.85	48.00	53.32	1.30	20.81	9.23	1.11	62.42	76.9
20	5-6	KSSCW11Q12D6S1	41.00	0.59	6.30	4.20	0.91	25.00	52.03	0.75	7.99	5.33	1.15	31.73	78.8
21	0-1	KSSCW11Q4D1S1	383.00	3.10	290.00	34.00	1.20	250.00	471.09	3.81	356.70	41.82	1.48	307.50	81.3
22	1-2	KSSCW11Q4D2S1	35.00	4.20	400.00	21.00	0.95	370.00	43.91	5.27	501.88	26.35	1.19	464.24	79.7
23	2-3	KSSCW11Q4D3S1	33.00	5.10	190.00	19.00	1.60	380.00	41.83	6.46	240.81	24.08	2.03	481.62	78.9
24	3-4	KSSCW11Q4D4S1	22.00	2.10	36.00	20.00	0.85	110.00	26.57	2.54	43.48	24.15	1.03	132.85	82.8
25	4-5	KSSCW11Q4D5S1	45.00	1.60	15.00	18.00	1.80	38.00	54.48	1.94	18.16	21.79	2.18	46.00	82.6
26	5-6	KSSCW11Q4D6S1	50.00	1.70	21.00	21.00	0.59	76.00	60.39	2.05	25.36	25.36	0.71	91.79	82.8
27	0-1	KSSCW11Q5D1S1	259.00	3.10	310.00	67.00	0.99	230.00	317.79	3.80	380.37	82.21	1.21	282.21	81.5
28	1-2	KSSCW11Q5D2S1	48.00	3.80	510.00	28.00	0.78	370.00	62.02	4.91	658.91	36.18	1.01	478.04	77.4
29	2-3	KSSCW11Q5D3S1	36.00	8.90	390.00	23.00	1.80	820.00	46.33	11.45	501.93	29.60	2.3	55.34	77.7
30	3-4	KSSCW11Q5D4S1	60.00	6.50	500.00	18.00	0.85	780.00	76.05	8.24	633.71	22.81	1.0	8.59	78.9
31	4-5	KSSCW11Q5D5S1	20.00	4.00	32.00	17.00	0.92	490.00	24.21	4.84	38.74	20.58	1.11	93.22	82.6
32	5-6	KSSCW11Q5D6S1	24.00	1.90	21.00	20.00	1.50	190.00	29.74	2.35	26.02	24.78	1.86	235.44	80.7
33	0-1	KSSCW11Q6D1S1	280.00	1.60	94.00	21.00	0.91	170.00	338.98	1.94	113.80	25.42	1.10	205.81	82.6
34	1-2	KSSCW11Q6D2S1	237.00	2.40	110.00	4.60	0.91	210.00	300.76	3.05	139.59	5.84	1.15	266.50	78.8
35	2-3	KSSCW11Q6D3S1	55.00	3.30	5.50	5.40	1.10	340.00	71.34	4.28	7.13	7.00	1.43	440.99	77.1
36	3-4	KSSCW11Q6D4S1	62.00	0.87	1.50	7.20	1.20	13.00	82.56	1.16	2.00	9.59	1.60	17.31	75.1
37	4-5	KSSCW11Q6D5S1	61.00	0.55	1.50	4.90	1.30	10.00	80.90	0.73	1.99	6.50	1.72	13.26	75.4
38	5-6	KSSCW11Q6D6S1	23.00	0.57	3.60	6.20	0.52	26.00	30.22	0.75	4.73	8.15	0.68	34.17	76.1
39	0-1	KSSCW11Q7D1S1	538.00	3.00	190.00	270.00	0.50	230.00	688.86	3.84	243.28	345.71	0.64	294.49	78.1
40	1-2	KSSCW11Q7D2S1	34.00	7.00	430.00	32.00	0.86	640.00	43.93	9.04	555.56	41.34	1.11	826.87	77.4
41	2-3	KSSCW11Q7D3S1	22.00	6.50	280.00	21.00	0.58	710.00	28.17	8.32	358.51	26.89	0.74	909.09	78.1
42	3-4	KSSCW11Q7D4S1	26.00	6.80	23.00	17.00	1.10	440.00	33.99	8.89	30.07	22.22	1.44	575.16	76.5
43	4-5	KSSCW11Q7D5S1	34.00	1.40	20.00	22.00	0.59	41.00	44.04	1.81	25.91	28.50	0.76	53.11	77.2
44	5-6	KSSCW11Q7D6S1	24.00	1.10	16.00	16.00	0.70	40.00	30.26	1.39	20.18	20.18	0.88	50.44	79.3

Table 2.5-A31 (Concluded)

OBS	DEPTH	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_SE	WWT_ZN	AS	CD	CU	PB	SE	ZN	SOLID
45	0-1	KSSCW11Q8D1S1	539.00	5.10	390.00	110.00	0.71	460.00	659.73	6.24	477.36	134.64	0.87	563.04	81.7
46	1-2	KSSCW11Q8D2S1	104.00	7.00	430.00	20.00	1.00	670.00	133.85	9.01	553.41	25.74	1.29	862.29	77.7
47	2-3	KSSCW11Q8D3S1	34.00	7.70	22.00	15.00	0.98	680.00	44.10	9.99	28.53	19.46	1.27	881.97	77.1
48	3-4	KSSCW11Q8D4S1	40.00	1.50	17.00	14.00	0.91	62.00	49.14	1.84	20.88	17.20	1.12	76.17	81.4
49	4-5	KSSCW11Q8D5S1	46.00	1.80	13.00	19.00	0.78	62.00	58.23	2.28	16.46	24.05	0.99	78.48	79.0
50	5-6	KSSCW11Q8D6S1	23.00	1.30	15.00	15.00	0.50	41.00	28.75	1.63	18.75	18.75	0.63	51.25	80.0
51	0-1	KSSCW11Q9D1S1	608.00	2.80	200.00	400.00	0.74	200.00	784.52	3.61	258.06	516.13	0.95	258.06	77.5
52	1-2	KSSCW11Q9D2S1	288.00	5.40	510.00	44.00	1.40	520.00	370.66	6.95	656.37	56.63	1.80	669.24	77.7
53	2-3	KSSCW11Q9D3S1	36.00	8.90	230.00	17.00	1.10	1000.00	47.18	11.66	301.44	22.28	1.44	1310.62	76.3
54	3-4	KSSCW11Q9D4S1	24.00	1.20	37.00	14.00	1.40	62.00	29.38	1.47	45.29	17.14	1.71	75.89	81.7
55	4-5	KSSCW11Q9D5S1	26.00	0.91	13.00	11.00	0.50	31.00	32.10	1.12	16.05	13.58	0.62	38.27	81.0
56	5-6	KSSCW11Q9D6S1	7.90	1.20	18.00	17.00	0.50	46.00	10.00	1.52	22.78	21.52	0.63	58.23	79.0
57	0	KSYBW11Q1S1	306.00	1.80	53.00	250.00	2.30	74.00	307.85	1.81	53.32	251.51	2.31	74.45	99.4

Table 2.5-A32 Mean Soil Analysis

Depth*	As	Cd	Cu	Pb	Se	Zn
0-1	429.7A	3.2BC	257.2AB	137.0A	1.03A	277.5BC
1-2	127.5B	5.0AB	387.0A	26.0B	1.27A	459.4AB
2-3	47.4B	6.9A	173.6BC	18.3B	1.41A	658.6A
3-4	51.5B	3.5BC	136.0BC	16.5B	1.30A	264.8BC
4-5	46.8B	1.8CD	18.6CD	16.8B	1.11A	106.4CD
5-6	35.9B	1.4CD	16.2CD	16.0B	0.97A	70.3CD

Values are mg/kg dry wt.

* Depth in feet.

2.5.10.2 Tables B1-B7 Sample ID and Variable Description

Tables 2.5-B1-B7 present the wet extraction analysis data. The samples that appear in Tables B1 and B4 were collected in June and July 1986. Samples listed in Table B5 were collected in December 1986.

Variable Description	Unit
WWT_AS,WWT_CD, WWT_CU,WWT_PB,WWT_ZN	mg/kg or parts per million(ppm) wet weight basis
W_EXT	Grams

Example Key

ID No.: WT AA SCW5T2R1

WT - Wet extraction procedure of California State Department of Health Sciences used for analysis

AA - Sample site area
- AA: Allied A
- AB: Allied B
- CP: Coke pile site
- ES: ESI
- G1: G-1 Getty
- K2: K-2
- KS: Kiln site

SC - Sample type
- SC: Soil core

W5T2R1 - Specific WES sample site location
- 5T2 Label for site
- R1, R2, R3 Triplicate samples

Samples IDs in Table B5 included D1-D4.
D1-D4 refer to the depth of core:
- D1 0" - 6"
- D2 6" - 12"
- D3 12" - 24"
- D4 24" - 36"

A Sample taken June 24, 1986
B Sample taken June 25, 1986
C Resample previous contractor site

Table 2.5-B1 Wet Extraction (June and July 1986)

OBS	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN	W_EXT
1	WTAASCW10R2	1.355	0.7590	10.185	3.229	199.87	25.07
2	WTAASCW10S1	4.205	0.0006	0.222	0.117	5.45	25.01
3	WTAASCW10S2	3.945	0.0000	1.285	0.769	2.91	25.00
4	WTAASCW10T1R1	8.855	0.0034	3.235	2.289	3.48	25.10
5	WTAASCW10T1R2	9.955	0.0078	1.185	1.979	3.35	25.05
6	WTAASCW10T1R3	4.085	0.0136	2.415	3.099	7.16	24.99
7	WTAASCW11R1R1	1.875	0.1890	14.985	0.588	30.97	25.11
8	WTAASCW11R1R2	1.665	0.0900	8.175	0.319	22.97	24.98
9	WTAASCW11R1R3	1.525	0.0690	8.275	0.004	17.77	25.05
10	WTAASCW11R3	7.235	0.1260	10.585	0.689	24.97	25.08
11	WTAASCW12S1	7.365	0.0785	26.585	0.000	4.57	25.00
12	WTAASCW12T1	6.375	0.0002	1.265	0.027	6.51	25.06
13	WTAASCW12V1	1.855	0.0614	8.995	0.109	22.87	25.00
14	WTAASCW12W2	0.654	0.0029	0.404	0.000	33.97	25.03
15	WTAASCW14W1	0.752	0.0000	0.726	0.000	10.07	25.08
16	WTAASCW14X2	0.756	0.0073	0.573	0.000	10.47	25.01
17	WTAASCW16U1	0.980	0.0196	0.145	0.000	6.44	25.04
18	WTAASCW16U2	8.095	0.0154	2.905	0.000	32.87	25.07
19	WTAASCW16U3	13.795	0.0032	1.045	0.000	5.42	25.02
20	WTAASCW16U4	14.295	0.0203	16.585	0.000	6.86	25.07
21	WTAASCW16V1	18.595	0.0091	0.963	0.000	16.07	24.98
22	WTAASCW16V2	5.285	0.0986	3.905	0.000	16.07	24.97
23	WTAASCW16V3	23.795	0.0181	8.425	0.679	3.59	24.99
24	WTAASCW16V4	4.745	0.0911	6.515	0.472	26.77	25.03
25	WTAASCW16W1	27.695	0.1960	0.635	0.000	5.13	25.00
26	WTAASCW16W2R1	6.225	0.0450	3.035	0.000	8.67	25.00
27	WTAASCW16W2R2	0.119	0.0445	13.985	0.000	9.66	24.95
28	WTAASCW16W2R3	16.895	0.0498	2.945	0.000	11.87	25.04
29	WTAASCW16W3R1	14.345	0.0034	5.005	0.044	4.88	25.02
30	WTAASCW16W3R2	14.495	0.0032	3.395	0.000	7.03	25.04
31	WTAASCW16W3R3	9.475	0.0023	2.255	0.000	5.71	25.00
32	WTAASCW16W4	7.995	0.0374	1.735	0.000	11.37	25.09
33	WTAASCW16X1	0.762	0.0009	0.126	0.000	1.35	24.91
34	WTAASCW16X2	2.975	0.0000	0.875	0.000	2.79	25.05
35	WTAASCW16X3	10.395	0.0000	0.232	0.000	1.23	25.01
36	WTAASCW16X4	21.595	0.0035	2.215	4.499	6.31	25.10
37	WTAASCW16X5	5.385	0.0014	2.665	0.004	1.06	24.98
38	WTAASCW16X6R1	15.195	0.0042	4.725	0.414	2.13	24.91
39	WTAASCW16X6R2	14.495	0.0052	4.295	0.789	2.05	24.97
40	WTAASCW16X6R3	4.185	0.0063	6.155	0.000	2.87	24.98
41	WTAASCW16Y1	0.211	0.0000	0.318	0.000	7.99	24.99
42	WTABSCW14Q3	1.365	0.0273	1.995	0.000	7.50	24.99
43	WTABSCW14R1	0.506	0.0960	9.675	0.799	32.07	25.00
44	WTABSCW14S1	1.215	0.0036	0.708	0.000	10.17	25.00

Table 2.5-B1 (Continued)

OBS	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN	W_EXT
45	WTABSCW14S1C	11.595	0.0008	6.315	0.000	4.00	25.00
46	WTABSCW15Q1	1.625	0.0720	125.985	27.039	39.37	24.99
47	WTABSCW15R1	1.465	0.0536	18.385	0.084	13.97	25.01
48	WTABSCW15S1	7.815	0.1110	4.085	0.000	21.17	24.97
49	WTCPSCW26F1	6.115	1.0290	10.985	0.000	9.38	25.00
50	WTCPSCW26F2	4.605	1.1390	16.385	1.419	14.27	25.00
51	WTCPSCW26F3	1.185	0.2330	0.532	0.969	4.36	25.00
52	WTCPSCW26G3	7.895	0.4170	4.655	0.779	6.13	25.00
53	WTCPSCW26G4	5.625	0.9980	2.865	0.859	11.87	25.00
54	WTCPSCW26G5	4.145	0.9550	6.165	0.418	9.62	25.00
55	WTCPSCW27E1	0.257	0.0650	0.200	0.000	0.75	25.00
56	WTCPSCW27E2	1.615	0.8150	2.755	1.149	6.64	25.00
57	WTCPSCW27F1	4.935	0.4110	4.435	0.000	8.22	25.00
58	WTCPSCW28F1	5.625	0.1970	1.975	11.639	2.67	24.99
59	WTCPSCW29E1	2.965	0.8430	4.015	0.000	27.57	25.00
60	WTCPSCW29E10	0.156	0.0520	0.827	0.869	18.67	25.00
61	WTCPSCW29E11R1	0.137	0.0780	2.375	53.639	56.47	25.00
62	WTCPSCW29E11R2	0.061	0.0760	2.095	52.739	42.87	25.03
63	WTCPSCW29E11R3	0.085	0.0730	1.505	60.139	48.07	25.07
64	WTCPSCW29E12	0.076	0.0580	1.355	14.339	49.77	25.00
65	WTCPSCW29E2R1	1.295	0.7590	0.879	0.000	19.87	25.01
66	WTCPSCW29E2R2	1.095	1.2290	1.175	0.369	21.27	25.01
67	WTCPSCW29E2R3	1.075	1.2690	1.135	0.569	20.87	24.99
68	WTCPSCW29E3	1.885	0.1490	1.445	0.000	4.09	25.00
69	WTCPSCW29E6	0.518	0.1910	1.285	67.839	15.17	25.00
70	WTCPSCW29E7	0.374	0.0790	1.305	28.539	16.57	29.00
71	WTCPSCW29E9	0.041	0.0280	0.323	0.819	2.03	25.00
72	WTCPSCW29F1	0.873	0.8020	0.982	0.000	4.35	24.99
73	WTCPSCW29F3R1	0.212	0.0050	0.339	12.539	1.40	25.00
74	WTCPSCW29F3R2	0.118	0.0076	0.061	0.819	0.27	25.05
75	WTCPSCW29F3R3	0.125	0.0157	0.042	2.629	0.56	24.99
76	WTCPSCW30E1	0.253	0.0040	0.000	0.043	9.36	24.99
77	WTCPSCW30F1	0.485	0.0060	0.004	0.393	6.95	24.99
78	WTCPSCW30F2	0.617	0.0610	0.451	0.689	4.87	25.00
79	WTCPSCW30F3	0.133	0.0020	0.232	0.789	1.86	25.00
80	WTCPSCW30F4R1	0.134	0.0020	0.002	1.799	11.47	25.00
81	WTCPSCW30F4R2	0.014	0.0000	0.018	0.000	6.97	25.08
82	WTCPSCW30F4R3	0.034	0.0007	0.025	0.000	7.46	25.01
83	WTESSCW13H1	0.041	0.0000	0.000	0.000	5.12	24.99
84	WTESSCW13H2	0.129	0.0181	0.362	0.289	4.20	25.01
85	WTESSCW13H3	0.030	0.0339	0.327	1.319	10.07	24.96
86	WTESSCW13J1	0.067	0.0010	0.000	1.489	21.57	25.00
87	WTESSCW13J2	0.169	0.1600	0.481	3.429	96.57	25.00

Table 2.5-B1 (Continued)

OBS	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN	W_EXT
88	WTESSCW13J3	0.038	0.0629	0.566	2.339	19.97	24.95
89	WTESSCW13K1	0.157	0.0000	0.000	0.959	20.87	25.00
90	WTESSCW13K2R1	0.237	0.5680	4.245	38.039	333.87	25.01
91	WTESSCW13K2R2	0.251	0.5660	4.275	39.939	355.87	25.00
92	WTESSCW13K2R3	0.275	0.5690	4.515	43.339	388.87	25.03
93	WTESSCW13K3	0.054	0.1146	0.941	3.699	22.87	24.99
94	WTESSCW13L6	0.631	1.4290	102.985	40.039	2359.87	25.00
95	WTG1SCW10M2	0.035	0.0310	0.046	0.000	0.20	25.00
96	WTG1SCW10M3	0.000	0.0310	0.008	0.000	0.06	25.00
97	WTG1SCW10N3	0.425	0.0600	0.809	1.099	6.34	25.01
98	WTG1SCW10O1	0.141	0.0590	0.802	1.139	10.97	25.00
99	WTG1SCW11O1	0.218	1.1490	6.115	44.539	642.87	25.00
100	WTG1SCW12L2	0.262	0.0580	1.805	2.959	14.57	25.01
101	WTG1SCW12M1	0.029	0.3890	0.185	0.000	9.03	25.01
102	WTG1SCW12M5	0.072	0.1190	2.685	5.179	88.87	25.00
103	WTG1SCW12M5	0.222	0.1370	2.125	19.439	163.87	25.00
104	WTG1SCW12M6	0.144	0.1760	3.825	19.439	149.87	25.00
105	WTG1SCW12N1	0.640	2.2590	26.585	272.639	2519.87	25.00
106	WTG1SCW12N2A	0.048	0.0000	0.002	0.015	81.67	25.02
107	WTG1SCW12N2B	0.054	0.0000	0.000	0.279	112.87	25.01
108	WTG1SCW12N4R1	0.094	0.0500	0.468	1.849	10.97	25.00
109	WTG1SCW12N4R2	0.079	0.1250	0.457	2.329	41.97	25.01
110	WTG1SCW12N4R3	0.082	0.0940	0.437	2.279	43.87	25.00
111	WTG1SCW12N6	0.056	0.0310	0.280	0.000	6.01	25.00
112	WTG1SCW12O1	0.261	0.7850	8.715	58.039	764.87	25.00
113	WTG1SCW13L5	0.169	0.5360	1.855	1.309	209.87	25.00
114	WTG1SCW13M1	1.125	0.5680	24.885	144.639	1094.87	25.00
115	WTG1SCW13M4	0.145	0.0850	1.175	3.159	20.07	25.00
116	WTG1SCW13M5R1	0.165	0.0840	1.115	4.169	40.97	25.00
117	WTG1SCW13M5R2	0.220	0.1010	1.345	5.209	45.37	25.01
118	WTG1SCW13M5R3	0.216	0.0830	1.705	5.589	46.77	24.99
119	WTG1SCW14L2R1	0.243	0.7060	3.965	48.839	380.87	25.00
120	WTG1SCW14L2R2	0.208	0.7220	3.405	26.939	356.87	25.00
121	WTG1SCW14L2R3	0.227	0.7350	3.395	27.439	388.87	25.01
122	WTG1SCW14L3	0.291	1.2490	4.575	29.239	428.87	25.00
123	WTG1SCW14M3	0.031	0.0200	0.221	0.000	4.60	25.00
124	WTG1SCW14M4	0.408	0.0140	4.995	9.939	31.27	25.00
125	WTK2SCW10P2	0.863	0.4550	0.588	37.739	382.87	25.00
126	WTK2SCW3R1	0.302	0.0340	0.013	2.639	26.37	25.00
127	WTK2SCW3R2	0.437	0.1410	0.120	1.279	537.87	24.99
128	WTK2SCW3R3	0.137	0.0880	0.534	3.339	39.97	25.00
129	WTK2SCW4Q1	0.380	0.4820	0.545	3.289	81.97	24.99
130	WTK2SCW4Q2	0.823	0.0550	0.020	1.249	53.17	25.00
131	WTK2SCW4Q3	0.650	0.0020	0.000	0.000	18.17	25.00
132	WTK2SCW5P2	0.282	1.1390	3.485	13.839	264.87	24.99
133	WTK2SCW6P1	1.195	2.2590	123.985	295.639	3469.87	25.01

Table 2.5-B1 (Concluded)

OBS	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN	W_EXT
134	WTK2SCW6P2	0.597	3.1690	46.685	103.639	1139.87	25.00
135	WTK2SCW6Q1	0.243	0.7840	1.995	6.429	301.87	25.00
136	WTK2SCW6Q2	0.292	0.3560	0.120	14.839	401.87	25.00
137	WTK2SCW9P1	0.361	0.0390	0.512	2.329	8.65	25.00
138	WTKSSCW10R1	2.625	1.1290	1.535	1.409	205.87	25.03
139	WTKSSCW10R3	0.525	0.0698	1.595	27.439	33.17	25.01
140	WTKSSCW10R4	1.115	0.3450	7.225	36.139	49.37	25.02
141	WTKSSCW11R2	0.288	0.0522	0.846	0.379	7.93	25.06
142	WTKSSCW12R1	0.376	0.0208	0.922	0.689	8.16	25.04
143	WTKSSCW8R1	1.665	0.0740	1.575	0.039	20.77	25.01
144	WTKSSCW8R2	3.565	0.2880	0.768	0.549	63.87	24.96
145	WTKSSCW9Q1	0.278	0.5090	0.708	0.009	70.87	24.99

Table 2.5-B2 Blank Analysis

OBS	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
1	WTBLANKR3	0.005	0.0010	0.008	0.043	0.065
2	WTBLANKR2	0.005	0.0020	0.012	0.034	0.030
3	WTBLANKR1	0.005	0.0001	0.011	0.002	0.087
4	WTBLANKR9	0.005	0.0001	0.039	1.100	0.066
5	WTBLANKR8	0.005	0.0078	0.030	0.002	0.030
6	WTBLANKR5	0.005	0.0001	0.008	0.840	0.057
7	WTBLANKR6	0.005	0.0001	0.015	1.090	0.132
8	WTBLANKR7	0.005	0.0009	0.002	0.110	0.430
9	WTBLANKR4	0.005	0.0008	0.010	0.030	0.078

Table 2.5-B3 Blank Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
WWT_AS	9	0.005	0.000	0.005	0.005	0.000	0.045	0.000	0.000
WWT_CD	9	0.001	0.002	0.000	0.008	0.001	0.013	0.000	172.383
WWT_CU	9	0.015	0.012	0.002	0.039	0.004	0.135	0.000	78.811
WWT_PB	9	0.361	0.493	0.002	1.100	0.164	3.251	0.243	136.516
WWT_ZN	9	0.108	0.124	0.030	0.430	0.041	0.975	0.015	114.914

Table 2.5-B4 Wet Extraction (June and July 1986)

OBS	ID	WWT_SE	W_EXT
1	WTBLANKR1	0.05	.
2	WTBLANKR5	0.05	.
3	WTCPSCW26F1	0.00	25
4	WTCPSCW26F2	0.00	25
5	WTCPSCW26F3	0.00	25
6	WTCPSCW26G3	0.00	25
7	WTCPSCW26G4	0.00	25
8	WTCPSCW26G5	0.00	25
9	WTCPSCW27E1	0.07	25
10	WTCPSCW27E2	0.00	25
11	WTCPSCW27F1	0.00	25
12	WTCPSCW28F1	0.37	25
13	WTCPSCW29E1	0.01	25
14	WTCPSCW29E10	0.00	25
15	WTCPSCW29E11R1	0.16	25
16	WTCPSCW29E11R2	0.16	25
17	WTCPSCW29E11R3	0.11	25
18	WTCPSCW29E12	0.00	25
19	WTCPSCW29E2R1	0.00	25
20	WTCPSCW29E2R2	0.00	25
21	WTCPSCW29E2R3	0.00	25
22	WTCPSCW29E3	0.06	25
23	WTCPSCW29E6	0.21	25
24	WTCPSCW29E7	0.02	25
25	WTCPSCW29E9	0.00	25
26	WTCPSCW29F1	9.75	25
27	WTCPSCW29F3R1	0.00	25
28	WTCPSCW29F3R2	0.00	25
29	WTCPSCW29F3R3	0.00	25
30	WTCPSCW30E1	0.00	25
31	WTCPSCW30F1	0.00	25
32	WTCPSCW30F2	0.00	25
33	WTCPSCW30F3	0.00	25
34	WTCPSCW30F4R1	0.00	25
35	WTCPSCW30F4R2	0.00	25
36	WTCPSCW30F4R3	0.00	25

Table 2.5-B5 Wet Extraction (December 1986)

OBS	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
1	WTAASCW16U5	20.1949	0.104	1.562	0.40	16.17
2	WTAASCW16U6	51.3949	0.051	0.537	0.09	39.27
3	WTAASCW16U7	27.3949	0.074	3.652	0.22	22.27
4	WTAASCW16U8	6.5949	0.010	5.132	0.46	2.55
5	WTABSCW15Q2	14.2949	0.103	40.772	0.12	23.87
6	WTABSCW15R2	6.4249	0.009	16.772	0.37	4.10
7	WTABSCW15S2	10.9949	0.195	1.602	0.68	34.67
8	WTABSCW15S3	6.4449	0.148	0.417	0.38	32.57
9	WTKSSCW10Q1D1	1.9049	1.410	79.172	1.84	900.97
10	WTKSSCW10Q1D2R1	0.9349	1.890	11.572	16.49	436.97
11	WTKSSCW10Q1D2R2	0.6869	1.820	10.872	14.09	404.97
12	WTKSSCW10Q1D2R3	0.6829	2.090	9.312	14.59	381.97
13	WTKSSCW10Q1D3	0.1949	0.758	4.642	10.39	319.97
14	WTKSSCW10Q1D4	0.4509	0.529	1.492	5.22	234.97
15	WTKSSCW10Q2D1R1	1.4649	1.570	18.372	90.39	960.97
16	WTKSSCW10Q2D1R2	1.0649	3.020	17.172	58.59	910.97
17	WTKSSCW10Q2D1R3	1.1749	3.200	17.872	1.15	974.97
18	WTKSSCW10Q2D2R1	1.0749	1.620	7.332	42.49	544.97
19	WTKSSCW10Q2D2R2	0.9029	1.430	5.972	31.99	483.97
20	WTKSSCW10Q2D2R3	0.9509	1.570	5.562	24.19	479.97
21	WTKSSCW10Q2D3	1.0449	0.660	4.592	17.19	440.97
22	WTKSSCW10Q2D4	0.7869	0.787	3.562	0.25	331.97
23	WTKSSCW10Q3D1	2.6349	0.396	8.692	0.52	68.57
24	WTKSSCW10Q3D2	0.5009	0.927	0.831	0.21	139.97
25	WTKSSCW10Q3D3	0.2989	0.205	0.424	1.95	109.97
26	WTKSSCW10Q3D4	0.1529	0.012	0.339	0.01	12.57
27	WTKSSCW10R5D1	3.3649	5.520	41.672	92.39	1919.97
28	WTKSSCW10R5D2	1.4349	2.680	9.072	42.39	1119.97
29	WTKSSCW10R5D3R1	0.7789	2.090	6.802	44.19	962.97
30	WTKSSCW10R5D3R2	0.4109	1.670	3.052	22.19	533.97
31	WTKSSCW10R5D3R3	0.5949	1.500	3.242	0.03	540.97
32	WTKSSCW10R5D4	0.5869	1.050	2.352	21.19	487.97
33	WTKSSCW10R6D1	0.8269	1.890	6.362	3.13	312.97
34	WTKSSCW10R6D2	0.2929	1.990	1.242	2.81	228.97
35	WTKSSCW10R6D3	0.2769	1.470	0.480	2.72	301.97
36	WTKSSCW10R6D4R1	0.1839	0.944	0.518	0.25	178.97
37	WTKSSCW10R6D4R2	0.2689	1.060	0.483	0.25	91.47
38	WTKSSCW10R6D4R3	0.2469	1.150	0.494	0.00	229.97
39	WTKSSCW10R7D1	2.2949	0.666	13.272	21.59	13.37
40	WTKSSCW10R7D2	1.4149	0.223	0.228	0.36	42.07
41	WTKSSCW10R7D3	0.6349	0.216	0.904	1.71	73.27
42	WTKSSCW10R7D4	0.5669	0.546	1.032	2.59	102.97
43	WTKSSCW11Q1D1	30.4949	0.227	16.372	0.41	25.77
44	WTKSSCW11Q1D2	40.9949	0.177	23.372	0.00	23.77
45	WTKSSCW11Q1D3	22.5949	0.500	33.672	0.03	40.07

Table 2.5-B5 (Continued)

OBS	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
46	WTKSSCW11Q1D4	9.6949	0.281	27.972	0.02	35.27
47	WTKSSCW11Q2D1	59.9949	0.421	24.672	0.00	32.57
48	WTKSSCW11Q2D2	20.9949	0.771	48.572	1.57	65.87
49	WTKSSCW11Q2D3	6.1549	0.414	43.672	0.01	79.97
50	WTKSSCW11Q2D4	0.1369	1.000	22.072	0.21	80.17
51	WTKSSCW11Q3D1R1	5.4749	0.078	12.572	1.23	7.50
52	WTKSSCW11Q3D1R2	3.4349	0.136	11.772	0.03	10.37
53	WTKSSCW11Q3D1R3	5.2949	0.141	11.272	0.04	9.80
54	WTKSSCW11Q3D2	2.8249	0.094	9.272	0.59	12.37
55	WTKSSCW11Q3D3	0.1829	0.205	9.892	0.21	16.07
56	WTKSSCW11Q3D4	0.5209	0.187	4.952	1.48	54.47
57	WTKSSCW11R4D1	10.7949	0.175	12.972	0.25	15.17
58	WTKSSCW11R4D2	0.2769	0.953	13.372	0.14	128.97
59	WTKSSCW11R4D3	1.5249	1.870	20.372	0.12	0.39
60	WTKSSCW11R4D4	0.6429	0.313	0.659	0.10	60.07
61	WTKSSCW11R5D1	0.2509	0.023	0.603	0.94	0.48
62	WTKSSCW11R5D2	0.1349	0.015	0.288	0.57	1.75
63	WTKSSCW11R5D3R1	0.0829	0.003	0.175	0.16	0.21
64	WTKSSCW11R5D3R2	0.0569	0.004	0.190	0.08	0.07
65	WTKSSCW11R5D3R3	0.0869	0.000	0.158	0.08	0.12
66	WTKSSCW11R5D4	0.0689	0.004	0.171	0.12	0.22
67	WTKSSCW11R6D1	1.2849	1.820	22.272	0.68	49.67
68	WTKSSCW11R6D2	0.6349	2.730	7.702	0.16	139.97
69	WTKSSCW11R6D3	0.4509	2.330	1.962	0.11	101.97
70	WTKSSCW11R6D4	0.1679	1.260	1.252	0.04	133.97
71	WTKSSCW11R7D1	2.1949	0.170	4.252	3.25	34.17
72	WTKSSCW11R7D2	0.9759	0.067	0.256	0.00	22.87
73	WTKSSCW11R7D3	0.4709	0.189	0.521	0.08	42.07
74	WTKSSCW11R7D4	0.3989	0.248	0.315	0.04	72.27
75	WTKSSCW11R8D1	2.4349	0.087	9.852	0.37	0.98
76	WTKSSCW11R8D2	1.5749	0.118	18.072	0.14	10.87
77	WTKSSCW11R8D3	0.1939	0.132	2.832	0.09	11.77
78	WTKSSCW11R8D4	0.1689	0.061	1.152	0.02	0.78
79	WTKSSCW11R9D1	34.0949	0.214	16.672	0.00	16.37
80	WTKSSCW11R9D2R1	1.0949	0.419	33.872	0.08	32.97
81	WTKSSCW11R9D2R2	2.0949	0.406	29.472	0.07	30.37
82	WTKSSCW11R9D2R3	6.5949	0.362	28.272	0.02	27.17
83	WTKSSCW11R9D3R1	0.5789	0.470	26.772	0.05	35.47
84	WTKSSCW11R9D3R2	2.7349	0.351	24.872	0.00	33.87
85	WTKSSCW11R9D3R3	1.9849	0.484	26.172	0.02	33.97
86	WTKSSCW11R9D4	10.9949	0.368	21.022	0.01	31.97
87	WTKSSCW12Q1D1	0.1869	0.060	0.731	0.04	6.20
88	WTKSSCW12Q1D2	0.2749	0.027	0.324	0.03	3.27
89	WTKSSCW12Q1D3	0.1429	0.021	0.281	0.42	1.37

Table 2.5-B5 (Continued)

OBS	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
90	WTKSSCW12Q1D4	0.1509	0.001	0.130	0.01	0.09
91	WTKSSCW12R4D1	0.2429	0.002	0.670	0.02	2.33
92	WTKSSCW12R4D2R1	0.1109	0.000	0.168	0.03	0.27
93	WTKSSCW12R4D2R2	0.0889	0.000	0.200	0.22	0.75
94	WTKSSCW12R4D2R3	0.0989	0.003	0.202	0.04	0.58
95	WTKSSCW12R4D3	0.1369	0.005	0.152	0.10	0.45
96	WTKSSCW12R4D4	0.1149	0.001	0.124	0.03	0.41
97	WTKSSCW12R5D1	0.1989	0.015	0.434	0.55	0.19
98	WTKSSCW12R5D2	0.0849	0.006	0.210	0.14	0.28
99	WTKSSCW12R5D3	0.1029	0.006	0.203	0.07	0.10
100	WTKSSCW12R5D4	0.0489	0.020	0.129	0.18	0.14
101	WTKSSCW12R6D1	0.3939	0.130	2.242	0.38	15.67
102	WTKSSCW12R6D2	0.2729	0.010	0.666	0.06	0.80
103	WTKSSCW12R6D3	0.2679	0.015	0.640	0.03	0.89
104	WTKSSCW12R6D4	0.1029	0.100	0.293	0.01	30.37
105	WTKSSCW13Q1D1	0.3269	0.221	1.112	0.42	79.67
106	WTKSSCW13Q1D2	0.2409	0.064	0.650	1.14	31.57
107	WTKSSCW13Q1D3	0.1329	0.027	0.365	0.29	9.51
108	WTKSSCW13Q1D4	0.0369	0.020	0.225	0.28	5.49
109	WTKSSCW13R1D1	0.2229	0.188	1.732	0.33	31.57
110	WTKSSCW13R1D2R1	0.2869	0.675	4.912	0.09	80.77
111	WTKSSCW13R1D2R2	0.2189	0.591	3.012	0.07	76.17
112	WTKSSCW13R1D2R3	0.2629	0.688	3.752	0.43	81.47
113	WTKSSCW13R1D3	0.0949	5.210	44.772	0.11	389.97
114	WTKSSCW13R1D4R1	0.0869	0.675	3.012	0.05	170.97
115	WTKSSCW13R1D4R2	0.0789	1.310	3.462	0.06	174.97
116	WTKSSCW13R1D4R3	0.1069	0.919	5.252	0.05	144.97
117	WTKSSCW13R2D1	0.3769	0.030	0.934	0.81	15.37
118	WTKSSCW13R2D2	0.2389	0.028	0.374	0.42	9.22
119	WTKSSCW13R2D3	0.0699	0.020	0.236	0.11	2.33
120	WTKSSCW13R2D4	0.0749	0.018	0.153	0.11	1.16
121	WTKSSCW13R3D1	0.2269	0.026	0.847	0.39	2.43
122	WTKSSCW13R3D2	0.1709	0.024	0.466	0.09	1.97
123	WTKSSCW13R3D3	0.1189	0.001	0.240	0.04	0.77
124	WTKSSCW13R3D4	0.1869	0.000	0.338	0.21	1.39
125	WTKSSCW13R4D1	0.3129	0.011	0.637	1.29	1.98
126	WTKSSCW13R4D2	0.2169	0.014	0.458	0.56	0.76
127	WTKSSCW13R4D3	0.1229	0.004	0.357	0.52	1.22
128	WTKSSCW13R4D4	0.1929	0.000	0.267	0.84	0.60
129	WTKSSCW13R5D1	0.1609	0.016	0.333	0.41	1.01
130	WTKSSCW13R5D2	0.0789	0.007	0.232	0.24	0.21
131	WTKSSCW13R5D3	0.0649	0.000	0.153	0.07	0.08
132	WTKSSCW13R5D4	0.0549	0.001	0.164	0.16	0.66
133	WTKSSCW8R3D1	1.7649	1.120	4.272	2.18	277.97

Table 2.5-B5 (Concluded)

OBS	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
134	WTKSSCW8R3D2	0.5869	0.345	0.592	0.44	106.97
135	WTKSSCW8R3D3	0.4009	0.196	3.612	1.27	69.47
136	WTKSSCW8R3D4	0.3389	0.438	0.056	0.01	99.77
137	WTKSSCW8R4D1	0.3509	0.177	1.512	2.91	52.97
138	WTKSSCW8R4D2	0.6989	0.120	2.002	2.74	40.67
139	WTKSSCW8R4D3R1	0.2989	0.015	0.713	0.00	5.29
140	WTKSSCW8R4D3R2	0.1369	0.021	0.782	0.20	12.77
141	WTKSSCW8R4D3R3	0.3069	0.014	0.715	0.29	7.05
142	WTKSSCW8R4D4	0.2149	0.019	0.458	0.42	11.97
143	WTKSSCW9Q2D1	0.7779	3.230	4.822	65.69	1029.97
144	WTKSSCW9Q2D2	0.3779	1.080	2.332	53.09	132.97
145	WTKSSCW9Q2D3	0.3129	0.441	0.592	2.78	121.97
146	WTKSSCW9Q2D4R1	0.2449	0.409	0.620	10.09	85.47
147	WTKSSCW9Q2D4R2	0.2469	0.325	0.396	10.09	35.87
148	WTKSSCW9Q2D4R3	0.1949	0.306	0.174	1.97	117.97
149	WTKSSCW9Q3D1	0.7269	2.470	14.372	0.09	839.97
150	WTKSSCW9Q3D2	0.3829	1.550	4.622	11.59	633.97
151	WTKSSCW9Q3D3	0.3749	1.150	4.352	2.16	942.97
152	WTKSSCW9Q3D4	0.2709	0.998	4.602	0.10	829.97
153	WTKSSCW9R1D1	4.6749	0.288	3.852	0.44	65.27
154	WTKSSCW9R1D2	2.1449	0.240	1.392	0.92	12.57
155	WTKSSCW9R1D3	0.3829	0.236	0.281	0.32	48.77
156	WTKSSCW9R1D4	0.1879	0.159	0.526	0.46	22.97

Table 2.5-B6 Blank Analysis

OBS	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
1	WTBLANKR1	0.005	0.0001	0.030	0.001	0.030
2	WTBLANKR10	0.005	0.0001	0.030	0.001	0.030
3	WTBLANKR11	0.005	0.0001	0.030	0.001	0.030
4	WTBLANKR12	0.005	0.0001	0.030	0.003	0.077
5	WTBLANKR13	0.005	0.0001	0.030	0.001	0.030
6	WTBLANKR14	0.005	0.0001	0.030	0.001	0.030
7	WTBLANKR15	0.005	0.0027	0.003	0.009	0.030
8	WTBLANKR2	0.006	0.0001	0.030	0.003	0.015
9	WTBLANKR3	0.005	0.0001	0.030	0.019	0.030
10	WTBLANKR4	0.005	0.0001	0.030	0.013	0.030
11	WTBLANKR5	0.005	0.0001	0.030	0.001	0.030
12	WTBLANKR6	0.005	0.0001	0.030	0.006	0.030
13	WTBLANKR7	0.005	0.0001	0.030	0.001	0.030
14	WTBLANKR8	0.005	0.0001	0.030	0.002	0.030
15	WTBLANKR9	0.005	0.0001	0.030	0.088	0.030

Table 2.5-B7 Blank Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
WWT_AS	15	0.0051	0.0003	0.0050	0.0060	0.0001	0.0760	0.00000007	5.096
WWT_CD	15	0.0003	0.0007	0.0001	0.0027	0.0002	0.0041	0.00000045	245.604
WWT_CU	15	0.0282	0.0070	0.0030	0.0300	0.0018	0.4230	0.00004860	24.721
WWT_PB	15	0.0100	0.0222	0.0010	0.0880	0.0057	0.1500	0.00049429	222.325
WWT_ZN	15	0.0321	0.0130	0.0150	0.0770	0.0034	0.4820	0.00016898	40.454

2.5.10.3 Tables C1-C10 Sample ID and Variable Description

Tables 2.5-C1-C10 present the EP toxicity analysis data. The samples that appear in Tables C1 and C4 were collected in June and July 1986. Samples listed in Table C7 were collected in December 1986. Samples listed in Table C10 were collected in March 1987.

Variable Description	Unit
WWT_AS,WWT_CD, WWT_CU,WWT_PB,WWT_ZN EP_AS,EP_CD,EP_PB	mg/l wet weight basis
SOLID	Percent solids
WT	Grams
DEPTH	Feet

Example Key

ID No.: EP AA SCW5T2R1
EP - Extraction Procedure of RCRA used for analysis

AA - Sample site area
- AA: Allied A
- AB: Allied B
- CP: Coke pile site
- ES: ESI
- G1: G-1 Getty
- K2: K-2
- KS: Kiln site

SC - Sample type
- SC: Soil core
- GT: Surface sample gritty material
- RB: Surface sample red brick
- YB: Surface sample yellow brick

W5T2R1 - Specific WES sample site location
- 5T2 Label for site
- R1, R2, R3 Triplicate samples
- Samples IDs in Table C7 included D1-D4.
  - D1-D4 refer to the depth of core:
    - D1 0" - 6"
    - D2 6" - 12"
    - D3 12" - 24"
    - D4 24" - 36"

Samples IDs in Table C10 included D1-D6.
D1-D6 refer to the depth of core:

D1	0′ - 1′
D2	1′ - 2′
D3	2′ - 3′
D4	3′ - 4′
D5	4′ - 5′
D6	5′ - 6′

A Sample taken June 24, 1986
B Sample taken June 25, 1986
C Resample previous contractor site

Table 2.5-C1 EP Toxicity (June and July 1986)

OBS	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN	WT
1	EPAASCW12W2	0.000	0.0030	0.0165	0.000	1.615	20.0000
2	EPAASCW14X2	0.000	0.0000	0.0535	0.000	0.000	20.0000
3	EPAASCW16U1	0.012	0.0000	0.0405	0.212	0.152	20.0000
4	EPAASCW16V4	0.002	0.0000	0.0475	0.039	0.220	20.0000
5	EPAASCW16X1	0.027	0.0045	0.0595	0.000	0.134	20.0000
6	EPCPSCW26F1	0.097	0.0856	0.0335	0.000	0.273	20.0010
7	EPCPSCW26F2	0.097	0.0596	0.0525	0.000	0.335	19.9990
8	EPCPSCW26F3	0.055	0.0016	0.0065	0.000	0.278	20.0020
9	EPCPSCW26G3	0.195	0.0036	0.0305	0.000	0.000	20.0000
10	EPCPSCW26G4	0.120	0.0005	0.0005	0.000	0.000	20.0010
11	EPCPSCW26G5	0.107	0.0226	0.0115	0.003	0.091	19.9990
12	EPCPSCW27E1	0.008	0.1126	0.0175	0.009	0.000	20.0010
13	EPCPSCW27E2	0.036	0.0000	0.0075	0.000	0.000	20.0010
14	EPCPSCW28F1	0.020	0.0106	0.0065	0.000	0.286	20.0010
15	EPCPSCW29E1	0.328	0.1596	0.0845	0.003	2.454	19.9990
16	EPCPSCW29E10	0.004	0.0106	0.0145	0.012	0.093	19.9990
17	EPCPSCW29E11R1	0.001	0.0026	0.0045	0.017	0.874	20.0000
18	EPCPSCW29E12	0.001	0.0206	0.0085	0.004	1.325	20.0000
19	EPCPSCW29E2R1	0.058	0.1366	0.0065	0.000	0.771	20.0000
20	EPCPSCW29E3	0.073	0.0426	0.0145	0.019	0.131	20.0000
21	EPCPSCW29E6	0.333	0.0186	0.0135	0.216	0.000	20.0000
22	EPCPSCW29E7	0.011	0.0166	0.0035	0.006	0.277	19.9990
23	EPCPSCW29E9	0.000	0.0000	0.0035	0.003	0.114	20.0020
24	EPCPSCW29F1	0.034	0.0255	0.0155	0.019	0.111	20.0020
25	EPCPSCW30E1	0.000	0.0026	0.0035	0.000	0.000	20.0000
26	EPCPSCW30F2	0.002	0.0002	0.0045	0.000	0.000	20.0000
27	EPCPSCW30F3	0.000	0.0000	0.0105	0.014	0.014	20.0010
28	EPESSCW13L6	0.000	0.3465	1.3185	10.599	237.855	20.0130
29	EPG1SCW10M2	0.000	0.0107	0.0015	0.004	0.047	20.0300
30	EPG1SCW10M3	0.000	0.0130	0.0015	0.003	0.010	19.9900
31	EPG1SCW10M3	0.000	0.0366	0.0075	0.005	0.479	19.9900
32	EPG1SCW1001	0.000	0.0016	0.0105	0.003	0.529	19.9700
33	EPG1SCW1101	0.000	0.1326	0.0295	0.434	41.555	20.0100
34	EPG1SCW12L2	0.000	0.0028	0.0095	0.000	0.175	20.0400
35	EPG1SCW12M1	0.000	0.0016	0.0035	0.000	0.000	20.0000
36	EPG1SCW12N1	0.000	0.3455	0.2515	6.679	335.855	20.0070
37	EPG1SCW12N4R1	0.000	0.0012	0.0025	0.000	0.062	20.0020
38	EPG1SCW12N4R2	0.001	0.0000	0.0015	0.000	0.000	20.0040
39	EPG1SCW12N4R3	0.001	0.0036	0.0035	0.000	0.001	19.9900
40	EPG1SCW12N5	0.002	0.0106	0.0115	0.012	6.125	19.9900
41	EPG1SCW12N6	0.000	0.0017	0.0005	0.002	0.000	20.0100
42	EPG1SCW1201	0.000	0.0005	0.0285	1.939	32.154	20.0200

Table 2.5-C1 (Concluded)

OBS	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN	WT
43	EPG1SCW13L5	0.000	0.0306	0.0105	0.093	11.755	19.9900
44	EPG1SCW13M1	0.001	0.0885	0.5915	3.259	143.855	20.0300
45	EPG1SCW13M5R1	0.001	0.0026	0.0065	0.000	0.717	20.0000
46	EPG1SCW13M5R2	0.001	0.0005	0.0065	0.000	0.328	19.9900
47	EPG1SCW13M5R3	0.001	0.0066	0.0055	0.003	0.608	20.0600
48	EPG1SCW14L2R1	0.000	0.0227	0.0000	0.025	13.655	20.0100
49	EPG1SCW14L2R2	0.000	0.0026	0.0075	0.007	8.705	19.9500
50	EPG1SCW14L2R3	0.000	0.0155	0.0045	0.005	8.245	19.9700
51	EPG1SCW14L3	0.000	0.0355	0.0285	0.011	10.155	20.0100
52	EPK2SCW10P2	0.056	0.0019	0.0015	0.010	0.955	20.0000
53	EPK2SCW3R1	0.000	0.0046	0.0075	0.009	0.750	20.0000
54	EPK2SCW3R2	0.001	0.0196	0.0305	0.011	1.435	20.0700
55	EPK2SCW3R3	0.000	0.0041	0.0055	0.000	1.585	20.0700
56	EPK2SCW4Q1	0.000	0.0196	0.0295	0.023	2.235	20.0200
57	EPK2SCW4Q2	0.000	0.0316	0.0255	0.007	2.875	19.9930
58	EPK2SCW4Q3	0.033	0.0303	0.0175	0.018	31.355	20.0500
59	EPK2SCW5P2	0.000	0.0526	0.0085	0.003	4.185	19.9800
60	EPK2SCW6P1	0.000	0.3186	0.3495	0.499	191.855	19.9900
61	EPK2SCW6P2	0.000	0.1536	0.1085	0.180	40.255	20.0600
62	EPK2SCW6Q1	0.000	0.0326	0.0105	0.005	16.055	19.9800
63	EPK2SCW6Q2	0.000	0.0306	0.0065	0.014	11.755	19.9900
64	EPK2SCW9P1	0.000	0.0005	0.0375	0.026	0.611	20.0200

Table 2.5-C2 Blank Analysis

OBS	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
1	EPBLANKR1	0.005	0.0008	0.002	0.002	0.261
2	EPBLANKR2	0.005	0.0001	0.001	0.001	0.030

Table 2.5-C3 Blank Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
WWT_AS	2	0.0050	0.0000	0.0050	0.0050	0.0000	0.0100	0.0000	0.000
WWT_CD	2	0.0005	0.0005	0.0001	0.0008	0.0004	0.0009	0.0000	109.994
WWT_CU	2	0.0015	0.0007	0.0010	0.0020	0.0005	0.0030	0.0000	47.140
WWT_PB	2	0.0015	0.0007	0.0010	0.0020	0.0005	0.0030	0.0000	47.140
WWT_ZN	2	0.1455	0.1633	0.0300	0.2610	0.1155	0.2910	0.0267	112.262

Table 2.5-C4 EP Toxicity (June and July 1986)

OBS	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN	WT
1	EPAASCW10R2	0.034	0.0045	0.1048	0.026	2.419	20.0000
2	EPAASCW10S1	0.015	0.0000	0.0598	0.004	0.334	20.0000
3	EPAASCW10S2	0.093	0.0000	0.0528	0.006	1.018	20.0000
4	EPAASCW10T1R1	0.015	0.0000	0.0348	0.006	0.274	20.0000
5	EPAASCW10T1R2	0.096	0.0021	0.0758	0.015	0.160	20.0000
6	EPAASCW10T1R3	0.081	0.0000	0.0598	0.002	0.199	20.0000
7	EPAASCW11R1R1	0.167	0.0020	0.4228	0.028	2.019	20.0000
8	EPAASCW11R1R2	0.156	0.0023	0.4988	0.030	3.429	20.0000
9	EPAASCW11R1R3	0.090	0.0000	0.0298	0.026	1.689	20.0000
10	EPAASCW11R3	0.190	0.0014	0.2448	0.006	1.409	20.0000
11	EPAASCW12S1	0.070	0.0001	0.3938	0.032	0.752	20.0000
12	EPAASCW12T1	0.011	0.0000	0.0000	0.002	0.164	20.0000
13	EPAASCW12V1	0.000	0.0009	0.0028	0.000	0.123	20.0000
14	EPAASCW14W1	0.000	0.0000	0.0128	0.004	0.109	20.0000
15	EPAASCW16U2	0.078	0.0088	0.5008	0.000	2.859	20.0000
16	EPAASCW16U3	0.005	0.0000	0.0408	0.000	0.552	20.0000
17	EPAASCW16U4	0.000	0.0000	0.0148	0.000	0.268	20.0000
18	EPAASCW16V1	0.126	0.0080	0.0718	0.000	0.941	20.0000
19	EPAASCW16V2	0.005	0.0000	0.0288	0.006	0.157	20.0000
20	EPAASCW16V3	0.142	0.0000	0.1008	0.014	0.239	20.0000
21	EPAASCW16W1	0.190	0.0115	0.0598	0.000	2.999	20.0000
22	EPAASCW16W2R1	0.053	0.0000	0.0078	0.002	0.117	20.0000
23	EPAASCW16W2R2	0.058	0.0000	0.0078	0.000	0.114	20.0000
24	EPAASCW16W2R3	0.007	0.0000	0.0088	0.000	0.121	20.0000
25	EPAASCW16W3R1	0.000	0.0000	0.0068	0.000	0.127	20.0000
26	EPAASCW16W3R2	0.000	0.0000	0.0078	0.002	0.039	20.0000
27	EPAASCW16W3R3	0.002	0.0000	0.0108	0.000	0.068	20.0000
28	EPAASCW16W4	0.022	0.0000	0.0438	0.006	0.186	20.0000
29	EPAASCW16X1	0.000	0.0000	0.0308	0.002	0.354	20.0000
30	EPAASCW16X2	0.058	0.0000	0.0038	0.000	0.053	20.0000
31	EPAASCW16X3	0.106	0.0000	0.0518	0.002	0.175	20.0000
32	EPAASCW16X4	0.030	0.0000	0.0618	0.014	0.173	20.0000
33	EPAASCW16X5	0.000	0.0000	0.0048	0.000	0.006	20.0000
34	EPAASCW16X6R1	0.000	0.0004	0.1138	0.000	0.518	20.0000
35	EPAASCW16X6R2	0.000	0.0000	0.1468	0.000	0.519	20.0000
36	EPAASCW16X6R3	0.000	0.0002	0.1268	0.000	0.474	20.0000
37	EPABSCW14Q2	0.030	0.0025	0.0368	0.026	0.151	20.0000
38	EPABSCW14Q3	0.000	0.0026	0.1088	0.004	0.622	20.0000
39	EPABSCW14R1	0.038	0.0050	0.1628	0.144	1.108	20.0000
40	EPABSCW14S1	0.032	0.0010	0.0778	0.026	0.613	20.0000
41	EPABSCW14S1C	0.035	0.0000	0.1538	0.056	0.161	20.0000
42	EPABSCW15Q1	0.023	0.0010	0.7708	0.028	1.429	20.0000
43	EPABSCW15R1	0.012	0.0001	0.1488	0.006	0.572	20.0000
44	EPABSCW15S1	0.433	0.0965	0.6548	0.028	6.599	20.0000
45	EPCPSCW27F1	0.081	0.0464	0.0288	0.000	0.503	20.0020

Table 2.5-C4 (Concluded)

OBS	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN	WT
46	EPCPSCW29E11R2	0.000	0.0011	0.0028	0.010	0.969	20.0000
47	EPCPSCW29E11R3	0.000	0.0022	0.0088	0.050	0.951	20.0000
48	EPCPSCW29E2R2	0.055	0.1255	0.0128	0.018	0.860	20.0000
49	EPCPSCW29E2R3	0.060	0.1255	0.0058	0.008	0.912	20.0000
50	EPCPSCW29F3R1	0.014	0.0000	0.0000	0.002	0.000	19.9990
51	EPCPSCW29F3R2	0.007	0.0000	0.0000	0.020	0.155	20.0000
52	EPCPSCW29F3R3	0.013	0.0000	0.0018	0.010	0.000	20.0000
53	EPCPSCW30F1	0.000	0.0000	0.0008	0.002	0.078	19.9900
54	EPCPSCW30F4R1	0.032	0.0000	0.0000	0.002	0.113	20.0020
55	EPCPSCW30F4R2	0.000	0.0000	0.0000	0.012	0.040	20.0000
56	EPCPSCW30F4R3	0.008	0.0000	0.0000	0.032	0.147	20.0000
57	EPESSCW13H1	0.000	0.0005	0.0000	0.030	0.173	20.0000
58	EPESSCW13H2	0.000	0.0015	0.0058	0.030	0.032	20.0000
59	EPESSCW13H3	0.000	0.0015	0.0118	0.014	0.296	20.0000
60	EPESSCW13J1	0.000	0.0010	0.0000	0.028	0.752	20.0000
61	EPESSCW13J2	0.000	0.0010	0.0018	0.024	2.899	20.0000
62	EPESSCW13J3	0.000	0.0010	0.0048	0.010	0.776	20.0000
63	EPESSCW13K1	0.000	0.0035	0.0000	0.010	2.479	20.0000
64	EPESSCW13K2R1	0.000	0.0340	0.0088	0.046	25.569	20.0000
65	EPESSCW13K2R2	0.000	0.0300	0.0098	0.046	18.569	20.0000
66	EPESSCW13K2R3	0.000	0.0695	0.0398	0.580	52.669	20.0000
67	EPESSCW13K3	0.000	0.0015	0.0048	0.016	0.740	20.0000
68	EPESSCW14F1	0.000	0.0020	0.0008	0.006	0.070	20.0000
69	EPG1SCW12N2A	0.000	0.0000	0.0000	0.002	3.299	20.0000
70	EPG1SCW12N2B	0.000	0.0000	0.0000	0.008	7.239	20.0000
71	EPKSSCW10R1	0.133	0.0136	0.0638	0.024	6.219	20.0000
72	EPKSSCW10R3	0.021	0.0021	0.0398	0.092	2.539	20.0000
73	EPKSSCW10R4	0.009	0.0036	0.0578	0.022	1.429	20.0000
74	EPKSSCW11R2	0.019	0.0000	0.0278	0.008	0.152	20.0000
75	EPKSSCW12R1	0.020	0.0000	0.0418	0.004	0.094	20.0000
76	EPKSSCW8R1	0.025	0.0030	0.1458	0.044	1.979	20.0000
77	EPKSSCW8R2	0.000	0.0495	0.0978	0.030	6.099	20.0000
78	EPKSSCW9Q1	0.033	0.1635	0.0378	0.006	35.469	20.0000

Table 2.5-C5 Blank Analysis

OBS	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
1	EPBLANKR3	0.005	0.0027	0.001	0.002	0.032
2	EPBLANKR4	0.005	0.0001	0.001	0.002	0.031
3	EPBLANKR5	0.005	0.0001	0.014	0.002	0.030
4	EPBLANKR6	0.005	0.0001	0.001	0.001	0.030
5	EPBLANKR7	0.005	0.0001	0.001	0.002	0.030
6	EPBLANKR8	0.005	0.0001	0.001	0.001	0.033

Table 2.5-C6 Blank Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
WWT_AS	6	0.0050	0.0000	0.0050	0.0050	0.0000	0.0300	0.0000	0.000
WWT_CD	6	0.0005	0.0011	0.0001	0.0027	0.0004	0.0032	0.0000	199.021
WWT_CU	6	0.0032	0.0053	0.0010	0.0140	0.0022	0.0190	0.0000	167.597
WWT_PB	6	0.0017	0.0005	0.0010	0.0020	0.0002	0.0100	0.0000	30.984
WWT_ZN	6	0.0310	0.0013	0.0300	0.0330	0.0005	0.1860	0.0000	4.080

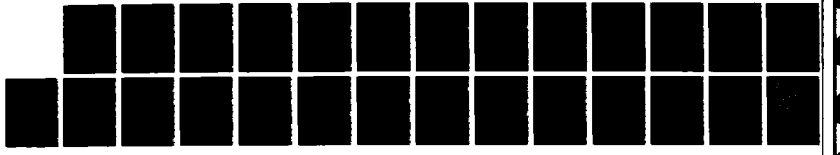
Table 2.5-C7 EP Toxicity (December 1986)

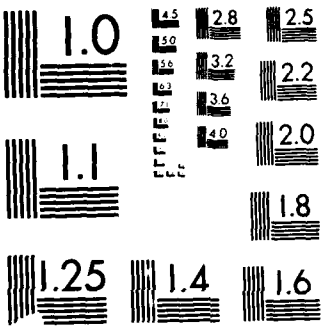
OBS	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
1	EPAASCW16U8	0.017	0.002	0.048	0.001	0.214
2	EPABSCW15Q2R1	0.006	0.001	0.003	0.002	1.000
3	EPABSCW15Q2R2	0.005	0.004	0.262	0.001	1.140
4	EPABSCW15Q2R3	0.005	0.013	0.271	0.001	1.150
5	EPABSCW15R2	0.009	0.006	0.236	0.002	0.914
6	EPABSCW15S2	0.296	0.030	0.073	0.001	3.260
7	EPABSCW15S3	0.084	0.046	0.333	0.001	13.650
8	EPKSSCW10Q1D1	0.032	0.032	0.107	0.003	22.400
9	EPKSSCW10Q1D2	0.060	0.034	0.080	0.002	22.050
10	EPKSSCW10Q1D3	0.046	0.014	0.001	0.002	7.930
11	EPKSSCW10Q1D4	0.034	0.012	0.006	0.001	8.280
12	EPKSSCW10Q2D1R1	0.068	0.037	0.076	0.032	23.700
13	EPKSSCW10Q2D1R2	0.065	0.032	0.078	0.006	19.000
14	EPKSSCW10Q2D1R3	0.049	0.003	0.038	0.005	10.900
15	EPKSSCW10Q2D2	0.074	0.014	0.036	0.028	15.300
16	EPKSSCW10Q2D3	0.081	0.001	0.011	0.005	7.220
17	EPKSSCW10Q2D4	0.120	0.002	0.008	0.004	16.100
18	EPKSSCW10Q3D1	0.018	0.058	0.188	0.001	8.000
19	EPKSSCW10Q3D2	0.028	0.039	0.004	0.001	9.490
20	EPKSSCW10Q3D3	0.028	0.005	0.003	0.001	5.170
21	EPKSSCW10Q3D4	0.034	0.000	0.243	0.003	0.304
22	EPKSSCW10R6D1	0.081	0.117	0.051	0.004	24.300
23	EPKSSCW10R6D2	0.019	0.187	0.003	0.005	25.400
24	EPKSSCW10R6D3	0.014	0.318	0.004	0.003	42.300
25	EPKSSCW10R6D4	0.026	0.023	0.009	0.004	1.820
26	EPKSSCW11Q1D1	0.054	0.088	5.870	0.034	10.800
27	EPKSSCW11Q1D2	0.034	0.154	7.510	0.049	15.200
28	EPKSSCW11Q1D3R1	0.024	0.182	7.350	0.036	18.500
29	EPKSSCW11Q1D3R2	0.021	0.153	7.480	0.003	17.500
30	EPKSSCW11Q1D3R3	0.017	0.187	7.680	0.003	19.000
31	EPKSSCW11Q1D4	0.006	0.189	2.590	0.029	18.100
32	EPKSSCW11Q2D1	0.082	0.119	7.060	0.030	13.400
33	EPKSSCW11Q2D2	0.006	0.245	13.000	0.054	27.000
34	EPKSSCW11Q2D3	0.047	0.303	10.250	0.026	34.800
35	EPKSSCW11Q2D4	0.006	0.303	4.830	0.036	30.900

Table 2.5-C8 Blank Analysis

OBS	ID	WWT_AS	WWT_CD	WWT_CU	WWT_PB	WWT_ZN
1	BLANKR1	0.005	0.0001	0.002	0.001	0.071
2	BLANKR2	0.005	0.0006	0.003	0.001	0.050
3	BLANKR3	0.005	0.0090	0.003	0.009	0.030

AD-A195 946 REMEDIAL INVESTIGATION OF CONTAMINANT MOBILITY AT NAVAL 2/2
WEAPONS STATION C..(U) ARMY ENGINEER WATERWAYS
EXPERIMENT STATION VICKSBURG MS ENVIR.. C R LEE ET AL.
UNCLASSIFIED JUN 88 WES/MP/EL-86-2-APP F/G 24/4 NL





UTION TEST CHART

Table 2.5-C9 Blank Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
WWT_AS	3	0.00500000	0.00000000	0.00500000	0.00500000	0.00000000	0.01500000	0.00000000	0.000
WWT_CD	3	0.00323333	0.00500033	0.00010000	0.00900000	0.00288694	0.00970000	0.00002500	154.649
WWT_CU	3	0.00266667	0.00057735	0.00200000	0.00300000	0.00033333	0.00800000	0.00000033	21.651
WWT_PB	3	0.00366667	0.00461880	0.00100000	0.00900000	0.00266667	0.01100000	0.00002133	125.967
WWT_ZN	3	0.05033333	0.02050203	0.03000000	0.07100000	0.01183685	0.15100000	0.00042033	40.733

Table 2.5-C10 EP Toxicity (March 1987)

OBS	DEPTH	ID	EP_AS	EP_CD	EP_PB	SOLID
1	0	KSGTW11Q1S1	0.74	0.21	0.09	89.90
2	0	KSRBW11Q1S1	0.12	0.06	0.06	98.00
3	0-1	KSSCW11Q10D1S1	0.14	0.01	0.04	83.00
4	1-2	KSSCW11Q10D2S1	0.17	0.02	0.06	80.50
5	2-3	KSSCW11Q10D3S1	0.14	0.01	0.06	79.10
6	3-4	KSSCW11Q10D4S1	0.10	0.01	0.07	79.40
7	4-5	KSSCW11Q10D5S1	0.09	0.01	0.07	80.50
8	5-6	KSSCW11Q10D6S1	0.09	0.01	0.08	80.70
9	0-1	KSSCW11Q11D1S1	0.12	0.02	0.04	78.90
10	1-2	KSSCW11Q11D2S1	0.11	0.01	0.05	78.70
11	2-3	KSSCW11Q11D3S1	0.13	0.01	0.07	77.00
12	3-4	KSSCW11Q11D4S1	0.14	0.01	0.10	78.50
13	4-5	KSSCW11Q11D5S1	0.12	0.01	0.08	81.60
14	5-6	KSSCW11Q11D6S1	0.17	0.01	0.09	80.20
15	0-1	KSSCW11Q12D1S1	0.10	0.03	0.03	86.10
16	1-2	KSSCW11Q12D2S1	0.14	0.05	0.06	80.50
17	2-3	KSSCW11Q12D3S1	0.10	0.02	0.04	76.00
18	3-4	KSSCW11Q12D4S1	0.14	0.02	0.05	77.00
19	4-5	KSSCW11Q12D5S1	0.10	0.03	0.20	76.90
20	5-6	KSSCW11Q12D6S1	0.10	0.01	0.08	78.80
21	0-1	KSSCW11Q4D1S1	0.06	0.04	0.04	81.30
22	1-2	KSSCW11Q4D2S1	0.10	0.07	0.05	79.70
23	2-3	KSSCW11Q4D3S1	0.15	0.03	0.07	78.90
24	3-4	KSSCW11Q4D4S1	0.11	0.01	0.06	82.80
25	4-5	KSSCW11Q4D5S1	0.13	0.01	0.06	82.60
26	5-6	KSSCW11Q4D6S1	0.14	0.01	0.07	82.80
27	0-1	KSSCW11Q5D1S1	0.06	0.03	0.04	81.50
28	1-2	KSSCW11Q5D2S1	0.11	0.06	0.07	77.40
29	2-3	KSSCW11Q5D3S1	0.15	0.14	0.09	77.70
30	3-4	KSSCW11Q5D4S1	0.20	0.17	0.09	78.90
31	4-5	KSSCW11Q5D5S1	0.15	0.04	0.08	82.60
32	5-6	KSSCW11Q5D6S1	0.14	0.01	0.08	80.70
33	0-1	KSSCW11Q6D1S1	0.22	0.06	0.06	82.60
34	1-2	KSSCW11Q6D2S1	0.22	0.13	0.09	78.80
35	2-3	KSSCW11Q6D3S1	0.13	0.04	0.08	77.10
36	3-4	KSSCW11Q6D4S1	0.15	0.01	0.10	75.10
37	4-5	KSSCW11Q6D5S1	0.21	0.02	0.09	75.40
38	5-6	KSSCW11Q6D6S1	0.17	0.01	0.11	76.10
39	0-1	KSSCW11Q7D1S1	0.20	0.06	0.07	78.10
40	1-2	KSSCW11Q7D2S1	0.33	0.18	0.09	77.40
41	2-3	KSSCW11Q7D3S1	0.18	0.13	0.10	78.10
42	3-4	KSSCW11Q7D4S1	0.28	0.01	0.09	76.50
43	4-5	KSSCW11Q7D5S1	0.13	0.02	0.09	77.20
44	5-6	KSSCW11Q7D6S1	0.13	0.01	0.12	79.30

Table 2.5-C10 (Concluded)

OBS	DEPTH	ID	EP_AS	EP_CD	EP_PB	SOLID
45	0-1	KSSCW11Q8D1S1	0.28	0.13	0.05	81.70
46	1-2	KSSCW11Q8D2S1	0.16	0.01	0.10	77.70
47	2-3	KSSCW11Q8D3S1	0.19	0.05	0.08	77.10
48	3-4	KSSCW11Q8D4S1	0.19	0.01	0.11	81.40
49	4-5	KSSCW11Q8D5S1	0.14	0.01	0.07	79.00
50	5-6	KSSCW11Q8D6S1	0.15	0.01	0.07	80.00
51	0-1	KSSCW11Q9D1S1	0.20	0.06	0.05	77.50
52	1-2	KSSCW11Q9D2S1	0.31	0.15	0.10	77.70
53	2-3	KSSCW11Q9D3S1	0.25	0.12	0.11	76.30
54	3-4	KSSCW11Q9D4S1	0.24	0.01	0.13	81.70
55	4-5	KSSCW11Q9D5S1	0.17	0.01	0.06	81.00
56	5-6	KSSCW11Q9D6S1	0.17	0.01	0.06	79.00
57	0	KSYBW11Q1S1	0.15	0.04	0.14	99.40

2.5.10.4 Tables D1-D16 Sample ID and Variable Description

Tables D1-D8 contain clam tissue analysis. The samples that appear in Table D1 were collected in June 1986.

Variable Description	Unit
AS,CD,PB,ZN	mg/kg or parts per million(ppm) dry weight basis
VOLUME	Milliliters(ml)
CLAM_IN, CLAM_OUT	Integer
DRYWT	Grams

Example Key

ID No.: AB CL W12S1R3

AB - Sample site area
- AA: Allied A
- AB: Allied B
- BK: Remote reference site
- ES: ESI
- G1: G-1 Getty
- K2: K-2

CL - Sample type
- CL: Clam tissue sample

W12S1R3 - Specific WES sample site location
- 12S1 Label for site
- R1, R2, R3 Triplicate samples

Table 2.5-D1 Clam Tissue Analysis (June 1986)

OBS	ID	AS	CD	PB	ZN	DRYWT	CLAM_OUT	VOLUME	CLAM_IN
1	AACLW10R5R1	1.80	3.78	0.7	350.6	0.501000	25	50	25
2	AACLW10R5R2	2.10	3.98	0.8	410.5	0.501000	25	50	25
3	AACLW10R5R3	2.38	4.06	0.9	392.2	0.504000	25	50	25
4	AACLW10S3R1	3.08	3.27	0.7	185.3	0.519000	25	50	25
5	AACLW10S3R3	2.87	2.86	1.3	194.0	0.506000	25	50	25
6	AACLW10T1R1	2.48	2.87	0.3	192.8	0.504000	25	50	25
7	AACLW10T1R2	2.56	2.55	0.4	199.5	0.507000	25	50	25
8	AACLW10T1R3	2.12	2.78	0.8	186.8	0.520000	25	50	25
9	AACLW1241R1	2.50	2.49	0.1	122.3	0.500000	25	50	25
10	AACLW1241R2	2.09	2.48	0.0	119.8	0.502000	25	50	25
11	AACLW1241R3	2.20	2.58	0.1	123.1	0.501000	25	50	25
12	AACLW1242R1	2.10	2.09	0.1	177.0	0.501000	25	50	25
13	AACLW1242R2	2.20	1 99	0.0	292.3	0.500000	25	50	25
14	AACLW1242R3	2.10	1.99	0.0	159.0	0.501000	25	50	25
15	AACLW1243R1	2.04	2.32	0.6	118.8	0.515000	25	50	25
16	AACLW1243R2	1.79	2.08	0.0	114.6	0.503000	25	50	25
17	AACLW1243R3	2.40	2.09	0.0	112.3	0.500000	25	50	25
18	AACLW1244R1	1.79	1.88	0.0	100.7	0.503000	24	50	25
19	AACLW1244R2	1.49	2.28	0.0	94.8	0.503000	25	50	25
20	AACLW1244R3	3.06	2.55	0.1	110.8	0.507000	25	50	25
21	AACLW1245R1	2.19	2.58	0.0	122.8	0.502000	25	50	25
22	AACLW1245R2	2.29	2.67	0.0	97.7	0.503000	25	50	25
23	AACLW1245R3	2.20	2.88	0.0	124.1	0.501000	22	50	25
24	AACLW1246R1	2.17	1.97	0.0	135.7	0.506000	25	50	25
25	AACLW1246R2	1.79	2.07	0.0	126.3	0.504000	25	50	25
26	AACLW1246R3	1.80	2.09	0.0	143.3	0.500000	25	50	25
27	AACLW1247R1	2.33	2.13	0.0	175.4	0.514000	25	50	25
28	AACLW1247R2	2.05	2.33	0.0	162.4	0.512000	25	50	25
29	AACLW1247R3	2.38	2.67	0.1	181.9	0.504000	25	50	25
30	AACLW1248R1	1.70	1.59	0.0	161.6	0.530000	24	50	25
31	AACLW1248R2	1.79	1.88	0.0	165.0	0.504000	25	50	25
32	AACLW1248R3	1.67	1.66	0.0	167.0	0.510000	25	50	25
33	AACLW12V1R1	3.09	2.60	2.8	249.8	0.517000	25	50	25
34	AACLW12V1R2	3.09	2.69	1.1	241.6	0.518000	24	50	25
35	AACLW12V1R3	2.79	2.59	0.8	210.3	0.519000	25	50	25
36	AACLW12W3R1	2.17	2.16	0.2	188.7	0.507000	25	50	25
37	AACLW12W3R2	2.24	2.42	0.7	178.3	0.514000	24	50	25
38	AACLW12W3R3	2.15	2.33	1.7	182.9	0.512000	25	50	25
39	AACLW5U1R1	2.67	2.56	0.4	182.2	0.525000	25	50	25
40	AACLW5U1R2	2.42	2.41	0.1	183.1	0.517000	24	50	25
41	AACLW5U1R3	2.39	2.58	0.1	163.7	0.502000	25	50	25
42	AACLW5W2R1	2.05	2.04	0.9	199.1	0.513000	25	50	25
43	AACLW5W2R2	2.53	2.13	0.7	230.9	0.514000	24	50	25
44	AACLW5W2R3	2.27	2.17	0.6	236.1	0.528000	23	50	25
45	AACLW6R1R1	2.39	2.48	0.1	202.1	0.503000	25	50	25
46	AACLW6R1R2	2.88	2.77	0.0	267.7	0.503000	25	50	25

Table 2.5-Table 2.5-D1 (Concluded)

OBS	ID	AS	CD	PB	ZN	DRYWT	CLAM_OUT	VOLUME	CLAM_IN
47	AACLW6R1R3	2.21	2.59	0.0	209.0	0.520000	25	50	25
48	AACLW6S1R1	2.40	2.97	0.9	284.4	0.521000	24	50	25
49	AACLW6S1R2	2.19	2.77	0.9	295.5	0.503000	25	50	25
50	AACLW6S1R3	2.49	2.98	0.9	281.2	0.502000	25	50	25
51	AACLW7R1R1	2.69	3.38	0.3	207.5	0.502000	25	50	25
52	AACLW7R1R2	3.07	3.43	0.6	215.0	0.538000	24	50	25
53	AACLW7T3R1	2.08	2.57	0.4	155.1	0.504000	25	50	25
54	AACLW7T3R2	2.55	2.34	0.3	166.0	0.510000	25	50	25
55	AACLW7T3R3	2.48	2.77	0.4	167.0	0.504000	23	50	25
56	AACLW7T4R1	2.38	2.77	0.4	221.5	0.504000	25	50	25
57	AACLW7T4R2	2.70	2.50	0.7	221.9	0.519000	25	50	25
58	AACLW7T4R3	2.79	2.78	1.0	254.8	0.501000	25	50	25
59	AACLW8S2R1	2.74	3.39	0.9	244.2	0.529000	25	50	25
60	AACLW8S2R2	2.73	3.41	0.6	261.1	0.512000	24	50	25
61	AACLW8S2R3	2.23	3.00	0.2	242.1	0.515000	24	50	25
62	AACLW8W2R1	2.68	2.95	0.5	133.2	0.523000	25	50	25
63	AACLW8W2R2	2.69	3.08	0.4	139.0	0.501000	24	50	25
64	AACLW8W2R3	2.66	2.65	0.4	129.6	0.526000	25	50	25
65	ABCLW12S1R1	2.69	3.78	7.7	306.7	0.501000	25	50	25
66	ABCLW12S1R2	2.28	3.36	1.0	202.7	0.504000	23	50	25
67	ABCLW12S1R3	2.78	3.37	0.9	287.6	0.503000	24	50	25
68	BKCLW1161R1	1.67	1.95	0.0	89.7	0.509000	25	50	25
69	BKCLW1161R2	1.69	2.18	0.1	95.7	0.503000	25	50	25
70	BKCLW1161R3	1.38	2.16	0.0	96.0	0.507000	25	50	25
71	BKCLW1162R1	1.64	2.21	0.0	113.2	0.518000	24	50	25
72	BKCLW1162R2	2.09	2.18	0.0	111.7	0.503000	25	50	25
73	BKCLW1162R3	1.48	1.76	0.0	104.6	0.508000	25	50	25
74	BKCLW1332R1	1.36	2.70	0.9	131.1	0.516000	23	50	25
75	BKCLW1332R2	1.66	2.72	2.7	130.9	0.513000	25	50	25
76	BKCLW1332R3	1.37	2.74	4.5	125.8	0.510000	22	50	25
77	ESCLW13J1R1	1.46	2.71	2.3	144.0	0.515000	24	50	25
78	ESCLW13J1R2	1.54	2.58	2.0	132.7	0.521000	25	50	25
79	ESCLW13J1R3	1.66	2.62	1.7	148.5	0.513000	25	50	25
80	ESCLW13L1R1	1.66	2.72	2.2	144.8	0.512000	25	50	25
81	ESCLW13L1R2	1.95	2.81	2.7	168.6	0.514000	25	50	25
82	ESCLW13L1R3	1.73	2.78	1.8	147.4	0.520000	25	50	25
83	ESCLW14F1R1	2.01	2.86	1.0	140.8	0.523000	25	50	25
84	ESCLW14F1R2	1.46	2.51	1.5	147.9	0.515000	25	50	25
85	ESCLW14F1R3	1.58	2.66	1.4	145.6	0.506000	25	50	25
86	G1CLW12N2R1	1.56	3.78	7.1	373.9	0.514000	25	50	25
87	G1CLW12N2R2	1.64	3.56	3.8	292.8	0.518000	25	50	25
88	G1CLW12N2R3	1.49	3.46	5.5	382.5	0.505000	25	50	25
89	G1CLW13M1R1	1.67	3.44	13.2	377.3	0.508000	25	50	25
90	G1CLW13M1R2	1.69	3.97	10.4	446.5	0.502000	25	50	25
91	G1CLW13M1R3	1.79	3.47	2.4	385.0	0.503000	25	50	25
92	K2CLW4R1R1	1.79	2.78	1.4	261.3	0.502000	25	50	25
93	K2CLW4R1R2	1.93	3.08	2.0	298.6	0.518000	25	50	25
94	K2CLW4R1R3	1.46	4.08	7.2	380.4	0.513000	25	50	25

Table 2.5-D2 Blank Analysis

OBS	ID	AS	CD	PB	ZN
1	NWSCLWBLKR1	0.005	0.0001	0.007	0.071
2	NWSCLWBLKR2	0.005	0.0001	0.006	0.186
3	NWSCLWBLKR3	0.005	0.0001	0.003	0.138
4	NWSCLWBLKR4	0.005	0.0001	0.004	0.074
5	NWSCLWBLKR5	0.005	0.0001	0.009	0.985
6	NWSCLWBLKR6	0.005	0.0001	0.004	0.142
7	NWSCLWBLKR7	0.005	0.0001	0.002	0.085
8	NWSCLWBLKR8	0.005	0.0001	0.003	0.108
9	NWSCLWBLKR9	0.005	0.0001	0.004	0.117
10	NWSCLWBLKR10	0.005	0.0001	0.006	0.112
11	NWSCLWBLKR11	0.005	0.0001	0.016	0.147

Table 2.5-D3 Blank Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
AS	11	0.0050	0.0000	0.0050	0.0050	0.0000	0.0550	0.0000	0.000
CD	11	0.0001	0.0000	0.0001	0.0001	0.0000	0.0011	0.0000	0.000
PB	11	0.0058	0.0039	0.0020	0.0160	0.0012	0.0640	0.0000	67.806
ZN	11	0.1968	0.2637	0.0710	0.9850	0.0795	2.1650	0.0695	133.961

Table 2.5-D4 NBS Standard Analysis

OBS	ID	AS	CD	PB	ZN	DRYWT
1	NWSCLWOYSR1	2.12	3.20	0.4	788.6	0.685000
2	NWSCLWOYSR2	1.80	3.05	0.4	743.5	0.555000
3	NWSCLWOYSR3	1.82	3.72	0.5	760.8	0.549000
4	NWSCLWOYSR4	1.83	3.45	0.3	767.6	0.520000
5	NWSCLWOYSR5	1.59	3.07	1.1	772.1	0.471000
6	NWSCLWOYSR6	1.68	2.85	1.8	789.3	0.507000
7	NWSCLWOYSR7	1.72	3.79	0.7	739.0	0.553000
8	NWSCLWOYSR8	1.79	3.87	0.9	766.7	0.503000
9	NWSCLWOYSR9	1.96	3.60	0.7	759.7	0.638000
10	NWSCLWOYSR10	1.96	3.37	0.8	765.4	0.562000
11	NWSCLWOYSR11	1.84	3.59	0.0	769.6	0.570000

Table 2.5-D5 NBS Standard Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
AS	11	1.8274	0.1450	1.5924	2.1168	0.0437	20.1017	0.0210	7.937
CD	11	3.4150	0.3347	2.8501	3.8668	0.1009	37.5654	0.1120	9.800
PB	11	0.6838	0.4803	0.0000	1.7949	0.1448	7.5219	0.2307	70.234
ZN	11	765.6536	15.5068	738.9873	789.2702	4.6755	8422.1892	240.4595	2.025
DRYWT	11	0.5557	0.0611	0.4710	0.6850	0.0184	6.1130	0.0037	11.003

*Standards

NBS Oyster Tissue Analysis Values

AS	11.5	15.3
CD	3.1	3.9
PB	0.44	0.52
ZN	838.0	866.0

Table 2.5-D6 Initial Clam Tissue Analysis

OBS	ID	AS	CD	PB	ZN	DRYWT
1	NWSCLWBKGCLMR1	1.49402	2.38048	0.418327	87.9681	0.502000
2	NWSCLWBKGCLMR2	1.45051	2.03925	0.443686	94.9829	0.586000
3	NWSCLWBKGCLMR3	1.57480	2.45079	0.413386	92.8346	0.508000

Table 2.5-D7 Initial Clam Tissue Analysis Summary

VARIABLE	N	MEAN	STANDARD DEVIATION	MINIMUM VALUE	MAXIMUM VALUE	STD ERROR OF MEAN	SUM	VARIANCE	C.V.
AS	3	1.5064	0.0631	1.4505	1.5748	0.0364	4.5193	0.0040	4.187
CD	3	2.2902	0.2201	2.0392	2.4508	0.1271	6.8705	0.0485	9.612
PB	3	0.4251	0.0163	0.4134	0.4437	0.0094	1.2754	0.0003	3.824
ZN	3	91.9286	3.5941	87.9681	94.9829	2.0751	275.7857	12.9176	3.910
DRYWT	3	0.5320	0.0469	0.5020	0.5860	0.0271	1.5960	0.0022	8.809

Table 2.5–D8 Mean Clam Tissue Analysis

ID	MAS	MCD	MPB	MZN
AACLW10R5	2.09 EIFHJG	3.94 A	0.82 CED	384.43 BA
AACLW10T1	2.39 EBDFCG	2.73 DC	0.51 ED	193.05 JKIHL
AACLW1241	2.26 EBDFCG	2.52 GDFCE	0.08 E	121.74 OPRQ
AACLW1242	2.13 EIDFHJG	2.02 IH	0.05 E	209.43 JKIHG
AACLW1243	2.08 IFHJG	2.16 GH	0.21 E	115.24 OPRQ
AACLW1244	2.11 EIDFHJG	2.24 GFH	0.05 E	102.08 RQ
AACLW1245	2.22 EBDFHCG	2.71 DC	0.00 E	114.88 OPRQ
AACLW1246	1.92 IKHJG	2.04 IH	0.01 E	135.11 OPNMRQ
AACLW1247	2.26 EBDFHCG	2.38 GDFHE	0.05 E	173.23 KNML
AACLW1248	1.72 IKJ	1.71 I	0.00 E	164.53 OKNML
AACLW12V1	2.99 A	2.63 DFCE	1.57 CED	233.93 FHG
AACLW12W3	2.19 EIDFHCG	2.31 GFHE	0.87 CED	183.31 JKIML
AACLW5U1	2.49 EBDFC	2.52 GDFCE	0.21 E	176.32 JKNML
AACLW5W2	2.28 EBDFCG	2.11 H	0.73 ED	222.03 JFIHG
AACLW6R1	2.49 EBDFC	2.61 DFCE	0.05 E	226.26 FIHG
AACLW6S1	2.36 BDAC	2.91 C	0.90 CED	287.04 DE
AACLW7T3	2.37 EBDFCG	2.56 DFCE	0.38 ED	162.69 OKNML
AACLW7T4	2.62 BAC	2.68 DCE	0.71 ED	232.75 FHG
AACLW8S2	2.57 EBDAC	3.27 B	0.56 ED	249.09 FEG
AACLW8W2	2.68 BA	2.90 C	0.44 ED	133.94 OPNMRQ
ABCLW12S1	2.59 BDAC	3.51 B	3.21 CBD	265.67 FE
BKCLW1161	1.58 K	2.10 H	0.04 E	93.81 R
BKCLW1162	1.73 IKJ	2.05 IH	0.01 E	109.85 PRQ
BKCLW1332	1.46 K	2.72 DC	2.69 CED	129.28 OPNRQ
ESCLW13J1	1.55 K	2.64 DFCE	2.02 CED	141.73 OPNMRQ
ESCLW13L1	1.78 IKHJ	2.77 DC	2.22 CED	153.62 OPNML
ESCLW14F1	1.68 KJ	2.68 DCE	1.28 CED	144.77 OPNMLQ
G1CLW12N2	1.56 K	3.60 BA	5.46 B	349.71 BC
G1CLW13M1	1.72 IKJ	3.63 BA	8.66 A	402.94 A
K2CLW4R1	1.73 IKJ	3.31 B	3.56 CB	313.43 DC

Table 2.5-D9 Summary of Field-Collected Water Quality Data

Day 1 (21-22 May 86)

AREA	PH	D/O	TEMP	SAL
BK	8.2 (7.8-8.5)	8.8 (7.8-9.4)	18.2 (17.5-19.0)	0.0
ES	7.7 (7.5-7.9)	7.9 (7.2-8.6)	13.1 (13.0-13.2)	0.6 (0.0-2.0)
K2	8.1 (8.1-8.1)	6.4 (3.3-9.5)	12.5 (12.0-13.0)	0.0
G1	8.0 (7.9-8.0)	8.7 (8.6-8.7)	12.0 (12.0-12.0)	0.0
AA	7.7 (7.2-8.5)	8.7 (5.7-10.0)	18.0 (15.0-21.0)	1.2 (0.0-2.0)
AB	7.4 (7.4-7.4)	9.6 (9.6-9.6)	19.5 19.5-19.5)	2.0 (2.0-2.0)

DAY 28 (18-19 JUNE 86)

AREA	PH	D/O	TEMP	SAL
BK	6.8 (6.8-6.8)	3.0 (3.0-3.0)	16.8 (16.8-16.8)	0.0
ES	7.4 (7.3-7.5)	4.7 (4.3-5.2)	16.6 (16.0-17.0)	0.0
K2	7.0 (7.0-7.0)	3.2 (3.2-3.2)	17.2 (17.2-17.2)	2.0 (2.0-2.0)
G1	7.4 (7.1-7.8)	4.1 (3.7-4.6)	15.9 (15.5-16.2)	0.0
AA	7.8 (6.8-8.4)	3.6 (2.2-6.0)	20.2 (18.2-22.8)	1.5 (0.0-4.0)
AB	6.9 (6.9-6.9)	3.3 (3.3-3.3)	22.2 (22.2-22.2)	3.0 (3.0-3.0)

Table 2.5-D10 Condition Index Corbicula fluminea for Concord Naval Weapons Station

Sample	BKGD,1 21 May 86 (Lab)	BKGD,2 18 Jun 86 (Lab)	BK116,1 18 Jun 86 (Field)	AA124,6 18 Jun 86 (Field)	AA12V1 19 Jun 86 (Field)	AA7T3 18 Jun 86 (Field)	AA6S1 18 Jun 86 (Field)	AA10S3 18 Jun 86 (Field)	AA12S1 19 Jun 86 (Field)
1	6.71	5.86	9.96	9.57	8.05	8.16	9.33	7.30	8.89
2	8.86	6.07	6.99	11.54	9.91	9.69	5.02	8.85	11.68
3	8.83	5.95	9.66	10.49	10.92	10.69	9.01	7.64	9.36
4	9.58	6.82	8.63	12.94	7.84	7.10	8.74	6.87	12.51
5	7.22	7.30	8.08	9.11	8.93	10.64	8.55	8.08	8.18
6	7.24	7.46	7.80	8.474	6.63	6.11	9.94	7.57	8.61
7	7.92	4.25	10.39	8.39	9.25	7.82	8.01	9.91	8.34
8	5.68	6.18	8.63	9.16	9.30	7.84	10.43	no clam	6.55
9	7.18	5.15	7.01	7.95	8.94	9.32	9.11	9.22	9.72
10	7.84	6.08	8.91	10.15	8.24	8.84	8.70	7.38	7.09
11	8.41	5.93	8.48	11.33	8.71	7.52	11.13	7.29	9.81
12	7.66	5.02	11.39	9.85	10.87	10.18	10.40	7.67	10.70
13	6.88	5.95	7.49	9.79	8.60	6.90	7.28	10.73	10.47
14	6.38	5.32	9.61	11.18	10.68	8.48	7.10	8.78	11.55
15	7.31	6.13	8.39	9.11	9.61	11.30	10.73	9.54	11.73
16	5.62	5.18	9.92	7.05	11.32	10.47	9.58	12.75	7.35
17	7.94	5.09	11.18	10.16	8.83	10.26	11.24	7.76	7.63
18	9.97	5.12	10.07	6.10	6.99	10.67	7.30	10.12	11.94
19	7.37	5.51	8.90	11.12	10.45	9.40	13.99	8.83	8.34
20	8.21	8.44	8.81	10.71	10.88	9.45	10.16	10.65	9.85
X^2_{20}	7.64±1.14	5.94±.98	9.01±1.25	9.71±1.62	9.25±1.34	9.05±1.50	9.29± 1.91	X^3_{19} 8.79±1.54	9.52±1.78
	FE	G	ABCD	A	ABC	ABC	ABC	BCD	AB

Samples with the same letter are not significantly different at the P = 0.05 level.

Table 2.5-D10 (Concluded)

Sample	G112N2 9 June 86 (Field)	ES13L1 19 June 86 (Field)	ES13J1 19 June 86 (Field)	BK133,2 19 June 86 (Field)
1	9.80	6.13	8.90	5.86
2	8.37	6.55	9.12	9.28
3	9.04	6.66	10.67	7.02
4	8.00	8.24	2.77	8.61
5	7.68	6.34	7.27	9.04
6	9.65	6.20	7.41	7.46
7	8.07	6.30	7.57	7.54
8	8.31	7.34	8.14	8.57
9	7.50	4.17	5.90	8.59
10	7.04	10.85	9.12	8.89
11	7.30	8.18	7.50	7.60
12	7.23	6.72	10.16	9.99
13	12.30	7.87	7.94	6.97
14	7.55	7.81	8.10	10.02
15	8.83	7.65	8.41	11.91
16	9.12	7.70	7.08	8.55
17	9.77	9.55	8.50	13.47
18	6.97	8.37	7.47	9.08
19	7.73	4.60	13.09	9.39
20	7.71	7.12	7.89	6.92
X^2_{20}	8.40±1.29	7.22±1.52	8.15±1.99	8.74±1.76
	CDE	F	DE	BCD

Table 2.5-D11 Clam Biomonitoring Metal Concentrations (mg/kg, dry wt basis)

Metal	1984 Min-Max	1986 Min-Max	Field From Lit.
As	0.86 - 2.59 (0)+	1.5 - 3.0 (14)+	4.60 - 7.10*
Cd	0.02 - 2.71 (3)	1.7 - 3.9 (6)	0.00 - 6.00**
Pb	0.00 - 9.21 (4)	0.0 - 8.7 (2)	----------
Zn	99.9 - 284 (6)	93.8 - 404 (14)	110 - 349**

+ The number of sites with tissue concentrations statistically above background (BK1332, BK1161 or BK1162).

* Rodgers et al. 1980.

** Luoma, Cascos, and Dagovitz 1984.

Table 2.5-D12 Field Measurements for Kiln Site Monitoring Wells (May and August 1987)

May 12, 1987

Sample	Time	Water* Level (ft)	pH	Conductivity (umhos)	Temperature (°F)
Field Blank	1030	-	7.16	12	78.8
Background well	1045	41.0	7.35	1513	74.6
KS-1	1130	4.5	7.3	>20000	74.6
KS-2	1255	4.9	7.7	7520	74.4
KS-3	1400	5.1	7.3	4220	73.9

August 18, 1987

Sample	Time	Water* Level (ft)	pH	Conductivity (umhos)	Temperature (°F)	Salinity (ppt)
Field Blank	0845	-	5.6	1	72.5	0
Background well	0900	41.5	7.2	1280	66.2	1
KS-1	1045	4.9	7.1	18000	68.0	12
KS-2	1230	5.4	7.35	6500	73.4	4
KS-3	1300	5.5	7.15	3800	69.8	2.5

* Water levels were measured from the top of the PVC casing.

Table 2.5-D13 Well Development Soil and Ground-water Analysis
Metal Concentration (mg/kg or mg/l)

Soil Sample	Arsenic	Cadmium	Lead	Copper	Zinc	Selenium
Total Threshold Limit Concentration (TTLC) (mg/kg)						
WB - 1 - 4/2/87	44	1.1	20	19	38	0.59
WB - 2 - 4/2/87	38	0.61	4.3	7.0	44	0.71
WB - 3 - 4/2/87	55	1.3	15	17	82	0.99
TTLC Criteria	500	100	1,000	2,500	5,000	100
EP Toxicity (mg/l)						
WB - 1 - 4/2/87	0.12	0.01	0.05			
WB - 2 - 4/2/87	0.13	<0.01	0.05			
WB - 3 - 4/2/87	0.17	0.01	0.09			
EP Toxicity Criteria:	5.0	1.0	10			
Ground-water Samples (mg/l)						
*DWB 5/12/87 (unfiltered)	<0.005	0.009	0.088	0.087	0.030	0.007
+SWB 5/12/87 (unfiltered)	0.110	0.009	0.10	0.29	0.40	<0.005
EPA Drinking Water Quality Criteria	0.05	0.010	0.05	1.0	5.0	0.01
EPA Water Quality Criteria (chronic)						
Freshwater	0.190	0.0011	0.0032	0.012	0.047	0.035
Saltwater		0.0093	0.0056	0.023	0.058	0.054

* Water collected during the development of the wells.
\+ Water collected during the bailing out of the wells.

Table 2.5-D14 Water Sample Analysis
(May 1987)

Metal (mg/l)	KS-1		KS-2		KS-3		Field Blank		Background
	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Unfiltered	Filtered	Unfiltered
As	<0.005	<0.005	<0.011	<0.007	<0.005	0.014	<0.005	<0.005	<0.005
Cd	0.026	0.016	<0.005	0.0086	0.012	0.0078	<0.005	0.009	<0.005
Zn	0.040	0.080	0.020	0.040	0.030	0.20	0.050	0.020	0.055
Pb	0.14	0.096	0.064	0.084	0.11	0.084	0.044	0.080	0.058
Cu	0.16	0.32	0.087	0.092	0.077	0.18	0.020	0.046	0.046
Se	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Table 2.5-D15 Water Sample Quality Control Data
(May 1987)

		Duplicate I	Duplicate II	Spike Solution Added	Spiked Sample	% Recovery
				(mg/l)		
Zn	001	0.060	0.050	1.45	1.40	92.7
Pb	001	0.048	0.068	1.45	1.38	92.6
Cd	001	<0.005	<0.005	1.45	1.30	89.6
Cu	001	0.036	0.056	1.45	1.31	87.2
As	002	<0.005	<0.005	0.05	0.044	88.0
Se	003	<0.005	<0.005	0.05	0.051	102

Table 2.5-D16 Water Sample Analysis
(August 1987)

	KS-1		KS-2		KS-3		Field Blank		Background	
Metal	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered
As	0.051	0.057	0.021	0.023	0.014	0.013	<0.01	<0.01	<0.01	<0.01
Cd	0.030	0.040	0.015	0.020	<0.01	0.020	<0.01	<0.01	<0.01	<0.01
Zn	0.10	0.12	0.070	0.080	0.060	0.060	<0.05	<0.05	<0.05	<0.05
Pb	0.23	0.24	0.42	0.044	0.016	0.014	0.0055	0.015	0.0072	0.01
Cu	0.030	0.050	0.020	0.030	0.020	0.020	<0.01	<0.01	0.020	0.02
Se	0.066	0.034	0.015	0.015	0.015	0.015	<0.01	<0.01	<0.01	<0.01

Note: All metal concentrations are mg/l.

2.5.10.5 Sample Survey Measurements, Table E1

Table 2.5-E1 Sample Survey Measurements

SITE	DISTANCE FT.	BEARING DEG.	MIN.	SEC.
CPSCW27E2	239.47	62	31	20
CPSCW26F3	180.43	22	26	00
CPSCW29E9	456.04	82	00	00
CPSCW29E10	565.44	80	32	45
CPSCW29E11	698.76	80	37	30
CPSCW29E12	761.43	79	43	05
CPSCW30F4	957.06	58	35	00
K2SCW5P3	1779.18	369	34	40
K2SCW4P2	1884.29	269	11	40
K2SCW3P2	2008.61	268	40	40
K2SCW3P3	2117.92	368	35	50
K2SCW3Q1	2125.10	273	59	25
K2SCW3R2	2147.06	278	00	00
K2SCW10O1	796.05	283	30	58
K2SCW10N4	488.15	282	03	30
K2SCW10N2	547.05	279	30	00
K2SCW10N3	502.50	276	40	50
K2SCW4P1	1822.54	263	53	41
K2SCW5P1	1756.84	264	12	40
G1SCW12M4	99.73	213	35	35
G1SCW12M3	151.17	300	42	08
G1SCW12M2	281.31	291	05	22
G1SCW11M1	357.29	276	03	20
G1SCW11M2	387.87	297	49	38
G1SCW13M3	141.31	59	29	40
G1SCW12N6	266.93	326	25	32
G1SCW12N5	392.66	320	30	58
G1SCW14N3	344.81	13	45	10
G1SCW14N2	368.18	27	05	30
G1SCW14N1	417.71	38	39	40
G1SCW14M2	296.19	58	48	30
G1SCW14M3	207.75	33	55	22
AASCW16X6	1354.80	28	49	41
AASCW16X5	1190.59	24	21	51
AASCW14X2	1284.51	09	16	10
AASCW14W1	1183.18	02	17	18
AASCW12W2	1154.54	353	06	42
AASCW10S1	948.75	305	55	18
AASCW10S2	736.65	301	38	25
AASCW5R2	1834.50	290	52	00
AASCW7T2	1703.79	298	34	58
AASTW7T3	1681.53	297	50	30

Table 2.5-E1 (Continued)

SITE	DISTANCE FT.	BEARING DEG.	MIN.	SEC.
AASCW5T2	1877.10	299	57	10
AASCW5T1	2024.45	299	36	25
AASTW5U1	1928.77	308	07	18
AASTW8W2	1781.28	318	15	21
AASCW5W1	1907.48	315	24	55
AASCW5W2	2002.87	319	16	18
ABSCW12R1	398.55	286	20	55
ABSCW14Q3	58.21	235	14	58
ABSCW14Q2	116.41	262	25	55
ABSCW12R3	279.86	279	43	50
ABSCW12R2	316.93	304	09	30
KSSCW11R3	469.77	303	13	35
KSSCW10R2	699.60	292	16	01
KSSCW10R3	706.62	278	15	39
KSSCW10R4	869.14	273	35	32
KSSCW11R2	542.61	280	57	42
KSSCW12R1	398.55	286	20	55
KSSCW13R2	485.78	244	25	10
KSSCW13R3	526.31	240	00	00
KSSCW13Q1	590.26	240	44	08
KSSCW15R1	525.62	247	47	52
KSSCW12Q1	695.71	250	06	09
KSSCW11Q3	823.79	256	52	18
KSSCW11Q2	769.47	260	05	18
KSSCW11Q1	845.55	261	48	21
KSSCW10Q3	935.06	265	40	45
KSSCW10Q1	997.18	268	47	29
KSSCW10Q2	1021.74	270	40	20
KSSCW9Q3	1152.80	271	02	41
KSSCW8R4	1301.84	275	02	10
KSSCW8R3	1270.90	279	22	18
KSSCW9Q2	1109.46	275	10	22
KSSCW9R1	1079.34	284	31	42
KSSCW10R5	967.51	279	19	40
KSSCW10R6	838.08	281	50	40
KSSCW10R7	820.41	288	36	40
KSSCW11R6	704.74	285	03	50
KSSCW11R7	562.36	289	37	10
KSSCW12R6	429.55	295	54	19
KSSCW13R5	307.63	281	17	56
KSSCW13R4	346.94	259	37	22
KSSCW12R5	441.98	265	07	15
KSSCW11R5	538.69	269	12	38

Table 2.5-E1 (Concluded)

SITE	DISTANCE FT.	BEARING DEG.	MIN.	SEC.
KSSCW11R4	850.86	266	55	40
KSSCW11R8	786.71	269	04	02
KSSCW11R9	683.67	259	25	19
KSSCW12R4	658.65	257	26	10
KSSCW15S3	343.23	39	52	01
KSSCW11Q4	817.56	258	39	20
KSSCW11Q5	788.82	259	00	00
KSSCW11Q6	744.21	261	13	52
KSSCW11Q7	780.83	261	43	22
KSSCW11Q8	815.71	262	49	41
KSSCW11Q9	844.02	260	45	40
KSSCW11Q10	868.77	262	16	49
KSSCW11Q11	841.10	265	07	18
KSSCW11Q12	766.23	264	47	45
ESSCW13L6	251	31	38	50
G1SCW14L3	465	26	30	18
G1SCW14L2	321	13	6	23
G1SCW13L5	231	341	49	19
G1SCW12L2	199	317	37	42
G1SCW14M4	363	74	0	59
G1SCW13M5	238	87	32	38
G1SCW13M4	168	104	18	35
G1SCW12M6	124	140	32	21
G1SCW12M5	134	167	23	5
G1SCW10M3	420	238	1	15
G1SCW10M2	479	240	12	10
K2SCW5O2	1505	256	33	22
AASCW4Q3	1920	280	25	32
K2SCW3R3	2078	279	37	1
AASCW4S2	1900	283	46	41
AASCW7S2	1447	289	14	39
AASCW10P2	851	296	54	16
AASCW16U8	386.91	51	19	19
AASCW16U5	548.10	45	48	50
AASCW16U6	533.86	34	09	40
AASCW16U7	432.87	31	49	30
AASCW15S2	236.73	49	43	29
AASCW15R2	164.96	69	11	45
AASCW15Q2	154.02	125	00	22
WELL 1	864.96	267	43	09
WELL 2	764.73	269	46	40
WELL 3	693.84	262	17	36

END

DATE

FILMED

DTIC

9-88